Evidence Synthesis

Number 242

Interventions to Support Breastfeeding: Updated Evidence Report and Systematic Review for the U.S. Preventive Services Task Force

Prepared for:
Agency for Healthcare Research and Quality
U.S. Department of Health and Human Services
5600 Fishers Lane
Rockville, MD 20857
www.ahrq.gov

Contract No. [To be included in the final version of the report.]

Prepared by:
[To be included in the final version of the report.]

Investigators:
[To be included in the final version of the report.]

AHRQ Publication No. 24-05316-EF-1
October 2024

This report is based on research conducted by the <EPC> (Evidence-based Practice Center) under contract to the Agency for Healthcare Research and Quality (AHRQ), Rockville, MD (Contract No. <#>). The findings and conclusions in this document are those of the authors, who are responsible for its contents; the findings and conclusions do not necessarily represent the views of AHRQ. Therefore, no statement in this report should be construed as an official position of AHRQ or of the U.S. Department of Health and Human Services.

The information in this report is intended to help healthcare decision makers—patients and clinicians, health system leaders, and policymakers, among others—make well-informed decisions and thereby improve the quality of healthcare services. This report is not intended to be a substitute for the application of clinical judgment. Anyone who makes decisions concerning the provision of clinical care should consider this report in the same way as any medical reference and in conjunction with all other pertinent information (i.e., in the context of available resources and circumstances presented by individual patients).

The final report may be used, in whole or in part, as the basis for development of clinical practice guidelines and other quality enhancement tools, or as a basis for reimbursement and coverage policies. AHRQ or U.S. Department of Health and Human Services endorsement of such derivative products may not be stated or implied.

Acknowledgments

[To be included in the final version of the report.]

Structured Abstract

Objective: We conducted this systematic review to aid the U.S. Preventive Services Task Force (USPSTF) in updating its 2016 recommendation on interventions to support breastfeeding.

Data Sources: We searched the MEDLINE, PsycINFO, Cochrane, and CINAHL databases through June 3, 2024. We supplemented searches by examining reference lists from related articles and searched federal trial registries for ongoing trials. We conducted ongoing surveillance for relevant literature through July 26, 2024.

Study Selection: Two researchers reviewed 3,720 titles and abstracts and 290 full-text articles for inclusion. We included randomized clinical trials (RCTs) evaluating interventions to support breastfeeding that were initiated in, feasible for, or referable from primary care settings. Interventions could take place during prenatal, peripartum, or postpartum time periods and included interventions provided by professionals, lay persons, or through digital modes of delivery. We did not include policy evaluations or health system-level interventions. Studies had to report infant or maternal health outcomes, the prevalence of breastfeeding or breastfeeding duration, or harms. We conducted dual, independent critical appraisal of all provisionally included studies and abstracted all important study details and results from all studies rated fair or good quality. Data was abstracted by one reviewer and confirmed by another.

Data Analysis: We narratively synthesized results for health outcomes and harms. For breastfeeding outcomes, we conducted random effects meta-analysis and calculated pooled risk ratios (RRs) for any and exclusive breastfeeding initiation and at postpartum time points of less than 3 months, 3 to less than 6 months, and 6 months. We explored potential effect modification by various population and intervention characteristics and generated funnel plots and conducted tests for small-study effects for all pooled analyses.

Results: We included 90 RCTs reported in 125 publications. Thirty-seven studies were identified in this update and 53 were carried forward from the previous review. Most studies recruited participants during pregnancy or shortly following delivery. Trials taking place in the United States predominately represented low-income Hispanic or Latina and Black women. Most interventions provided breastfeeding education and support by a professional such as a nurse, midwife, or lactation consultant or trained peer interventionist. Most interventions took place over 6 sessions or fewer and were variable in terms of their timing (prenatal, peripartum, and/or postpartum).

Infant and maternal health outcomes. There was mixed evidence on the effectiveness of breastfeeding support interventions on infant health outcomes from 10 trials (n=6,592) including gastrointestinal outcomes, otitis media, the number of health care visits for respiratory tract illnesses, and rates of general infant health care utilization. In all cases, more favorable effects were seen on these outcomes among infants born to intervention versus control group parents, but very few reported these differences to be statistically significant. For maternal health outcomes, nine trials (n=2,334) reported maternal symptoms of anxiety, depression, or well-being at up to 3 months postpartum. Most of the studies reported better symptom scores among

intervention mothers versus control mothers; however, none of the differences between groups were statistically different.

Breastfeeding outcomes. Breastfeeding support interventions were associated with higher rates of any and exclusive breastfeeding at less than 3 months, 3<6 months, and at 6 months. For example, at six months, the likelihood of any breastfeeding and exclusive breastfeeding was 13 percent (RR, 1.13 [95% CI, 1.05 to 1.22]; k=37; n=13,579) and 46 percent higher (RR, 1.46 [95% CI, 1.20 to 1.78]; k=37; n=14,398]), respectively. The median differences in absolute rates of breastfeeding between groups ranged from 1.3 to 7.1 percentage points at various time points for any and exclusive breastfeeding, with slightly larger effects for exclusive versus any breastfeeding. There was no consistent evidence that the results varied by any prespecified population or intervention characteristics.

Harms. Potential harms related to breastfeeding support interventions were minimally reported (seven trials, n=1,404) and indicated no harm related to the interventions. There was no evidence of differences in rates of breastfeeding problems between those in the intervention versus usual care groups.

Limitations: There is limited evidence on how interventions to support breastfeeding affect infant and maternal health outcomes beyond rates of breastfeeding. Very few studies describe intervention messages or support focused on expressing and storing breast milk or attempts to tailor the interventions to families' cultural and social context.

Conclusions: The updated evidence confirms that breastfeeding support and education that is provided during pregnancy and postpartum by professionals and peers is associated with an increase in the proportion of women still breastfeeding and exclusively breastfeeding at 6 months of followup. Trials that take place in the United States represent a diverse population of women for whom rates of breastfeeding are historically low. Future efforts should focus on how to best provide this support consistently, for all individuals, of all backgrounds, who are making feeding decisions for their infants.

Table of Contents

Figures

Tables

Appendixes

Chapter 1. Introduction

Current USPSTF Recommendation and Purpose of Review

In 2016, the U.S. Preventive Services Task Force (USPSTF) concluded that there was adequate evidence that interventions to support breastfeeding, including professional support, peer support, and formal education, increase the duration and rates of breastfeeding and that the harms of these interventions were no greater than small.[1] Therefore, the USPSTF concluded with moderate certainty that interventions to support breastfeeding have a moderate net benefit and recommend providing interventions during pregnancy and after birth to support breastfeeding (B recommendation).

The Agency for Healthcare Research and Quality (AHRQ) has requested an updated evidence report on interventions to support breastfeeding to support an updated recommendation by the USPSTF. This report updates the 2016 review.[2, 3]

Condition Definition

Historically, the term breastfeeding referred to the simultaneous dyadic behavior of a mother feeding her infant at her breast. However, there are an increasing number of behaviors often encompassed by the word "breastfeeding."[4] Most recommendations use the term "breastfeeding" when referring to the behavior, but it is typically measured by assessing the child's intake of breast or human milk, regardless of who produced it or whether it was obtained directly at the breast or from a spoon, cup, or bottle. Consumption of breast milk can be accomplished by feeding at the breast (also referred to as at-the-breast feeding or direct breastfeeding) or expressed breast milk feeding from the lactating parent or from donor sources. The behavior is measured in terms of initiation of the behavior, duration of breastfeeding or consumption of breast milk, exclusivity of only consuming breast milk (without other liquid or food supplementation), or intensity (the proportion of all feedings that included breastmilk) and can be reported since birth or within the past 24 hours.

In recent years, additional terminology has been proposed to increase linguistic inclusivity of all individuals engaging in lactation-related behaviors.[5, 6] Feeding an infant at the breast, producing and expressing breast milk, and sharing expressed breast milk are frequently discussed from a mother's perspective and within a woman's domain. Anatomically speaking, this default to a gendered perspective appears appropriate when limited to a medical perspective. However, not all people who give birth or feed their infants human milk identify as a woman or mother.[7, 8] Transgender men and gender nonbinary individuals can and do become pregnant and give birth and therefore may be candidates for breastfeeding their infants. Proposed gender inclusive language would modify "feeding at the breast" to "feeding at the breast/chest" and "breastfeeding" to "chestfeeding." Likewise, the use of "breast milk" assumes that the person providing the milk identifies as someone with breasts. The use of the term "human milk" or "parent's milk" would also be more gender inclusive.

In this review, we use non-gendered terms to describe parental identity and characteristics to the extent possible (e.g., parent vs. mother; parent-infant dyad vs. mother-infant dyad; partner or spouse vs. father; lactating women and other individuals capable of breastfeeding vs. maternal); although we use the precise language used in individual studies to maintain scientific accuracy. We use the term breastfeeding when referring to both feeding at the breast or chest and feeding expressed breast milk (including shared, donated, and purchased breast milk), unless specifically noted.

Prevalence of Breastfeeding

In observing the prevalence of breastfeeding in the United States, a pattern emerges indicating a sharp decline in breastfeeding rates as infants age, with breastfeeding most prevalent from initiation to shortly after birth and steadily dropping off throughout the first year of the infant's life (**Figure 1**).[9] In 2021, among the infants born in the US, the estimated breastfeeding rates were 84.1 percent for initiation, 59.8 percent for infants breastfed at 6 months, and 39.5 percent for infants breastfed at 1 year (**Table 1**). In the same year, the rates of exclusive breastfeeding through 3 and 6 months were 46.5 and 27.2 percent, respectively.

Several sociodemographic characteristics are associated with the likelihood of breastfeeding initiation and continuation. Characteristics consistently shown to be associated with higher rates of breastfeeding include older age, being married, higher education, higher socioeconomic status, and access to private insurance.[10-12] Additionally, data continuously show lower rates of breastfeeding among infants born to Black individuals and higher rates among Asian, White, and Hispanic individuals (**Table 1**).[9] Specifically, among infants born in 2021, the rate of any breastfeeding was lowest in infants born to Black individuals at 75.4 percent, compared to 83.4 percent for infants born to Hispanic parents, 86.2 percent for infants born to White parents, and 92.7 for infants born to Asian parents.[9] There is evidence that intention to breastfeed does not necessarily correlate with high rates of breastfeeding and that there are pronounced gaps between intention and goal-achievement among minority women. A longitudinal analysis of a cohort of over 2,000 women enrolled in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) found that while women of all races have similar rates of prenatal intention to breastfeed their infants, Black and Hispanic women have lower odds of meeting their breastfeeding goals at 1 and 3 months compared to White women.[13]

With regard to education, individuals who have a high school education are almost half as likely (27.6%) to breastfeed infants at 12 months than individuals who graduate college (50.0%).[9] Further, persons who are part of the WIC program are less likely to breastfeed infants at 6 months than persons who are ineligible for the program (76.9% and 91.6%, respectively).[14, 15] Married individuals are more likely to breastfeed infants at 6 months than those who are unmarried (69.9% vs. 44.0%, respectively), as are individuals who live in metropolitan areas compared with individuals who live in rural settings (61.0% vs. 50.8%, respectively).[9] Finally, individuals aged 20 to 29 years are less likely to breastfeed infants at 6 months than those aged 30 years and older (49.8% vs. 64.8%, respectively).[9]

There are also large variations in the rates of breastfeeding initiation and continuation around the world, although the specific indicators and dates during which the data were collected differ.

Worldwide, it is estimated that 47.7 percent of infants under the age of 6 months were exclusively breastfed in 2021, which is an increase from 37 percent reported in 2012.[16, 17] There are disparities reported, however, between high-income countries and low-middle income countries, with 96 percent of infants ever receiving breast milk in low-middle income countries compared with 79 percent of infants in high-income countries.[18] In 2016-2018, among high-income countries, the countries with the lowest rates of breastfeeding initiation were Ireland (55.0%), France (63.0%), and the United States (74.4%).[18] The variation in breastfeeding rates is not seen just between high-income and low-middle income countries, but also between different socioeconomic groups within countries. Research has shown that in high-income countries, individuals from lower-income households are less likely to breastfeed, whereas in low-middle income countries, individuals from wealthier households are less likely to breastfeed.[12, 18]

Recommendations for Breastfeeding

Multiple national and international organizations, including the American Academy of Pediatrics (AAP, 2012),[19] the American Academy of Family Physicians (AAFP, 2015),[20, 21] the American College of Obstetricians and Gynecologists (ACOG, 2018),[22] the 2020–2025 Dietary Guidelines for Americans,[23] and the World Health Organization and the United Nations Children's Fund (WHO/UNICEF, 2003),[24, 25] recommend that infants be exclusively fed breast milk for the first 6 months of life, followed by continued breastfeeding for at least 1 year, as mutually desired by mother and infant while complementary foods are introduced. Recently, the AAP updated their guidance to emphasize supporting lactating persons who choose to breastfeed for 2 years or longer.[26]

Various definitions for exclusive breastfeeding exist,[27, 28] but exclusive feeding typically means the infant does not receive any additional foods, supplements (except vitamin D), or fluids unless medically recommended. Breastfeeding measures are included in the Healthy People 2030 goals and include increasing the proportion of infants who are breastfed exclusively through 6 months of age (42.4%)[29] and increasing the proportion of infants who are breastfed at 1 year (54.1%).[30]

Association Between Breastfeeding and Breast Milk and Child and Maternal Outcomes (Contextual Question 1)

Breastfeeding and the consumption of human milk is widely accepted as the most beneficial feeding method for infants. Decades of research indicate that breastfeeding is associated with short- and long-term benefits for children and mothers. To date, the most comprehensive and widely cited systematic review on the relationship between breastfeeding and both infant and maternal health outcomes is a 2007 report prepared by Ip and colleagues.[31] This review, which synthesized both primary studies and existing systematic reviews, was evaluated by the USPSTF as part of its deliberations in making its 2009 recommendation. Several recent systematic reviews have been published that present findings consistent with the original 2007 report and provide additional data for outcomes with previously limited or otherwise insufficient data. A summary of the synthesized evidence for infant and child and maternal outcomes is provided in **Table 2** and described narratively below.

Ever versus never being fed human milk has been found to be associated with a reduced risk of a variety of health outcomes in infancy and childhood including acute otitis media,[32] asthma,[33] celiac disease,[34] elevated blood pressure in early childhood (6-7 years),[35] childhood leukemia,[36] type 1[37] and type 2 diabetes,[38] hospitalizations due to diarrhea[39] and lower respiratory tract infection,[40] dental caries,[41] overweight and obesity,[42] and sudden infant death syndrome.[43] The most recent review examining the relationship between breastfeeding and infant mortality reported an age-dependent 1.8- to 3.9-fold higher risk of all-cause mortality in children who were never breastfed compared with those who were ever breastfed, although the number of studies available for these analyses was limited (two to six studies).[44] For most of these outcomes, limited, but consistent evidence suggests that shorter versus longer durations of breast milk feeding is associated with higher risk of these negative health outcomes. The evidence is currently inconclusive or insufficient to suggest a clear link between breastfeeding and atopic dermatitis,[33] food allergies,[33] blood lipids in childhood,[35] and inflammatory bowel disease.[34] The evidence is extremely limited when assessing the relationship between the intensity, proportion, or amount of breast milk fed to mixed-fed infants or fed by bottle versus by breast and all of these outcomes. Furthermore, as discussed below, there are considerable limitations related to understanding and interpreting these relationships.

Regarding maternal health outcomes, a history of breastfeeding and/or breastfeeding for longer durations may be associated with a reduced risk for breast and epithelial ovarian cancers,[45, 46] hypertension,[46] and type 2 diabetes.[46, 47] In contrast, no clear relationship between a history of breastfeeding and the risk of fractures has been found to date,[46] and the associations between breastfeeding and the mother's return to pre-pregnancy weight and postpartum weight loss,[46] the prevalence of postpartum depression,[46, 48] and cardiovascular disease[46] have been negligible or unclear.

The evidence regarding the relationship between breastfeeding and health outcomes is based primarily on observational research, since it is unethical to randomize individuals to breastfeed or not breastfeed. Compared with randomized clinical trials (RCTs), observational research has well-recognized sources of potential bias, including possible selection bias, misclassification, unmeasured or uncontrolled confounding, reverse causality, and publication bias. In addition, exposure to breastfeeding is measured and reported differently across observational studies, including the comparisons made (e.g., ever vs. never breastfeeding, or breastfeeding for 6 vs. 3 months), the definition of breastfeeding (including not distinguishing between any vs. exclusive breastfeeding), and the age at which infant and child outcomes were measured. These studies also differ in their measurement and operationalization of the infant and maternal outcomes, study setting, and the statistical adjustment for potential confounders.

Breastfeeding Interventions

Interventions to support breastfeeding can be delivered directly to the lactating person and their support persons or be focused on system-level policies or maternity care practices aimed at creating an environment supportive of breastfeeding. Interventions can occur over the course of pregnancy (prenatal), the time around and shortly after delivery (peripartum), and/or after birth (postpartum). Non-healthcare breastfeeding support interventions may include community

breastfeeding promotion or support; worksite policies and programs; childcare policies and practices; and legislation, including family leave policies.[49, 50]

Interventions can include individual professional or peer support, structured education, or a combination of support modalities. Breastfeeding support can be comprised of psychological and social support (e.g., encouraging the mother, providing reassurance, discussing the mother's questions and problems), as well as direct support during breastfeeding observations (e.g., helping with the positioning of the infant, observing latching), and is typically offered in addition to general education.[22, 49, 51, 52] This type of support usually begins shortly after birth in the hospital setting or other birthing facility and may continue after the hospital stay. Conversely, breastfeeding education typically includes a formalized program aimed at conveying nontailored breastfeeding knowledge and most often occurs in the prenatal period.[49] Within this framework, education is usually offered in group sessions and may involve telephone support, electronic interventions, and print materials. Individual-level interventions may be conducted by medical, nursing, or allied professionals (such as lactation care providers) or lay people (such as peer supporters).[22, 49, 51, 52]

Support for breastfeeding may work in different ways for different individuals. In some cases, it may be important to include extra breastfeeding support prenatally to discuss the benefits of breastfeeding, discuss family goals, and plan accordingly. Interventions may increase individual's beliefs in the importance of breastfeeding, particularly in settings where breastfeeding may not be the norm. Interventions can help increase individual's self-efficacy in their abilities to make feeding choices for their infant and give them confidence to continue breastfeeding in the face of familial and societal pressures that might otherwise undermine breastfeeding. Additionally, timely, skilled support at or around the time of birth and postpartum can help individuals to avoid or overcome breastfeeding problems that often lead to stopping breastfeeding. Support that continues until the time parents may have to return to work can help empower and provide support to overcome challenges that are often encountered with that transition.

System-level interventions include policies or maternity care practices such as the implementation of the Baby-Friendly Hospital Initiative (BFHI)[53] or all or some of the 10 Steps to Successful Breastfeeding (**Table 3**).[54] These interventions may include a written breastfeeding policy for the facility, provider or staff training in breastfeeding support, policies for implementing breastfeeding support groups, encouragement of rooming-in, restricted or delayed pacifier use, maintenance of skin-to-skin contact between the mother and baby after birth, and encouragement of early breastfeeding initiation.[22, 49, 51] Recently, the BFHI and the 10 Steps to Successful Breastfeeding were updated to consider newer evidence and healthcare practices.[55] Overall, the conclusions remained the same, however there were updates to the wording of some of the steps and slight changes to the way the steps were organized. In addition, the updated guidance on BFHI includes recommendations to allow states to improve coverage and standards in BFHI implementation, such as scaling up BFHI coverage in both public and private facilities, integrating the BFHI into existing initiatives in health systems, and regular monitoring to ensure standards are maintained. While system-level interventions such as these may be important interventions to support breastfeeding, they are not included in our synthesis of the evidence given our focus on interventions that can be supported by primary care clinicians. Rather, we

provide contextual information about these types of interventions in the Discussion chapter of this report.

Cultural, Structural, and Social Variables Contributing to Disparities in Breastfeeding and Inequities in Access to Interventions (Contextual Question 2)

There are a multitude of factors that contribute to the disparities in the rates of breastfeeding and inequities in access to breastfeeding support interventions observed among populations in the United States. These factors are complex and include elements at a personal level, such as the culture of the individual and their personal support system, as well as broader reaching elements such as ingrained bias in healthcare interactions, availability of extended maternity leave, lack of availability of lactation rooms and time to pump in the work environment, neighborhood resources, and programmatic norms.[11, 12, 56-59] Understanding these disparities is important in closing the gap in breastfeeding initiation and continuation.

Social and cultural variables play a significant role in an individual's decision-making around breastfeeding and their ability to continue breastfeeding if they choose to initiate this feeding method. It has been shown that support from an individual's family, their nonfamilial social support, and whether they have positive social modeling of breastfeeding around them are incredibly influential in predicting breastfeeding intention, continuation, and duration.[60-62] For example, in the Black community matriarchal role models such as mothers and grandmothers are an integral part of the culture and are often very involved in the raising of children and grandchildren.[60, 63, 64] Therefore, the views that these women have towards breastfeeding are important in shaping the decision among younger generations to breastfeed and for how long.

Further, in the African American community in the United States there is a complicated history around breastfeeding that goes back to the days of slavery and weaves its way into the perspectives of women from generation to generation.[61-63, 65, 66] Historically, African American women were often forced to act as wet-nurses for their slave owner's children and therefore there is a stigma associated with breastfeeding that continues to persist.[60, 61, 64, 67] Additionally, among older generations, both in the African American community and other communities, formula feeding was associated with wealth because if you could afford the cost of infant formula you would do so and if you could not you would breastfeed.[64] From this you can see the potential bias towards formula feeding among women of older generations, which in cultures where matriarchal support is common in child rearing is important to be aware of. Another historical component that comes into play in present day decision-making around infant feeding is predatory marketing of infant formula to Black families. In the 1950s, the PET milk company used targeted ads and instilled brand loyalty, as well as feelings of status associated with using its products among those in this community.[51, 68]

There are also often misconceptions around the benefits of breastfeeding versus formula feeding among support individuals, and conflicting advice given in general around feeding decisions that can negatively impact breastfeeding initiation and duration.[61, 62, 64] For example, in the Black community it has been reported that mothers are commonly advised against breastfeeding infants

by their relatives, peers, and neighbors because breastfeeding an infant can cause them to become overly dependent on the mother, whereas formula feeding is an inexpensive option that required less time and allowed them to maintain their social life.[61] In the Hispanic and Latino community there is a concept of "los dos," which means "both" and refers to the idea that providing both breast milk and infant formula gives infants twice the benefits.[69-71] Therefore, this could play a role in the reported finding of higher rates of supplementation with infant formula in these communities than what is seen among communities made up of predominantly Non-Hispanic White individuals.[69, 71]

Another social factor that influences decisions around infant feeding is the over-sexualization of women's bodies, notably Black women, including their breasts in pop culture and the media, which emphasizes their use for sexual purposes and not for nutrition.[61, 62, 64-66] This undoubtably shapes the views that their partners may have towards breastfeeding and their likelihood of supporting or encouraging breastfeeding.

In addition to an individual's support environment and cultural surroundings, a person's physical health influences decisions around infant feeding. Specifically, lower rates of breastfeeding initiation and reduced duration of breastfeeding have been reported by individuals with a high pre-pregnancy BMI.[72-75] Further, the risk of early breastfeeding cessation has been shown to increase as BMI increases.[76] The reasons for these trends are complex and likely confounded by social determinants of health. However, the relationship between high BMI, race and ethnicity, and breastfeeding rates is important to consider when evaluating the possible causes of breastfeeding disparities among populations of color because research has shown that among Black, Native American, and Hispanic and Latino populations there are higher rates of individuals with obesity compared with predominantly White communities.[77, 78] When looking into the reasons for poor breastfeeding outcomes among individuals with obesity, biological factors have been hypothesized. Research has suggested that individuals with obesity may experience a delay in their milk coming in after delivery due to hormonal factors and that there may be a reduced prolactin response to infant feeding during the early postpartum period.[72-75] Since perceptions of having inadequate milk supply have been tied to early cessation of breastfeeding, this is noteworthy. In addition, women with obesity may have larger breasts which can complicate breastfeeding positioning, as well as flat nipples, which can increase the risk of improper latching and frustration around feeding.[72-74, 79] Having to adjust feeding positioning to accommodate additional body tissue can further complicate finding an efficient and comfortable feeding routine.[72-74, 79] A recent qualitative study reported that women with obesity described breastfeeding taking a significant amount of time due to the need of additional physical aids, such as pillows, to make feeding comfortable and that this limited the places outside of the home that they felt comfortable feeding their infant.[73] This finding touches on the social judgement that individuals with obesity report as a factor that influence their infant feeding decisions. Women with obesity have reported feeling uncomfortable breastfeeding in public due to the social stigma around their weight and that the anxiety that they feel around revealing their bodies or finding comfortable places to breastfeed their infants away from home has influenced their decision to stop breastfeeding.[72-74, 79] Further, barriers around finding proper fitting nursing attire such as comfortable nursing bras in larger sizes, as well as experiencing reduced lactation support from healthcare providers due to healthcare stigma undoubtably contribute to the poor breastfeeding outcomes observed in this population.[72, 73, 80]

Other important factors that impact an individual's ability to breastfeed or access breastfeeding support are related to institutional norms and structural determinants of health, such as inflexible work hours, lack of paid family leave, access to lactation services, and neighborhood resources.[51, 62, 67, 70, 81] It is common for Black, Hispanic and Latino, and individuals with lower socioeconomic status to work in jobs that do not offer flexible hours that would help to support breastfeeding or pumping while at work or provide extended family leave.[59, 67, 81] Extended family leave is generally lacking in the United States, but it is common to return to work at around 12 weeks after giving birth. Research has shown, however, that Black women generally return to work after just 6 to 8 weeks postpartum.[59, 64] This difference is notable when considering the potential barrier of finding time to pump while at work and the possibility that the workplace norm may be to discourage time away to do so. Further, a 2018 report found that lactation discrimination (e.g., denying pumping breaks, refusing to provide a private place to pump) in the workplace was widespread, resulting in notably harsh effects such as docking of wages or job loss for low-wage workers, who are more likely to be Black or Hispanic individuals.[82] An analysis of the Black Women's Health Study (N=2,172) found that just over half of the women surveyed reported experiencing racism on the job and that among those who reported experiencing racism on the job there were significantly lower odds of breastfeeding for 3 to 5 months.[81] Limited or substandard access to employer-provided breastfeeding support is a major issue of health equity, primarily affecting lower-income women of color, furthering the disparities in breastfeeding rates among these groups.

Where individuals live also can impact their decisions around infant feeding because lower resourced neighborhoods often lack access to breastfeeding support resources and concerns about safety have been found to be negatively associated with breastfeeding initiation and duration.[51, 83, 84] In a recent cohort study in the United Kingdom (n=17,308) researchers found that as neighborhood deprivation increased, the odds of breastfeeding initiation decreased.[84] Further, the analysis showed that breastfeeding initiation, exclusivity, and duration were each reduced by approximately 20 percent among individuals who felt that their neighborhoods were unsafe for children to play in compared with neighborhoods where it was felt that it was safe for children to play.[84] A recent U.S.-based cohort study (n=29,829) found similar trends, with the rates of breastfeeding initiation and exclusive breastfeeding at 6 months being significantly higher among children whose parents feel that their child is "always" or "usually safe" in their neighborhood, who live in neighborhoods with more amenities, and who receive care in a medical home.[83] The reason for these findings are likely complex and are due to the interplay of many social determinants of health, however they show that feeding decisions are impacted by both the larger environment, as well as the individualized home environment.

Over the past decade, there has been a growing recognition that inequity in access to breastfeeding support, including maternity care practices[56, 64, 81, 85-87] and the credentialing of lactation care providers[88, 89] of various races, ethnicities, sexual or gender identities, and income levels are crucial aspects in addressing the disparities in rates of breastfeeding.[62, 90, 91] A recent study of breastfeeding support policies found that facilities located in zip codes with higher percentages of Black residents than the national average were less likely to meet the five indicators for supportive breastfeeding practices (early initiation of breastfeeding, rooming-in, limited use of breastfeeding supplements, limited use of pacifiers, and post discharge support), than facilities located in areas with a lower percentage of Black residents.[85] Further, for Black

and Hispanic or Latino individuals the WIC program is a vital source of breastfeeding support and guidance for new mothers, however, the amount and quality of breastfeeding support given by WIC counselors has been found to differ by race and ethnicity.[87, 92, 93] The WIC program has tried to remedy this disparity through increased education, peer support, and trained lactation consultants, however given the persistent disparity in breastfeeding rates among WIC participants and individuals not in the program, there remains a continued opportunity for improvement.[94]

Overall, studies have shown that Black individuals often receive fewer healthcare services and may be less likely to receive breastfeeding education or support than White individuals.[56, 58, 87, 95-97] The reasons for this are complex and include historical institutional racism that has resulted in Black individuals regularly being denied access to high-quality, equitable healthcare.[87] For example, a recent study (N=2,138) found that 1 in 6 Black individuals who received maternity services reported experiencing inequitable treatment during the perinatal period.[98] A qualitative study of certified lactation consultants found that the majority had witnessed breastfeeding discrimination by healthcare providers (physicians, nurses, and other lactation consultants) by the providers making the assumption that Black individuals would not choose to breastfeed their infants, and therefore they made fewer requests for lactation services for those patients.[97] This resulted in reduced breastfeeding support compared to White patients. Further, Black individuals initiating breastfeeding while in the hospital have reported limited assistance if issues with breastfeeding arose and even report receiving advice or care that discouraged breastfeeding.[87] Although, these disparities in care are acutely felt by Black individuals, they are not exclusive to them. Black, Asian, Hispanic and Latino, and Native American/Alaska Native individuals have reported inequitable perinatal care at higher rates than White individuals. Specifically, 13 percent of both Black and Asian individuals, 12 percent of Hispanic individuals and 11 percent of Native American/Alaska Native individuals reported being ignored by their healthcare provider or having their requests for information refused, compared with 5.6 percent of White individuals.[98] Additionally, more than twice the number of individuals in these specific populations reported being shouted at by their healthcare provider than White individuals, 13 percent versus 6 percent respectively. A qualitative study of Black women and healthcare providers that serve communities with predominately Black populations found that the women participating in the panel discussions described feeling like they did not have a voice in interactions with hospital staff during the birthing process, that their birthing plans were ignored, and that they felt alienated and bullied.[99] This lack of support continued into their experiences around breastfeeding and highlight the need for equitable, culturally sensitive healthcare in order to help improve the existing disparities that are observed in breastfeeding rates among these communities.

Current Clinical Practice in the United States

There is very little current data regarding clinical practice related to breastfeeding support interventions. However, a recent 2022 study examined state-level breastfeeding support and breastfeeding practices, utilizing publicly available data, and found that in 2015, nationwide availability of International Board of Lactation® Consultants (IBCLCs) per 1,000 births ranged from 1.9 to 13.4 and La Leche League Leaders (volunteer breastfeeding counselors) per 1,000

births ranged from 0.2 to 3.3. This same study found that the percentage of births occurring in Baby-Friendly Hospitals ranged from 0 to 47.4.[100]

A study conducted in a nationally representative sample of mothers with infants 2 to 6 months old (N=1,031) found that in 2015, many women did not receive any advice on breastfeeding from a health care provider or reported receiving advice that was inconsistent with AAP policy and practice recommendations during the peripartum period.[101] The study also found that when a doctor was the source of advice, 21.8 percent of mothers did not receive any guidance on breastfeeding, and 15.4 percent of mothers were given advice that was inconsistent with recommendations. Similarly, when nurses were the source of advice, 13.3 percent of mothers did not receive any advice, while 14.4 percent of mothers received advice inconsistent with recommendations.

Chapter 2. Methods

Scope and Purpose

This systematic review is an update of a 2016 review.[2, 3] The scope of this updated review was changed to exclude studies of interventions that focused on health system-level policies or maternity care practices that may not be applicable to or within the purview of primary care clinicians to implement or recommend. Contextual questions were added to address other important issues related to breastfeeding support interventions, including disparities in rates of breastfeeding and inequities in access to support interventions, and the benefits and harms of health system-level interventions. Otherwise, the scope of this review is unchanged.

Key Questions and Analytic Framework

With input from the USPSTF, we developed an analytic framework (**Figure 2**) and three key questions (KQs) to guide the literature search, data abstraction, and data synthesis.

KQs

1. Do interventions to support breastfeeding improve child and maternal health outcomes?
2. Do interventions to support breastfeeding improve the initiation, duration, intensity, and exclusivity of breastfeeding?
3. What are the harms of interventions to support breastfeeding?

Data Sources and Searches

In addition to re-evaluating the studies included in the 2016 review, we also searched the following databases for relevant English-language literature published through June 3, 2024: MEDLINE, PsycINFO, CENTRAL, and CINAHL. A research librarian developed and executed the search, which was peer reviewed by a second research librarian (**Appendix A**). We also examined the reference lists of all included studies and previously published reviews to identify other studies for inclusion. We searched https://ClinicalTrials.gov/ for ongoing trials and have conducted ongoing surveillance for relevant literature for all bodies of evidence through July 26, 2024. We imported the literature from these sources directly into EndNote® X9 (Thomson Reuters, New York, NY).

Study Selection

We developed specific criteria to guide our study selection (**Appendix A Table 1**).

For all KQs, we included RCTs, including cluster RCTs. The population of interest included mothers of full- or near-term infants as well as members of the mother-infant support system (e.g., partners, grandparents, or friends). We included studies of pregnant persons who were or were not intending to or considering breastfeeding as well as studies of persons who had already given birth and were currently breastfeeding (with intervention aims to continue breastfeeding). Studies of individuals or infants requiring additional medical care were excluded (e.g., preterm infants, infants with low birth weight, infants born to substance-exposed persons, HIV-positive persons, or infants needing placement in a neonatal intensive care unit).

Included studies targeted the effects of prenatal, peripartum (at or around the time of delivery), and/or postpartum breastfeeding support interventions that were initiated in, feasible for, or referable from primary care settings. We included studies of interventions offering support which was supplementary to the standard care offered in that setting and included interventions provided by professionals, lay persons, or through digital modes of delivery. Interventions could be delivered as standalone breastfeeding support interventions (i.e., where the focus was on breastfeeding only), or be delivered as part of a wider maternal or infant health intervention if the intervention included a component focused on supporting breastfeeding. Examples of interventions with a broader focus included obesity prevention programs and interventions focused on maternal weight gain prevention.

Interventions could include elements such as reassurance, praise, information, and the opportunity to discuss and respond to the mother's questions and could also include staff training to improve the supportive care given to individuals. Interventions could be offered to groups of individuals or families or one-on-one, including participation from support persons such as partners. Studies of interventions in prenatal, hospital, and community settings were included.

We excluded studies of health system-level interventions, including hospital or maternity care policies and implementation of the Baby-Friendly Hospital Initiative (BFHI) or all or some of the 10 Steps to Successful Breastfeeding. These interventions include BFHI designation, written breastfeeding policies for the facility, policies for implementing breastfeeding support groups (not breastfeeding support groups themselves), and policies to encourage rooming-in, restricted or delayed pacifier use, and maintenance of skin-to-skin contact between the mother and baby after birth. Although these types of interventions were included in the previous USPSTF review, in this update we focus on interventions that are amenable to primary care clinicians being able to provide, offer, or refer patients to. We acknowledge the importance of these interventions, however, and include a discussion of their use, effectiveness, and potential unintended harms in the Discussion section of this report (Contextual Question 4).

Infant health outcomes included, but were not limited to, gastrointestinal illness, otitis media, respiratory illness, asthma, atopic dermatitis, and infant health care utilization. Maternal health outcomes included mental health symptoms, postpartum weight loss, and the incidence of breast or ovarian cancer. Breastfeeding outcomes included self-reported or observed initiation of breastfeeding, the prevalence and duration of any (i.e., non-exclusive) breastfeeding, and the prevalence and duration of exclusive breastfeeding. Detailed definitions of breastfeeding outcomes used in this report are provided in a section below. For harms, we specifically looked for harms that could be related to a breastfeeding intervention, including harms related to

breastfeeding itself (e.g., cases of mastitis, nipple pain). We required that studies take place in developed countries as defined as "very high" on the 2019 United Nations' Human Development Index.[102] We limited included studies to those that were deemed "good" or "fair" quality by the USPSTF quality rating standards (described below); studies of "poor" quality were excluded.

Two independent reviewers independently screened all records in the updated searches based on their titles and abstracts, using the inclusion and exclusion criteria as a guide. Subsequently, at least two reviewers assessed the full text of potentially relevant studies, including all the previously included studies, using a standard form that outlined the eligibility criteria. Disagreements were resolved through discussion and consensus. We kept detailed records of all included and excluded studies, including the reason for their exclusion.

Quality Assessment

We quality rated all studies for potential risks of bias that may impact the reported effects and assigned each study a quality rating of "good," "fair," or "poor." We applied signaling questions from the Cochrane Risk of Bias (RoB 2) tool[103] along with the USPSTF-design specific criteria (**Appendix A Table 2**).[104] Given this was an update of our own review, we did not re-quality rate the previously included studies. For new evidence, two independent reviewers rated each study. Discordant quality ratings were reviewed and discussed; a third reviewer adjudicated as needed.

Good-quality studies were those that met nearly all specified quality criteria, including whether comparable groups were assembled initially and maintained throughout the study, reliable and valid measurement instruments were used and applied equally to the groups, procedures for maintaining fidelity to the intervention were in place, followup was adequate (i.e., ≥80% retention overall) and not differential between groups, data were complete, and there was no evidence of selective reporting. Fair-quality studies did not meet these criteria but did not have serious threats to their internal validity related to the design, execution, or reporting of the study.

Studies rated as poor-quality had several important risks of potential bias or one critical flaw and were excluded from this review. Potential risk of bias resulting in poor-quality ratings included very high risk of bias due to confounding and imbalances in baseline characteristics between groups, high or differential rates of attrition between groups, or no information on the number of participants with complete data or reasons for missing data, and evidence of possible selective reporting.

Data Abstraction

One reviewer extracted key elements for each included study into standardized abstraction forms in DistillerSR. A second reviewer checked the data for accuracy. Data abstraction included general characteristics of the study (e.g., author, study design, setting), characteristics of the sample (e.g., age, intention to breastfeed), a description of the intervention (e.g., intervention type, provider, frequency, duration), definitions of outcomes (initiation and exclusivity, described in more detail below), timing of outcome assessment, analytic methods, and results.

When multiple intervention arms were available, we abstracted the most intense and comprehensive intervention group as the primary arm [denoted as IG1] to be included for the analysis.

Breastfeeding Definitions Used in the Report

We noted the specific definition of breastfeeding initiation, any breastfeeding, and exclusive breastfeeding as described by each individual study. We considered breastfeeding initiation to include any breastfeeding reported around the time of delivery up to 1 week postpartum. There are three main definitions of exclusive breastfeeding used in the literature: "exclusive breastfeeding," according to Labbok and Krasovec (breast milk only, without any other food, fluids, water, juice, or other liquids, including vitamins or medicines);[27] "exclusive breastfeeding," according to the WHO (breast milk only, without any food, water, juice, or other liquids but including vitamins, minerals, and medicines);[24] and "full breastfeeding," as defined by Labbok and Krasovec, which includes both predominant breastfeeding (infant may consume water, water-based drinks, fruit juice, or ritualistic fluids but no infant formula) and exclusive breastfeeding (**Figure 3**).[27] Within each study, we preferred measures of exclusive breastfeeding over predominant or full breastfeeding when more than one measure was reported. In many cases, the studies did not describe what they considered as exclusive breastfeeding and we assumed they generally meant that the infant did not receive any supplementary feeding with infant formula or with complementary solid foods if before 6 months of life. We considered the prevalence of *any* breastfeeding to include the infant receiving any breast milk, with or without supplemental feeding with infant formula or complementary feeding with solid foods.

Data Synthesis and Analysis

We synthesized data separately for each KQ. The data on health outcomes (KQ1) and harms (KQ3) did not allow for quantitative analyses, so we summarized those data narratively. For KQ2 (breastfeeding outcomes) we conducted random effects meta-analyses using the restricted maximum likelihood estimate with the Knapp-Hartung adjustment[105] to calculate a pooled risk ratio (RR) and 95% confidence interval (CI) for each of breastfeeding initiation, any breastfeeding, or exclusive breastfeeding. When available, we extracted author-reported RRs, and we favored author-reported adjusted RRs over unadjusted. If study-reported RRs were not available, we calculated RRs based on the number of people meeting the event criterion in each treatment group and the total number of participants randomized for each group. In this case, the RR reflects the risk of breastfeeding where values above 1.0 reflect greater breastfeeding among individuals in the intervention group versus control group. Additionally, we calculated the absolute risk difference (RD) in prevalence at each time point for each study and reported the median and interquartile range (IQR) in absolute differences.

We analyzed any breastfeeding separately from exclusive breastfeeding. We grouped the breastfeeding results into five distinct cross-sectional time points consistent with the previous review[2] and corresponding to the U.S. Healthy People 2030 objectives:[106] breastfeeding initiation (at birth up through 1 week postpartum) and breastfeeding at less than 3 months (2 through 11 weeks), 3 months to less than 6 months (12 through 23 weeks), 6 months (24 through 26 weeks),

and 12 months (52 weeks). Each study could be included within more than one meta-analysis if it reported corresponding data. Within each study, however, we chose data from the longest time point within a given time category if more than one time point was reported (e.g., if a study reported both 12- and 20-week outcomes, we pooled the 20-week results). For breastfeeding initiation, we choose the timepoint closest to the time of hospital discharge (2-3 days postpartum). With this approach, an individual trial never contributed to more than one data point for a given pooled estimate. In addition, to avoid "double counting" in studies involving one control group and multiple intervention groups, we plotted the most intensive intervention arm (based on the number and duration of the sessions) or the arm that was the most similar with other interventions included in the analysis (noted as IG1 in tables).

In cases where a cluster RCT was used but the authors did not account for the nested nature of the data, we adjusted for the clustering effect by applying a design effect, which was based on an estimated average cluster size (i.e., the total number of randomized participants divided by the total number of clusters) and multiplied by an estimated intraclass correlation. We assumed the intraclass correlation to be 0.05.[107, 108]

We examined statistical heterogeneity among the pooled studies using standard chi-squared tests and estimated the proportion of total variability in point estimates using the I^2 statistic.[109] We applied the Cochrane Collaboration's rules of thumb for interpreting heterogeneity: less than 40 percent likely represents unimportant heterogeneity, 30 to 65 percent moderate heterogeneity, 50 to 90 percent substantial heterogeneity, and greater than 75 percent considerable heterogeneity.[110]

For outcomes where there were at least 10 studies, we generated funnel plots to evaluate small-study effects (a possible indication of publication bias) and performed the Peters' test[111] to assess statistical significance of imbalance in study size and effect sizes that suggest a pattern of larger effects in smaller studies.

We calculated the number needed to treat (NNT) for selected results by first estimating the absolute risk reduction based on the pooled RR and three levels of "baseline" rates of breastfeeding (i.e., absolute risk reduction = [RR−1]*baseline risk). Because there was a wide range of control group rates for some of the time points, we chose baseline levels empirically, using the included studies and roughly corresponding to the 25th, 50th, and 75th percentiles of control group rates at each time point for any and exclusive breastfeeding. NNT was calculated as the inverse of the absolute risk reduction.[110]

We investigated whether the heterogeneity among the results was associated with any prespecified population or intervention characteristics of the studies, first qualitatively, using visual displays and tables grouped or sorted by these potentially important characteristics. Specifically, we examined country (United States vs. others), intention to breastfeed (all intending to breastfeed vs. not), stage of pregnancy at baseline (pregnant vs. after delivery), intervention category (breastfeeding only vs. breastfeeding plus), intervention type (peer support, professional support, education, vs. other), in-person versus remote delivery, intervention timing (prenatal, peripartum, postpartum, or a combination), intervention duration, and number of intervention sessions. Based on this initial assessment, we used meta-regression and stratified

analyses to examine whether the effects were different in specific subgroups. Given that there were no patterns in the effects by these various characteristics across outcomes, we present overall results for all interventions grouped together at each time point.

We were unable to pool data on continuous measures of absolute breastfeeding duration given the variability in the reported measures (means or medians), followup durations, and direction of the time-to-event data (risk of cessation of breastfeeding vs. risk of still breastfeeding); therefore, we synthesized these data in a table and narratively.

We used Stata version 16.1 (StataCorp LP, College Station, TX) for all analyses. All significance testing was two-sided, and results were considered statistically significant if the *p*-value was ≤0.05.

Grading the Strength of the Body of Evidence

We graded the strength of the overall body of evidence for each KQ. We adapted the Evidence-based Practice Center (EPC) approach,[112] which is based on a system developed by the Grading of Recommendations Assessment, Development, and Evaluation Working Group.[113] Our method explicitly addresses four of the five EPC-required domains: consistency (similarity of effect direction and size), precision (degree of certainty around an estimate), reporting bias, and study limitations. We did not address the fifth required domain—directness—as it is implied in the structure of the KQs (i.e., whether the evidence links the interventions directly to a health outcome).

Consistency was rated as consistent, inconsistent, or not applicable (e.g., single study). Precision was rated as precise, imprecise, or not applicable (e.g., no evidence). The body of evidence limitations field highlights important restrictions in answering the overall KQ (e.g., suspected reporting bias, lack of replication of interventions, nonreporting of outcomes).

We graded the overall strength of evidence as high, moderate, low, or insufficient.[112] These grades reflect our level of confidence in the estimate of effect (direction and magnitude) for benefit or harm – equating to our judgement as to how much the evidence reflects a true effect, our assessment of the level of deficiencies in the body of evidence, and our belief in the stability of the findings. The strength of evidence grade does not reflect the actual magnitude of the effect (e.g., a "small" relative risk).

A rating of "high" indicates high confidence that the evidence reflects the true effect, and that further research is very unlikely to change our confidence in the estimate of effect. "Moderate" suggests moderate confidence that the evidence reflects the true effect, and that further research may change our confidence in the estimate of effect and may change the estimate. "Low" indicates low confidence that the evidence reflects the true effect, and that further research is likely to change our confidence in the estimate of effect and is likely to change the estimate. A grade of "insufficient" indicates that evidence is either unavailable or does not permit estimate of an effect. We developed our overall strength of evidence grade based on consensus discussion involving at least two reviewers.

Contextual Questions

In addition to the systematically reviewed questions (KQs 1-3), we also addressed contextual questions (CQs) to aid with the broader interpretation of the evidence. Contextual questions are important considerations that may not be readily answerable from the KQ evidence or RCT literature. Three CQs were prespecified in our Research Plan:

1. What are the associations between breastfeeding or consuming breast milk and short- and long-term child and maternal health outcomes?

2. What cultural, structural, and social variables contribute to disparities in rates of breastfeeding and inequities in access to breastfeeding support interventions?

3. What programs help facilitate access to or utilization of breastfeeding support interventions? What harms are associated with these interventions?

4. Do healthcare system–level interventions and hospital policies, such as full or partial implementation of the Baby-Friendly Hospital Initiative, improve rates of breastfeeding and health outcomes? What harms are associated with these interventions?

CQs were not systematically reviewed. Evidence for CQs was identified based on literature retrieved for the systematic search for KQs as well as targeted searches and scanning bibliographies of relevant articles. A best evidence approach was used to identify the most recent, applicable, and robust evidence. CQs are addressed in the Introduction and Discussion sections of this report.

Expert Review and Public Comment

A draft research plan including the Analytic Framework, KQs, and inclusion and exclusion criteria was posted on the USPSTF website for public comment from March 10 to April 16, 2022. Most comments, while informative, pertained to details and considerations for background information and data abstraction and analysis. There were no changes made to the research plan that changed the scope of the review or our approach to synthesizing the evidence. A final research plan was posted on the USPSTF website on July 14, 2022.

A draft version of this report was reviewed by four invited experts and three individuals at USPSTF Federal Partner agencies. Experts were selected based on their expertise with fundamental methodologic and content aspects of the review and were selected to obtain diverse informed perspectives. All expert comments were considered, and selected comments from experts were used to clarify and extend the synthesis of evidence to ensure accuracy and address scientifically relevant concerns. All comments were shared with members of the USPSTF and the Agency for Healthcare Research and Quality.

USPSTF and AHRQ Involvement

We worked with USPSTF members at key points throughout this review, particularly when determining the scope and methods and developing the Analytic Framework and KQs. The USPSTF members approved the final Analytic Framework, KQs, and inclusion and exclusion criteria after revisions reflecting the public comment period. AHRQ staff provided oversight for the project, coordinated systematic review, reviewed the draft report, and assisted in an external review of the draft evidence synthesis.

Chapter 3. Results

We screened 3,720 abstracts and reviewed 290 full-text articles for inclusion across Key Questions (**Appendix B**). Overall, we included 90 trials[114-203] (125 publications total[204-238]) with over 49,000 mother-infant pairs being represented. All studies reported the included samples as "women" or "mothers" therefore, our results similarly adopt this language. Two independent studies were reported within one publication: the Best Infant Nutrition for Good Outcomes (BINGO) study is referred to as Bonuck, 2014a[123] and the Provider Approaches to Improved Rates of Infant Nutrition & Growth Study (PAIRINGS) is referred to as Bonuck, 2014b.[124] All but one of the included studies addressed KQ 2; 19 of these studies addressed KQ 1 and 28 addressed KQ 3. Forty-three trials were carried forward from the previous review and 47 trials were newly identified in this update.

The lists of included and excluded studies (with reasons for exclusion) are available in **Appendix C** and **Appendix D,** respectively. Of the articles reviewed at full text, the most common reasons for exclusions were for outcomes (k=37), being conducted in a country not included on the "very high" list on the 2019 Human Development Index (k=30), study design (k=24), study design (k=24), quality (k=23), or because the intervention was out of scope (k=20). Nine of the trials excluded due to intervention type were included in the prior review; however, due to the change in scope, studies of system-level policies and programs were excluded. Of the trials excluded for quality, most were found to have a high risk of bias due to missing outcome data and limited reporting around randomization procedures.

Study and Population Characteristics

Study and population characteristics for all included studies can be found in **Table 4**.

All 90 of the included studies were RCTs; ten were cluster RCTs with randomization of hospitals,[144, 178] family practice or general practice clinics,[138, 146, 154] maternal and child home health care organizations,[158] local government areas or electoral wards,[151, 163, 172] and community health and wellness centers.[187] Just over a third of the studies (33/90, 37%) were conducted in the United States and 23 studies took place in European countries (26%), including seven studies in the United Kingdom. The remaining studies took place in Australia (9 studies, 10%), countries in Asia (17 studies, 19%), and Canada (7 studies, 8%). The sample sizes of the studies ranged considerably from 39 women in one study to 9,675 women in another study. The median sample size was 229 across the studies. Most of the cluster RCTs had more than 2,000 women enrolled.

The inclusion criteria for women allowed in the studies was highly variable across individual studies, and the demographic information of the included samples were often sparsely reported. Among studies that reported the mean age of included women, the average age ranged from 16 to 33 years and the median of the average age was 28 years. Four studies were limited to adolescents (age <18 years)[184, 199] or young adults (age <21 years).[135, 137]

Most studies recruited women during pregnancy (57/90 studies, 63%) or shortly following delivery within the birthing facility (29/90, 32%). Five studies enrolled women during the

postpartum period (up to 8 weeks postpartum) and required that women had initiated or were exclusively breastfeeding at the time of recruitment.[119, 138, 162, 172, 187] Almost half of the studies (40/90, 44%) required that women be intending to breastfeed to be eligible for study inclusion; in the remaining studies that reported it, most women intended to breastfeed at the beginning of the trials. Many studies required that this was the women's first live birth and therefore, they had no previous breastfeeding experience. Of those who had previous births, the proportion with previous experience breastfeeding ranged from 9 percent to 100 percent. Almost all studies explicitly stated the exclusion of women or infants with conditions that would preclude or complicate breastfeeding, such as an infant congenital abnormality.

The demographic and social characteristics of the included samples, and the reporting of those characteristics, were extremely mixed. Among the 33 studies taking place in the United States, most (24/33, 73%) included mostly women of color. Of these trials, four limited inclusion to Hispanic or Latina women[122, 148, 166, 169] and two limited inclusion to Black women, including one among Black women living with overweight or obesity.[137, 165] In the remaining 18 studies, participants were predominately Black and/or Hispanic and Latina women.[118, 121, 123-125, 127, 132, 135, 140, 149, 152, 153, 156, 164, 167, 176, 185, 199] Furthermore, within these 24 studies, many studies required that women be within lower income categories to participate (e.g., WIC-eligible [income of 185% or less of the federal poverty income guidelines], Medicaid recipient) or those recruited were generally of lower income groups. The remaining seven U.S.-based studies generally represented White women or a racially and ethnically diverse sample.[117, 126, 130, 168, 181, 182, 190, 191, 197] Where reported, few women in the U.S.-based studies were of Asian/Pacific Islander or Native American decent.

In the 57 non-U.S.-based studies, demographic and social characteristics were more sparsely reported. In seven studies, all or predominately all women were of Asian or Middle Eastern descent; these studies were conducted in Hong Kong, Singapore, and the United Kingdom.[172, 173, 184] A few studies in Australia and Canada noted the proportion of women who were Aboriginal or Torres Strait Islander people, ranging from 1 percent to 24 percent.[172, 173, 184] One additional study in Australia noted that the sample represented "low-income, culturally diverse women" but more detailed demographic data was not reported.[141] Likewise, two studies in the United Kingdom recruited women from "deprived urban areas," with one study predominantly including women of Asian or Middle Eastern origin.[154, 163]

Within all the studies, fewer than half reported variables such as employment status, intentions to return to work, or marital or cohabitation status. In those that did, prenatal employment (i.e., working part-time or full-time) ranged from five percent to 88 percent of the sample and most women expressed an intention to return to work after unpaid or paid parental leave. In studies that reported relationship status, most women reported being married or cohabitating.

In addition to studies limited to women belonging to certain racial or ethnic groups or falling within a particular socioeconomic demographic, several studies limited inclusion based on health status or living situation. In five trials, participation was limited to women living with overweight or obesity.[129, 132, 140, 165, 180] One trial was limited to women who had a family history of asthma.[146] In two studies, trial enrollment was limited to women who had a male partner who

could participate in the study because the focus of the interventions was effective coparenting.[114, 115]

Intervention and Control Characteristics

A summary and details of each included intervention can be found in **Table 5** and **Appendix E Table 1**, respectively. Given the variability in the interventions, we discuss the interventions in two main groups: 1) those that focused on breastfeeding education and support alone, and 2) those that included breastfeeding support in addition to content related to other maternal or infant topics (named "breastfeeding plus").

Breastfeeding Education and Support

Most of the 90 included trials (75 trials with 83 unique intervention arms) provided interventions focused specifically on breastfeeding education and support. Most provided formal education and/or support given by a professional, such as nurses, midwives, physicians, and/or lactation care providers.[114, 115, 117, 119-121, 123-131, 136, 138, 141, 143-146, 150, 152, 155, 156, 158-161, 163, 164, 167, 168, 170-175, 178-180, 182, 183, 186-189, 193-195, 197, 198, 201-203] Eight trials explicitly stated that the lactation care providers involved in the intervention were International Board Certified Lactation Consultants (IBCLC) or held some other lactation support certification.[123, 124, 129, 130, 175, 180, 186, 197] In 14 trials, breastfeeding support was provided by trained peers.[118, 122, 132-135, 139, 142, 147, 154, 166, 177, 185, 199] In these cases, peer counselors were recruited specifically for the study: they were chosen to represent the sample population (e.g., adolescents, WIC recipients) and had previous breastfeeding experience. Two peer-led interventions also included support from an IBCLC lactation consultant.[166, 199]

The timing, duration, and number of sessions of the interventions varied widely. **Figure 4** illustrates the intervention timing and duration of each study. In just about half of the study groups (36 of 75 trials), the intervention occurred in just one time period, either during the prenatal period, during the hospital stay, or during the postpartum period, while interventions spanned across or in more than one time period (i.e., prenatal and peripartum; prenatal and postpartum) in the remaining just over half of studies. The total duration of interventions also varied widely and ranged from 1 day (1 session) to over a year of ongoing support. Eighteen intervention groups had interventions that were delivered in a single session, most occurring during the prenatal period (12/18) or during the hospital stay (5/18) and one during the postpartum period. Most interventions consisted of six or fewer sessions (median = 4, range = 1–20). Interventions that included seven or more sessions all included contact with participants during the postpartum period, with most also intervening during the prenatal and/or peripartum period as well.

Most interventions were provided directly to women individually, but twelve interventions included group sessions with other mothers.[122, 127, 129, 130, 134, 135, 142, 144, 180, 183, 185, 201] Twelve interventions encouraged or required that a partner, co-parent, or other support person also take part in the intervention. Twenty-eight of the interventions were provided completely remotely via telephone calls,[122, 127, 129, 130, 134, 135, 142, 144, 183, 185, 201] a smartphone app,[116, 126, 139, 164, 168, 175, 189,

[190, 197, 201] online,[118, 125, 132, 136, 144, 146, 154, 158, 166, 167, 171, 172, 177, 191, 192] or using text messages.[121] The remaining interventions all provided at least one in-person support session in the hospital, clinic, or at home. Fourteen interventions in 13 trials included home visits with or without additional clinic-based in-person support, telephone, or text-based support.[118, 125, 132, 136, 144, 146, 154, 158, 166, 167, 171, 172, 177] Most home visits took place during the postpartum period, but some also included prenatal home visits.

Intervention content focused on general breastfeeding education, including the maternal and infant benefits of breastfeeding and the importance of exclusive breastfeeding; advice on proper latching and other techniques to reduce breastfeeding problems; and messages designed to increase breastfeeding self-efficacy. Most interventions also provided emotional and instrumental support, which often included hands-on support to assist with proper infant positioning.

Few studies mentioned provided material support to participants. One intervention provided an ergonomic infant carrier to women during a one-time prenatal home visit to facilitate increased physical contact from birth onward.[167] The home-visiting team was trained to help participants with their carrier, and all participants had unlimited access to an instructional video; however, no further breastfeeding counseling was provided. Five additional trials noted providing intervention participants with nursing bras, breast pumps, or other material support.[123-125, 132, 166] Six studies explicitly mentioned including information about expressing and/or storing breast milk.[125, 131, 144, 146, 164, 182]

Only five studies noted cultural adaptations or considerations in the design or delivery of the intervention.[122, 125, 127, 154, 166] Minimal information was provided on how interventions were culturally tailored beyond statements such as using a culturally appropriate lactation doll and nipple, addressing cultural issues previously found to influence initiation or continuation, and addressing cultural barriers and concerns.

Breastfeeding Plus

Fifteen trials evaluated interventions that involved additional content and messages beyond breastfeeding support.[137, 140, 148, 149, 151, 153, 157, 162, 165, 169, 176, 181, 184, 196, 200] In seven of these trials, five of which took place in the United States, women in the intervention groups received a comprehensive prenatal and/or postpartum home visiting program which included breastfeeding support in addition to general education and support for multiple aspects of maternal and infant well-being such as newborn care, contraception, infant vaccination schedules, and child development.[137, 149, 162, 169, 176, 181, 184] In all cases, the interventions were led by community doulas, nurse midwives, or community health workers with or without additional peer counselors.

Eight studies targeted specific subgroups of women of specific ages, race or ethnicity, or socioeconomic status. Three studies were in low-income Black mothers,[137, 140, 164] two in low-income Hispanic mothers;[148, 169], and three were in low-income Black or Hispanic mothers.[149, 153, 176] Two trials were also limited to younger Black or Hispanic women (<21 or <26 years)[137, 149] and an additional trial was limited to low-income adolescents (<18 years)[184].

Two studies evaluated interventions designed to reduce postpartum depression. One trial in the United States included postpartum behavioral education among predominately low-income black and Hispanic or Latina women versus usual care;[153] the other, in the United Kingdom, provided prenatal and postnatal support that included breastfeeding support, general postpartum advice and social support, and advice about infant care versus usual postpartum support.[157]

In two studies, interventions were designed to support healthy weight gain during pregnancy and reduce postpartum weight retention.[151, 165] In addition to including content with messages to support breastfeeding, lifestyle recommendations related to physical activity and healthy eating were also a part of the intervention.[151, 165] In these trials, most of the intervention components took place during pregnancy. One of the trials limited inclusion to low-income black women in the United States who had overweight or obesity pre-pregnancy and compared a home-based parenting support and child developmental educational intervention with the same intervention plus content on breastfeeding.[165] The other intervention in the Netherlands offered individual counseling on physical activity, nutrition, and weight monitoring, including messages about breastfeeding alongside and compared with standard prenatal care.[151]

Finally, four studies were framed as childhood obesity prevention interventions and focused on broad infant feeding practices, including breastfeeding.[140, 148, 196, 200] All three interventions started in the prenatal period and continued postpartum, for 9 to 12 months of intervention. One was a home-based prenatal and postpartum intervention provided by a nurse in Australia,[200] one was a comprehensive food and activity counseling program provided in New Zealand,[196] one involved prenatal and postpartum individual counseling with registered dietitians trained as lactation counselors alongside well-child visits and parenting support groups among low-income Hispanic and Latina women in the United States,[148] and the remaining was a social media peer support group promoting healthy infant growth as well as maternal well-being among predominately low-income black women living with obesity in the United States.[140]

Control Groups

Almost all the studies included usual care control groups, although what constituted usual care was not fully described or was highly variable given the various settings, countries, and time frames in which the interventions took place. In all cases, mothers in both the intervention and control groups received usual care. The intervention components were either provided in addition to usual care services or replaced specific components of care (e.g., more intensive lactation support than routinely provided).

As part of usual care, many studies noted routine prenatal education, but the degree to which breastfeeding education was included in the prenatal education was rarely reported. Most studies described in-hospital (peripartum) and/or postpartum lactation support including print materials and hands-on breastfeeding assistance and education from maternity unit nursing staff, midwives, and/or lactation consultants or counselors. A few studies noted that breastfeeding support was also provided through "warm" telephone lines that mothers could call 24 hours a day for support and counseling. Ten of the studies explicitly mentioned that the studies took place in BFHI-accredited facilities.[118, 121, 132, 141, 159, 164, 166, 171, 194, 203] A few studies mentioned

discharge materials routinely given to families, including videos or print materials on infant care and breastfeeding, manual breast pumps, lanolin cream, and a water bottle. Two studies explicitly stated that the hospital discharge bag included commercial milk formula.[127, 152]

In the studies that recruited participants from WIC clinics, standard prenatal and/or postpartum maternity and infant services provided by local WIC clinics were provided; this is assumed to also vary by site, but generally included peer counselor-led breastfeeding support, access to a 24-hour telephone help hotline, home visits, and hands-on coaching. Many of the non-U.S. studies included routine postpartum home visits as part of usual care.[141, 142, 154, 158, 159, 171, 172, 184, 200] A few studies mentioned providing information on peer support groups available in the community or other community resources.

Although we categorized the control groups in three studies as "no intervention," it is very likely women in these groups also received usual maternity and breastfeeding support. In these cases, the interventions (providing an infant carrier[167] or online/app-based support[140, 168]) were compared with control groups who did not receive an infant carrier or access to the technology that supported the intervention. Finally, four studies utilized an attention control group where women in the control groups received the same intervention materials (e.g., videos, text messages) but the content focused on a topic other than breastfeeding (e.g., injury prevention, general infant health).[117, 126, 156, 191]

Quality of Included Evidence

We rated 28 of the 90 studies as good quality and the remaining 58 as fair quality (**Table 4**). In general, the limitations of the trials rated as fair quality included a lack of reporting details about randomization methods, including allocation concealment; small or unclear differences in baseline characteristics between intervention arms on variables that may relate to breastfeeding outcomes and were not accounted for in the analyses (such as intentions to breastfeed, parity, previous breastfeeding experience, marital status, employment); a lack of blinding of outcome assessors; attrition greater than 10 percent but less than 35 percent or differential attrition between study arms; and a lack of reporting on how missing data were handled. Additionally, while all studies relied on self-reported measures of breastfeeding and breastfeeding duration with or without verification from clinical records, the studies we rated as fair quality rarely noted the specific instruments, questions, or definitions used to measure breastfeeding, including whether the measure was based on a 24-hour recall or since birth. Studies that measured breastfeeding duration or time to weaning were especially prone to recall bias, and very few fair-quality studies described how observations were censored in the analyses.

Summary of Results

A total of 19 studies (n=11,175) reported the effectiveness of breastfeeding support interventions on infant or maternal health outcomes (KQ 1). Ten trials (n=6,592) reported on **infant health outcomes**, which included gastrointestinal outcomes (k=2), otitis media (k=1), the number of health care visits for respiratory tract illnesses (k=1), and rates of general infant health care utilization, childhood illness, or minor infant health outcomes (k=8). Infant health outcomes

were reported from the time of birth for up to 1 year in some studies. In general, the evidence was mixed, but in all cases, more favorable effects were seen on these outcomes among infants born to intervention versus control group parents. However, very few reported these differences to be statistically significantly different between groups. In cases where differences *were* seen in infant health outcomes, there were no apparent differences in rates of any or exclusive breastfeeding that seemed to be driving these effects. Furthermore, in some cases, the interventions included postpartum in-home nursing support, which could help protect against poor infant health outcomes, independent of their effect on breastfeeding.

For **maternal health outcomes**, nine trials (n=2,334) reported maternal symptoms of anxiety, depression, or well-being at up to 6 months postpartum. Most of the studies reported better symptom scores among intervention mothers versus control mothers; however, very few of the differences between groups were statistically different. In the two trials that reported maternal weight-related outcomes (n=2,533), no differences were seen between groups.

Breastfeeding outcomes (KQ 2) were reported as the prevalence of breastfeeding at various time points (k=89, n=49,597), continuous measures of the duration of breastfeeding (k=27, n=13,742), and the intensity of breastfeeding (k=6, n=1,977). In meta-analyses, there was a statistically significant association between participating in a breastfeeding support intervention and the prevalence of any and exclusive breastfeeding at <3 months, 3<6 months, and 6 months (**Table 8**). For example, at 6 months, the likelihood of any breastfeeding and exclusive breastfeeding was 13 percent higher (RR, 1.13 [95% CI, 1.05 to 1.22] I^2=73.4; k=37; n=13,579) and 46 percent higher (RR, 1.46 [95% CI, 1.20 to 1.78]; I^2=76.8; k=37; n=14,398), respectively. The median differences in absolute prevalence of breastfeeding between groups ranged from 1.5 to 6.7 percentage points at various time points for any and exclusive breastfeeding, with slightly larger effects for exclusive versus any breastfeeding. No effect was seen on the prevalence of breastfeeding initiation, but the absolute proportion of participants beginning to breastfeed in the first week of life was high among both intervention (median, 94.4%) and usual care groups (median, 90%) indicating a potential ceiling effect on outcomes. Eight trials reported the prevalence of any breastfeeding at 12 months, finding mixed results. There was no consistent evidence that the results varied by any prespecified population or intervention characteristics. In the subset of trials that reported continuous measures of time to stopping breastfeeding, all trials reported that infants born to persons in the intervention groups were breastfed longer than those in the control groups, although most did not report these differences to be statistically significantly different.

Potential harms related to breastfeeding support interventions (KQ 3) were minimally reported (k=7, n=1,404) and indicated no harm related to the interventions. Additionally, there was no evidence of differences in the prevalence of breastfeeding "problems" between those in the intervention versus usual care groups.

Detailed Results

KQ 1. Do Interventions to Support Breastfeeding Improve Child and Maternal Health Outcomes?

Eighteen of the 90 included studies (n=10,505) reported a measure of infant or maternal health.[118, 121, 125, 127, 132, 133, 143, 145, 149, 151, 152, 157, 162, 169, 178, 183, 188, 189, 193] Detailed results for infant health outcomes are in **Table 6** and for maternal health outcomes in **Table 7**.

Infant Health Outcomes

Two studies of fair quality reported on infant **gastrointestinal outcomes**, with conflicting results.[118, 125] Anderson and colleagues (n=135) reported that the risk of infants experiencing one or more diarrheal episodes during the first 3 months of life was more than two-fold higher in the usual care group (37.5%) than in a peer counseling intervention group (17.5%) (RR, 2.15 [95% CI, 1.16 to 3.97]); this study also found lower prevalence of exclusive breastfeeding at both 2 and 3 months in the control group compared with the intervention group.[118] Bonuck and colleagues (2006) (n=338), however, reported no significant differences in the proportion of emergency or outpatient visits for gastrointestinal illnesses in infants of women who attended a prenatal and postpartum support intervention (22.7%) and in infants in the usual care group (25.7%) at 1 year. In this study, mothers in the intervention group breastfed for a statistically significantly longer duration than the women in the control group, but there were no differences in the proportion of women who exclusively breastfed at any time point.[125, 205]

Bonuck and colleagues (2006) also reported infant outcomes for **otitis media** and **respiratory tract illnesses** for up to 1 year.[125] In the full sample, there were no statistically significant differences in the percent of otitis media cases (43.6% vs. 54.9%) or the number of health care visits for respiratory tract illnesses (76.7% vs. 83.4%) for intervention versus control participants. In preplanned analyses, infants in the usual care group who were not Medicaid recipients had significantly more cases of otitis media than infants in the intervention group ($p \leq 0.03$); there was no difference among infants who were Medicaid recipients.

Eight studies reported outcomes of **infant health care utilization**,[127, 132, 145, 152, 162, 178, 183] **childhood illness**,[183] or **minor infant health outcomes**[188] at 4 weeks to 6 months followup. There was a general trend of lower rates of healthcare visits and hospital admissions among infants in the intervention group compared with control groups, although these differences were not statistically significantly different between groups in all studies. For instance, despite finding a statistically significantly higher prevalence of exclusive breastfeeding at four weeks between groups, Hopkinson and colleagues found no significant difference in the number of infant visits to the pediatrician or emergency room at 4 weeks postpartum between women randomized to a lactation care provider-led postpartum breastfeeding support intervention (76.3% visited pediatrician, 8.9% visited emergency room; n=225) and those receiving usual care (82.1% visited pediatrician, 9.2% visited emergency room; n=240).[152] Bunik reported that infants born to mothers assigned to a nurse-delivered brief telephone postpartum support intervention were less likely to have a sick visit by 4 weeks postpartum than were infants born to mothers in the usual care group (25% vs. 36%, respectively; p=0.05); however, there were no significant differences

between treatment groups with respect to well-baby and sick care visits at 3 and 6 months postpartum or between any or exclusive breastfeeding at 1, 3, and 6 months.[127]

Gagnon observed that infant hospital admission for multiple conditions (including fever/viral episodes, jaundice, ear infection, and lethargy) during the first 8 weeks postpartum was more than two-fold higher in the usual care group (7/254 [2.8%]) than in the intervention group receiving a postpartum in-home nursing visit and optional phone support (3/259 [1.2%]); however, there was no significant difference in the prevalence of any breastfeeding between groups at 2 weeks.[145] Nilsson and colleagues found a statistically significantly lower likelihood of readmission of the infant within 7 days (adjusted odds ratio [aOR], 0.55 [95% CI, 0.37 to 0.81]) but not from 7 to 28 days (aOR, 0.96 [95% CI, 0.58 to 1.59]) due to jaundice, dehydration, excessive weight loss and nutritional problems among infants born to women in the intervention versus control group.[178] Chapman and colleagues reported that infants of mothers who received a breastfeeding peer counseling intervention were significantly less likely to be hospitalized during the first 3 to 6 months after birth after adjustment for maternal age, delivery mode, infant birth weight, previous breastfeeding experience, maternal pregnancy body mass index, and infant sex (6-month adjusted odds ratio [aOR], 0.24 [95% CI, 0.01 to 0.86]). There were no statistically significant differences, however, in the prevalence of otitis media, diarrhea, or emergency department visits between groups at 3 or 6 months. This study also did not find an effect on the prevalence of any or exclusive breastfeeding beyond 2 weeks.[132] Finally, in the studies by Puharic[183] and Sari,[188] both found statistically significantly greater prevalence of exclusive breastfeeding and lower rates of seeking medical assistance, childhood illness, and minor health outcomes at 3 to 6 months among infants in the intervention versus control groups, although these measures were variably defined and included gas, nasal obstructions, and skin lesion problems. Laliberte found no differences in the number of infants with at least one reported emergency room visit or infant readmission to the hospital, nor differences in the prevalence of exclusive breastfeeding 12 weeks followup.[162]

Maternal Health Outcomes

Eleven studies (n=5,441) reported on an outcome related to maternal well-being[121, 133, 145, 149, 157, 169, 189, 193, 210] or maternal weight.[121, 133, 145, 149, 157, 169, 189, 210] In terms of **maternal well-being outcomes** (k=9, n=2,334), most studies reported no statistically significant differences between intervention versus control group women in symptoms of anxiety, depression, or well-being at up to 3 months postpartum using measures such as the Edinburgh Postnatal Depression Scale (EPDS), the Warwick-Edinburgh Mental Well-being Scale, or the State-Trait Anxiety Inventory.[121, 133, 145, 149, 157, 169, 189, 193, 210] For example, in one study comparing an intervention consisting of a pregnancy outreach worker versus standard maternity care among disadvantaged families in the United Kingdom, no differences were seen in the mean EPDS for all of the women recruited (mean difference [MD], -0.59 (95% CI,1.24 to 0.06). The same study found no differences in the proportion of women breastfeeding at 6-8 weeks.[157] In one study comparing a prenatal and postpartum face-to-face, telephone, and text messaging breastfeeding support intervention versus usual care, symptoms appeared to worsen to a greater extent among intervention women than among control group women, although the direction of change within groups was not clearly reported in the study.[133] In another study (n=82), a brief motivational intervention to increase breastfeeding was associated with a lower score on the EPDS at 3 months postpartum compared with the control group and was mediated by the effect of the

intervention on the duration of breastfeeding.[210] Furthermore, women in the intervention group (11.9%) were less likely to score above 10 on the EPDS than women in the control group (30%), although the relative risk was not statistically significant (aOR, 0.33 [95% CI, 0.10 to 1.08], p=0.068).[210] In one instance, a statistically significant interaction was found where an increasingly stronger effect of the community health worker home-visiting postpartum intervention was found on maternal depressive symptoms and parental stress over 15 months of followup compared with an educational control group. Similar statistically significant differences were found in rates of breastfeeding at 9, 12, and 15 months followup.[169] An additional recent trial (n=66) found statistically significantly lower state anxiety mean scores among women in the intervention (45.7) versus control groups (55.8) at 2 months following an art-based technology-supported breastfeeding intervention.[189] Another study found statistically significant lower EPDS scores among intervention versus control participants at 3 and 6 months postpartum.[193]

Finally, two studies reported on **maternal weight-related outcomes** following the intervention (k=2, n=2,533).[151, 183] In the "Gesund leben in der Schwarngerschaft" ("healthy living in pregnancy," GeliS) trial in Germany, pregnant women (n=71) in their third trimester were recruited and randomized to a comprehensive lifestyle intervention targeting adequate gestational weight gain or usual antenatal care. Intervention messages included information on healthy dietary and physical activity behavior during pregnancy, emphasis on monitoring gestational weight, and the importance of breastfeeding. Alongside usual care, the intervention was offered during three prenatal and one postpartum face-to-face counseling sessions. No differences were seen between groups in terms of excessive gestational weight gain and postpartum weight retention at 12 months,[151] although there was a slightly higher prevalence of exclusive breastfeeding among intervention (87.4%) versus control group women (84.4%) (adjusted p-value <0.001).[151] Similarly, in the study by Puharic (n=252), there was no difference in change in body mass index from before pregnancy to 3 months postpartum between women receiving telephone breastfeeding support (median, 21.5 to 23.2) versus general pregnancy support (median, 21.6 to 24.0).[183] The latter study did not focus on maternal weight gain or retention.

KQ 2. Do Interventions to Support Breastfeeding Improve the Initiation, Duration, Intensity, and Exclusivity of Breastfeeding?

All but one[193] of the 90 included trials (N=49,597) reported the effects of an intervention on at least one measure of breastfeeding, including the prevalence or proportion of persons reporting any or exclusive breastfeeding at a given point in time, a continuous measure of the duration of any or exclusive breastfeeding, or the intensity of breastfeeding at a given point in time.

Prevalence of Any and Exclusive Breastfeeding

As stated in our methods, we report the results on the prevalence of breastfeeding at five distinct time points: initiation (from birth to up to 1 week postpartum), <3 months (2 to 11 weeks postpartum), 3 to <6 months (12 to 23 weeks), 6 months (24-26 weeks), and 12 months (48-52 weeks). Many trials contributed data to more than one time point. For outcomes related to any breastfeeding, proportions reflect the percentage of women who report breastfeeding at that given time point regardless of other supplementation whereas for exclusive breastfeeding, the proportions reflect the percentage of women who report that their infant is exclusively receiving

only breast milk. Thus, women who report exclusive breastfeeding are also included in the measure of any breastfeeding.

A summary of all the pooled results of our meta-analyses can be found in **Table 8**. Given that there were no differences between the effects of the breastfeeding only interventions versus the breastfeeding plus interventions for any outcome, the pooled results incorporate both sets of studies. Detailed results for the prevalence of breastfeeding for all timepoints by study can be found in **Appendix E Table 2**.

Breastfeeding Initiation

Forty-five trials reported the effects of an intervention on the prevalence of any and/or exclusive breastfeeding initiation. Initiation was defined variably, including generically as "initiation," within an hour of birth, immediately after birth, up to 2-3 days after birth, and up to 7 days after birth. All the interventions had a prenatal component or contact shortly after delivery that was intended to increase the proportion of women starting to breastfeed compared with usual care.

Any Breastfeeding

Meta-analysis of 37 studies (n=15,006) found no statistically significant association with receiving a breastfeeding support intervention and any breastfeeding initiation, compared with usual care (RR, 1.01 [95% CI, 1.00 to 1.02]; I^2=13.2%) (**Figure 5**). The absolute prevalence of any breastfeeding initiation varied from 49.1 percent to 100 percent across all groups, although in most studies that reported it, more than two-thirds of women in both the intervention and control groups started breastfeeding. The median absolute risk difference (ARD) and interquartile range (IQR) was 1.5 percentage points between groups (0 to 5.1). Despite most trials generally showing higher prevalence of breastfeeding initiation among mothers receiving the intervention compared with mothers receiving usual care, only five of the individual trials found a statistically significant benefit.[118, 123, 124, 137, 199]

The relatively high control group initiation rates and the small overall benefit suggested by the pooled results are consistent with ceiling effects for breastfeeding initiation. In trials that reported it, most reported that 80 percent or more of enrolled women intended to initiate breastfeeding (range, 52% to 100%).

Exclusive Breastfeeding

Fewer studies reported the prevalence of exclusive breastfeeding initiation; in those that did, the proportion of women who initiated exclusive breastfeeding ranged from 26.9 percent[195] to 100 percent[155] of women in the intervention compared to a range of 18.1 percent[195] to 92.0 percent[155] in usual care groups (median ARD, 5.3 [IQR, -0.2 to 18.3]). In pooled analyses (k=27, n=10,622), there was a greater likelihood of initiating exclusive breastfeeding among intervention versus control group women (RR, 1.16 [95% CI, 1.05 to 1.29 (**Figure 6**), although there was high statistical heterogeneity (I^2=75.6%).

Visual examination of the funnel plot for exclusive breastfeeding initiation revealed asymmetric patterns and the results of the Peters' test for small study effects was statistically significant

(p=0.0000), so we cannot exclude potential publication bias. A sensitivity analysis excluding the seven studies that had total sample sizes of less than 100[128, 143, 166, 186, 188, 189, 203] resulted in an attenuated effect with greater precision while reducing statistical heterogeneity (RR, 1.05 [95% CI, 1.00 to 1.10]; I^2=6.6%; k=16). Five of the seven smaller studies were all conducted in Turkey, and all reported much larger relative effects than the other studies.[128, 186, 188, 189, 203] Thus, the effect size for exclusive breastfeeding initiation when all studies are pooled may be slightly overestimated due to small study effects, including potential publication bias.

Breastfeeding for Less Than 3 Months

There was a beneficial association between breastfeeding support interventions and the prevalence of both any and exclusive breastfeeding at less than 3 months (i.e., with breastfeeding reported at 2 to 11 weeks).

Any Breastfeeding

Meta-analysis combining the 47 trials (n=15,663) that reported the prevalence of any breastfeeding for less than 3 months found a statistically significant favorable association with breastfeeding support interventions versus control groups (RR, 1.06 [95% CI, 1.03 to 1.08]; I^2=55.1%) (**Figure 7**). The prevalence of any breastfeeding was generally high, with most studies reporting more than 70 percent of intervention group women and more than 60 percent of control group women still breastfeeding between 2 and 8 weeks. The median ARD (IQR) in percentage points between groups was 5.2 (1.5 to 9.8).

Exclusive Breastfeeding

The pooled effect for exclusive breastfeeding at less than 3 months was more pronounced than that seen for any breastfeeding (RR,1.21 [95% CI, 1.14 to 1.28]; k=51; n=17,431; I^2=36.6%) in favor of the intervention groups (**Figure 8**). The absolute prevalence of exclusive breastfeeding at 2 to 8 weeks was highly variable, ranging from 6.7 percent among a sample of women in Australia[201] to 96.1 percent among a sample of women in Spain[155] in the intervention groups with the median absolute difference between groups of 7.1 percentage points (IQR, 3 to 22 percentage points). There did not appear to be any pattern in the absolute prevalence of breastfeeding according to the precise weeks of followup (i.e., whether the measure was at 2 weeks vs. 8 weeks).

Breastfeeding at 3 to Less Than 6 Months

A consistent beneficial effect of the interventions was seen on the prevalence of any and exclusive breastfeeding at 3 to less than 6 months. There was slightly less consistency and precision in the pooled risk ratios, however, reflecting greater variability between groups among the trials.

Any Breastfeeding

Pooled analysis of 40 trials (n=17,580) found that participation in the intervention was associated with a 9 percent higher likelihood of still breastfeeding at 3 to up to 6 months compared with usual care alone (RR, 1.09 [95% CI, 1.04 to 1.12]; I^2=42.6%) (**Figure 9**). Among these trials, the

prevalence of any breastfeeding during this timepoint ranged from 8.3[137] to 100 percent[189] (median, 56.2%) in the intervention groups. In the control groups, the range of any breastfeeding was 4.4[137] to 94.6 percent.[115] (median, 50.0). The median absolute difference between groups was 4.1 percentage points (IQR, -2.6 percentage points [in favor of the control group] to 10.0 percentage points).

Exclusive Breastfeeding

Meta-analysis combining 40 trials (n=11,032) that reported exclusive breastfeeding found a statistically significant benefit during this time period (RR, 1.31 [95% CI, 1.17 to 1.46]; I^2=66.6%) (**Figure 10**). The median absolute difference between groups was slightly higher for exclusive breastfeeding at 5.8 percentage points between groups (IQR, 0 to 15.0 points).

One study[129] (n=226) could not be included in any meta-analyses due to limited reporting of crude events; however, as reported by the authors, the intervention resulted in statistically significantly higher odds of exclusive breastfeeding at 1, 2, 4, and 12 weeks after birth after adjustment for pre-pregnancy body mass index, gestational weight gain, parity, birth weight, gestational age, and infant sex (**Appendix E Table 2**). For instance, at 4 weeks, authors found the odds of exclusive breastfeeding to be 3 times higher among women receiving postpartum telephone support than among women in the control group (aOR, 2.99 [95% CI, 1.61 to 5.50]).[129]

Breastfeeding at 6 Months

Less than half of the trials reported the prevalence of any (k=37) and exclusive (k=37) breastfeeding at 6 months. Pooled analyses of these trials continued to find a beneficial effect of the interventions of greater magnitude at this time point.

Any Breastfeeding

Thirty-seven trials (n=13,579) reported the proportion of women still breastfeeding at 6 months. The pooled relative effect indicated a beneficial association between any breastfeeding and the intervention at 6 months (RR, 1.13 [95% CI, 1.05 to 1.22]; I^2=73.4%) (**Figure 11**). The prevalence of any breastfeeding was highly variable and ranged from a low of 16.7 percent[164] to 100 percent[155] in the intervention group, and 16.7 percent[131] and 89.3 percent[115] in the control group. The median absolute difference in percentage points between groups was 6 (IQR, -2.1 to 10.8).

Exclusive Breastfeeding

A larger relative effect was seen for exclusive breastfeeding at 6 months, with a pooled RR of 1.46 (95% CI, 1.20 to 1.78; k=37; n=14,398; I^2=76.8%) (**Figure 12**). In most studies, a greater proportion of women in the intervention groups were still exclusively breastfeeding at 6 months compared with the control groups; but eight trials found these differences to be statistically significantly different.[119, 120, 143, 146, 155, 182, 183, 187, 195] The median absolute between- group difference in exclusive breastfeeding at 6 months was 3.2 percentage points (IQR, 0.9 to 8.7). The median in the intervention group was 14.6 percent and the median in the control group was 8.7 percent.

Breastfeeding at 12 Months

Any Breastfeeding

A meta-analysis of eight trials (n=4,607) found no statistically significant association with receiving a breastfeeding support intervention and any breastfeeding at 12 months, compared with usual care (RR, 1.04 [95% CI, 0.91 to 1.18]; I^2=0%) (**Figure 13**).[115, 125, 131, 148, 151, 163, 169, 191, 200] Findings of the eight studies were mixed, with four trials reporting a greater proportion of intervention women with continued breastfeeding at 12 months versus control women;[125, 148, 169, 200] the remaining four found trends in the opposite direction.[115, 151, 163, 191] Only one trial found a statistically significantly difference between groups.[169] The absolute prevalence of breastfeeding at 12 months was highly variable, ranging from 9 percent[163] to 85 percent.[151] The median absolute difference in percentage points between groups was 1.3 (IQR, -1.4 to 6.1).

Prevalence as Infants Aged and Effects Over Time

Consistent with national trends, the proportion of women who reported breastfeeding declined steadily with infant age, with greater declines seen among some samples compared to other samples. Examples of the trends in absolute rates of any and exclusive breastfeeding among intervention and control groups in U.S.-based trials that reported three or more timepoints are shown in **Figures 14** and **15**, respectively. Although the proportion of women initiating breastfeeding was quite high (median, 85%), far fewer women in these studies continued breastfeeding compared with the U.S. national average – particularly for exclusive breastfeeding. For example, nationally, at 6 months 59.8 percent and 27.2 percent of infants are breastfed and exclusively breastfed, respectively,[9] whereas in the United States samples included in this review, the median prevalence of these same measures were 37 percent and 8.2 percent. Within the U.S.-based trials, the range of any breastfeeding at 6 months was 23.9 percent to 51.7 percent. Only two studies among predominantly white women reported that almost half of the women in both the intervention and control groups were breastfeeding at 6 months.[130, 181] The lower rates of breastfeeding seen in the included evidence may reflect attempts to recruit individuals who historically have rates of breastfeeding lower than their counterparts (e.g., Black and low-income individuals) in order to reduce known disparities.

There were no patterns in the relative effects of the interventions over time. Some trials showed differences between groups in the prevalence of breastfeeding across time points as infants age, and some interventions effectively increased the number of women starting to breastfeed in the early weeks, but not as infants aged. Others demonstrated increasing effectiveness as infants aged (e.g., the intervention was effective at 6 but not 3 months). This variation might reflect the variety of aims and the intensity of support over time of the respective interventions.

Evidence of Effect Modification

We examined whether specific population and intervention characteristics were associated with larger relative risks through tests of subgroup differences and meta-regressions. Specifically, we examined mean age of the sample, intention to breastfed at baseline, primiparity status, country, timing of the intervention, category and type of intervention (breastfeeding only versus breastfeeding plus; professional support, peer support, general education, and other), duration of

the intervention, number of sessions, and in-person versus remote intervention delivery. None of these variables were consistently associated with the effects of the interventions across outcomes nor time points, although there were a few statistically significant findings.

Larger effects were seen for any breastfeeding initiation and for any breastfeeding at less than three months in studies that took place in the United States versus those in other countries (any breastfeeding initiation: US trials RR, 1.03 [95% CI, 1.01 to 1.06]; k=19 vs. non-US trials RR, 1.00 [95% CI, 0.99, 1.01]; k=19); any breastfeeding at <3 months: US trials RR, 1.10 [95% CI, 1.04 to 1.17]; k=18 vs non-US trials RR, 1.03 [1.01, 1.06]; k=29). The opposite trend, however, was seen for exclusive breastfeeding at six months postpartum, with non-US trials having larger effects (RR, 1.64 [95% CI, 1.24 to 2.17]; k=23), versus US trials (RR, 1.06 [95% CI, 0.93 to 1.20]; k=14). It is unclear why this difference is apparent in the relative likelihood of starting breastfeeding among samples in the United States versus other countries. The median prevalence of breastfeeding initiation among control groups is similar in trials in the United States (85%) versus other countries (83.3%) as are the proportion of women planning to breastfeed. Similarly, it is not clear why interventions in non-US settings may produce a greater effect on exclusive breastfeeding than those in the United States.

There was also an association between women's intention to breastfeed at baseline and some outcomes. Larger effects were seen for women *not* intending to breastfed versus those who were for exclusive breastfeeding initiation (RR, 1.25 [95% CI, 1.06 to 1.48]; k=18 vs. RR, 1.03 [95% CI, 0.97 to 1.09]; k=9), exclusive breastfeeding at <3 months (RR, 1.26 [95% CI, 1.18 to 1.36]; k=26 vs. RR 1.11 [95% CI, 1.02 to 1.20]; k=25), any breastfeeding at 6 months (RR, 1.25 [95% CI, 1.11 to 1.41]; k=16 versus RR, 1.03 [95% CI, 0.96 to 1.10]; k=21), and exclusive breastfeeding at 6 months (RR, 1.67 [95% CI, 1.18 to 2.36]; k=119 versus RR, 1.14 [95% CI, 0.98 to 1.33]; k=18). These findings might signal a greater likelihood for extra breastfeeding support in addition to usual care to be more effective among women who are not already intending to breastfeed.

Finally, there was some evidence of an interaction by the timing of the intervention. In studies where interventions spanned more than one period (e.g., prenatal and peripartum, peripartum and postpartum) versus those that only took place during one period (e.g., just prenatal) larger effects were seen for any breastfeeding at <3 months (RR, 1.10 [95% CI, 1.05 to 1.15]; k=21 versus RR, 1.03 [95% CI, 1.01 to 1.05]; k=26), at 3 to <6 months (RR, 1.13 [95% CI, 1.05 to 1.20]; k=19 vs. RR, 1.04 [95% CI, 0.99 to 1.08]; k=21), and at 6 months (RR, 1.21 [95% CI, 1.06 to 1.38]; k=18 vs. RR, 1.05 [95% CI, 0.99 to 1.13]; k=19). Similar effects were not seen for any breastfeeding at other time points, nor for exclusive breastfeeding at any time point.

These results suggest that there may be some differences in effectiveness of interventions by these characteristics; however, there may be many other differences within these studies that are driving these effects and therefore, should be interpreted with this in mind. Furthermore, many of the same studies are represented in multiple time points by outcomes so patterns seen across time likely reflect the same bodies of evidence and not consistent findings across different bodies of evidence.

Duration of Any and Exclusive Breastfeeding

Twenty-seven trials (n=13,742) reported the effect of interventions on continuous measures of the duration of any and/or exclusive breastfeeding or time-to-event data (**Appendix E Table 3**).[122, 126, 129, 130, 135, 136, 141-144, 146, 147, 151, 153, 158, 159, 161, 177, 179, 181, 182, 184, 190, 192, 196, 199, 200, 202] In these studies, breastfeeding duration was equal to the infant age (in days, weeks, or months) when the infant was no longer breastfed or exclusively breastfed. In most cases, the time-to-event or survival data reflects the risk of discontinuing breastfeeding where a value below 1.0 reflects that women in the intervention group had a lower risk of stopping breastfeeding than women in the control group. Length of followup ranged from 8 weeks to a year.

In most cases, studies reported that women in the intervention group stopped any breastfeeding or exclusively breastfeeding later than women in the control groups. For any breastfeeding duration, the difference between groups in the absolute time until cessation of breastfeeding ranged from less than a day (0.5 days) to 82 days or 1 to 10 weeks. Fewer studies reported the duration of exclusive breastfeeding; in those that did, differences in groups in the absolute days of exclusive breastfeeding were 25 to 79 days or 1 to 11 weeks. These ranges in absolute values likely reflect the differences in the time point in which the followup measurement was reported or when duration was censored in the analysis.

Most studies that statistically tested the differences between groups in the time to weaning or stopping breastfeeding did not find a statistically significantly lower risk of weaning among women in the breastfeeding support interventions versus control groups at up to 6 months followup; with a few exceptions.[142, 143, 146, 153, 161, 192, 200] For example, in a more recent trial of a peer telephone support intervention in Australia, women in the peer support group had a 23 percent lower risk of ceasing breastfeeding than those in the usual care group (adjusted hazards ratio [aHR], 0.77 [95% CI, 0.61 to 0.97], censored at 6 months).[142] Similarly, a recent trial in Spain found the risk of stopping exclusive and any breastfeeding to be 63 percent (aHR, 0.37 [95% CI, 0.22 to 0.60, p<0.001]) and 61 percent (aHR, 0.39 [95% CI, 0.20 to 0.78, p=0.008]) lower among women randomized to a brief motivational intervention versus those randomized to standard education.[143]

Intensity of Breastfeeding

Six trials (n=1,977) reported the effects of an intervention on a measure of breastfeeding intensity (**Appendix E Table 2 and 3**).[117, 122-125, 148] Intensity was variably defined as continuous scores, the proportion of feedings that were breast milk over the course of a day, or categorized according to the percent of feedings that were breast milk over the course of a day. In general, greater intensity of breastfeeding was seen among women in the intervention groups versus control groups at all time points reported.

One US-based trial testing a peer counseling breastfeeding support intervention among low-income Latina women used the Index for Breastfeeding to measure the degree of breastfeeding exclusivity among participants at 2 weeks and 1, 2, and 3 months postpartum. Continuous scores on the Index for Breastfeeding were consistently higher among intervention versus control group women at all time points, indicating a higher intensity of breastfeeding (greater degree of exclusivity) among intervention compared with control group women. For instance, at 3 months,

mean scores were 4.2 and 2.6 among intervention women versus control women. On this scale, a score of 4 indicates that >80 percent of feeds are breast milk ("high"), a score of 3 indicates that 20-80 percent of feeds are breast milk ("medium"), and a score of 2 indicates that <20 percent of feeds are breast milk ("low").[122] In another US-based trial, using a similar scale, the proportion of daily feedings that were breastmilk did not significantly differ by group.[117]

Another trial focused on improving infant feeding practices to prevent childhood obesity among low-income Latino families in the United States and reported the percentage of all feedings in the past 24 hours that were breast milk based on 24-hour diet recall. At 3 months, mothers in the intervention group reported an average of 67.7 percent of all feeds were breast milk whereas mothers in the control group reported an average of 59.7 percent of all feeds were breast milk with a mean difference of 8 percent (95% CI, 15.3 to 0.75), p=0.03).[148] In three separate trials by Bonuck, more women in the interventions groups were categorized as having "high" or "medium" breastfeeding intensity than women in the control group at up to 6 months to 1 year followup.[123-125] For example, in the PAIRINGS trial, the intervention group was more likely to report high (vs low) breastfeeding intensity at 4 weeks (aOR, 3.65 [95% CI, 1.90 to 7.00) and at 12 weeks months (aOR, 2.79 [95% CI, 1.42 to 5.48) and to report greater medium (vs low) breastfeeding intensity at 6 months (aOR, 2.21 [95% CI, 1.13 to 4.32]).[124]

Within-Study Tests of Differences

Few studies tested if treatment effects varied by characteristics of the population. Bonuck et al. examined differences in effectiveness according to whether women were US-born versus foreign-born and by race and ethnicity.[205] There was a significant interaction according to country of origin: US-born control participants had significantly lower breastfeeding intensity at both 13 weeks and 52 weeks than US-born intervention participants and all foreign-born participants. In this study, race did not modify the effect of the treatment significantly.[205] In contrast, Bender et al. found that Black race was a significant effect modifier of their text messaging intervention: among non-Black participants, there was no difference in exclusive breastfeeding rates at 6 weeks postpartum in the intervention group compared with the usual care group. However, when limiting the analysis to participants who identify as Black, a statistically higher proportion of participants in the intervention group were exclusively breastfeeding at 6 weeks postpartum compared with those in the usual care group (39.5% vs 20.0%; OR 2.6 [95% CI, 1.04 to 6.59]).[121] In the study by Wallace and colleagues, there was no difference in the effects of the intervention on the prevalence of breastfeeding according to maternal age (<20, 20-29, 30-39, and >40 years), type of delivery (vaginal or caesarean), or prior breastfeeding experience (yes or no).[198]

KQ 3. What Are the Harms of Interventions to Support Breastfeeding?

We examined all 90 included studies for any reported harms or breastfeeding "problems," as defined by the study authors. Seven of the 90 included studies commented on the occurrence of adverse events or lack of adverse events (n=1,404);[133, 134, 148, 167, 169, 174, 186] however, five of the seven studies simply reported that no adverse events were reported or that no adverse events related to the intervention were evident, but no additional details were provided. In one remaining study comparing a peer support intervention with usual care, a few mothers in the intervention group expressed feelings of anxiety, decreased confidence, or concerns about

confidentiality.[134] For example, one mother requested to discontinue her participation in the intervention, stating that the peer volunteer frightened her about the potential hazards of not breastfeeding and diminished her feelings of confidence, even though breastfeeding was going well for her. The study did not report any such adverse events among mothers in the control group. Another mother felt her right to confidentiality was violated after her peer volunteer contacted the public health department to request professional assistance without her knowledge. Another study trained data collectors to detect signs of mental health and child abuse; very few occurrences of high depressive scores and no incidences of suicidal ideation or reported suspicions of child abuse were noted in this study.[169] As reviewed as part of KQ 1, there was no consistent evidence of greater symptoms of maternal anxiety or depression among intervention participants compared with usual care participants in six trials that reported these outcomes.

Twenty-two studies (n=13,815) reported on the incidence of breastfeeding "problems" which were variably defined and included general breastfeeding "difficulties," sore nipples or breasts, and cases of mastitis.[115, 116, 120, 127, 128, 142, 145, 147, 150, 152, 154, 159-161, 168, 171, 174, 178, 183, 192, 193, 198] In general, women in the intervention groups reported experiencing fewer breastfeeding problems than women in the control groups at all measured time points. The absolute numbers of women experiencing sore nipples and cases of mastitis were similar across studies and ranged from approximately 6 to 30 percent of women experiencing painful breasts or sore nipples in the first days to months postpartum and 3 to 8 percent of women experiencing cases of mastitis. In one study, the intervention was designed specifically to reduce breast problems (e.g., sore nipples) by teaching "biological nurturing" to women, encouraging them to breastfeed in a relaxed, laid-back position.[174] The primary study outcome was the incidence of breast problems during the hospital stay, defined as the presence of one or more of the following outcomes, collected separately: sore nipples, cracked nipples, engorgement, and mastitis. At hospital discharge following delivery, there was a statistically significant reduced risk of breast problems (RR, 0.56 [95% CI, 0.40 to 0.79]), including cracked (RR, 0.42 [95% CI, 0.24 to 0.74) and sore nipples (RR, 0.59 [95% CI, 0.40 to 0.88]) among women in the intervention versus usual care group despite no differences in the prevalence of exclusive breastfeeding between the groups.[174]

Chapter 4. Discussion

Summary of Evidence

We included 90 randomized clinical trials that examined the effectiveness of interventions to encourage and support breastfeeding. The results of this review are consistent with our 2016 review of this evidence[2] and indicate that interventions delivered by professionals and peers and those delivered remotely can increase the proportion of women who continue any breastfeeding or exclusive breastfeeding up to 6 months postpartum. The included RCTs represent women from developed countries, with diversity in age, primiparity, race and ethnicity, and socioeconomic status. Approximately one-third of the trials were conducted in the United States, and most specifically enrolled women of color and those from socioeconomically disadvantaged backgrounds who historically have lower prevalence of breastfeeding initiation and continuation.

A summary of the evidence, including our strength of evidence ratings for all KQs, is presented in **Table 9**.

Infant and Maternal Health Outcomes

The effects of the interventions on infant and maternal health outcomes were minimally reported. Few studies overall reported infant health outcomes from birth to up to 12 months, and measures of gastrointestinal outcomes, otitis media, and respiratory tract infections were only reported in one to two relatively small to medium-sized trials each. Eight trials reported general measures of infant illnesses and health care utilization at up to 6 months and found trends of lower rates of healthcare visits and hospital admissions among infants in the intervention groups compared with usual care groups, although these differences were not statistically significantly different in any of the trials. In nine trials that reported outcomes related to maternal well-being, minimal differences were seen between intervention versus control group women in symptoms of anxiety, depression, or well-being at up to 6 months postpartum.

Despite this limited evidence on the direct effect on health outcomes from the included trials, observational evidence (as described in Chapter 1) supports the link between ever breastfeeding and the duration of any or exclusive breastfeeding and positive infant and maternal health outcomes.

Breastfeeding Outcomes

This review showed moderate-certainty evidence that interventions to support breastfeeding increased the likelihood of breastfeeding and exclusively breastfeeding up to 3 months, 3 to 6 months, and at 6 months compared with usual care. Data on the effects of breastfeeding support interventions on the prevalence of breastfeeding at 1 year were limited. There was no apparent influence of interventions on initiating any breastfeeding compared with usual care; however, a beneficial association was seen in increasing exclusive breastfeeding initiation.

The size of the effects varied in their magnitude and precision in different trials, and the average treatment effects may not be applicable across different populations and settings. The pooled estimates suggested an increase in any breastfeeding from 6 to 13 percent and an increase in exclusive breastfeeding from 16 to 46 percent up to 6 months. The average treatment effect for exclusive breastfeeding at 6 months suggested that interventions can increase the likelihood of exclusive breastfeeding by an average of 46 percent compared with usual care (RR, 1.46 [95% CI, 1.20 to 1.78]). Effect estimates were larger for exclusive breastfeeding than for any breastfeeding at all time points – a finding that cannot be easily explained by the included evidence. One possible explanation is that interventions that go above and beyond usual care may emphasize the importance of exclusive breastfeeding to a greater degree than emphasizing breastfeeding in general. This may be particularly true for samples of women who were intending to breastfeed and motivated to begin with, as was evident in the included studies.

We calculated the number needed to treat (NNT) for benefit based on a range of "baseline" breastfeeding prevalence as seen in the included control groups and the pooled risk ratios (**Appendix E Table 4**). The NNTs for any and exclusive breastfeeding at each time point generally indicated that fewer than 25 women would need to be treated to get one more person breastfeeding at up to 6 months and fewer than 40 women treated to maintain exclusive breastfeeding at up to 6 months. Among groups of women with higher rates of breastfeeding, the NNT to get one more person breastfeeding is lower. For example, among populations of women where approximately 50 percent of them breastfed at 6 months, the NNT is 15. On the other hand, in situations where there are fewer women exclusively breastfeeding on average (e.g., 5% exclusively breastfeeding at 6 months), approximately 43 women would need to receive an intervention to see one more person exclusively breastfeeding at this time point.

The relatively modest effects seen within individual trials may be a result of the breastfeeding support provided as part of standard or usual care within many of these countries and specific clinical settings, and the magnitude of effect should be interpreted as an incremental benefit above usual care. Most studies indicated that there was a good level of breastfeeding support within the birthing facility at or around the time of delivery from hospital staff, including the provision of lactation care providers, but failed to fully describe the minimal support for breastfeeding during the prenatal and postpartum time periods.

Meta-regression and tests for subgroup differences revealed possible patterns of larger effects for studies taking place in the different countries, those among women who were not intending to breastfeed, and interventions that spanned multiple time periods versus their counterparts; but these findings were not consistent across all timepoints or outcomes and thus, need further study. It is likely that there are other factors that may confound these relationships and explain differences in effectiveness. Interventions provided by both professionals and peers were associated with greater prevalence of any and exclusive breastfeeding compared with usual care. Furthermore, there was no apparent difference in effectiveness between studies that were delivered primarily in-person versus those delivered remotely.

Harms

There was no evidence of increased harm due to additional breastfeeding support. Six of seven studies that recorded potential harm of the intervention reported no harms among participants. One intervention that provided peer support included reports of increased anxiety, feelings of inadequacy, and concerns regarding the family's confidentiality. Although the goals of these interventions focused on helping and empowering women to both initiate and continue breastfeeding, it is important that interventionists respect a family's individual decisions and remain flexible in supporting new mothers and their feeding choices.

We also examined common problems related to the act of breastfeeding itself that may be important determinants of continued breastfeeding, including cases of mastitis or sore nipples. In general, women in the intervention groups reported experiencing fewer breastfeeding problems than women in the control groups at all measured time points. Interventions to support breastfeeding have the potential to increase these problems (through the increased prevalence of breastfeeding among the population), or to decrease these issues (through active management and suggestions for prevention). Given that these breastfeeding-related problems are often the impetus for stopping breastfeeding,[52] part of the goal of any intervention should be to help breastfeeding mothers actively prevent and manage these common issues.

Applicability to U.S. Health Care

Collectively, the trials represented very diverse samples of individuals, similar to the population of the United States; most however, included participants who intended to breastfeed. The average age of participants ranged from 16 to 33 years and both primiparous and multiparous persons were represented. Over a third of the included evidence was from trials in the United States. The remaining studies took place in European or Asian countries, Australia, or Canada, where we presume the standard of care for breastfeeding, and general infant and maternal health, to be different from that of the United States. Trials outside of the United States rarely reported the race and ethnicity and socioeconomic status of the samples, although some explicitly described representation from low-income and culturally diverse samples. Among the trials taking place in the United States, almost all included mostly Hispanic or Latina or Black women, and many were either limited to or predominantly included participants within lower income categories. Among the studies in the United States, five explicitly said that the intervention was offered in a BFHI-accredited facility;[118, 121, 132, 164, 166] the other studies reported varying levels of breastfeeding support within usual care.

We identified no single optimal or representative intervention, but rather found that a wide range of approaches may improve rates of breastfeeding and are likely applicable to infant and maternal care in the United States. The interventions offered were diverse. Some consisted of only group prenatal education sessions. Some only included in-person support at and around the time of birth. Some consisted of telephone support alone. Some utilized test and app-based contact. Some included intense home visits. And some included multiple one-on-one sessions spanning the prenatal and postpartum periods. A summary of information regarding the details of

the types of interventions represented in this review is provided in **Appendix F** to guide those wishing to implement breastfeeding support interventions.

Programs to Help Facilitate Access to and Utilization of Breastfeeding Support Interventions, Including Evidence on Healthcare System-Level Interventions and Hospital Policies (CQ 3 and CQ 4)

Though our review was limited to interventions implemented at an individual level, there are several healthcare and policy-level programs in the United States in place to help facilitate access to and equitable support.

Baby-Friendly Hospital Initiative

One of the largest breastfeeding support programs implemented in the broader healthcare setting is the Baby-Friendly Hospital Initiative (BFHI). The BFHI was launched by the World Health Organization and United Nations Children's Fund (WHO/UNICEF) in 1991 as a global program to encourage the broad implementation of the Ten Steps to Successful Breastfeeding (Ten Steps) and the International Code of Marketing Breast-milk substitutes.[53] Broadly, the BFHI program supports hospitals in providing mothers the information, confidence, and skills necessary to successfully initiate and continue breastfeeding their infants and designates special recognition to hospitals that are part of the program. In cases where it is medically necessary to offer commercial formula or the mother has made an informed decision to not breastfeed or provide breast milk, BFHI facilities provide mothers with information on the safe preparation and feeding of formula. However the BFHI program never explicitly promotes formula feeding or non-breast milk options as an alternative to breastfeeding.[53] Hospitals in compliance with BFHI policies can earn the Baby-Friendly® designation, which carries a 5-year term before a renewal process must be initiated.[239] The Ten Steps are the framework underlying the BFHI program and are the practices which hospitals must follow to receive Baby-Friendly® status; they were developed by an international team of breastfeeding and infant care experts, are guided by evidence-based practices, and were most recently updated in 2018.[54] The Ten Steps are outlined in **Table 3**.

The Ten Steps are endorsed and promoted by major maternal and child health organizations in the United States, including the AAFP, the ACOG, the CDC, WIC, and the U.S. Surgeon General. As of May 2023, there are currently 603 healthcare facilities in the United States with BFHI Baby-Friendly® designation, and nearly 27 percent of annual births occur in these facilities.[240] BFHI designation has increased from five percent of all eligible healthcare facilities in the United States in 2008 to currently >25 percent as of 2022. During this period, as the percentage of BFHI facilities increased, so has the percentage of babies ever breastfed (74% to 82%).[53] Despite the observed increase in breastfeeding rates corresponding to an increase in number of BFHI healthcare centers, there is mixed evidence on whether the BFHI program is associated with better breastfeeding outcomes and how long those outcomes can be sustained,

especially in highly developed countries that have additional avenues of breastfeeding support such as the United States.

The Promotion of Breastfeeding Intervention Trial (PROBIT), the largest study ever conducted on the effectiveness of breastfeeding support, evaluated a support intervention modeled on WHO/UNICEF's Ten Steps in Belarus.[241] This study was not included in our review because of its limited applicability to U.S.-based health care given the country of origin. At the inception of this trial (1996–1997), Belarus was chosen rather than a North American or Western European country because maternity practices there reflected those in North America and Western Europe 40 to 50 years ago and therefore would provide greater potential contrast between intervention and control conditions. Nonetheless, it is an important study that has contributed data on the effectiveness of an individual and system-level intervention on rates of breastfeeding and infant and maternal health outcomes. In the early 2000s, PROBIT enrolled over 17,000 pregnant women, randomizing them to receive breastfeeding promotion/support or usual care; women and their infants were followed for 20 years and over 50 subsequent articles reporting long-term outcomes (e.g., healthcare utilization, cognitive outcomes, health outcomes such as BMI, diabetes) have been published.[241] A 2012 review summarized all published PROBIT articles reporting breastfeeding outcomes, noting that women who received the support intervention had higher rates of exclusive breastfeeding and longer duration of breastfeeding compared to women who received usual care.[242]

Systematic reviews assessing the efficacy of support programs at currently accredited BFHI hospitals – and in settings more applicable to the United States – however, reveal mixed findings on whether the program is associated with long-term increases in rates of breastfeeding and improvement in other health outcomes.[243-247] An analysis of CDC Breastfeeding Report Card data found that Baby-Friendly® facilities were not significantly associated with any post-discharge breastfeeding outcomes (any breastfeeding at 6 and 12 months, exclusive breastfeeding through 3 and 6 months).[248] Other reviews have found that the initially observed increase in breastfeeding rates associated with BFHI programs are not sustained past breastfeeding initiation.[246, 247]

Although there is mixed evidence on whether the BFHI program is effective at improving overall breastfeeding rates, it has been suggested that specific elements of the BFHI approach may be effective and worth continuing to implement in clinical practice. A 2022 umbrella review evaluated the effectiveness of systems-level breastfeeding programs on increasing rates of breastfeeding and noted that several specific factors of the BFHI program, such as rooming-in and prolonged skin-to-skin contact, have a strong and consistent evidence base supporting their utility to increase breastfeeding and improve infant health outcomes.[243] A separate review evaluated the third step of the program (providing prenatal education) and found that these programs show benefit when prenatal education contains informational material and interpersonal support, but noted that lack of standardization in BFHI-sponsored interventions makes it difficult to draw conclusions about the efficacy of the program overall.[244] This lack of standard support services and curricula within the BFHI program has been critiqued. Some have argued that because WHO/UNICEF allows each BFHI facility to create their own strategy to implement the Ten Steps, and does not require a certain staffing ratio or specific trainings, this has led to issues such as understaffing or lack of staff training to ensure that all initiatives can be

successfully implemented.[249] Currently, pediatric residents receive minimal breastfeeding-specific training, and there is a lack of robust evidence to support offering provider knowledge interventions to improve uptake and delivery of breastfeeding counseling programs.[250]

Additional concerns regarding the BFHI as a whole also exist. There is some criticism that the BFHI program is too rigid and may promote unrealistic breastfeeding expectations for mothers.[245, 247] Many argue that flexibility and supporting new mothers and their feeding choices – whether breastfeeding, formula, or mixed feedings – is ultimately more important than ensuring exclusive breastfeeding is achieved at the expense of maternal and infant wellbeing.[249, 251] One review conducted a synthesis of qualitative studies reporting mothers' experiences delivering at BFHI institutions, and found that women reported both positive and negative experiences, with the latter being more common.[245] For instance, one study conducted in mothers who delivered via cesarean section at a BFHI-certified institution expressed alarm when they were expected to immediately start breastfeeding without any regard to postsurgical recovery.[252] Additionally, other studies found that mothers have reported feeling undermined and discouraged when providers at BFHI facilities use judgmental language surrounding feeding practices (e.g., a nurse saying that using a bottle to feed expressed milk will "confuse" the infant),[253] and feeling guilty when they encounter challenges in breastfeeding, especially when it is promoted as "easy" and "natural."[254] In this same study, participants reported feeling that healthcare providers were withholding information on formula feeding, and felt the need to discuss formula feeding covertly and even hide bottles to avoid being criticized for not breastfeeding.[254] Some individuals reported that healthcare providers lacked both communication skills and adequate patient time, leaving them feeling "really bad" about asking for help and feeling their need for breastfeeding support is a burden.[255] Similarly, a separate study's participants reported that BFHI information and feeding guidance was communicated in an impersonal manner and was not tailored to each woman's and family's needs.[256]

Supplemental Nutrition Program for Women, Infants, and Children (WIC)

Another nationwide, system-level resource to assist supporting breastfeeding mothers and infants is the U.S. Department of Agriculture's Food and Nutrition Service's Supplemental Nutrition Program for Women, Infants, and Children, commonly known as WIC.[257] The WIC program aims to safeguard the health of low-income women, infants, and children up to age five who are at nutrition risk by providing nutritious foods to supplement diets, information on healthy eating, and referrals to healthcare;[258] breastfeeding support is also a key component of WIC services for pregnant mothers and mothers in the perinatal and postnatal periods. WIC was founded in 1972 as a pilot food supplementation program to improve the health of lower-income pregnant persons and their children.[259] Historically, WIC has sought to support breastfeeding in a variety of ways, primarily including tailored supplemental nutrition programs. However, within the past few decades, there have been several changes to the WIC program to provide more comprehensive support to program recipients – especially breastfeeding mothers – including better alignment with dietary guidelines and provision of culturally sensitive foods. In 1992, WIC added a food package specifically tailored to breastfeeding women, and in 2009, the program revised their food packaging in an effort to incentivize breastfeeding by reducing some foods, adding others, and allowing for a cash voucher to purchase fresh produce.[260] In addition to food package

support, currently, WIC offers breastfeeding support via peer counselors, telephone hotlines, and access to professional lactation consultants.[257]

The general eligibility requirements to receive WIC benefits include being a woman breastfeeding and/or caring for an infant(s) up to one year or a child(ren) up to five years, residing in the state of the WIC program to which they apply, having an income at or below 100 – 185 percent of the federal poverty guideline, and having a professionally determined nutrition risk.[261] In 2020, the WIC eligibility rate among pregnant women was 40 percent with nearly 46 percent of eligible women receiving benefits. Among breastfeeding women, about 45 percent were eligible for WIC, and 60 percent of those women received WIC services.[262] WIC serves a diverse population; in 2020, 4.8 million infants and children eligible for WIC were White, just over 4 million were Hispanic, 2.6 million were Black, and just over 1 million were of other races or multiple races. Hispanic infants and children had the highest coverage rate in 2020 (64 percent); the coverage rate was 56 percent for infants and children of other race and ethnicities or multiple races and ethnicities, 50 percent for Black infants and children, and 38 percent for White infants and children.[262] WIC serves a critical need in increasing access to breastfeeding support programs to historically underserved populations. Women with lower income (a WIC eligibility requirement) are less likely to breastfeed and may face barriers in accessing adequate healthcare and breastfeeding support services.[263]

Several studies, including studies in this review,[138, 149, 185] have examined the association between WIC participation and breastfeeding rates; however, strength of evidence and duration of effect are mixed.[264-267] A 2022 systematic review found moderate strength of evidence that maternal WIC participation is likely to be associated with no difference in breastfeeding initiation rates, and found that evidence is insufficient to determine whether maternal or child WIC participation is associated with longer duration of breastfeeding or exclusive breastfeeding.[268] Regarding other outcomes, the review found that WIC participation is likely to be associated with reductions in infant mortality, increased well-child visits, and receipt of scheduled immunizations during the first year of life, but evidence is insufficient to determine whether participation affects other child health outcomes such as morbidity and mortality.[268] Additionally, a secondary analysis (n=1,235) of the WIC Infant and Toddler Feeding Practices Study-2[269] found that the association between WIC participation and breastfeeding success is dependent on individual-level programming at each WIC location (e.g., access to IBCLCs, number of home visits allowed, varying formula provision policies).[265]

As detailed above, in 2009, there were revisions to the WIC food packaging requirements including modifications to include fresh produce vouchers, whole grains, reduced-fat milk, milk substitutes [cheese, yogurt, and tofu], and less juice and milk).[260] Whether these revisions have been successful in their goal to improve breastfeeding rates among WIC participants has been contested. A 2023 review of five studies including over 500,000 women-infant pairs found low strength of evidence that the changes to food packages were associated with greater breastfeeding exclusivity,[270] and a single study of 4,308 participants found that the disparities in prevalence of ever breastfeeding in WIC-eligible compared with non-participants have been eliminated since the 2009 revisions.[271] However, a quasi-experimental study of 1,114 participants found no significant differences in breastfeeding rates pre- and post-change.[272]

Nurse Family Partnership

Another public program that may provide breastfeeding support, targeted towards first-time mothers, is the Nurse Family Partnership (NFP). The NFP is a free, nationwide program (currently in 40 states) funded by Medicare and individual states' health departments that aims to "keep children healthy and safe and improve the lives of moms and babies," including providing comprehensive breastfeeding support and advice both pre- and postnatally.[273] The NFP was established as a national program in 1996 and has since provided support to over 385,000 families. To qualify for services, mothers must be nulliparous, currently pregnant and at ≤28 weeks gestation, and must be at or below 235 percent of the federal poverty level; women who receive WIC or Medical Assistance are automatically eligible for the program.[274] Some states do offer NFP services to primiparous or multiparous mothers, provided they meet other eligibility requirements.[273]

Though the NFP is a broad maternal and child health support program that focuses on general health education and providing resources for unmet social needs, there can be an emphasis on infant and child nutrition – which may include breastfeeding. Additionally, by providing enhanced support that may mitigate some of the psychosocial stressors faced by program enrollees, the NFP may allow mothers to choose breastfeeding or to attempt breastfeeding when they otherwise may not be able to attempt or achieve that goal without the additional support offered by the NFP. Visits begin in early pregnancy and continue through the child's second birthday. Nurses and mothers determine the frequency of visits, and support persons (e.g., child's father, family members, friends) are also encouraged to participate. NFP nurses are also able to assist mothers and families with referrals to social services, community resources, and generally help create a safe, loving home environment for baby and family.[273] Information on breastfeeding and referral to other resources (e.g., La Leche League) is provided when needed or desired, but notably, nurses do not receive additional lactation training provided by the NFP, and no specific breastfeeding materials are used during the home visits.[275]

There is scant contemporary peer-reviewed literature on the efficacy of the NFP program on improving breastfeeding rates, but an older systematic review including six trials that evaluated the NFP program reports that, in general, participation in the NFP program increases breastfeeding attempts by about ten percent.[276] As noted in the previous section, breastfeeding rates for women enrolled in WIC are lower compared to women not enrolled in the program, even though a primary aim of WIC is providing ongoing nutrition and breastfeeding support. To assess whether women enrolled in the NFP also have paradoxically lower breastfeeding rates than women not receiving tailored support, a cohort study analyzed the breastfeeding rates of 3,570 mothers and infants enrolled in the NFP between 2000–2005, comparing differences in breastfeeding rates among mothers enrolled in both the NFP and WIC programs or NFP alone.[275] Rates of any breastfeeding were significantly higher at 6 and 12 months among mothers only enrolled in the NFP (29.5% and 16.2%, respectively) compared to mothers enrolled in both NFP and WIC (19.2% and 9.8%, respectively). However, when included in multivariate analyses, enrollment in WIC was not a significant predictor of breastfeeding at 6 months. Though it remains unclear why participation in WIC is associated with lower rates of breastfeeding, there is a positive relationship between NFP enrollment and continuing breastfeeding.

Other National Programs or Policies

In addition to the BFHI and WIC and NFP programs, there are several legal protections regarding the promotion of breastfeeding at the national level. The Affordable Care Act (ACA) mandates that healthcare plans (with few exceptions) provide breastfeeding support, counseling, and equipment for the duration of breastfeeding, including in the prenatal and postnatal periods; plans must also fully cover the cost of a breast pump.[277] In 2023, the Providing Urgent Maternal Protections (PUMP) for Nursing Mothers Act[278] was implemented, requiring workplaces to provide, among other things, 1) a reasonable break time for an employee to express breast milk each time they need to express for a 2-year period, and 2) a place, other than a bathroom, that is shielded from view and free from intrusion from coworkers and the public, which may be used by the employee to express breast milk. The passing of the PUMP Act expands breastfeeding protections to nearly 9 million women who were not previously covered under the ACA and also includes enforcement mechanisms against noncompliant employers.[279]

Comparison With Other Systematic Reviews

The results of our current review are consistent with the findings from a 2022 Cochrane review (Gavine et al.),[280] suggesting that interventions to support breastfeeding increased the relative likelihood of sustained breastfeeding (including exclusive breastfeeding) at up to 6 months. In this review, at 6 months, interventions providing focused breastfeeding support reduced the likelihood of discontinuing any breastfeeding for women in both developed and developing countries receiving the intervention compared to women receiving no support or usual care (RR 0.93 [95% CI, 0.89 to 0.97]), with similar effects observed for the outcome of exclusive breastfeeding (RR 0.90 [95% CI, 0.88 to 0.93]). Weaker but still significant effects were reported in the Cochrane review for reduced likelihood of discontinuing exclusive breastfeeding at 4-6 weeks (RR, 0.83 [95% CI, 0.76 to 0.90]) as well as any breastfeeding at the same timepoint (RR, 0.88 [95% CI, 0.79 to 0.97]). The Cochrane review concluded that there is less robust evidence on differential effects of breastfeeding only versus "breastfeeding plus" interventions, which mirrors our conclusions in the current review.

Both our current review and the Cochrane review found no consistent differential effects of intervention delivery, length, mode, or interventionist across outcomes or timepoints. Unlike the Cochrane analyses, the current review only included interventions conducted in very high development countries. Furthermore, the Cochrane review included both RCTs and "quasi-RCTs" whereas our review only included RCTs. Authors of the Cochrane review cited similar challenges to this literature base, including the high risk of bias of the included studies, the lack of standardization of breastfeeding outcomes and incomplete reporting of study characteristics, and the need for further research including outcomes on maternal mental health and other components of interventions that may be effective in providing breastfeeding support and support for general maternal and infant well-being.

Limitations of Our Approach

There are limitations to our review approach that should be noted. Given the audience for this review – the U.S. Preventive Services Task Force – we limited our inclusion to interventions that were conducted in or feasible for primary care. We did not include studies of interventions that focused on strategies that extend beyond the purview of a primary care clinician or practice including hospital or workplace policies or strategies. We included trials of interventions that take place in the community, including those offered by WIC programs, as a source of support that primary care clinicians could refer their patients to.

We restricted our review to RCTs that we rated as fair- or good-quality to minimize the potential for confounding and other sources of bias in the results. As such, we excluded many trials that may have addressed additional populations, settings, and interventions of interest. One study excluded for poor quality is worth noting given its novel approach and audience. In an Australian trial by Scott et al., expecting couples were recruited from prenatal classes and randomized to one of four arms: a face-to-face father-focused prenatal class facilitated by a peer counselor, a breastfeeding smartphone app ("Milk Man") designed specifically for fathers, a combination of these two interventions, or usual prenatal breastfeeding classes. The trial suffered from very high attrition with 59 percent and 49 percent of participants having complete data at 6 and 26 weeks, respectively. Results from both completers-only and imputation for missing data analyses were presented. While each intervention was found to be feasible, useful, and acceptable to fathers in terms of the intent, content, and delivery there was no impact of the face-to-face, app, or combination interventions on maternal breastfeeding.[281] Further study of these types of interventions particularly smartphone apps, among support persons, may be warranted.

Additionally, we choose to pool data from studies representing a diversity of interventions, including those that focused only on breastfeeding support and those that included additional content beyond breastfeeding. Furthermore, in order to pool data from multiple studies, we chose to use the raw event rates and total number of participants randomized to calculate within-study risk ratios to combine. Therefore, our analyses did not control for potential confounding factors such as socioeconomic status, employment status, education level, parity, or previous breastfeeding experience. We compared our crude relative estimates with any study-reported unadjusted and adjusted estimates and besides a few exceptions[122-124, 181] no differences were seen. Additionally, we did not include other proximal measures such as breastfeeding self-efficacy and early postpartum bonding that may be important outcomes of individual trials.

Finally, we did not systematically review the evidence on the relationship between breastfeeding and short- and long-term child or maternal health outcomes. Thus, we did not complete the entire chain of evidence. We instead focused only on the direct evidence related to the impact of intervention on breastfeeding and health outcomes. The evidence on the associations between breastfeeding and maternal health outcomes is well-documented[46] and an updated review on the association between breastfeeding and infant and child health outcomes is underway.[282] We informally reviewed recent evidence from existing systematic reviews as a contextual question; however, a systematic review might have revealed more data than we found.

Limitations of the Literature and Future Research Needs

Despite a relatively large number of included trials that evaluated the effectiveness of interventions to increase breastfeeding, there are limitations in the evidence and broader literature that point to important research needs.

First, as demonstrated in this review, few RCTs included measures of infant or maternal health outcomes, including potential harms associated with interventions. Although there is a robust evidence base of observational studies showing that ever breastfeeding and breastfeeding for longer durations is associated with favorable outcomes for children and mothers (**Table 2**), investigators should be encouraged to include measures of such outcomes in their trials. For infants, this includes acute outcomes such as cases of otitis media, gastrointestinal infection, and lower respiratory illness; the development of asthma and dental caries; and the incidence of developmental and metabolic conditions. Data that directly links differences in breastfeeding (that are related to an intervention) to differences in these outcomes would provide further evidence of the importance of counseling for breastfeeding. We acknowledge, however, that such studies would require considerably larger sample sizes, longer length of followup (ideally, greater than 1 year), and mechanisms for systematically collecting data on such outcomes (through direct assessment or using reliable health record data).

Furthermore, although there were more trials that reported indicators of maternal well-being in this update compared with previous reports, there is still a striking lack of consideration of this as an outcome. Given that adverse maternal mental health has been show to potentially have an impact on breastfeeding initiation, duration, and exclusivity,[283, 284] breastfeeding support also needs to consider individuals' emotional well-being and the impact that interventions may have positively or negatively on these measures. We encourage authors to routinely include measures such as the Edinburgh Postnatal Depression Scale (EPDS) or the Centre for Epidemiologic Studies Depression Scale (CES-D) or other standardized measures of maternal and parental well-being to examine the influence that specialized breastfeeding interventions that go above and beyond usual care may have on these measures.

Second, although there was no evidence to suggest harm from the interventions, many studies did not report on adverse events, and this is something that should be reported in any future trial. Although we framed the title of this review and the included interventions as interventions to "support" breastfeeding, it is not clear to what extent the participants and their families felt supported in their feeding decisions and approaches, regardless of their intention and motivation to breastfeed or their ability to successfully maintain breastfeeding. At a minimum, authors of these trials should monitor and report participants' impressions of the support they were given and any differences in reported negative effects. More routine collection of measures of parental well-being and stress would also help elucidate potential harm.

Third, the reporting of the included interventions often was not comprehensive – lacking, for example, in terms of the precise aims and messages (e.g., focus on exclusive breastfeeding, focus on extending the duration of any breastfeeding, help with breastfeeding when transitioning back to work), details on the timing of the intervention sessions and support, details on the training and qualifications of the interventionists, and adherence to the intervention protocol.

Furthermore, there was extremely limited detail about the standard care that was offered to both intervention and control participants, especially as it related specifically to breastfeeding support. The lack of this detail makes it very difficult to understand whether the relatively small to modest effects that were seen in individual trials was because of a lack of robust effects of the interventions *or* because of greater support provided by standard care. To facilitate better implementation, future studies should describe in detail the characteristics of the intervention, the setting, standard of care (including BFHI accreditation and routine lactation support), and the background breastfeeding rates in the population studied.

Fourth, few included interventions appeared to extend support to families beyond 3 months (**Figure 4**) as the prevalence of breastfeeding continues to decline. Among infants born in 2021 in the United States, most (84.1%) started out receiving some breastmilk and over three-quarters (80.8%) were still receiving any breast milk at 1 month.[9] This is consistent with data from our review where the median prevalence of breastfeeding initiation among control group participants in U.S.-based studies was 85 percent. Many families, however, do not breastfeed for as long as they intend to and there is a steady decline in any and exclusive breastfeeding from month-to-month (**Figure 1**) that indicates that families may need stronger support systems beyond just the first few weeks or months after birth.

Breastfeeding support is especially important for lactating women and other individuals capable of breastfeeding who have taken leave from and plan to or must return to work. A lack of paid maternity leave and supportive workplace and childcare policies for breastfeeding likely contribute to declines in rates of breastfeeding and continued disparities. Beyond the need for greater efforts in these areas, future research applicable to this review should explore how to best support individuals to continue breastfeeding at these critical junctures where support needs are likely to be different. Future interventions should consider preemptively focusing on preparing for return to work (e.g., how far in advance should one consider pumping and storing breast milk, how much breast milk might one need to provide during childcare) and continuing to support individuals more frequently as time passes when motivation to continue breastfeeding might decrease and barriers may increase. Additionally, studies should explicitly state what proportion of participants are employed and plan to return to work and examine to what extent these variables influence intervention effectiveness. Furthermore, future studies evaluating the effectiveness of digital breastfeeding support interventions, especially those that provide longer term access and contact to support, are warranted.

Fifth, related to the issues above, there was a striking lack of attention (or reporting) on interventions that focus on or incorporate content about breastfeeding that extends beyond direct-to-breast feeding methods including expressing and bottle-feeding infants and the use of donor breast milk. Recent data is lacking, but in the 2005–2007 Infant Feeding Practices Study II, 85 percent of breastfeeding mothers of infants aged 1.5 to 4.5 months had successfully expressed milk at some time since their infant was born.[285] Almost 6 percent of these women never fed their infants at the breast and fed them expressed milk exclusively. There are many reasons that individuals express their milk, including the ability to have someone else feed the baby and to accommodate continued breastfeeding upon return to work and the use of childcare. Milk expression and storing, however, comes with its own challenges and barriers that may require additional support beyond the support provided within interventions such as those evaluated in

this review.[286] At a minimum, new studies testing the effectiveness of breastfeeding support interventions should describe in detail to what extent expressing and storing breast milk is part of the intervention content.

Similarly, there was no included evidence on interventions that discuss or promote the use of pasteurized donor milk to replace or supplement the lactating person's own milk to meet infants' nutritional needs. This is likely related to our exclusion of studies limited to high-risk infants for whom pasteurized donor human milk is seen as the preferred substitute when there is an inadequate supply of the parent's own milk.[54, 287] Nonetheless, future studies should acknowledge the extent to which the use of pasteurized donor milk was discussed or included in messages about breastfeeding. And, given the concern that the introduction of donor human milk may lead to a decrease in parental breastfeeding,[288] outcome measures should distinguish between the mode feeding and source of breast milk, as further elucidated below.

Sixth, despite several calls to standardize breastfeeding definitions and indicators for both surveillance and program evaluation,[27, 286, 289-295] there was no uniform reporting of breastfeeding outcomes across the included studies regarding definitions of breastfeeding and timing of assessments. Most of the studies followed the WHO definition for exclusive breastfeeding,[24] but others used less robust definitions or did not report what counted as exclusive breastfeeding. Few studies specified whether recall was based on the previous 24 hours (i.e., exclusive breastfeeding for the past 24 hours) or having been exclusively breastfeed since birth. In addition, there was a lack of clarity concerning the boundary point for many of the prevalence time points. That is, it was unclear if exclusive breastfeeding reported for 6 months was exclusive breastfeeding *at* 6 months or exclusive breastfeeding *to* 6 months, which is technically the recommendation (the introduction of something other than breast milk at or after 6 months among otherwise exclusively breastfed infants). We pooled the results for exclusive breastfeeding *at* 6 months as was reported in the individual trials but suspect this technically means the infant was exclusively breastfed *up to* 6 months (i.e., did not receive any milk substitutes but may have received solids). Only five included trials included a measure of breastfeeding "intensity" based on the proportion of feedings that were breast milk; future research should consider this more nuanced breastfeeding indicator to further distinguish the effects of breastfeeding interventions. Also, very few of the studies noted whether their definition of breastfeeding included feeding the infant expressed breast milk in addition to direct-to-breast breastfeeding. We encourage investigators of future studies to note the specific instrument that was used to capture breastfeeding behavior; describe verbatim the questions that were posed to mothers; and note the specific definitions (in terms of content and feeding method), recall period, and time point related to the measure.

To increase precision in outcomes and increase response rates, investigators may want to consider short infant feeding SMS text surveys. As has been shown,[296] frequent app-based breastfeeding data collected from mothers has been validated against other more labor-intensive methods such as self-administered questionnaires and health visitor reports and has been shown to reduce participant burden and provide reliable, more complete data. Future studies should consider collecting minimal data related to feeding outcomes of interest via frequent but short surveys administered from within apps or via SMS text. These methods could also allow for questions regarding the health and well-being of the infant as well as lactating women or

individual providing breastmilk such as rates of doctor's visits and infant illness, breastfeeding-related challenges and problems, and indicators of stress and well-being.

Eighth, the included evidence uniformly referred to participants as "women" and "mothers" and no studies reported on non-binary indicators of gender or sexual orientation of the participants. However, not all people who give birth and lactate identify as female, and some of these individuals may not identify as female or male.[297, 298] Although we aimed to be inclusive of all people in this report and use desexed or gender-inclusive language (e.g., using "lactating person" instead of "mother"), we used the precise language used by the primary evidence that was included for scientific accuracy as recommended.[297] Future research should aim to be inclusive of persons of all genders and sexual orientation and transparently report these characteristics.

Finally, this review provides clear evidence that interventions that support women in starting and continuing to breastfeed above and beyond what is typically provided in usual care can improve the proportion of individuals who breastfeed and the duration of breastfeeding. The key research question in the future may be to identify how such support can be provided consistently, for all persons, of all backgrounds and in all locations. Research efforts may need to focus less on effectiveness and more on implementation and quality improvement studies and approaches. A greater emphasis should be placed on approaches to improve access to services, particularly for those living in remote areas or with transportation and logistical challenges for meeting in-person. The COVID 19 pandemic has increased the skills of both patients and providers in using digital and other remote technologies to receive and deliver care and could enhance access to future interventions. In addition, as reviewed in Chapter 1, there are numerous complex factors that contribute to disparities in rates of breastfeeding. It is important that future efforts to encourage and support breastfeeding take these differences, and the underlying factors that influence them, into account.

We identified nine ongoing studies in the United States that address some of these limitations and may be relevant for future updates of this review (**Appendix G**). Most of these studies focused on novel interventions including the use of text messaging and smartphone applications, a video and website specifically focused on how to hand-express breast milk, integrating peer counseling into postpartum care, and a postpartum patient navigation program to help address the social needs of families to improve infant health and breastfeeding outcomes.

Conclusions

The updated evidence confirms that breastfeeding support and education that is provided during pregnancy and postpartum by professionals and peers can increase the prevalence of any and exclusive breastfeeding up to and at 6 months. Trials that take place in the United States represent a diverse population of women for whom rates of breastfeeding are historically low. Future efforts should focus on how to best provide this support consistently, for all individuals, of all backgrounds, who are making feeding decisions for their infant.

References

1. US Preventive Services Task Force, Bibbins-Domingo K, Grossman DC, et al. Primary Care Interventions to Support Breastfeeding: US Preventive Services Task Force Recommendation Statement. JAMA. 2016;316(16):1688-93.PMID: 27784102. https://doi.org/10.1001/jama.2016.14697
2. Patnode CD, Henninger ML, Senger CA, et al. Primary Care Interventions to Support Breastfeeding: Updated Systematic Review for the U.S. Preventive Services Task Force. Rockville (MD): Agency for Healthcare Research and Quality; 2016. PMID: 27854403.
3. Patnode CD, Henninger ML, Senger CA, et al. Primary Care Interventions to Support Breastfeeding: Updated Evidence Report and Systematic Review for the US Preventive Services Task Force. JAMA. 2016;316(16):1694-705.PMID: 27784101. https://doi.org/10.1001/jama.2016.8882
4. Rasmussen KM, Felice JP, O'Sullivan EJ, et al. The Meaning of "Breastfeeding" Is Changing and So Must Our Language About It. Breastfeed Med. 2017;12(9):510-4.PMID: 28686471. https://doi.org/10.1089/bfm.2017.0073
5. Dinour LM. Speaking Out on "Breastfeeding" Terminology: Recommendations for Gender-Inclusive Language in Research and Reporting. Breastfeed Med. 2019;14(8):523-32.PMID: 31364867. https://doi.org/10.1089/bfm.2019.0110
6. Scully S. What is Chestfeeding? In: M A, editor. Pregnancy: Healthline; 2021.
7. Hoffkling A, Obedin-Maliver J and Sevelius J. From erasure to opportunity: a qualitative study of the experiences of transgender men around pregnancy and recommendations for providers. BMC Pregnancy Childbirth. 2017;17(Suppl 2):332.PMID: 29143629. https://doi.org/10.1186/s12884-017-1491-5
8. MacDonald T, Noel-Weiss J, West D, et al. Transmasculine individuals' experiences with lactation, chestfeeding, and gender identity: a qualitative study. BMC Pregnancy Childbirth. 2016;16:106.PMID: 27183978. https://doi.org/10.1186/s12884-016-0907-y
9. Centers for Disease Control and Prevention and National Immunization Survey. CDC National Immunization Surveys (NIS) 2020 and 2021: Rates of Any and Exclusive Breastfeeding by Socio–demographics among Children Born in 2021. Atlanta, GA: Centers for Disease Control and Prevention; 2022.
10. Chiang KV, Li R, Anstey EH, et al. Racial and Ethnic Disparities in Breastfeeding Initiation horizontal line United States, 2019. MMWR Morb Mortal Wkly Rep. 2021;70(21):769-74.PMID: 34043611. https://doi.org/10.15585/mmwr.mm7021a1
11. Beauregard JL, Hamner HC, Chen J, et al. Racial Disparities in Breastfeeding Initiation and Duration Among U.S. Infants Born in 2015. MMWR Morb Mortal Wkly Rep. 2019;68(34):745-8.PMID: 31465319. https://doi.org/10.15585/mmwr.mm6834a3
12. Anstey EH, Chen J, Elam-Evans LD, et al. Racial and Geographic Differences in Breastfeeding - United States, 2011-2015. MMWR Morb Mortal Wkly Rep. 2017;66(27):723-7.PMID: 28704352. https://doi.org/10.15585/mmwr.mm6627a3
13. Hamner HC, Beauregard JL, Li R, et al. Meeting breastfeeding intentions differ by race/ethnicity, Infant and Toddler Feeding Practices Study-2. Matern Child Nutr. 2021;17(2):e13093.PMID: 33006242. https://doi.org/10.1111/mcn.13093
14. Centers for Disease Control and Prevention. Breastfeeding Among U.S. Children Born 2011–2018, CDC National Immunization Survey. 2020.

15. Centers for Disease Control and Prevention NIS. Rates of Any and Exclusive Breastfeeding by Sociodemographics among Children Born in 2018. 2020.
16. FAO I, UNICEF, WFP and WHO. The State of Food Security and Nutrition in the World 2019. Urbanization, agrifood systems transformation and healthy diets across the rural-urban continuum. Rome2023.
17. Global Breastfeeding Collective, UNICEF and WHO. Global Breastfeedign Scorecard 2023: Rates of breastfeeding increase around the world through improved protection and support. WHO & UNICEF; 2023.
18. UNICEF. Breastfeeding: A Mother's Gift, for Every Child. New York, NY2018.
19. American Academy of Pediatrics. Breastfeeding and the use of human milk. Pediatrics. 2012;129(3):e827-41.PMID: 22371471. https://doi.org/10.1542/peds.2011-3552
20. American Academy of Family Physicians. Breastfeeding, Family Physicians Supporting (Position Paper). 2015.
21. American Academy of Family Physicians. Breastfeeding (Policy Statement). 2017.
22. American College of Obstetricians and Gynecologists. ACOG Committee Opinion No. 756: Optimizing Support for Breastfeeding as Part of Obstetric Practice. Obstet Gynecol. 2018;132(4):e187-e96.PMID: 30247365. https://doi.org/10.1097/aog.0000000000002890
23. US Department of Agriculture UDoHaHS. *Dietary Guidelines for Americans, 2020-2025*. 9th Edition2020.
24. World Health Organization. Indicators for assessing infant and young child feeding practices: definitions and measurement methods . Geneva: World Health Organization; 2021. PMID: https://www.who.int/publications/i/item/9789240018389.
25. World Health Organization. Health Topics: Breastfeeding.
26. Meek JY, Noble L and Section on B. Policy Statement: Breastfeeding and the Use of Human Milk. Pediatrics. 2022;150(1):e2022057988.PMID: https://publications.aap.org/pediatrics/article/150/1/e2022057988/188347/Policy-Statement-Breastfeeding-and-the-Use-of. https://doi.org/10.1542/peds.2022-057988
27. Labbok M and Krasovec K. Toward consistency in breastfeeding definitions. Stud Fam Plann. 1990;21(4):226-30.PMID: 2219227.
28. World Health Organization. Global Strategy for Infant and Young Child Feeding. In: (UNICEF) WHOUNCsF, editor. Geneva2003.
29. U.S. Department of Health and Human Services. Increase the proportion of infants who are breastfed exclusively through age 6 months — MICH-15. 2021.
30. U.S. Department of Health and Human Services. Increase the proportion of infants who are breastfed at 1 year — MICH-16. 2021.
31. Ip S, Chung M, Raman G, et al. Breastfeeding and maternal and infant health outcomes in developed countries. Evid Rep Technol Assess (Full Rep). 2007(153):1-186.PMID: 17764214.
32. Bowatte G, Tham R, Allen KJ, et al. Breastfeeding and childhood acute otitis media: a systematic review and meta-analysis. Acta Paediatr. 2015;104(467):85-95.PMID: 26265016. https://doi.org/10.1111/apa.13151
33. Güngör D, Nadaud P, LaPergola CC, et al. Infant milk-feeding practices and food allergies, allergic rhinitis, atopic dermatitis, and asthma throughout the life span: a systematic review. Am J Clin Nutr. 2019;109(Suppl_7):772s-99s.PMID: 30982870. https://doi.org/10.1093/ajcn/nqy283

34. Güngör D, Nadaud P, Dreibelbis C, et al. Infant milk-feeding practices and diagnosed celiac disease and inflammatory bowel disease in offspring: a systematic review. Am J Clin Nutr. 2019;109(Suppl_7):838s-51s.PMID: 30982875. https://doi.org/10.1093/ajcn/nqy371
35. Gungor D, Nadaud P, Dreibelbis C, et al. Never Versus Ever Feeding Human Milk and Cardiovascular Disease Outcomes in Offspring: A Systematic Review. In: A Systematic Review. April 2019. U.S. Department of Agriculture FaNS, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review, editor. Alexandria (VA)2019. PMID: 35637775. https://doi.org/10.52570/NESR.PB242018.SR0210
36. Güngör D, Nadaud P, Dreibelbis C, et al. Infant milk-feeding practices and childhood leukemia: a systematic review. Am J Clin Nutr. 2019;109(Suppl_7):757s-71s.PMID: 30982871. https://doi.org/10.1093/ajcn/nqy306
37. Güngör D, Nadaud P, LaPergola CC, et al. Infant milk-feeding practices and diabetes outcomes in offspring: a systematic review. Am J Clin Nutr. 2019;109(Suppl_7):817s-37s. 10.1093/ajcn/nqy311
38. Horta BL and de Lima NP. Breastfeeding and Type 2 Diabetes: Systematic Review and Meta-Analysis. Curr Diab Rep. 2019;19(1):1.PMID: 30637535. https://doi.org/10.1007/s11892-019-1121-x
39. Lamberti LM, Fischer Walker CL, Noiman A, et al. Breastfeeding and the risk for diarrhea morbidity and mortality. BMC Public Health. 2011;11 Suppl 3(Suppl 3):S15.PMID: 21501432. https://doi.org/10.1186/1471-2458-11-s3-s15
40. Bachrach VR, Schwarz E and Bachrach LR. Breastfeeding and the risk of hospitalization for respiratory disease in infancy: a meta-analysis. Arch Pediatr Adolesc Med. 2003;157(3):237-43.PMID: 12622672. https://doi.org/10.1001/archpedi.157.3.237
41. Branger B, Camelot F, Droz D, et al. Breastfeeding and early childhood caries. Review of the literature, recommendations, and prevention. Arch Pediatr. 2019;26(8):497-503.PMID: 31685411. https://doi.org/10.1016/j.arcped.2019.10.004
42. Dewey KG, Gungor D, Donovan SM, et al. Breastfeeding and risk of overweight in childhood and beyond: a systematic review with emphasis on sibling-pair and intervention studies. Am J Clin Nutr. 2021;05:05.PMID: 34224561. https://dx.doi.org/10.1093/ajcn/nqab206
43. Alm B, Wennergren G, Mollborg P, et al. Breastfeeding and Dummy Use Have a Protective Effect on Sudden Infant Death Syndrome. Acta Paediatr. 2016;105(1):31-8.PMID: 26175065. https://doi.org/10.1111/apa.13124
44. Sankar MJ, Sinha B, Chowdhury R, et al. Optimal breastfeeding practices and infant and child mortality: a systematic review and meta-analysis. Acta Paediatr. 2015;104(467):3-13.PMID: 26249674. https://doi.org/10.1111/apa.13147
45. Chowdhury R, Sinha B, Sankar MJ, et al. Breastfeeding and maternal health outcomes: a systematic review and meta-analysis. Acta Paediatr. 2015;104(467):96-113.PMID: 26172878. https://doi.org/10.1111/apa.13102
46. Feltner C, Weber RP, Stuebe A, et al. AHRQ Comparative Effectiveness Reviews. Breastfeeding Programs and Policies, Breastfeeding Uptake, and Maternal Health Outcomes in Developed Countries. Rockville (MD): Agency for Healthcare Research and Quality (US); 2018.
47. Aune D, Norat T, Romundstad P, et al. Breastfeeding and the maternal risk of type 2 diabetes: a systematic review and dose-response meta-analysis of cohort studies. Nutr

Metab Cardiovasc Dis. 2014;24(2):107-15.PMID: 24439841. https://doi.org/10.1016/j.numecd.2013.10.028
48. Dias CC and Figueiredo B. Breastfeeding and depression: a systematic review of the literature. J Affect Disord. 2015;171:142-54.PMID: 25305429. https://doi.org/10.1016/j.jad.2014.09.022
49. Centers for Disease Control and Prevention. Strategies to Prevent Obesity and Other Chronic Diseases: The CDC Guide to Strategies to Support Breastfeeding Mothers and Babies. Atlanta: U.S. Department of Health and Human Services; 2013.
50. Barraza L, Lebedevitch C and Steube A. The Role of Law and Policy in Assisting Families to Reach Healthy People's Maternal, Infant, and Child Health Breastfeeding Goals in the United States. Department of Health and Human Services, Office of Disease Prevention and Health Promotion (ODPHP); 2020. PMID: Available from: https://www.healthypeople.gov/2020/law-and-health-policy/topic/maternal-infantchild-health.
51. American College of Obstetricians, Gynecologists' Committee on Health Care for Underserved Women, American College of Obstetricians, et al. Barriers to Breastfeeding: Supporting Initiation and Continuation of Breastfeeding: ACOG Committee Opinion, Number 821. Obstet Gynecol. 2021;137(2):e54-e62.PMID: 33481532. https://dx.doi.org/10.1097/AOG.0000000000004249
52. Office of the Surgeon General, Centers for Disease Control and Prevention (US) and Office on Women's Health (US). The Surgeon General's Call to Action to Support Breastfeeding. Rockville (MD): Office of the Surgeon General (US); 2011. PMID: 21452448.
53. Baby Friendly USA Inc. About Us. The Baby-Friendly Hospital Initiative2023.
54. Baby Friendly USA Inc. The Ten Steps to Successful Breastfeeding. 10 Steps & International Code2023.
55. World Health Organization. Protecting, promoting and supporting breastfeeding in facilities providing newborn services. Geneva: WHO; 2017.
56. Louis-Jacques A, Deubel TF, Taylor M, et al. Racial and ethnic disparities in U.S. breastfeeding and implications for maternal and child health outcomes. Semin Perinatol. 2017;41(5):299-307.PMID: 28624126. https://doi.org/10.1053/j.semperi.2017.04.007
57. Li R, Perrine CG, Anstey EH, et al. Breastfeeding Trends by Race/Ethnicity Among US Children Born From 2009 to 2015. JAMA Pediatr. 2019;173(12):e193319.PMID: 31609438. https://doi.org/10.1001/jamapediatrics.2019.3319
58. Jones KM, Power ML, Queenan JT, et al. Racial and ethnic disparities in breastfeeding. Breastfeed Med. 2015;10(4):186-96.PMID: 25831234. https://doi.org/10.1089/bfm.2014.0152
59. Bartkowski JP, Kohler J, Xu X, et al. Racial Differences in Breastfeeding on the Mississippi Gulf Coast: Making Sense of a Promotion-Prevalence Paradox with Cross-Sectional Data. Healthcare (Basel). 2022;10(12). 10.3390/healthcare10122444
60. Otarola L, Sly J, Manigat T, et al. Understanding Black Matriarchal Role Models in the U.S. Attitudes and Beliefs About Breastfeeding. Breastfeeding Medicine. 2021;16(6):501-5.PMID: 33769842. https://doi.org/10.1089/bfm.2020.0320
61. Gyamfi A, O'Neill B, Henderson WA, et al. Black/African American Breastfeeding Experience: Cultural, Sociological, and Health Dimensions Through an Equity Lens.

Breastfeeding Medicine. 2021;16(2):103-11.PMID: 33591226. https://doi.org/10.1089/bfm.2020.0312
62. Callahan EH, Kim JH, Bahnfleth C, et al. Racial and Ethnic Disparities in Human Milk Feeding in the United States: A Rapid Review Project. Washington D.C., USA: U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Nutrition Evidence Systematic Review; 2023. Available at: https://doi.org/10.52570/NESR.FNS2023.RR1
63. Asiodu IV, Bugg K and Palmquist AEL. Achieving Breastfeeding Equity and Justice in Black Communities: Past, Present, and Future. Breastfeeding Medicine. 2021;16(6):447-51.PMID: 33979550. https://doi.org/10.1089/bfm.2020.0314
64. Gross TT, Powell R, Anderson AK, et al. WIC peer counselors' perceptions of breastfeeding in African American women with lower incomes. J Hum Lact. 2015;31(1):99-110.PMID: 25480019. https://doi.org/10.1177/0890334414561061
65. Bartkowski JP, Kohler J, Xu X, et al. Racial Differences in Breastfeeding on the Mississippi Gulf Coast: Making Sense of a Promotion-Prevalence Paradox with Cross-Sectional Data. Healthcare. 2022;10(12):03.PMID: 36553968. https://dx.doi.org/10.3390/healthcare10122444
66. Hinson TD, Skinner AC, Lich KH, et al. Factors That Influence Breastfeeding Initiation Among African American Women. J Obstet Gynecol Neonatal Nurs. 2018;47(3):290-300.PMID: 29550175. https://doi.org/10.1016/j.jogn.2018.02.007
67. Dauphin C, Clark N, Cadzow R, et al. #BlackBreastsMatter: Process Evaluation of Recruitment and Engagement of Pregnant African American Women for a Social Media Intervention Study to Increase Breastfeeding. J Med Internet Res. 2020;22(8):e16239.PMID: 32773377. https://dx.doi.org/10.2196/16239
68. Mangun K PL. The Pet Milk Company "Happy Family" advertising campaign: a groundbreaking appeal to the Negro market of the 1950s. Journal Hist. 2014;40:70-84.
69. Hamner HC, Beauregard JL, Li R, et al. Meeting breastfeeding intentions differ by race/ethnicity, Infant and Toddler Feeding Practices Study-2. Matern Child Nutr. 2021;17(2):1-10.PMID: 33006242. https://doi.org/10.1111/mcn.13093
70. Rhodes EC, Damio G, LaPlant HW, et al. Promoting equity in breastfeeding through peer counseling: the US Breastfeeding Heritage and Pride program. Intern. 2021;20(1):128.PMID: 34044816. https://dx.doi.org/10.1186/s12939-021-01408-3
71. Bunik M, Clark L, Zimmer LM, et al. Early infant feeding decisions in low-income Latinas. Breastfeed Med. 2006;1(4):225-35.PMID: 17661603. https://doi.org/10.1089/bfm.2006.1.225
72. Chang YS, Glaria AA, Davie P, et al. Breastfeeding experiences and support for women who are overweight or obese: A mixed-methods systematic review. Matern Child Nutr. 2020;16(1):e12865.PMID: 31240826. https://dx.doi.org/10.1111/mcn.12865
73. Garner CD, McKenzie SA, Devine CM, et al. Obese women experience multiple challenges with breastfeeding that are either unique or exacerbated by their obesity: discoveries from a longitudinal, qualitative study. Matern Child Nutr. 2017;13(3):n/a-N.PAG.PMID: 27452978. https://doi.org/10.1111/mcn.12344
74. Amir LH and Donath S. A systematic review of maternal obesity and breastfeeding intention, initiation and duration. BMC Pregnancy Childbirth. 2007;7:9.PMID: 17608952. https://doi.org/10.1186/1471-2393-7-9

75. Bjorset VK, Helle C, Hillesund ER, et al. Socio-economic status and maternal BMI are associated with duration of breast-feeding of Norwegian infants. Public Health Nutr. 2018;21(8):1465-73.PMID: 29357963. https://dx.doi.org/10.1017/S1368980017003925
76. Baker JL, Michaelsen KF, Sorensen TI, et al. High prepregnant body mass index is associated with early termination of full and any breastfeeding in Danish women. Am J Clin Nutr. 2007;86(2):404-11.PMID: 17684212. https://doi.org/10.1093/ajcn/86.2.404
77. Hales CM, Carroll MD, Fryar CD, et al. Prevalence of Obesity and Severe Obesity Among Adults: United States, 2017-2018. NCHS Data Brief. 2020(360):1-8.PMID: 32487284.
78. Prevention CfDCa. Obesity, Race/Ethnicity, and COVID-19. 2021.
79. Claesson I-M, Larsson L, Steen L, et al. "You just need to leave the room when you breastfeed" Breastfeeding experiences among obese women in Sweden - A qualitative study. BMC Pregnancy Childbirth. 2018;18:1-N.PAG.PMID: 29357814. https://doi.org/10.1186/s12884-017-1656-2
80. Kair LR and Colaizy TT. Obese Mothers have Lower Odds of Experiencing Pro-breastfeeding Hospital Practices than Mothers of Normal Weight: CDC Pregnancy Risk Assessment Monitoring System (PRAMS), 2004-2008. Matern Child Health J. 2016;20(3):593-601.PMID: 26515471. https://doi.org/10.1007/s10995-015-1858-z
81. Griswold MK, Crawford SL, Perry DJ, et al. Experiences of Racism and Breastfeeding Initiation and Duration Among First-Time Mothers of the Black Women's Health Study. J Racial Ethn Health Disparities. 2018;5(6):1180-91.PMID: 29435898. https://doi.org/10.1007/s40615-018-0465-2
82. Morris LL, J; Williams, JC. Exposed: descrimination against breastfeeding workers. San Francisco University of California, Hastings College of Law; 2019.
83. Kummer L, Duke N, Davis L, et al. Association of Social and Community Factors with U.S. Breastfeeding Outcomes. Breastfeeding Medicine. 2020;15(10):646-54.PMID: 32856942. https://doi.org/10.1089/bfm.2020.0083
84. Peregrino AB, Watt RG, Heilmann A, et al. Breastfeeding practices in the United Kingdom: Is the neighbourhood context important? Matern Child Nutr. 2018;14(4):1-.PMID: 29888866. https://doi.org/10.1111/mcn.12626
85. Lind JN, Perrine CG, Li R, et al. Racial disparities in access to maternity care practices that support breastfeeding - United States, 2011. MMWR Morb Mortal Wkly Rep. 2014;63(33):725-8.PMID: 25144543.
86. Segura-Pérez S, Hromi-Fiedler A, Adnew M, et al. Impact of breastfeeding interventions among United States minority women on breastfeeding outcomes: a systematic review. Intern. 2021;20(1):1-25.PMID: 33676506. https://doi.org/10.1186/s12939-021-01388-4
87. Robinson K, Fial A and Hanson L. Racism, Bias, and Discrimination as Modifiable Barriers to Breastfeeding for African American Women: A Scoping Review of the Literature. J Midwifery Womens Health. 2019;64(6):734-42.PMID: 31710173. https://doi.org/10.1111/jmwh.13058
88. Thomas EV. "You Know if You Quit, That's Failure, Right?": Barriers to Professional Lactation Certification. J Hum Lact. 2018;34(3):454-66.PMID: 29852090. https://doi.org/10.1177/0890334418775062
89. Payne SL. A call to action: lactation equity through professional diversification. J Hum Lact. 2014;30(4):396-7.PMID: 25230770. https://doi.org/10.1177/0890334414550865

90. Perez-Escamilla R and Sellen D. Equity in breastfeeding: where do we go from here? J Hum Lact. 2015;31(1):12-4.PMID: 25583314. https://doi.org/10.1177/0890334414561062
91. Zamora G, Lutter CK and Pena-Rosas JP. Using an equity lens in the implementation of interventions to protect, promote, and support optimal breastfeeding practices. J Hum Lact. 2015;31(1):21-5.PMID: 25487074. https://doi.org/10.1177/0890334414561477
92. Evans K, Labbok M and Abrahams SW. WIC and breastfeeding support services: does the mix of services offered vary with race and ethnicity? Breastfeed Med. 2011;6(6):401-6.PMID: 21453123. https://doi.org/10.1089/bfm.2010.0086
93. Beal AC, Kuhlthau K and Perrin JM. Breastfeeding advice given to African American and white women by physicians and WIC counselors. Public Health Rep. 2003;118(4):368-76.PMID: 12815087. https://doi.org/10.1093/phr/118.4.368
94. Gallo S, Kogan K and Kitsantas P. Racial and Ethnic Differences in Reasons for Breastfeeding Cessation Among Women Participating in the Special Supplemental Nutrition Program for Women, Infants, and Children. J Midwifery Womens Health. 2019;64(6):725-33.PMID: 31469235. https://doi.org/10.1111/jmwh.13031
95. Johnson AM, Kirk R, Rooks AJ, et al. Enhancing Breastfeeding Through Healthcare Support: Results from a Focus Group Study of African American Mothers. Matern Child Health J. 2016;20(Suppl 1):92-102.PMID: 27449776. https://doi.org/10.1007/s10995-016-2085-y
96. Kulka TR, Jensen E, McLaurin S, et al. Community based participatory research of breastfeeding disparities in African American women. Infant Child Adolesc Nutr. 2011;3(4):233-9.PMID: 23326622. https://doi.org/10.1177/1941406411413918
97. Thomas EV. "Why Even Bother; They Are Not Going to Do It?" The Structural Roots of Racism and Discrimination in Lactation Care. Qual Health Res. 2018;28(7):1050-64.PMID: 29557297. https://doi.org/10.1177/1049732318759491
98. Vedam S, Stoll K, Taiwo TK, et al. The Giving Voice to Mothers study: inequity and mistreatment during pregnancy and childbirth in the United States. Reprod Health. 2019;16(1):77.PMID: 31182118. https://doi.org/10.1186/s12978-019-0729-2
99. Knox-Kazimierczuk FA, Nommsen-Rivers L, Ware J, et al. Exploring the Breastfeeding Experiences of African American Mothers Through a Critical Race Theory Lens. Breastfeeding Medicine. 2021;16(6):487-92.PMID: 33979549. https://doi.org/10.1089/bfm.2020.0328
100. Yourkavitch J and Hall Smith P. Women's status, breastfeeding support, and breastfeeding practices in the United States. PLoS ONE. 2022;17(9):e0275021.PMID: 36170292. https://doi.org/10.1371/journal.pone.0275021
101. Eisenberg SR, Bair-Merritt MH, Colson ER, et al. Maternal Report of Advice Received for Infant Care. Pediatrics. 2015;136(2):e315-22.PMID: 26216322. https://doi.org/10.1542/peds.2015-0551
102. United Nations Development Programme. Human Development Report 2019. UNDP (United Nations Development Programme). 2019.
103. Higgins JPT, Savović J, Page MJ, et al. Chapter 8: Assessing risk of bias in a randomized trial. In: Higgins JPT, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, Welch VA (editors). Cochrane Handbook for Systematic Reviews of Interventions version 6.3 (updated February 2022). 2022.

104. United States Preventive Services Task Force. U.S. Preventive Services Task Force Procedure Manual. Rockville, MD: U.S. Preventive Services Task Force; 2015. PMID: .
105. Hartung J and Knapp G. A refined method for the meta-analysis of controlled clinical trials with binary outcome. Stat Med. 2001;20(24):3875-89.PMID: 11782040. https://doi.org/10.1002/sim.1009
106. US Department of Health and Human Services. Healthy People 2030: Building a Healthier Future for All. Office of Disease Prevention and Health Promotion; 2023.
107. Adams G, Gulliford MC, Ukoumunne OC, et al. Patterns of intra-cluster correlation from primary care research to inform study design and analysis. J Clin Epidemiol. 2004;57(8):785-94.PMID: 15485730. https://doi.org/10.1016/j.jclinepi.2003.12.013
108. Higgins J, Eldridge S and Li T. Chapter 23: Including variants on randomized trials. In: Higgins J, Thomas J, Chandler J, Cumpston M, Li T, Page M, et al., editors. *Cochrane Handbook for Systematic Reviews of Interventions* version 6.3 (updated February 2022): Cochrane, 2022.; 2022.
109. Higgins JP and Thompson SG. Quantifying heterogeneity in a meta-analysis. Stat Med. 2002;21(11):1539-58.PMID: 12111919. https://doi.org/10.1002/sim.1186
110. Higgins J. Cochrane Handbook for Systematic Reviews of Interventions version 6.3 (updated February 2022). Higgins JPT, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, et al., editors. Cochrane2022.
111. Peters JL, Sutton AJ, Jones DR, et al. Comparison of two methods to detect publication bias in meta-analysis. Jama. 2006;295(6):676-80.PMID: 16467236. https://doi.org/10.1001/jama.295.6.676
112. Berkman N, Lohr K, Ansari M, et al. Grading the Strength of a Body of Evidence When Assessing Health Care Interventions for the Effective Health Care Program of the Agency for Healthcare Research and Quality: An Update. Methods Guide for Effectiveness and Comparative Effectiveness Reviews. AHRQ Publication No. 10(14)-EHC063-EF. Rockville, MD: Agency for Healthcare Research and Quality; 2014. p. 314-49.
113. Atkins D, Eccles M, Flottorp S, et al. Systems for grading the quality of evidence and the strength of recommendations I: critical appraisal of existing approaches The GRADE Working Group. BMC Health Serv Res. 2004;4(1):38.PMID: 15615589. http://dx.doi.org/10.1186/1472-6963-4-38
114. Abbass-Dick J, Stern SB, Nelson LE, et al. Coparenting breastfeeding support and exclusive breastfeeding: a randomized controlled trial. Pediatrics. 2015;135(1):102-10.PMID: 254525653. http://dx.doi.org/10.1542/peds.2014-1416
115. Abbass-Dick J, Sun W, Newport A, et al. The comparison of access to an eHealth resource to current practice on mother and co-parent teamwork and breastfeeding rates: A randomized controlled trial. Midwifery. 2020;90:102812.PMID: 32739716. https://dx.doi.org/10.1016/j.midw.2020.102812
116. Acar Z and Sahin N. Development of a mobile application-based breastfeeding program and evaluation of its effectiveness. J Pediatr Nurs. 2024;74:51-60.PMID: 37995477. https://dx.doi.org/10.1016/j.pedn.2023.11.011
117. Addicks SH and McNeil DW. Randomized Controlled Trial of Motivational Interviewing to Support Breastfeeding Among Appalachian Women. J Obstet Gynecol Neonatal Nurs. 2019;48(4):418-32.PMID: 31181186. https://dx.doi.org/10.1016/j.jogn.2019.05.003

118. Anderson AK, Damio G, Young S, et al. A randomized trial assessing the efficacy of peer counseling on exclusive breastfeeding in a predominantly Latina low-income community. Arch Pediatr Adolesc Med. 2005;159(9):836-41.PMID: 16143742. https://doi.org/10.1001/archpedi.159.9.836
119. Balaguer Martinez J, Valcarce PI, Esquivel OJ, et al. Telephone support for breastfeeding by primary care: a randomised multicentre trial. Anales de pediatria (barcelona, spain : 2003). 2018;89(6):344-51.PMID: 29576447. https://doi.org/10.1016/j.anpedi.2018.02.007
120. Baransel ES and Caliskan BE. Effects of Face-to-Face Education Followed by Mobile Messaging to Primiparas on Maternal-Neonatal Care, Breastfeeding, and Motherhood Experience: A Randomized Controlled Trial. Z Geburtshilfe Neonatol. 2024;29:29.PMID: 38286412. https://dx.doi.org/10.1055/a-2222-6568
121. Bender W, Levine L and Durnwald C. Text Message-Based Breastfeeding Support Compared With Usual Care: A Randomized Controlled Trial. Obstet Gynecol. 2022;140(5):853-60.PMID: 36201773. https://doi.org/10.1097/aog.0000000000004961
122. Bernal D. The effect of a peer counseling support program on breastfeeding initiation, duration and exclusivity among low-income Hispanic women. Dissertation Abstracts International: Section B: The Sciences and Engineering. 2019;80(2-B(E)).PMID: .
123. Bonuck K, Stuebe A, Barnett J, et al. Effect of primary care intervention on breastfeeding duration and intensity (BINGO). Am J Public Health. 2014_a;104 Suppl 1:S119-27.PMID: 24354834. http://dx.doi.org/10.2105/AJPH.2013.301360
124. Bonuck K, Stuebe A, Barnett J, et al. Effect of primary care intervention on breastfeeding duration and intensity (PAIRINGS). Am J Public Health. 2014_b;104 Suppl 1:S119-27.PMID: 24354834. http://dx.doi.org/10.2105/AJPH.2013.301360
125. Bonuck KA, Freeman K and Trombley M. Randomized controlled trial of a prenatal and postnatal lactation consultant intervention on infant health care use. Arch Pediatr Adolesc Med. 2006;160(9):953-60.PMID: 16953019. https://doi.org/10.1001/archpedi.160.9.953
126. Bunik M, Jimenez-Zambrano A, Solano M, et al. Mother's Milk Messaging TM: trial evaluation of app and texting for breastfeeding support. BMC Pregnancy Childbirth. 2022;22(1):660.PMID: 36002798. https://dx.doi.org/10.1186/s12884-022-04976-6
127. Bunik M, Shobe P, O'Connor ME, et al. Are 2 weeks of daily breastfeeding support insufficient to overcome the influences of formula? Acad Pediatr. 2010;10(1):21-8.PMID: 20129478. http://dx.doi.org/10.1016/j.acap.2009.09.014
128. Cangol E and Sahin NH. The Effect of a Breastfeeding Motivation Program Maintained During Pregnancy on Supporting Breastfeeding: A Randomized Controlled Trial. Breastfeed Med. 2017;12:218-26.PMID: 28287819. https://dx.doi.org/10.1089/bfm.2016.0190
129. Carlsen EM, Kyhnaeb A, Renault KM, et al. Telephone-based support prolongs breastfeeding duration in obese women: a randomized trial. Am J Clin Nutr. 2013;95(2):1226-32.PMID: 24004897. https://doi.org/10.3945/ajcn.113.059600
130. Cauble JS, Herman A, Wick J, et al. A prenatal group based phone counseling intervention to improve breastfeeding rates and complementary feeding: a randomized, controlled pilot and feasibility trial. BMC Pregnancy Childbirth. 2021;21(1):521.PMID: 34294051. https://dx.doi.org/10.1186/s12884-021-03976-2
131. Chan MY, Ip WY and Choi KC. The effect of a self-efficacy-based educational programme on maternal breast feeding self-efficacy, breast feeding duration and

exclusive breast feeding rates: A longitudinal study. Midwifery. 2016;36:92-8.PMID: 27106949. https://dx.doi.org/10.1016/j.midw.2016.03.003
132. Chapman DJ, Morel K, Bermudez-Millan A, et al. Breastfeeding education and support trial for overweight and obese women: a randomized trial. Pediatrics. 2013;131(1):e162-70.PMID: 23209111. http://dx.doi.org/10.1542/peds.2012-0688
133. Clarke JL, Ingram J, Johnson D, et al. The ABA intervention for improving breastfeeding initiation and continuation: Feasibility study results. Matern Child Nutr. 2020;16(1):e12907.PMID: 31793233. https://dx.doi.org/10.1111/mcn.12907
134. Dennis CL, Hodnett E, Gallop R, et al. The effect of peer support on breast-feeding duration among primiparous women: a randomized controlled trial. CMAJ. 2002;166(1):21-8.PMID: 11800243.
135. Di Meglio G, McDermott MP and Klein JD. A randomized controlled trial of telephone peer support's influence on breastfeeding duration in adolescent mothers. Breastfeed Med. 2010;5(1):41-7.PMID: 20043705. http://dx.doi.org/10.1089/bfm.2009.0016
136. Di Napoli A, Di Lallo D, Fortes C, et al. Home breastfeeding support by health professionals: findings of a randomized controlled trial in a population of Italian women. Acta Paediatr. 2004;93(8):1108-14.PMID: 15456204.
137. Edwards RC, Thullen MJ, Korfmacher J, et al. Breastfeeding and complementary food: randomized trial of community doula home visiting. Pediatrics. 2013;132 Suppl 2:S160-6.PMID: 24187119. http://dx.doi.org/10.1542/peds.2013-1021P
138. Elliott-Rudder M, Pilotto L, McIntyre E, et al. Motivational interviewing improves exclusive breastfeeding in an Australian randomised controlled trial. Acta Paediatr. 2014;103(1):e11-6.PMID: 24117857. http://dx.doi.org/10.1111/apa.12434
139. Fan HSL, Ho MY, Ko RWT, et al. Feasibility and effectiveness of WhatsApp online group on breastfeeding by peer counsellors: a single-blinded, open-label pilot randomized controlled study. Int Breastfeed J. 2022;17(1):91.PMID: 36544208. https://dx.doi.org/10.1186/s13006-022-00535-z
140. Fiks AG, Gruver RS, Bishop-Gilyard CT, et al. A Social Media Peer Group for Mothers To Prevent Obesity from Infancy: The Grow2Gether Randomized Trial. Child. 2017;13(5):356-68.PMID: 28557558. https://dx.doi.org/10.1089/chi.2017.0042
141. Forster D, McLachlan H, Lumley J, et al. Two mid-pregnancy interventions to increase the initiation and duration of breastfeeding: a randomized controlled trial. Birth. 2004;31(3):176-82.PMID: 15330879. https://doi.org/10.1111/j.0730-7659.2004.00302.x
142. Forster DA, McLardie-Hore FE, McLachlan HL, et al. Proactive Peer (Mother-to-Mother) Breastfeeding Support by Telephone (Ringing up About Breastfeeding Early [RUBY]): A Multicentre, Unblinded, Randomised Controlled Trial. EClinicalMedicine. 2019;8:20-8.PMID: 31193656. https://doi.org/10.1016/j.eclinm.2019.02.003
143. Franco-Antonio C, Calderon-Garcia JF, Santano-Mogena E, et al. Effectiveness of a brief motivational intervention to increase the breastfeeding duration in the first 6 months postpartum: Randomized controlled trial. J Adv Nurs. 2020;76(3):888-902.PMID: 31782535. https://dx.doi.org/10.1111/jan.14274
144. Fu I, Fong D, Heys M, et al. Professional breastfeeding support for first-time mothers: a multicentre cluster randomised controlled trial. Bjog. 2014;121(13):1673-83.PMID: 24861802. http://dx.doi.org/10.1111/1471-0528.12884

145. Gagnon AJ, Dougherty G, Jimenez V, et al. Randomized trial of postpartum care after hospital discharge. Pediatrics. 2002;109(6):1074-80.PMID: 12042545. https://doi.org/10.1542/peds.109.6.1074
146. Gijsbers B, Mesters I, Knottnerus JA, et al. The Success of an Educational Program to Promote Exclusive Breastfeeding for 6 Months in Families with a History of Asthma: A Randomized Controlled Trial. Pediatric Asthma, Allergy & Immunology. 2006;19(4):214-22.PMID: . http://dx.doi.org/10.1089/pai.2006.19.214
147. Graffy J, Taylor J, Williams A, et al. Randomised controlled trial of support from volunteer counsellors for mothers considering breast feeding. Bmj. 2004;328(7430):26.PMID: 14703543. https://doi.org/10.1136/bmj.328.7430.26
148. Gross RS, Mendelsohn AL, Gross MB, et al. Randomized Controlled Trial of a Primary Care-Based Child Obesity Prevention Intervention on Infant Feeding Practices. Journal of Pediatrics. 2016;174:171-7.e2.PMID: 27113376. https://dx.doi.org/10.1016/j.jpeds.2016.03.060
149. Hans SL, Edwards RC and Zhang Y. Randomized Controlled Trial of Doula-Home-Visiting Services: Impact on Maternal and Infant Health. Maternal & Child Health Journal. 2018;22(Suppl 1):105-13.PMID: 29855838. https://dx.doi.org/10.1007/s10995-018-2537-7
150. Henderson A, Stamp G and Pincombe J. Postpartum positioning and attachment education for increasing breastfeeding: a randomized trial. Birth. 2001;28(4):236-42.PMID: 11903211. https://doi.org/10.1046/j.1523-536x.2001.00236.x
151. Hoffmann J, Gunther J, Stecher L, et al. Effects of a lifestyle intervention in routine care on short-and long-term maternal weight retention and breastfeeding behaviorâ€"12 months follow-up of the cluster-randomized gelis trial. J [serial on the Internet]. 2019; 8(6): Available from: https://www.cochranelibrary.com/central/doi/10.1002/central/CN-01980540/full
https://mdpi-res.com/d_attachment/jcm/jcm-08-00876/article_deploy/jcm-08-00876.pdf?version=1560935429.
152. Hopkinson J and Konefal Gallagher M. Assignment to a hospital-based breastfeeding clinic and exclusive breastfeeding among immigrant Hispanic mothers: a randomized, controlled trial. J Hum Lact. 2009;25(3):287-96.PMID: 19436060. http://dx.doi.org/10.1177/0890334409335482
153. Howell EA, Bodnar-Deren S, Balbierz A, et al. An intervention to extend breastfeeding among black and Latina mothers after delivery. Am J Obstet Gynecol. 2014;210(3):239.e1-5.PMID: 24262719. http://dx.doi.org/10.1016/j.ajog.2013.11.028
154. Jolly K, Ingram L, Freemantle N, et al. Effect of a peer support service on breast-feeding continuation in the UK: A randomised controlled trial. Midwifery. 2012;28(6):740-5.PMID: 21944571. http://dx.doi.org/10.1016/j.midw.2011.08.005
155. Karaahmet AY and Bilgic FS. Breastfeeding success in the first 6 months of online breastfeeding counseling after cesarean delivery and its effect on anthropometric measurements of the baby: a randomized controlled study. Rev Assoc Med Bras. 2022;68(10):1434-40.PMID: 36417649. https://dx.doi.org/10.1590/1806-9282.20220540
156. Kellams AL, Gurka KK, Hornsby PP, et al. The Impact of a Prenatal Education Video on Rates of Breastfeeding Initiation and Exclusivity during the Newborn Hospital Stay in a Low-income Population. J Hum Lact. 2015.PMID: 26289058. http://dx.doi.org/10.1177/0890334415599402

157. Kenyon S, Jolly K, Hemming K, et al. Lay support for pregnant women with social risk: a randomised controlled trial. BMJ Open. 2016;6(3):e009203.PMID: 26936901. https://dx.doi.org/10.1136/bmjopen-2015-009203
158. Kools EJ, Thijs C, Kester AD, et al. A breast-feeding promotion and support program a randomized trial in The Netherlands. Prev Med. 2005;40(1):60-70.PMID: 15530582. https://doi.org/10.1016/j.ypmed.2004.05.013
159. Kronborg H, Maimburg RD and Vaeth M. Antenatal training to improve breast feeding: a randomised trial. Midwifery. 2012;28(6):784-90.PMID: 22018394. http://dx.doi.org/10.1016/j.midw.2011.08.016
160. Labarere J, Bellin V, Fourny M, et al. Assessment of a structured in-hospital educational intervention addressing breastfeeding: a prospective randomised open trial. Bjog. 2003;110(9):847-52.PMID: 14511968.
161. Labarere J, Gelbert-Baudino N, Ayral AS, et al. Efficacy of breastfeeding support provided by trained clinicians during an early, routine, preventive visit: a prospective, randomized, open trial of 226 mother-infant pairs. Pediatrics. 2005;115(2):e139-e46.PMID: 15687421. https://doi.org/10.1542/peds.2004-1362
162. Laliberte C, Dunn S, Pound C, et al. A randomized controlled trial of innovative postpartum care model for mother-baby dyads. PLoS ONE. 2016;11(2) (no pagination).PMID: 26871448. https://doi.org/10.1371/journal.pone.0148520
163. Lavender T, Baker L, Smyth R, et al. Breastfeeding expectations versus reality: a cluster randomised controlled trial. Bjog. 2005;112(8):1047-53.PMID: 16045516. https://doi.org/10.1111/j.1471-0528.2005.00644.x
164. Lewkowitz AK, Lopez JD, Carter EB, et al. Impact of a novel smartphone application on low-income, first-time mothers' breastfeeding rates: a randomized controlled trial. Am J Obstet Gynecol MFM. 2020;2(3):100143.PMID: 33345878. https://dx.doi.org/10.1016/j.ajogmf.2020.100143
165. Lewkowitz AK, Lopez JD, Stein RI, et al. Effect of a Home-Based Lifestyle Intervention on Breastfeeding Initiation Among Socioeconomically Disadvantaged African American Women with Overweight or Obesity. Breastfeed Med. 2018;13(6):418-25.PMID: 29912571. https://dx.doi.org/10.1089/bfm.2018.0006
166. Linares AM, Cartagena D and Rayens MK. Las Dos Cosas Versus Exclusive Breastfeeding: A Culturally and Linguistically Exploratory Intervention Study in Hispanic Mothers Living in Kentucky. Journal of Pediatric Health Care. 2019;33(6):e46-e56.PMID: 31655788. https://dx.doi.org/10.1016/j.pedhc.2019.07.009
167. Little EE, Cioffi CC, Bain L, et al. An Infant Carrier Intervention and Breastfeeding Duration: A Randomized Controlled Trial. Pediatrics. 2021;148(1):07.PMID: 34193622. https://dx.doi.org/10.1542/peds.2020-049717
168. Lucas R, Zhang Y, Walsh SJ, et al. Efficacy of a Breastfeeding Pain Self-Management Intervention: A Pilot Randomized Controlled Trial. Nursing Research. 2019;68(2):E1-E10.PMID: 30829925. https://dx.doi.org/10.1097/NNR.0000000000000336
169. Lutenbacher M, Elkins T and Dietrich MS. Using Community Health Workers to Improve Health Outcomes in a Sample of Hispanic Women and Their Infants: Findings from a Randomized Controlled Trial. Hisp Health Care Int. 2022:15404153221107680.PMID: 35702003. https://dx.doi.org/10.1177/15404153221107680

170. Mattar CN, Chong YS, Chan YS, et al. Simple antenatal preparation to improve breastfeeding practice: a randomized controlled trial. Obstet Gynecol. 2007;109(1):73-80.PMID: 17197590. https://doi.org/10.1097/01.AOG.0000249613.15466.26
171. McDonald SJ, Henderson JJ, Faulkner S, et al. Effect of an extended midwifery postnatal support programme on the duration of breast feeding: a randomised controlled trial. Midwifery. 2010;26(1):88-100.PMID: 18486287. http://dx.doi.org/10.1016/j.midw.2008.03.001
172. McLachlan HL, Forster DA, Amir LH, et al. Supporting breastfeeding In Local Communities (SILC) in Victoria, Australia: a cluster randomised controlled trial. BMJ Open. 2016;6(2):e008292.PMID: 26832427. https://dx.doi.org/10.1136/bmjopen-2015-008292
173. McQueen KA, Dennis CL, Stremler R, et al. A pilot randomized controlled trial of a breastfeeding self-efficacy intervention with primiparous mothers. J Obstet Gynecol Neonatal Nurs. 2011;40(1):35-46.PMID: 21244493. http://dx.doi.org/10.1111/j.1552-6909.2010.01210.x
174. Milinco M, Travan L, Cattaneo A, et al. Effectiveness of biological nurturing on early breastfeeding problems: a randomized controlled trial. Int Breastfeed J. 2020;15(1):21.PMID: 32248838. https://dx.doi.org/10.1186/s13006-020-00261-4
175. Miremberg H, Yirmiya K, Rona S, et al. Smartphone-based counseling and support platform and the effect on postpartum lactation: a randomized controlled trial. Am J Obstet Gynecol MFM. 2022;4(2):100543.PMID: 34871782. https://dx.doi.org/10.1016/j.ajogmf.2021.100543
176. Mottl-Santiago J, Dukhovny D, Cabral H, et al. Effectiveness of an Enhanced Community Doula Intervention in a Safety Net Setting: A Randomized Controlled Trial. Health Equity. 2023;7(1):466-76.PMID: 37731785. https://dx.doi.org/10.1089/heq.2022.0200
177. Muirhead PE, Butcher G, Rankin J, et al. The effect of a programme of organised and supervised peer support on the initiation and duration of breastfeeding: a randomised trial. Br J Gen Pract. 2006;56(524):191-7.PMID: 16536959.
178. Nilsson IMS, Strandberg-Larsen K, Knight CH, et al. Focused breastfeeding counselling improves short- and long-term success in an early-discharge setting: A cluster-randomized study. Matern Child Nutr. 2017;13(4):10.PMID: 28194877. https://dx.doi.org/10.1111/mcn.12432
179. Noel-Weiss J, Rupp A, Cragg B, et al. Randomized controlled trial to determine effects of prenatal breastfeeding workshop on maternal breastfeeding self-efficacy and breastfeeding duration. J Obstet Gynecol Neonatal Nurs. 2006;35(5):616-24.PMID: 16958717. https://doi.org/10.1111/j.1552-6909.2006.00077.x
180. O'Reilly SL, McNestry C, McGuinness D, et al. Multicomponent perinatal breastfeeding support in women with BMI >25: The Latch On multi-centre randomised trial. BJOG: An International Journal of Obstetrics & Gynaecology. 2024;12:12.PMID: 38344894. https://dx.doi.org/10.1111/1471-0528.17782
181. Paul IM, Beiler JS, Schaefer EW, et al. A randomized trial of single home nursing visits vs office-based care after nursery/maternity discharge: the Nurses for Infants Through Teaching and Assessment After the Nursery (NITTANY) Study. Arch Pediatr Adolesc Med. 2012;166(3):263-70.PMID: 22064874. http://dx.doi.org/10.1001/archpediatrics.2011.198

182. Pollard DL. Impact of a feeding log on breastfeeding duration and exclusivity. Matern Child Health J. 2011;15(3):395-400.PMID: 20177755. http://dx.doi.org/10.1007/s10995-010-0583-x
183. Puharic D, Malicki M, Borovac JA, et al. The effect of a combined intervention on exclusive breastfeeding in primiparas: A randomised controlled trial. Matern Child Nutr. 2020;16(3):e12948.PMID: 31943761. https://dx.doi.org/10.1111/mcn.12948
184. Quinlivan JA, Box H and Evans SF. Postnatal home visits in teenage mothers: a randomised controlled trial. Lancet. 2003;361(9361):893-900.PMID: 12648967. https://doi.org/10.1016/S0140-6736(03)12770-5
185. Reeder JA, Joyce T, Sibley K, et al. Telephone peer counseling of breastfeeding among WIC participants: a randomized controlled trial. Pediatrics. 2014;134(3):e700-9.PMID: 25092936. http://dx.doi.org/10.1542/peds.2013-4146
186. Saglik M and Karacam Z. Effectiveness of structured education and follow-up in the management of perceived breastmilk insufficiency: a randomized control trial. Health Care Women Int. 2021:1-19.PMID: 34919025. https://dx.doi.org/10.1080/07399332.2021.2007249
187. Santamaria-Martin MJ, Martin-Iglesias S, Schwarz C, et al. Effectiveness of a group educational intervention - prolact - in primary care to promote exclusive breastfeeding: a cluster randomized clinical trial. BMC Pregnancy Childbirth. 2022;22(1):132.PMID: 35172775. https://dx.doi.org/10.1186/s12884-022-04394-8
188. Sari C and Altay N. Effects of providing nursing care with web-based program on maternal self-efficacy and infant health. Public Health Nurs. 2020;37(3):380-92.PMID: 32017251. https://dx.doi.org/10.1111/phn.12712
189. Sari Ozturk C and Demir K. The Effect of Mandala Activity and Technology-Based Breastfeeding Program on Breastfeeding Self-Efficacy and Mother-Infant Attachment of Primiparous Women: A Randomized Controlled Study. J Med Syst. 2023;47(1):44.PMID: 37004692. https://dx.doi.org/10.1007/s10916-023-01942-3
190. Saucedo Baza A, Mignacca C, Delgado PE, et al. A Technological Approach to Improved Breastfeeding Rates and Self-Efficacy: A Randomized Controlled Pilot Study. J Hum Lact. 2023;39(4):679-87.PMID: 37571838. https://dx.doi.org/10.1177/08903344231190625
191. Schwarz EB, Hoyt-Austin A, Fix M, et al. Prenatal Counseling on the Maternal Health Benefits of Lactation: A Randomized Trial. Breastfeed Med. 2024;19(1):52-8.PMID: 38190278. https://dx.doi.org/10.1089/bfm.2023.0219
192. Sevda KO and Sevil I. Continuous Lactation Support Provided Through the WhatsApp Messaging Application: A Randomized Controlled Trial. J Hum Lact. 2023;39(4):666-78.PMID: 37646262. https://dx.doi.org/10.1177/08903344231192948
193. Simsek-Cetinkaya S, Gumus Calis G and Kibris S. Effect of Breastfeeding Education Program and Nurse-led Breastfeeding Online Counseling System (BMUM) for Mothers: A Randomized Controlled Study. J Hum Lact. 2024;40(1):101-12.PMID: 38006250. https://dx.doi.org/10.1177/08903344231210813
194. Stockdale J, Sinclair M, Kernohan WG, et al. Feasibility study to test DESIGNER BREASTFEEDING: a randomised controlled trial. Evidence Based Midwifery. 2008;6(3):76-82..

195. Su LL, Chong YS, Chan YH, et al. Antenatal education and postnatal support strategies for improving rates of exclusive breast feeding: randomised controlled trial. Bmj. 2007;335(7620):596.PMID: 17670909. https://doi.org/10.1136/bmj.39279.656343.55
196. Taylor B, Gray A, Galland B, et al. Targeting sleep, food, and activity in infants for obesity prevention: an RCT. Pediatrics. 2017;139(3) (no pagination).PMID: 28242860. https://doi.org/10.1542/peds.2016-2037
197. Uscher-Pines L, Ghosh-Dastidar B, Bogen DL, et al. Feasibility and Effectiveness of Telelactation Among Rural Breastfeeding Women. Academic pediatrics. 2020;20(5):652-9.PMID: 31629118. https://dx.doi.org/10.1016/j.acap.2019.10.008
198. Wallace LM, Dunn OM, Alder EM, et al. A randomised-controlled trial in England of a postnatal midwifery intervention on breast-feeding duration. Midwifery. 2006;22(3):262-73.PMID: 16380197. https://doi.org/10.1016/j.midw.2005.06.004
199. Wambach KA, Aaronson L, Breedlove G, et al. A randomized controlled trial of breastfeeding support and education for adolescent mothers. West J Nurs Res. 2011;33(4):486-505.PMID: 20876551. http://dx.doi.org/10.1177/0193945910380408
200. Wen LM, Baur LA, Simpson JM, et al. Effectiveness of an early intervention on infant feeding practices and "tummy time": a randomized controlled trial. Arch Pediatr Adolesc Med. 2011;165(8):701-7.PMID: 21810633. http://dx.doi.org/10.1001/archpediatrics.2011.115
201. Wen LM, Rissel C, Xu H, et al. Effects of Telephone and Short Message Service Support on Infant Feeding Practices, "Tummy Time," and Screen Time at 6 and 12 Months of Child Age: A 3-Group Randomized Clinical Trial. JAMA Pediatrics. 2020;174(7):657-64.PMID: 32282034. https://dx.doi.org/10.1001/jamapediatrics.2020.0215
202. Wong KL, Tak Fong DY, Yin Lee IL, et al. Antenatal education to increase exclusive breastfeeding: a randomized controlled trial. Obstet Gynecol. 2014;124(5):961-8.PMID: 25437725. http://dx.doi.org/10.1097/AOG.0000000000000481
203. Yesil Y, Ekşioğlu A and Turfan EC. The effect of hospital-based breastfeeding group education given early perinatal period on breastfeeding self-efficacy and breastfeeding status. Journal of Neonatal Nursing. 2023;29(1):81-90.. https://doi.org/10.1016/j.jnn.2022.02.013
204. Abbass-Dick J. Evaluating the effectiveness of a coparenting breastfeeding support intervention (COSI) on exclusive breastfeeding rates at twelve weeks postpartum. Dissertation Abstracts International: Section B: The Sciences and Engineering. 2013;78(1-B(E))..
205. Bonuck KA, Trombley M, Freeman K, et al. Randomized, controlled trial of a prenatal and postnatal lactation consultant intervention on duration and intensity of breastfeeding up to 12 months. Pediatrics. 2005;116(6):1413-26.PMID: 16322166. https://doi.org/10.1542/peds.2005-0435
206. Cahill AG, Haire-Joshu D, Cade WT, et al. Weight Control Program and Gestational Weight Gain in Disadvantaged Women with Overweight or Obesity: A Randomized Clinical Trial. Obesity (Silver Spring). 2018;26(3):485-91.PMID: 29464907. https://doi.org/10.1002/oby.22070
207. Ekambareshwar M, Mihrshahi S, Wen LM, et al. Facilitators and challenges in recruiting pregnant women to an infant obesity prevention programme delivered via telephone calls or text messages. Trials. 2018;19(1):494.PMID: 30219067. 10.1186/s13063-018-2871-5

208. Forster D, McLachlan H, Davey M-A, et al. Ringing Up about Breastfeeding: a randomised controlled trial exploring early telephone peer support for breastfeeding (RUBY) – trial protocol. BMC Pregnancy Childbirth. 2014;177. https://doi.org/10.1186/1471-2393-14-177
209. Franco-Antonio C, Calderon-Garcia JF, Vilar-Lopez R, et al. A randomized controlled trial to evaluate the effectiveness of a brief motivational intervention to improve exclusive breastfeeding rates: Study protocol. J Adv Nurs. 2018;75(4):888-97.PMID: 30478855. https://dx.doi.org/10.1111/jan.13917
210. Franco-Antonio C, Santano-Mogena E, Chimento-Diaz S, et al. A randomised controlled trial evaluating the effect of a brief motivational intervention to promote breastfeeding in postpartum depression. Sci. 2022;12(1):373.PMID: 35013506. https://dx.doi.org/10.1038/s41598-021-04338-w
211. Griffin LB, Lopez JD, Ranney ML, et al. Effect of Novel Breastfeeding Smartphone Applications on Breastfeeding Rates. Breastfeed Med. 2021;16(8):614-23.PMID: 33826418. https://dx.doi.org/10.1089/bfm.2021.0012
212. Grimes HA, Forster DA, Shafiei T, et al. Breastfeeding peer support by telephone in the RUBY randomised controlled trial: A qualitative exploration of volunteers' experiences. PLoS ONE. 2020;15(8):e0237190.PMID: 32760148. https://dx.doi.org/10.1371/journal.pone.0237190
213. Grimes HA, McLachlan HL, Forster DA, et al. Implementing a successful proactive telephone breastfeeding peer support intervention: volunteer recruitment, training, and intervention delivery in the RUBY randomised controlled trial. Int Breastfeed J. 2021;16(1):90.PMID: 34852839. https://dx.doi.org/10.1186/s13006-021-00434-9
214. Grimes HA, Shafiei T, McLachlan HL, et al. Volunteers' experiences of providing telephone-based breast-feeding peer support in the RUBY randomised controlled trial. Public Health Nutr. 2020;23(16):3005-15.PMID: 32600489. https://dx.doi.org/10.1017/S136898002000124X
215. Gruver RS, Bishop-Gilyard CT, Lieberman A, et al. A Social Media Peer Group Intervention for Mothers to Prevent Obesity and Promote Healthy Growth from Infancy: Development and Pilot Trial. JMIR Res Protoc. 2016;5(3):e159.PMID: 27485934. https://doi.org/10.2196/resprot.5276
216. Günther J, Hoffmann J, Kunath J, et al. Effects of a Lifestyle Intervention in Routine Care on Prenatal Dietary Behavior-Findings from the Cluster-Randomized GeliS Trial. J Clin Med. 2019;8(7).PMID: 31269753. https://doi.org/10.3390/jcm8070960
217. Hoffmann J, Günther J, Geyer K, et al. Effects of a lifestyle intervention in routine care on prenatal physical activity - findings from the cluster-randomised GeliS trial. BMC Pregnancy Childbirth. 2019;19(1):414.PMID: 31711430. https://doi.org/10.1186/s12884-019-2553-7
218. Hornsby PP, Gurka KK, Conaway MR, et al. Reasons for Early Cessation of Breastfeeding Among Women with Low Income. Breastfeed Med. 2019;14(6):375-81.PMID: 30994371. https://dx.doi.org/10.1089/bfm.2018.0206
219. Howell EA, Balbierz A, Wang J, et al. Reducing postpartum depressive symptoms among black and Latina mothers: a randomized controlled trial. Obstet Gynecol. 2012;119(5):942-9.PMID: 22488220. http://dx.doi.org/10.1097/AOG.0b013e318250ba48
220. Jolly K, Ingram J, Clarke J, et al. Protocol for a feasibility trial for improving breast feeding initiation and continuation: assets-based infant feeding help before and after birth

(ABA). BMJ Open. 2018;8(1):e019142.PMID: 29362263. https://dx.doi.org/10.1136/bmjopen-2017-019142
221. Kellams AL, Gurka KK, Hornsby PP, et al. A Randomized Trial of Prenatal Video Education to Improve Breastfeeding Among Low-Income Women. Breastfeed Med. 2018;13(10):666-73.PMID: 30351169. https://dx.doi.org/10.1089/bfm.2018.0115
222. Kunath J, Günther J, Rauh K, et al. Effects of a lifestyle intervention during pregnancy to prevent excessive gestational weight gain in routine care - the cluster-randomised GeliS trial. BMC Med. 2019;17(1):5.PMID: 30636636. https://doi.org/10.1186/s12916-018-1235-z
223. Lewkowitz AK, Lopez JD, Werner EF, et al. Effect of a Novel Smartphone Application on Breastfeeding Rates Among Low-Income, First-Time Mothers Intending to Exclusively Breastfeed: Secondary Analysis of a Randomized Controlled Trial. Breastfeed Med. 2021;16(1):59-67.PMID: 33085510. https://dx.doi.org/10.1089/bfm.2020.0240
224. Lok KY, Ko RW, Fan HS, et al. Feasibility and Acceptability of an Online WhatsApp Support Group on Breastfeeding: Protocol for a Randomized Controlled Trial. JMIR Res Protoc. 2022;11(3):e32338.PMID: 35262504. https://dx.doi.org/10.2196/32338
225. Lucchini-Raies C, Marquez-Doren F, Beca P, et al. The CRIAA Program complex intervention in primary care to support women and their families in breastfeeding: Study protocol for a pilot trial. J Adv Nurs. 2020;76(12):3641-53.PMID: 33058232. https://dx.doi.org/10.1111/jan.14534
226. MacArthur C, Jolly K, Ingram L, et al. Antenatal peer support workers and initiation of breast feeding: Cluster randomised controlled trial. Bmj. 2009;338(7691):No Pagination Specified.PMID: 19181730. http://dx.doi.org/10.1136/bmj.b131
227. Martin-Iglesias S, Santamaria-Martin MJ, Alonso-Alvarez A, et al. Effectiveness of an educational group intervention in primary healthcare for continued exclusive breast-feeding: PROLACT study. BMC Pregnancy Childbirth. 2018;18(1):59.PMID: 29482516. https://dx.doi.org/10.1186/s12884-018-1679-3
228. McLachlan HL, Forster DA, Amir LH, et al. Supporting breastfeeding In Local Communities (SILC): protocol for a cluster randomised controlled trial. BMC Pregnancy Childbirth. 2014;14:346.PMID: 25281300. https://10.1186/1471-2393-14-346
229. McLardie-Hore FE, McLachlan HL, Shafiei T, et al. Proactive telephone-based peer support for breastfeeding: a cross-sectional survey of women's experiences of receiving support in the RUBY randomised controlled trial. BMJ Open. 2020;10(10):e040412.PMID: 33127637. https://dx.doi.org/10.1136/bmjopen-2020-040412
230. Messito MJ, Katzow MW, Mendelsohn AL, et al. Starting Early Program Impacts on Feeding at Infant 10 Months Age: A Randomized Controlled Trial. Child. 2020;16:S-4-S-13.PMID: 31934788. https://doi.org/10.1089/chi.2019.0236
231. Mesters I, Gijsbers B, Bartholomew K, et al. Social cognitive changes resulting from an effective breastfeeding education program. Breastfeed Med. 2013;8(1):23-30.PMID: 23186384. http://dx.doi.org/10.1089/bfm.2012.0011
232. Noel-Weiss J, Bassett V and Cragg B. Developing a prenatal breastfeeding workshop to support maternal breastfeeding self-efficacy. J Obstet Gynecol Neonatal Nurs. 2006;35(3):349-57.PMID: 16700684. http://dx.doi.org/10.1111/j.1552-6909.2006.00053.x

233. O'Reilly SL, O'Brien EC, McGuinness D, et al. Latch On: A protocol for a multi-centre, randomised controlled trial of perinatal support to improve breastfeeding outcomes in women with a raised BMI. Contemp Clin Trials Commun. 2021;22:100767.PMID: 34095603. https://dx.doi.org/10.1016/j.conctc.2021.100767
234. Rauh K, Kunath J, Rosenfeld E, et al. Healthy living in pregnancy: a cluster-randomized controlled trial to prevent excessive gestational weight gain - rationale and design of the GeliS study. BMC Pregnancy Childbirth. 2014;14:119.PMID: 24678761. https://doi.org/10.1186/1471-2393-14-119
235. Ridgway L, Cramer R, McLachlan HL, et al. Breastfeeding Support in the Early Postpartum: Content of Home Visits in the SILC Trial. Birth. 2016;43(4):303-12.PMID: 27417659. https://dx.doi.org/10.1111/birt.12241
236. Wen LM, Baur LA, Rissel C, et al. Early intervention of multiple home visits to prevent childhood obesity in a disadvantaged population: a home-based randomised controlled trial (Healthy Beginnings Trial). BMC Public Health. 2007;7:76.PMID: 17490492. http://dx.doi.org/10.1186/1471-2458-7-76
237. Wen LM, Rissel C, Baur LA, et al. A 3-Arm randomised controlled trial of Communicating Healthy Beginnings Advice by Telephone (CHAT) to mothers with infants to prevent childhood obesity. BMC Public Health. 2017;17(1):79.PMID: 28088203. https://dx.doi.org/10.1186/s12889-016-4005-x
238. Zakarija-Grkovic I, Puharic D, Malicki M, et al. Breastfeeding booklet and proactive phone calls for increasing exclusive breastfeeding rates: RCT protocol. Matern Child Nutr. 2017;13(1):01.PMID: 26990672. https://dx.doi.org/10.1111/mcn.12249
239. Baby Friendly USA Inc. Designation Process. The Baby-Friendly Hospital Initiative2023.
240. Baby Friendly USA Inc. Upholding the Highest Standards of Infant Feeding Care. 2023.
241. Population Medicine. PROBIT Publication List. 2021.
242. Martens PJ. What do Kramer's Baby-Friendly Hospital Initiative PROBIT studies tell us? A review of a decade of research. J Hum Lact. 2012;28(3):335-42.PMID: 22584874. https://doi.org/10.1177/0890334412438264
243. Tomori C, Hernández-Cordero S, Busath N, et al. What works to protect, promote and support breastfeeding on a large scale: A review of reviews. Matern Child Nutr. 2022;18 Suppl 3(Suppl 3):e13344.PMID: 35315573. https://doi.org/10.1111/mcn.13344
244. Wouk K, Tully KP and Labbok MH. Systematic Review of Evidence for Baby-Friendly Hospital Initiative Step 3. J Hum Lact. 2017;33(1):50-82. 10.1177/0890334416679618
245. Fallon VM, Harrold JA and Chisholm A. The impact of the UK Baby Friendly Initiative on maternal and infant health outcomes: A mixed-methods systematic review. Matern Child Nutr. 2019;15(3):e12778.PMID: 30623576. https://doi.org/10.1111/mcn.12778
246. Pérez-Escamilla R, Martinez JL and Segura-Pérez S. Impact of the Baby-friendly Hospital Initiative on breastfeeding and child health outcomes: a systematic review. Matern Child Nutr. 2016;12(3):402-17. 10.1111/mcn.12294
247. Howe-Heyman A and Lutenbacher M. The Baby-Friendly Hospital Initiative as an Intervention to Improve Breastfeeding Rates: A Review of the Literature. J Midwifery Womens Health. 2016;61(1):77-102.PMID: 26801336. https://doi.org/10.1111/jmwh.12376

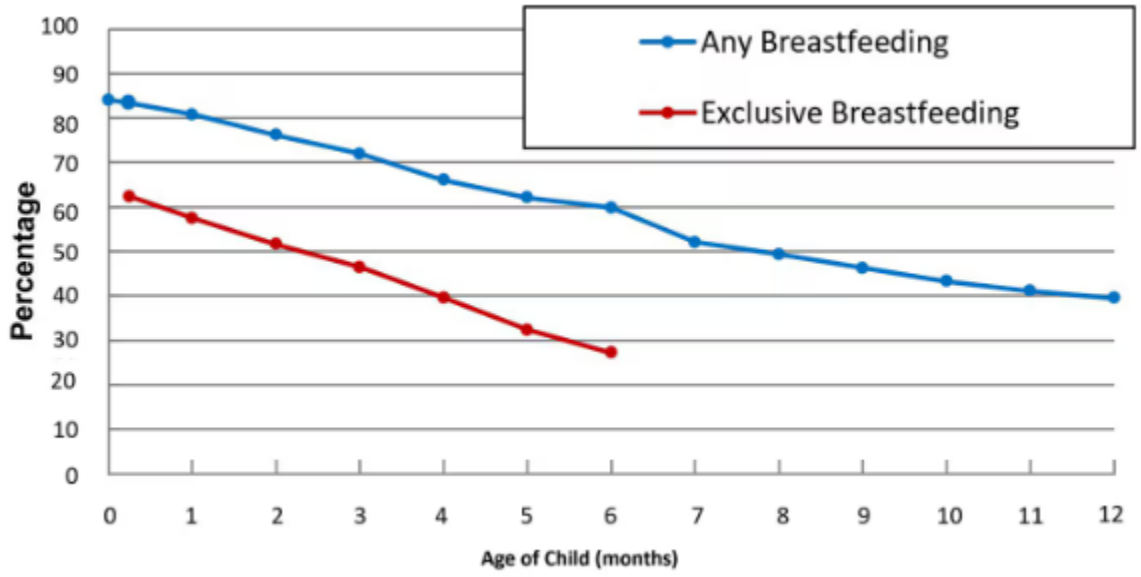
248. Bass JL, Gartley T and Kleinman R. Outcomes from the Centers for Disease Control and Prevention 2018 Breastfeeding Report Card: Public Policy Implications. Journal of Pediatrics. 2020;218:16-.PMID: 31623856. https://doi.org/10.1016/j.jpeds.2019.08.059
249. Advisory Board. Could the Baby-Friendly Hospital Initiative be hurting mothers—and babies too? Daily Briefing2023.
250. Gomez-Pomar E and Blubaugh R. The Baby Friendly Hospital Initiative and the ten steps for successful breastfeeding. a critical review of the literature. J Perinatol. 2018;38(6):623-32.PMID: 29416115. https://doi.org/10.1038/s41372-018-0068-0
251. Fed is Best Foundation. OUR MISSION: SAFE BREASTFEEDING AND BOTTLE-FEEDING SUPPORT. 2022.
252. Tully KP and Ball HL. Maternal accounts of their breast-feeding intent and early challenges after caesarean childbirth. Midwifery. 2014;30(6):712-9.PMID: 24252711. https://doi.org/10.1016/j.midw.2013.10.014
253. Hinsliff-Smith K, Spencer R and Walsh D. Realities, difficulties, and outcomes for mothers choosing to breastfeed: primigravid mothers experiences in the early postpartum period (6-8 weeks). Midwifery. 2014;30(1):e14-9.PMID: 24238980. https://doi.org/10.1016/j.midw.2013.10.001
254. Thomson G, Ebisch-Burton K and Flacking R. Shame if you do--shame if you don't: women's experiences of infant feeding. Matern Child Nutr. 2015;11(1):33-46.PMID: 25138617. https://doi.org/10.1111/mcn.12148
255. Hoddinott P, Craig LC, Britten J, et al. A serial qualitative interview study of infant feeding experiences: idealism meets realism. BMJ Open. 2012;2(2):e000504.PMID: 22422915. https://doi.org/10.1136/bmjopen-2011-000504
256. Thomson G and Dykes F. Women's sense of coherence related to their infant feeding experiences. Matern Child Nutr. 2011;7(2):160-74.PMID: 21108741. https://doi.org/10.1111/j.1740-8709.2010.00251.x
257. US Department of Agriculture. About WIC Breastfeeding Suppport. WIC Breastfeeding Suppport: USDA; 2023.
258. US Department of Agriculture. Am I Eligible for WIC? Food and Nutrition Service: USDA; 2023.
259. National WIC Association. WIC Program Overview and History. WIC Basics2018.
260. National Academies of Science E, and Medicine;. The WIC Food Packages: From Then to Now. NASEM; 2016.
261. US Department of Agriculture. WIC Eligibility Requirements. Food and Nutrition Service: USDA; 2023.
262. US Department of Agriculture. National and State Level Estimates of WIC Eligibility and Program Reach in 2020. Food and Nutrition Service: USDA; 2023.
263. American College of Obstetricians and Gynecologists. Committee Opinion No. 570: Breastfeeding in Underserved Women: Increasing Initiation and Continuation of Breastfeeding. Obstet Gynecol. 2013;122(2 PART 1):423-7.PMID: 23969829. https://doi.org/10.1097/01.AOG.0000433008.93971.6a
264. Parasuraman S, Lebrun-Harris L and Jones J. Breastfeeding Initiation, Duration, and Exclusivity Among WIC-Eligible Populations. Health Serv Res. 2020;55(S1):30-1. https://doi.org/10.1111/1475-6773.13366

265. Gleason S, Wilkin MK, Sallack L, et al. Breastfeeding Duration Is Associated With WIC Site-Level Breastfeeding Support Practices. J Nutr Educ Behav. 2020;52(7):680-7.PMID: 32171671. https://doi.org/10.1016/j.jneb.2020.01.014
266. Borger C, Weinfield NS, Paolicelli C, et al. Prenatal and Postnatal Experiences Predict Breastfeeding Patterns in the WIC Infant and Toddler Feeding Practices Study-2. Breastfeed Med. 2021;16(11):869-77.PMID: 34265220. https://doi.org/10.1089/bfm.2021.0054
267. Assibey-Mensah V, Suter B, Thevenet-Morrison K, et al. Effectiveness of Peer Counselor Support on Breastfeeding Outcomes in WIC-Enrolled Women. J Nutr Educ Behav. 2019;51(6):650-7.PMID: 30981656. https://doi.org/10.1016/j.jneb.2019.03.005
268. Caulfield LE, Bennett WL, Gross SM, et al. AHRQ Comparative Effectiveness Reviews. Maternal and Child Outcomes Associated With the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Rockville (MD): Agency for Healthcare Research and Quality (US); 2022.
269. Paolicelli C, Berman D, Owens T, et al. Breastfeeding and Complementary Feeding Patterns Among Women Enrolled in WIC: WIC Infant and Toddler Feeding Practices Study-2. Breastfeed Med. 2017;12(8):482-6.PMID: 28829156. https://doi.org/10.1089/bfm.2017.0118
270. Gross SM, Lerman JL, Hurley KM, et al. Breastfeeding Outcomes Associated With the Special Supplemental Nutrition Program for Women, Infants, and Children: A Systematic Review. Acad Pediatr. 2023;23(2):244-60.PMID: 36272723. https://doi.org/10.1016/j.acap.2022.10.008
271. Li K, Wen M, Reynolds M, et al. WIC Participation and Breastfeeding after the 2009 WIC Revision: A Propensity Score Approach. Int J Environ Res Public Health. 2019;16(15).PMID: 31344937. https://doi.org/10.3390/ijerph16152645
272. Kogan K, Anand P, Gallo S, et al. A Quasi-Experimental Assessment of the Effect of the 2009 WIC Food Package Revisions on Breastfeeding Outcomes. Nutrients. 2023;15(2).PMID: 36678285. https://doi.org/10.3390/nu15020414
273. Nurse-Family Partnership. About Us. NFP; 2023.
274. Maternal & Family Health Services. NFP Eligibility. MFHS; 2021.
275. Bunik M, Krebs NF, Beaty B, et al. Breastfeeding and WIC enrollment in the Nurse Family Partnership Program. Breastfeed Med. 2009;4(3):145-9.PMID: 19243262. https://doi.org/10.1089/bfm.2008.0140
276. Miller TR. Projected Outcomes of Nurse-Family Partnership Home Visitation During 1996-2013, USA. Prev Sci. 2015;16(6):765-77.PMID: 26076883. https://doi.org/10.1007/s11121-015-0572-9
277. Healthcare.gov. Breastfeeding benefits. Health benefits & coverage2023.
278. 117th US Congress. H.R.3110 - PUMP for Nursing Mothers Act. 2021.
279. Damante B. 5 Facts About the PUMP for Nursing Mothers Act. Center for American Progress; 2023.
280. Gavine A, Shinwell SC, Buchanan P, et al. Support for healthy breastfeeding mothers with healthy term babies. Cochrane Database Syst Rev. 2022(10).PMID: 36282618. https://doi.org/10.1002/14651858.CD001141.pub6
281. Scott JA, Burns SK, Hauck YL, et al. Impact of a Face-To-Face Versus Smartphone App Versus Combined Breastfeeding Intervention Targeting Fathers: Randomized Controlled

Trial. JMIR Pediatr Parent. 2021;4(2):e24579.PMID: 33843604. https://dx.doi.org/10.2196/24579
282. Patnode CD. Breastfeeding and Health Outcomes for Infants and Children. Kaiser Permanente EPC, funded by AHRQ; 2023.
283. Dagla M, Mrvoljak-Theodoropoulou I, Karagianni D, et al. Women's Mental Health as a Factor Associated with Exclusive Breastfeeding and Breastfeeding Duration: Data from a Longitudinal Study in Greece. Children (Basel). 2021;8(2).PMID: 33671169. https://doi.org/10.3390/children8020150
284. Hoff CE, Movva N, Rosen Vollmar AK, et al. Impact of Maternal Anxiety on Breastfeeding Outcomes: A Systematic Review. Adv Nutr. 2019;10(5):816-26.PMID: 31079143. https://doi.org/10.1093/advances/nmy132
285. Labiner-Wolfe J, Fein SB, Shealy KR, et al. Prevalence of breast milk expression and associated factors. Pediatrics. 2008;122 Suppl 2:S63-8.PMID: 18829833. https://doi.org/10.1542/peds.2008-1315h
286. Geraghty SR and Rasmussen KM. Redefining "breastfeeding" initiation and duration in the age of breastmilk pumping. Breastfeed Med. 2010;5(3):135-7.PMID: 20433365. https://doi.org/10.1089/bfm.2009.0094
287. Committee on Nutrition. Donor Human Milk for the High-Risk Infant: Preparation, Safety, and Usage Options in the United States. Pediatrics. 2017;139(1).PMID: 27994111. https://doi.org/10.1542/peds.2016-3440
288. Kair LR, Flaherman VJ and Colaizy TT. Effect of Donor Milk Supplementation on Breastfeeding Outcomes in Term Newborns: A Randomized Controlled Trial. Clin Pediatr (Phila). 2019;58(5):534-40.PMID: 30688082. https://doi.org/10.1177/0009922819826105
289. Aarts C, Kylberg E, Hörnell A, et al. How exclusive is exclusive breastfeeding? A comparison of data since birth with current status data. Int J Epidemiol. 2000;29(6):1041-6.PMID: 11101545. https://doi.org/10.1093/ije/29.6.1041
290. Chapman DJ and Pérez-Escamilla R. US national breastfeeding monitoring and surveillance: current status and recommendations. J Hum Lact. 2009;25(2):139-50.PMID: 19286840. https://doi.org/10.1177/0890334409332437
291. Hector DJ. Complexities and subtleties in the measurement and reporting of breastfeeding practices. Int Breastfeed J. 2011;6:5.PMID: 21586109. https://doi.org/10.1186/1746-4358-6-5
292. Labbok MH and Starling A. Definitions of breastfeeding: call for the development and use of consistent definitions in research and peer-reviewed literature. Breastfeed Med. 2012;7(6):397-402.PMID: 23215907. https://doi.org/10.1089/bfm.2012.9975
293. Noel-Weiss J, Boersma S and Kujawa-Myles S. Questioning current definitions for breastfeeding research. Int Breastfeed J. 2012;7(1):9.PMID: 22889093. https://doi.org/10.1186/1746-4358-7-9
294. Noel-Weiss J, Taljaard M and Kujawa-Myles S. Breastfeeding and lactation research: exploring a tool to measure infant feeding patterns. Int Breastfeed J. 2014;9:5.PMID: 24834106. https://doi.org/10.1186/1746-4358-9-5
295. Thulier D. A call for clarity in infant breast and bottle-feeding definitions for research. J Obstet Gynecol Neonatal Nurs. 2010;39(6):627-34.PMID: 21044147. https://doi.org/10.1111/j.1552-6909.2010.01197.x

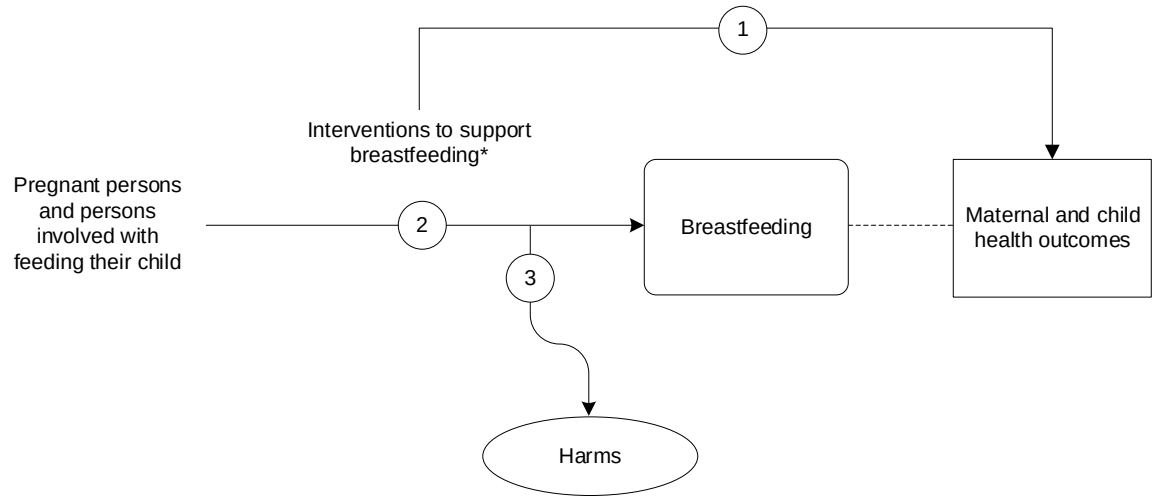
296. Bruun S, Buhl S, Husby S, et al. Breastfeeding, Infant Formula, and Introduction to Complementary Foods-Comparing Data Obtained by Questionnaires and Health Visitors' Reports to Weekly Short Message Service Text Messages. Breastfeed Med. 2017;12(9):554-60.PMID: 28832183. https://doi.org/10.1089/bfm.2017.0054
297. Bartick M, Stehel EK, Calhoun SL, et al. Academy of Breastfeeding Medicine Position Statement and Guideline: Infant Feeding and Lactation-Related Language and Gender. Breastfeed Med. 2021;16(8):587-90.PMID: 34314606. https://doi.org/10.1089/bfm.2021.29188.abm
298. American College of Obstetricians and Gynecologists. Inclusive Language: Statement of Policy. 2022.
299. Horta BL, Loret de Mola C and Victora CG. Breastfeeding and intelligence: a systematic review and meta-analysis. Acta Paediatr. 2015;104(467):14-9.PMID: 26211556. https://dx.doi.org/10.1111/apa.13139
300. Avila WM, Pordeus IA, Paiva SM, et al. Breast and Bottle Feeding as Risk Factors for Dental Caries: A Systematic Review and Meta-Analysis. PLoS ONE. 2015;10(11):e0142922.PMID: 26579710. https://doi.org/10.1371/journal.pone.0142922

Figure 1. Rates of Any and Exclusive Breastfeeding by Age Among Children Born in the United States in 2021[9]



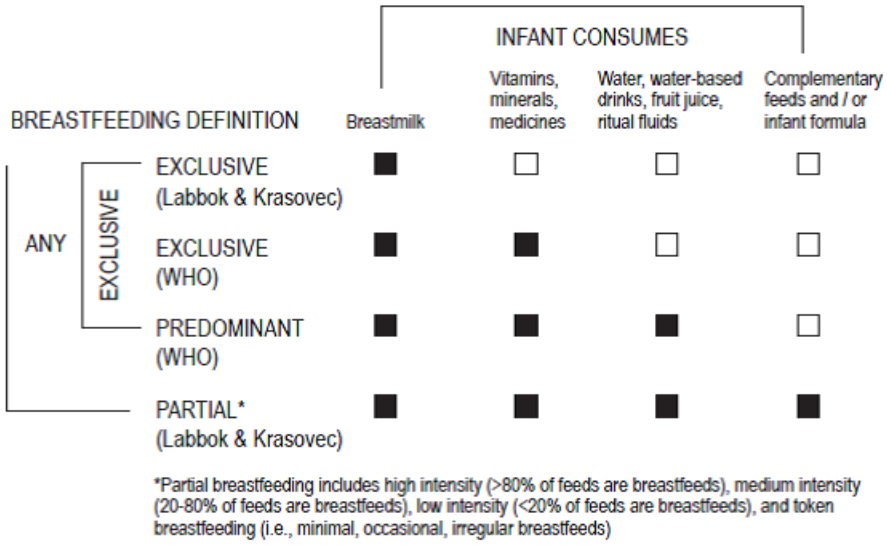
NOTE: Figure sourced from the Centers for Disease Control and Prevention and National Immunization Survey[9]

Figure 2. Analytic Framework



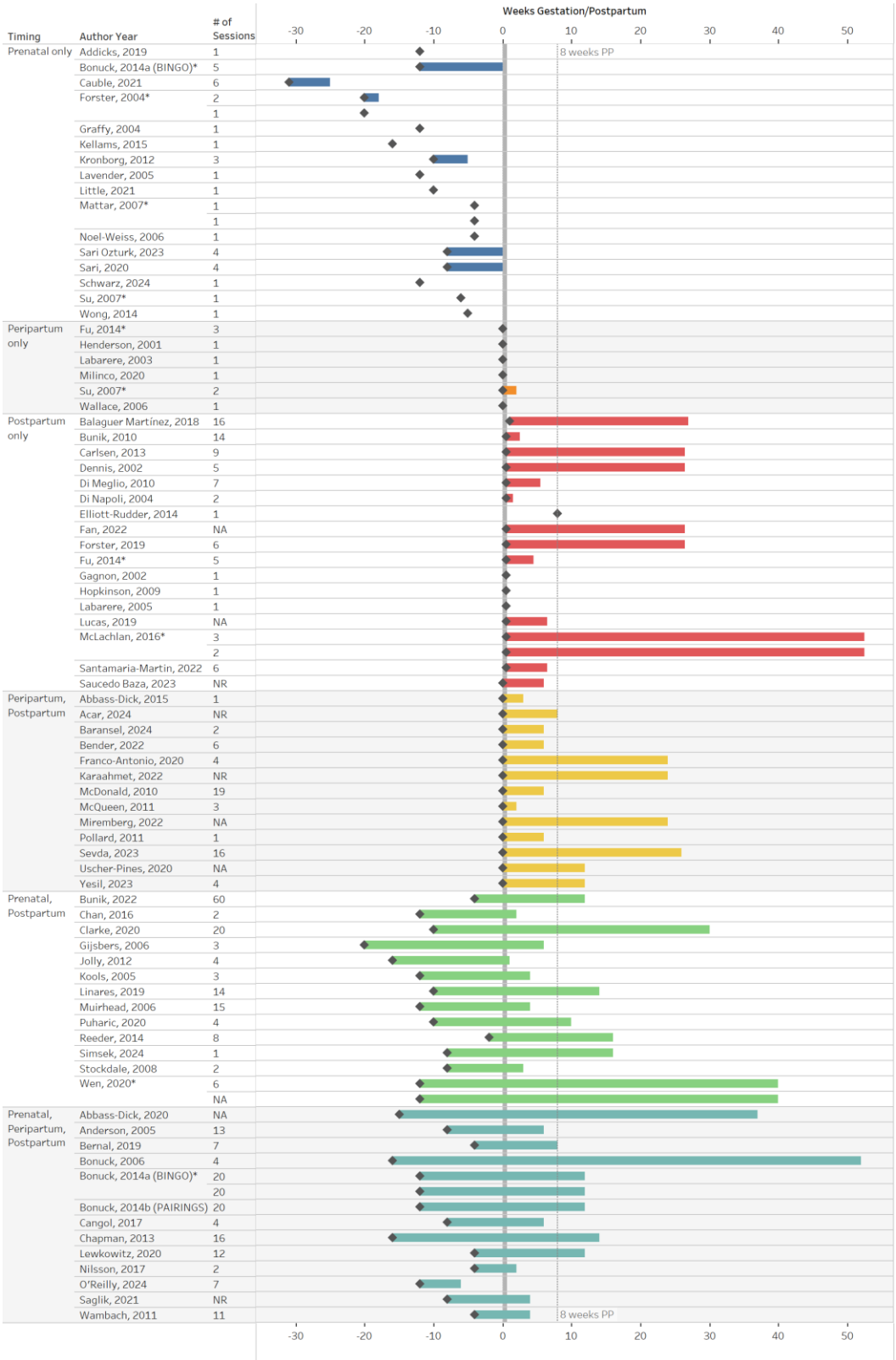
* For all Key Questions and Contextual Questions, "breastfeeding" refers to feeding at the breast or feeding expressed breast milk. "Breast milk" refers to human milk. When adequately delineated in source studies, precise language (feeding at the breast or feeding expressed breast milk) will be used when describing the evidence.

Figure 3. Definitions of Breastfeeding as Defined by WHO[24] and Labbok and Krasovec[27]



Abbreviations: WHO = World Health Organization

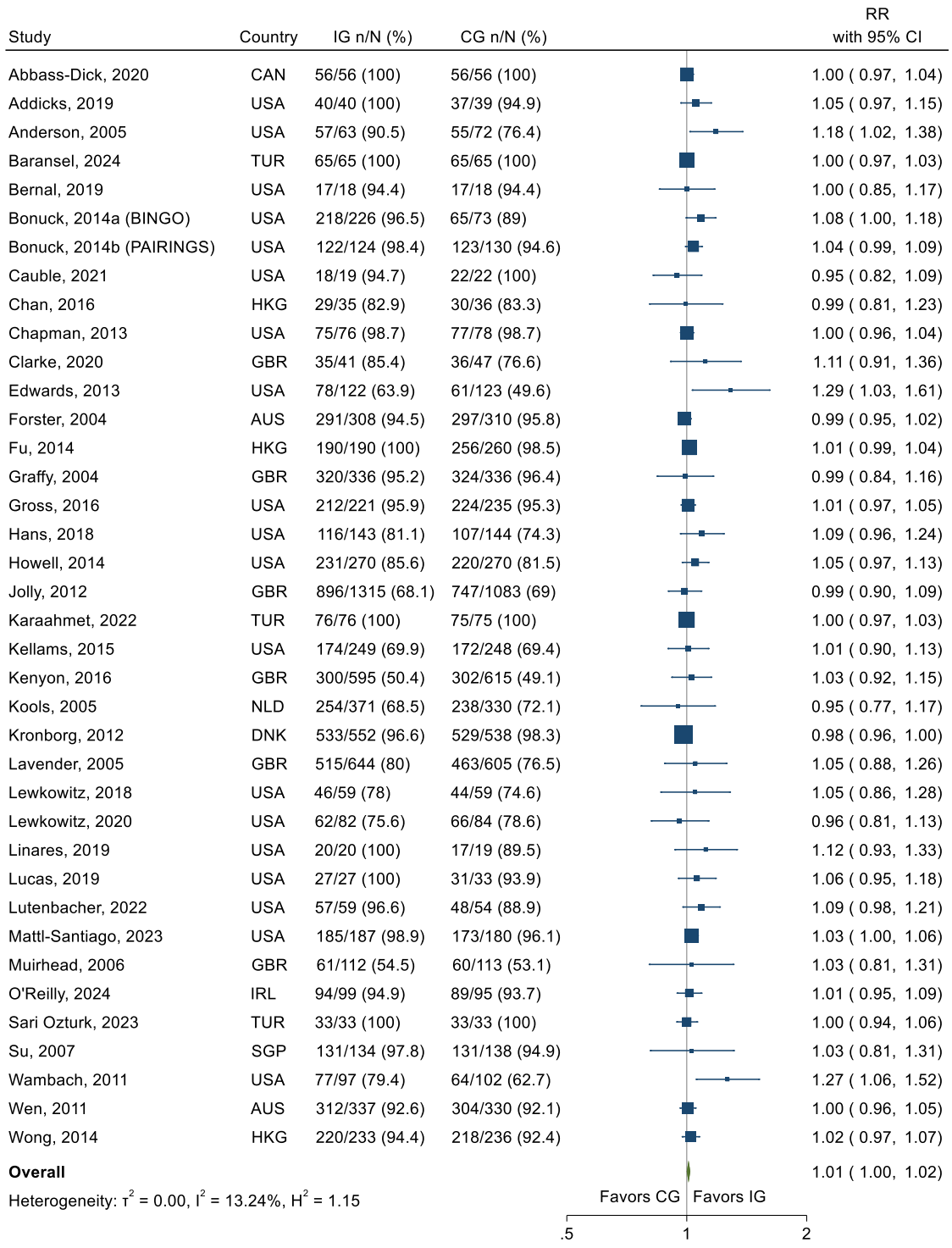
Figure 4. Intervention Dose, According to Timing of Intervention



Timing	Author Year	# of Sessions
Prenatal only	Addicks, 2019	1
	Bonuck, 2014a (BINGO)*	5
	Cauble, 2021	6
	Forster, 2004*	2
		1
	Graffy, 2004	1
	Kellams, 2015	1
	Kronborg, 2012	3
	Lavender, 2005	1
	Little, 2021	1
	Mattar, 2007*	1
		1
	Noel-Weiss, 2006	1
	Sari Ozturk, 2023	4
	Sari, 2020	4
	Schwarz, 2024	1
	Su, 2007*	1
	Wong, 2014	1
Peripartum only	Fu, 2014*	3
	Henderson, 2001	1
	Labarere, 2003	1
	Milinco, 2020	1
	Su, 2007*	2
	Wallace, 2006	1
Postpartum only	Balaguer Martínez, 2018	16
	Bunik, 2010	14
	Carlsen, 2013	9
	Dennis, 2002	5
	Di Meglio, 2010	7
	Di Napoli, 2004	2
	Elliott-Rudder, 2014	1
	Fan, 2022	NA
	Forster, 2019	6
	Fu, 2014*	5
	Gagnon, 2002	1
	Hopkinson, 2009	1
	Labarere, 2005	1
	Lucas, 2019	NA
	McLachlan, 2016*	3
		2
	Santamaria-Martin, 2022	6
	Saucedo Baza, 2023	NR
Peripartum, Postpartum	Abbass-Dick, 2015	1
	Acar, 2024	NR
	Baransel, 2024	2
	Bender, 2022	6
	Franco-Antonio, 2020	4
	Karaahmet, 2022	NR
	McDonald, 2010	19
	McQueen, 2011	3
	Miremberg, 2022	NA
	Pollard, 2011	1
	Sevda, 2023	16
	Uscher-Pines, 2020	NA
	Yesil, 2023	4
Prenatal, Postpartum	Bunik, 2022	60
	Chan, 2016	2
	Clarke, 2020	20
	Gijsbers, 2006	3
	Jolly, 2012	4
	Kools, 2005	3
	Linares, 2019	14
	Muirhead, 2006	15
	Puharic, 2020	4
	Reeder, 2014	8
	Simsek, 2024	1
	Stockdale, 2008	2
	Wen, 2020*	6
		NA
Prenatal, Peripartum, Postpartum	Abbass-Dick, 2020	NA
	Anderson, 2005	13
	Bernal, 2019	7
	Bonuck, 2006	4
	Bonuck, 2014a (BINGO)*	20
		20
	Bonuck, 2014b (PAIRINGS)	20
	Cangol, 2017	4
	Chapman, 2013	16
	Lewkowitz, 2020	12
	Nilsson, 2017	2
	O'Reilly, 2024	7
	Saglik, 2021	NR
	Wambach, 2011	11

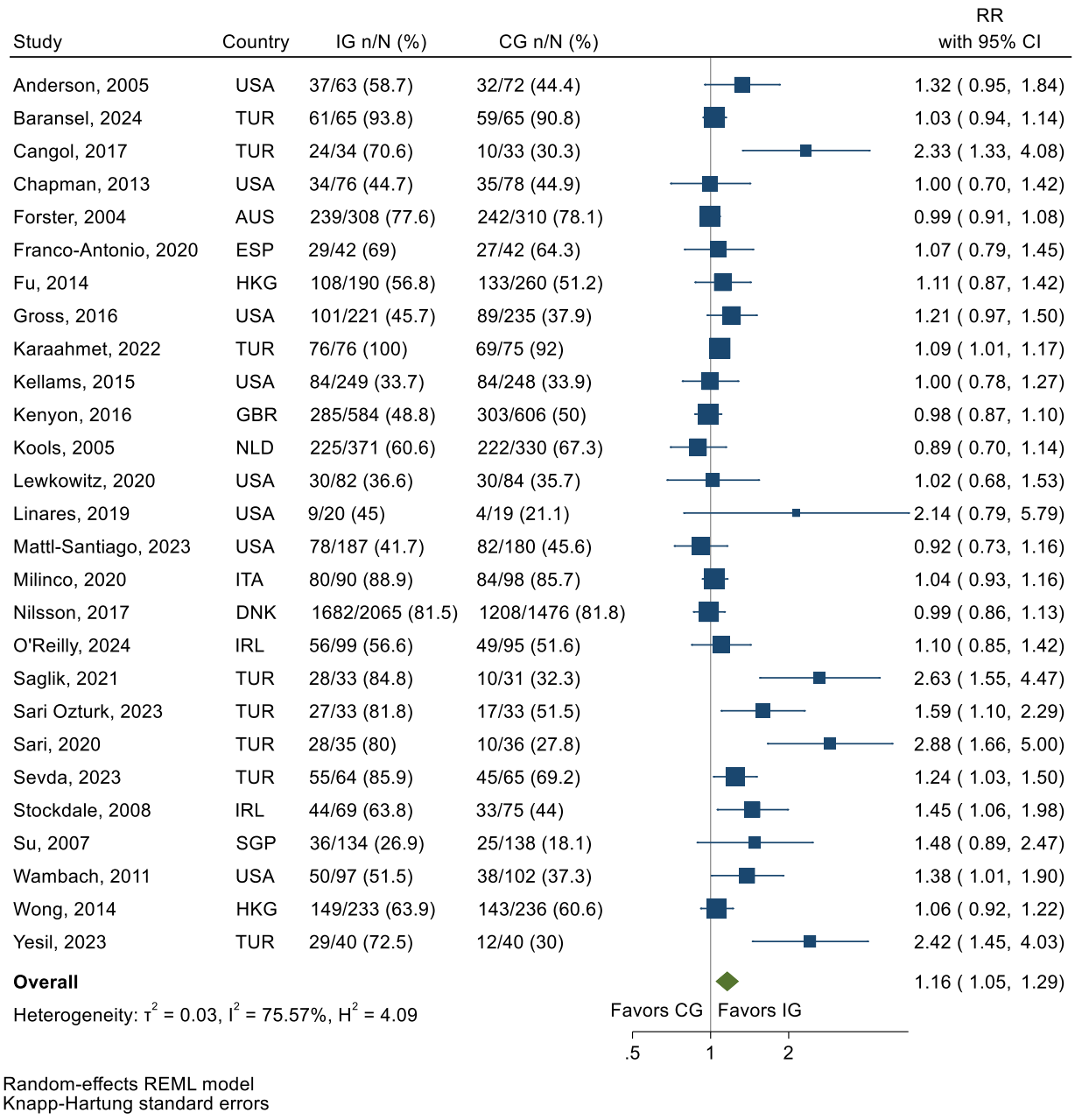
*Trial includes more than one active intervention group
Note: Color indicates timing, which is also denoted in the first column.

Figure 5. Any Breastfeeding Initiation Pooled Analysis



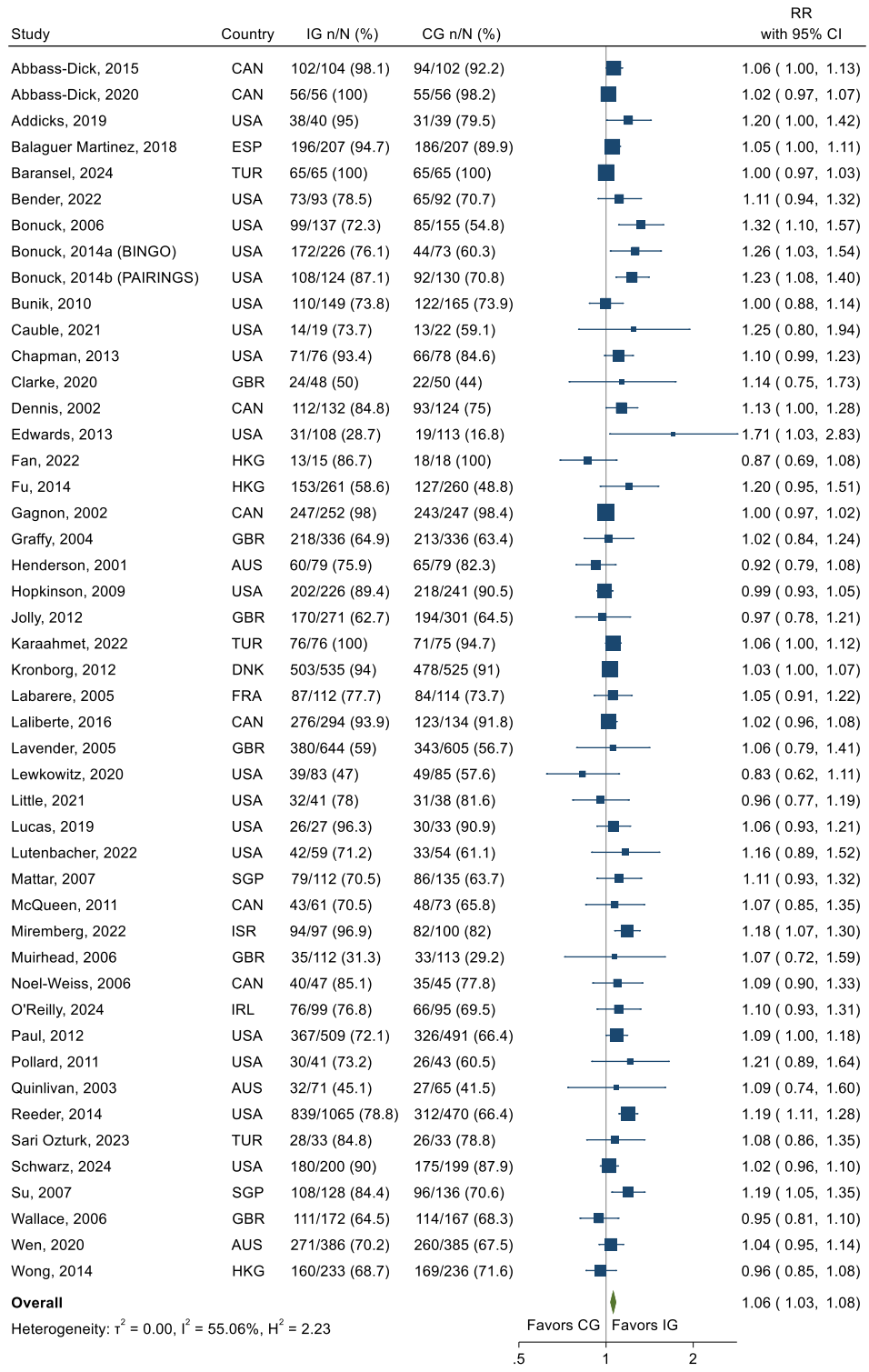
Abbreviations: AUS = Australia; CAN = Canada; CG = control group; CI = confidence interval; DNK = Denmark; GBR = Great Britain; HKG = Hong Kong; IG = intervention group; N = number (of participants); NLD = Netherlands; RR = risk ratio; SGP = Singapore; US = United States.

Figure 6. Exclusive Breastfeeding Initiation Pooled Analysis



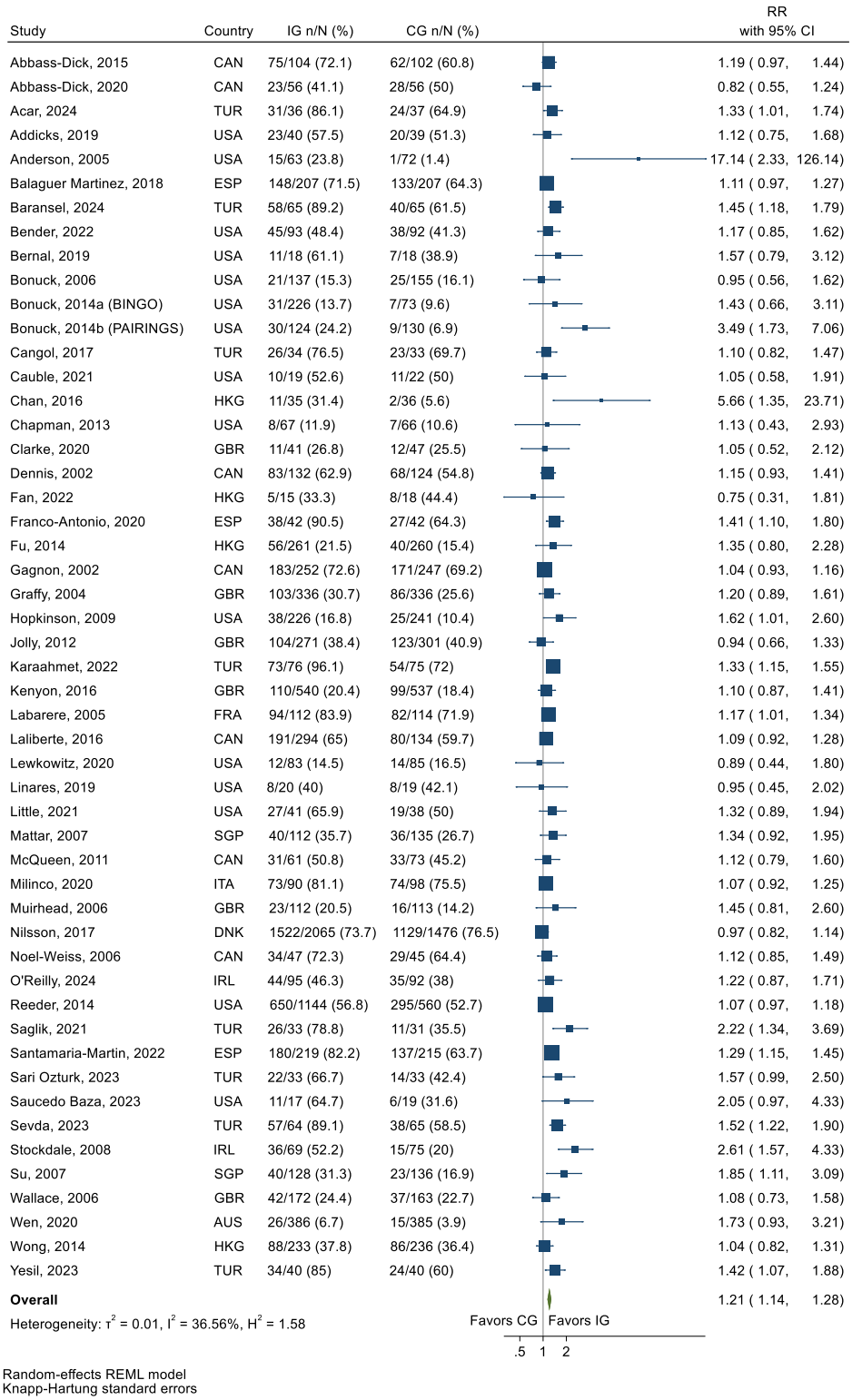
Abbreviations: AUS = Australia; CAN = Canada; CG = control group; CI = confidence interval; DNK = Denmark; ESP = Spain; FRA = France; GBR = Great Britain; HKG = Hong Kong; IG = intervention group; IRL = Ireland; ISR = Israel; ITA = Italy; N = number (of participants); NLD = Netherlands; RR = risk ratio; SGP = Singapore; TUR = Turkey; US = United States.

Figure 7. Any Breastfeeding at Less Than 3 Months Pooled Analysis



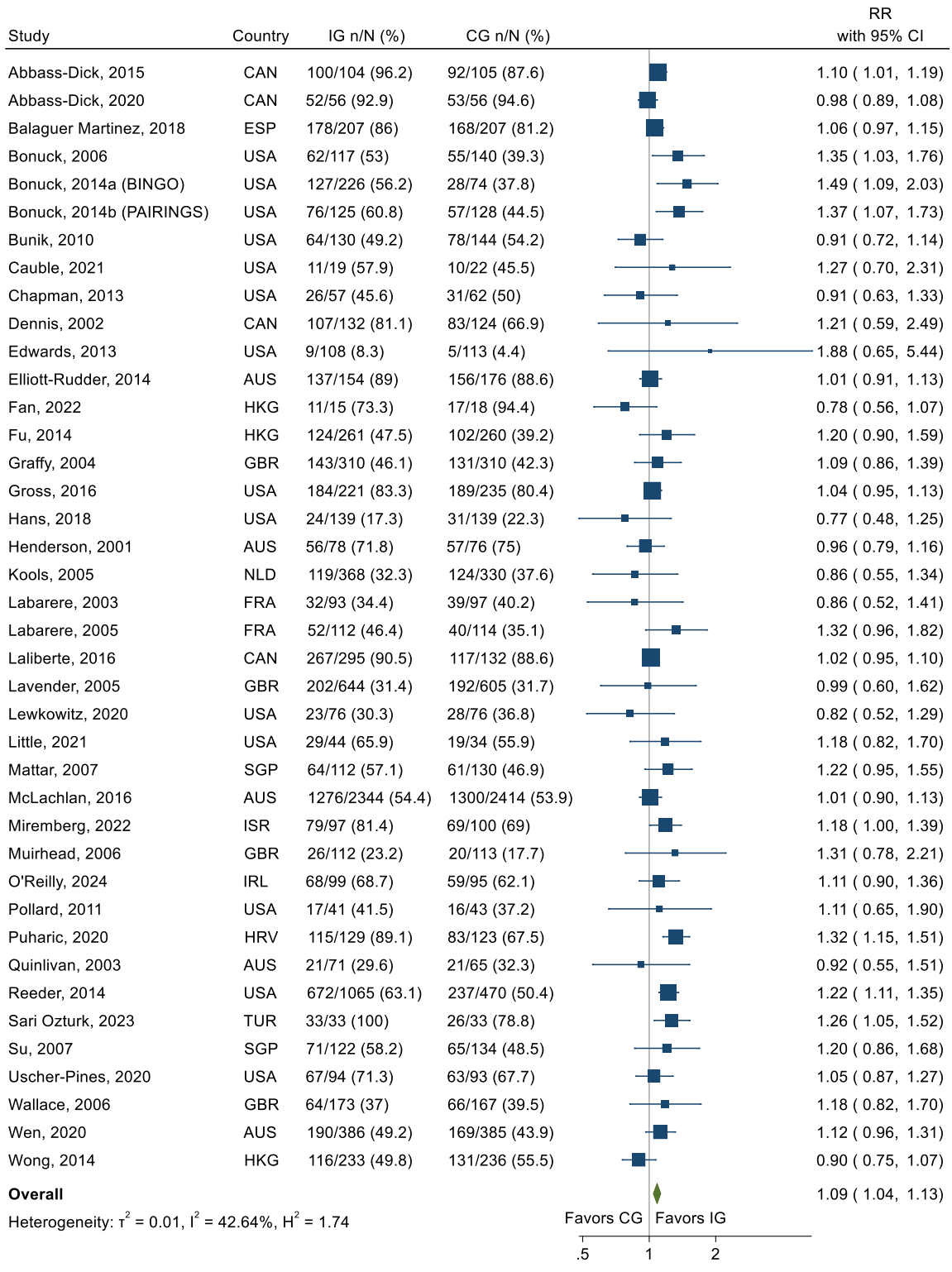
Abbreviations: AUS = Australia; CAN = Canada; CG = control group; CI = confidence interval; DNK = Denmark; FRA = France; GBR = Great Britain; HKG = Hong Kong; IG = intervention group; ISR = Israel; N = number (of participants); NLD = Netherlands; RR = risk ratio; SGP = Singapore; US = United States.

Figure 8. Exclusive Breastfeeding at Less Than 3 Months Pooled Analysis



Abbreviations: AUS = Australia; CAN = Canada; CG = control group; CI = confidence interval; DNK = Denmark; ESP = Spain; FRA = France; GBR = Great Britain; HKG = Hong Kong; IG = intervention group; IRL = Ireland; ISR = Israel; ITA = Italy; N = number (of participants); NLD = Netherlands; RR = risk ratio; SGP = Singapore; TUR = Turkey; US = United States.

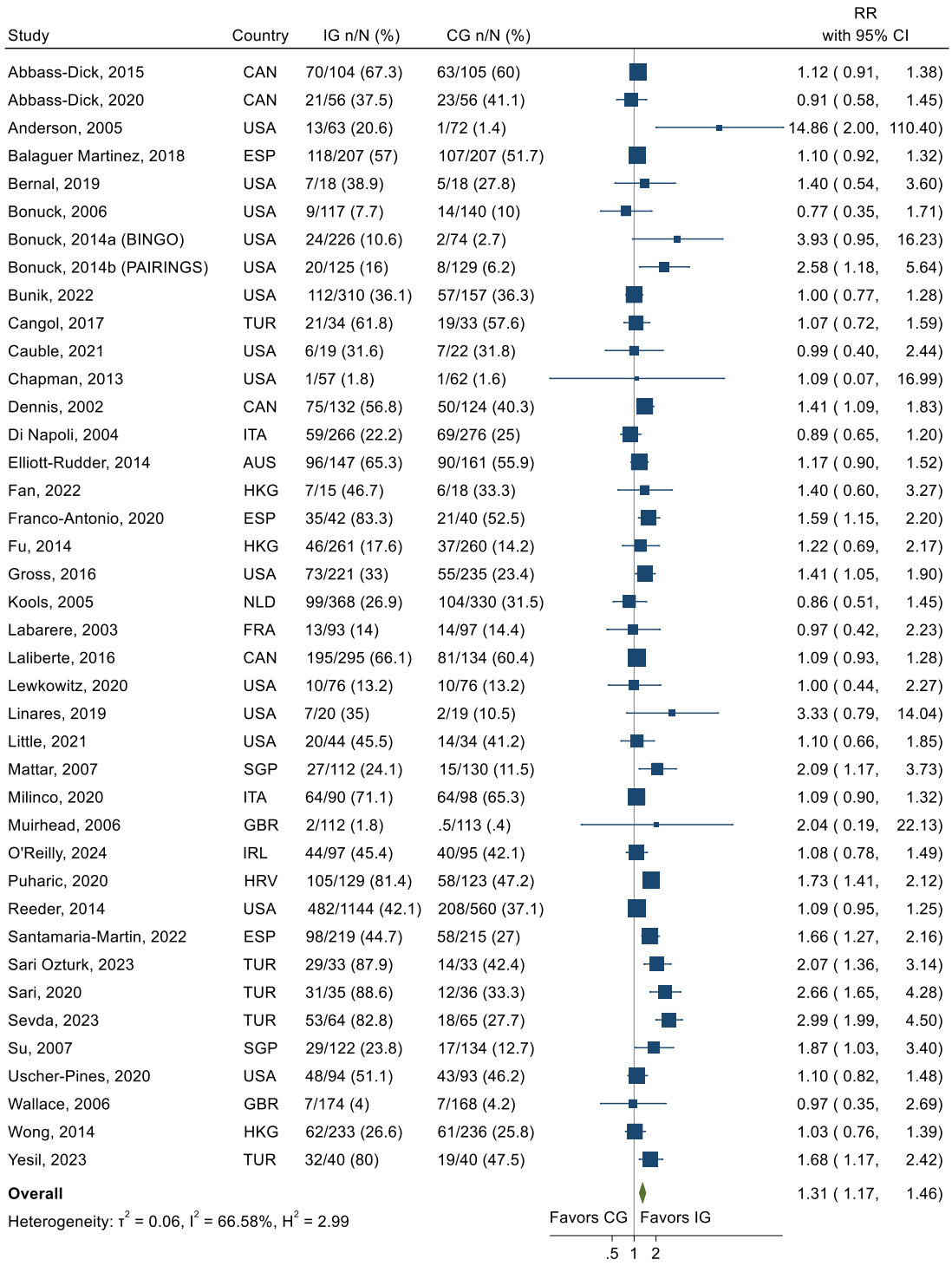
Figure 9. Any Breastfeeding at 3 to Less Than 6 Months Pooled Analysis



Random-effects REML model
Knapp-Hartung standard errors

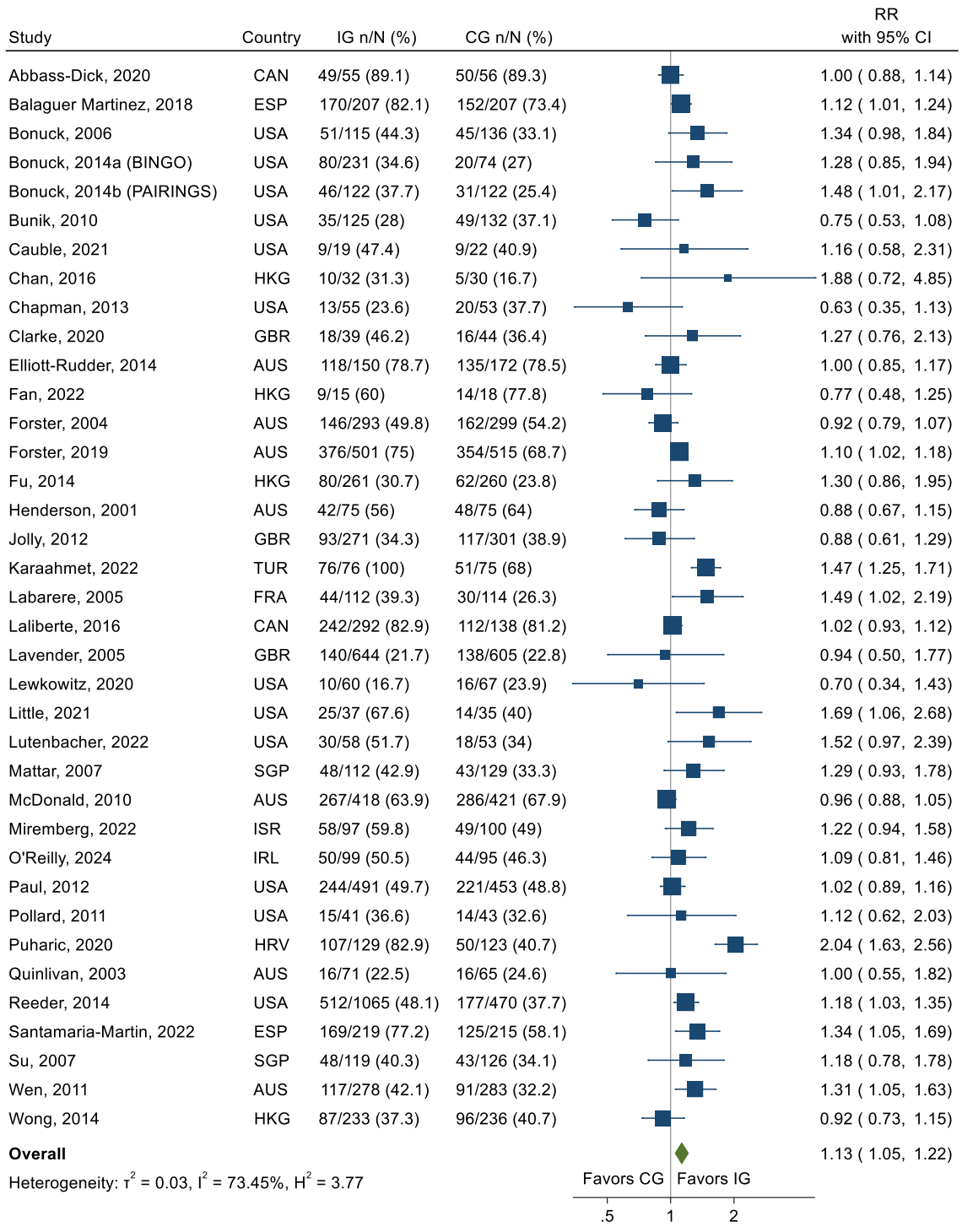
Abbreviations: AUS = Australia; CAN = Canada; CG = control group; CI = confidence interval; DNK = Denmark; FRA = France; GBR = Great Britain; HKG = Hong Kong; HRV = Croatia; IG = intervention group; ISR = Israel; N = number (of participants); NLD = Netherlands; RR = risk ratio; SGP = Singapore; US = United States.

Figure 10. Exclusive Breastfeeding at 3 to Less Than 6 Months Pooled Analysis



Abbreviations: AUS = Australia; CAN = Canada; CG = control group; CI = confidence interval; ESP = Spain; FRA = France; GBR = Great Britain; HKG = Hong Kong; IG = intervention group; IRL = Ireland; ISR = Israel; ITA = Italy; N = number (of participants); NLD = Netherlands; RR = risk ratio; SGP = Singapore; TUR = Turkey; US = United States.

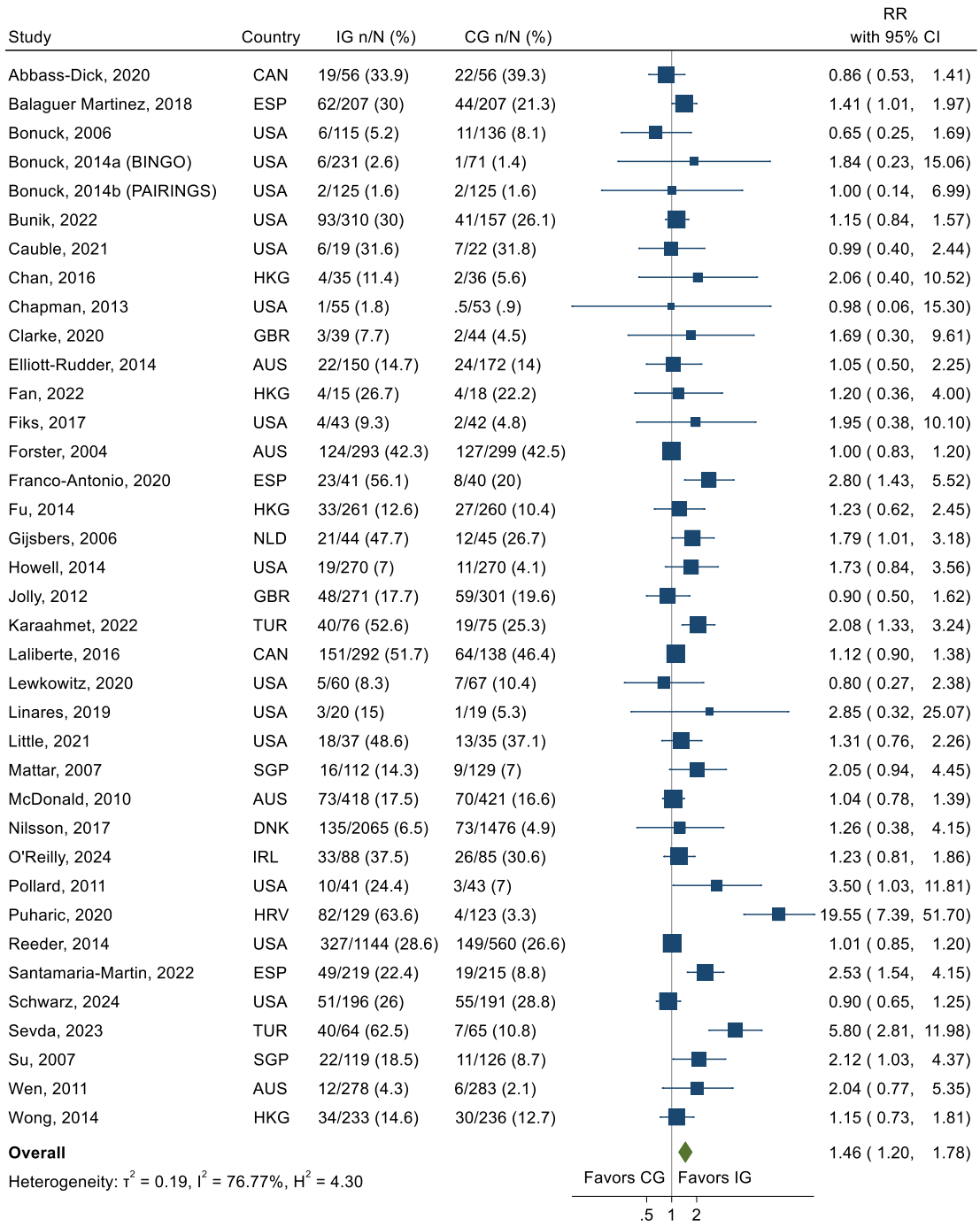
Figure 11. Any Breastfeeding at 6 Months Pooled Analysis



Random-effects REML model
Knapp-Hartung standard errors

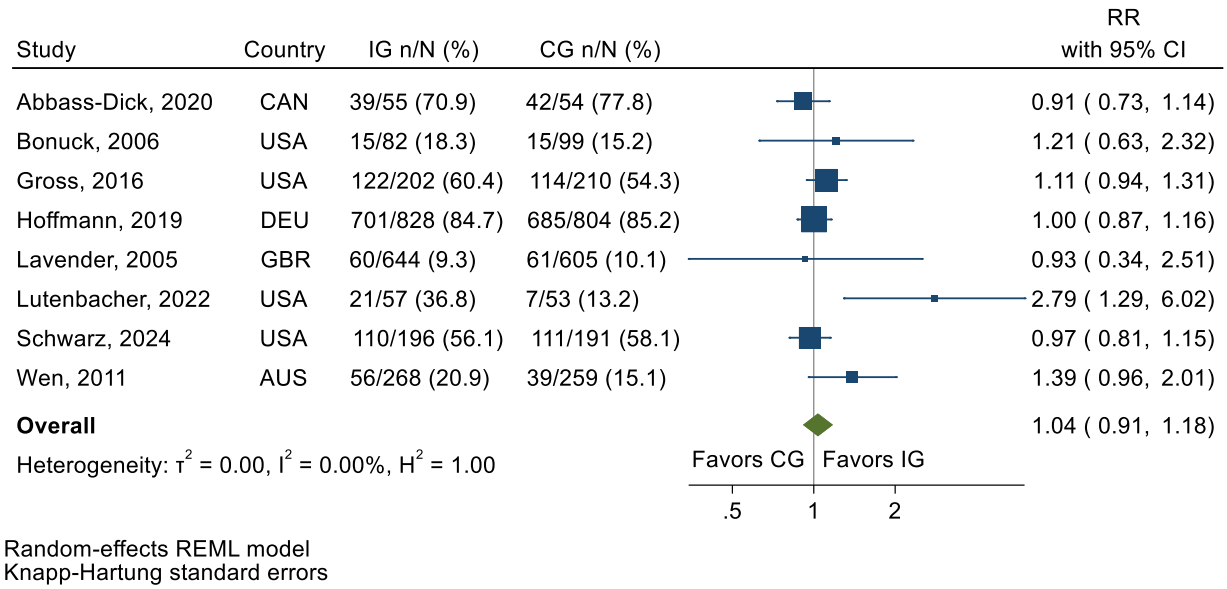
Abbreviations: AUS = Australia; CAN = Canada; CG = control group; CI = confidence interval; DNK = Denmark; ESP = Spain; FRA = France; GBR = Great Britain; HKG = Hong Kong; HRV = Croatia; IG = intervention group; ISR = Israel; N = number (of participants); RR = risk ratio; SGP = Singapore; US = United States.

Figure 12. Exclusive Breastfeeding at 6 Months Pooled Analysis



Abbreviations: AUS = Australia; CAN = Canada; CG = control group; CI = confidence interval; DNK = Denmark; ESP = Spain; FRA = France; GBR = Great Britain; HKG = Hong Kong; HRV = Croatia; IG = intervention group; IRL = Ireland; ISR = Israel; ITA = Italy; N = number (of participants); NLD = Netherlands; RR = risk ratio; SGP = Singapore; TUR = Turkey; US = United States.

Figure 13. Any Breastfeeding at 12 Months Pooled Analysis



Abbreviations: AUS = Australia; CAN = Canada; CG = control group; CI = confidence interval; DNK = Denmark; GBR = Great Britain; N = number (of participants); RR = risk ratio; US = United States.

Figure 14. Prevalence of Any Breastfeeding Over Time, U.S. Studies Only

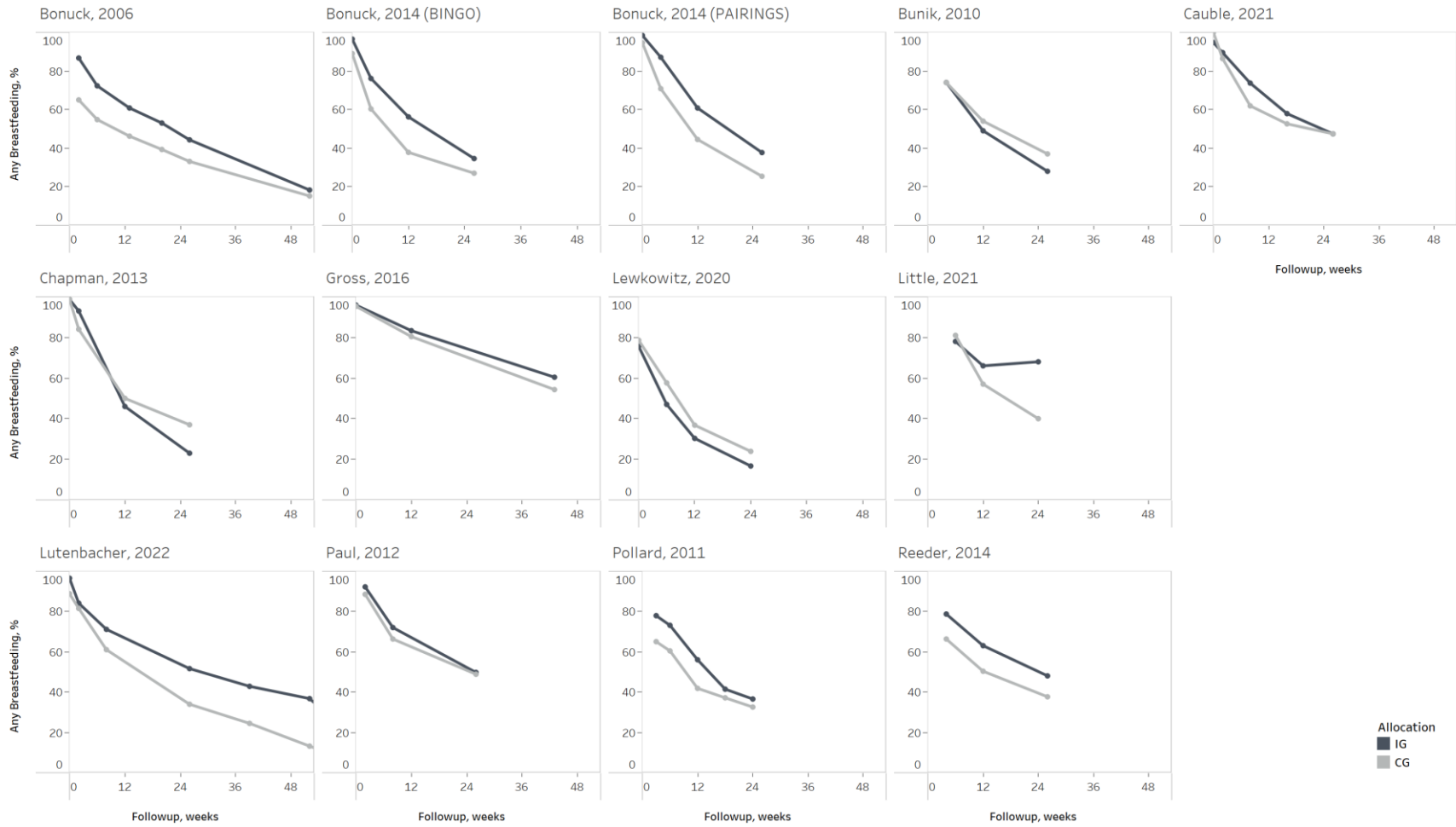


Figure 15. Prevalence of Exclusive Breastfeeding Over Time, U.S. Studies Only

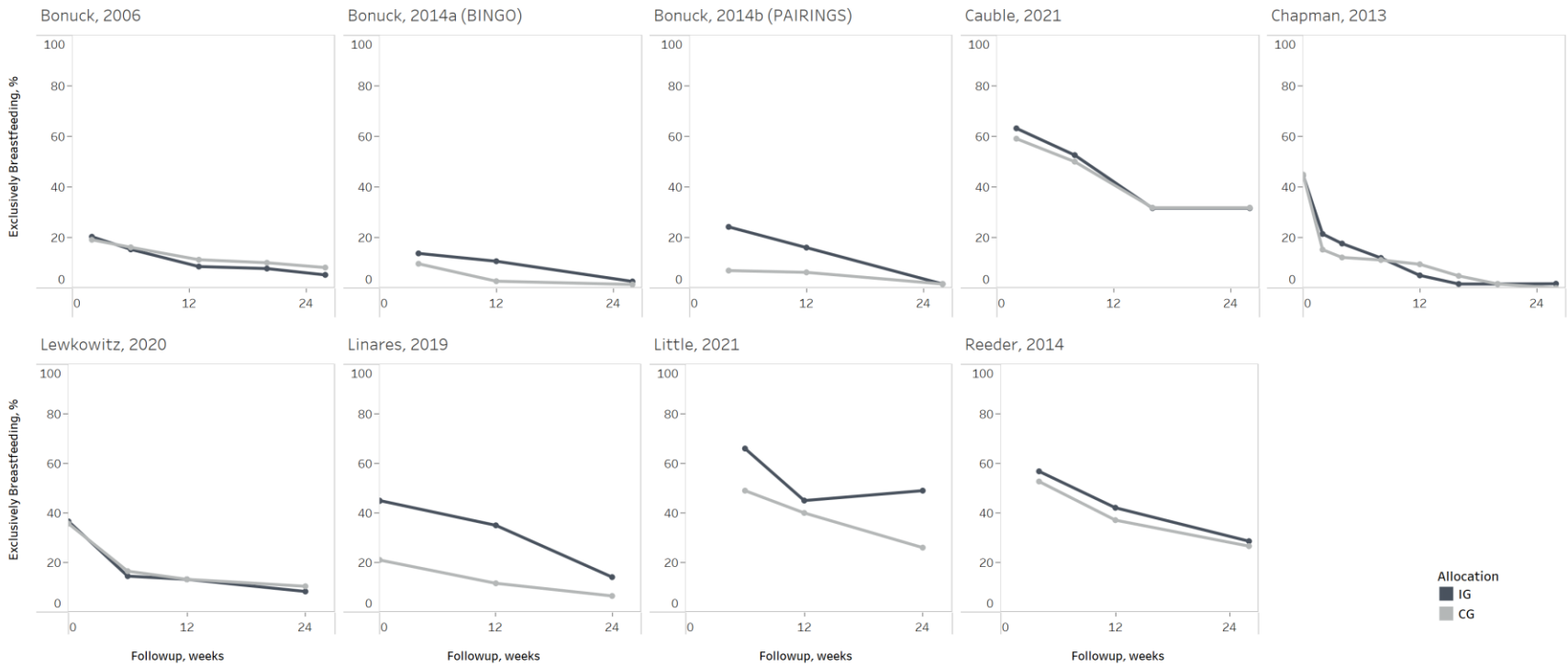


Table 1. Current Rate of Breastfeeding by Sociodemographic Characteristics, 2021[9]

Breastfeeding Outcome	Timing	US National	Maternal Age <20 years	Maternal Age 20-29 years	Maternal Age ≥30 years	White*	Black*	Hispanic	Asian*	Hawaiian/ Pacific Islander*	American Indian/ Alaska Native*	Multi-racial
Any BF† ‡	Ever§	84.1	NA	80.0	86.1	86.2	75.4	83.4	92.7	NA	NA	85.2
	At 6 months	59.8	NA	49.8	64.8	63.4	51.7	56.1	73.9	NA	NA	58.4
	At 1 year	39.5	NA	32.7	42.9	42.5	31.0	37.0	50.8	NA	NA	38.9
Exclusive BF‖	Through 3 months	46.5	NA	43.9	47.8	50.3	39.0	45.6	46.0	NA	NA	43.2
	Through 6 months	27.2	NA	25.2	28.7	29.2	24.4	25.9	30.2	NA	NA	23.2

Abbreviations: BF = breastfeeding; NA = not applicable, estimate not available because the 95% CI was mostly greater than 10 in these subgroups.

* Non-Hispanic
‡ Any breastfeeding or being fed breast milk
§ Ever breastfed or fed breast milk.
‖ Exclusive breastfeeding is defined as ONLY breast milk—NO solids, water, or other liquids.

Table 2. Association Between Breastfeeding and Health Outcomes From Recent Existing Systematic Reviews

Outcome	*k*	Finding
Infant		
Acute otitis media[32]	5	Ever vs. never BF associated with reduced risk of acute otitis media (OR, 0.67 [95% CI, 0.56 to 0.80])
Asthma[33]	9	Consistent evidence of an association between never versus ever being fed human milk and higher risk of asthma in children
Atopic dermatitis[33]	16	Inconclusive evidence from birth to 24 mo on never vs. ever being fed human milk and atopic dermatitis
Celiac disease[34]	4	Never versus ever being fed human milk is associated with higher risk of celiac disease
	9	Insufficient evidence for shorter vs. longer durations
CVD outcomes[35]	13	Limited evidence suggests that never versus ever being fed human milk is associated with higher blood pressure, within a normal range, at 6 to 7 years of age. Evidence about the relationship of never versus ever being fed human milk with blood lipids in childhood was inconclusive, and there was insufficient evidence to determine the relationship of never versus ever being fed human milk with endpoint cardiovascular disease outcomes, blood pressure and blood lipids in adolescence or adulthood, metabolic syndrome, and arterial stiffness
Childhood leukemia[36]	19	Never versus ever being fed human milk is associated with higher risk of childhood leukemia
	8	Limited, but consistent evidence suggests that shorter versus longer durations of any human milk feeding are associated with higher risk
Cognitive development[299]	17	Mean pooled effect was 3.44 points (95% CI, 2.30 to 4.58) for ever vs. never BF
Dental caries[300]	7	BF children had lower risk of dental caries than bottle fed children (OR, 0.43 [95% CI, 0.23-0.80])
Diabetes mellitus: type 1[37]	16	Never versus ever feeding (limited evidence) and shorter versus longer durations of any (moderate evidence) human milk feeing are associated with higher type 1 diabetes risk
Diabetes mellitus: type 2[38]	14	Ever vs. never BF associated with reduced risk of type 2 diabetes (OR, 0.67 [95% CI, 0.56 to 0.80])
Gastrointestinal infection[39]	2	Never vs. ever BF associated with reduced risk of diarrhea incidence among infants ages 6 – 11 months (RR, 1.32 [95% CI, 1.06 to 1.63])
Inflammatory bowel disease[34]	13	Inconclusive findings for never vs. ever human milk feeding and IBD
	9	Limited but consistent evidence suggests that shorter versus longer durations of any human milk feeding are associated with higher risk of IBD
Lower respiratory tract infection[40]	7	Four or more months of exclusive BF vs. no BF was associated with reduced risk of lower respiratory tract infection (RR, 0.28 [95% CI, 0.14 to 0.54]).
Overweight[42]	42	Moderate evidence suggested that ever, compared with never, consuming human milk is associated with a lower risk of overweight and obesity at ages 2 y and older, particularly if the duration of human milk consumption is >6 mo. Insufficient evidence between the duration of any human milk consumption, among infants fed human milk, and overweight and/or obesity at age 2 y and older.
SIDS[43]	20	Pooled OR not reported. Breastfeeding was reported to have a protective effect on SIDS in 10 of 17 observational studies as well as 3 of 3 meta-analyses included in the review.
All-cause mortality[44]	2	None vs. partial BF (infants 0 – 5 mo) associated with reduced risk of all-cause infant mortality (RR, 3.89 95% CI, 2.28 to 6.65])
	4	None vs. partial BF (infants 6 – 11 mo) associated with reduced risk of all-cause infant mortality (RR, 1.76 95% CI, 1.87 to 2.41])
	6	None vs. partial BF (children 12 – 23 mo) associated with reduced risk of all-cause infant mortality (RR, 1.97 95% CI, 1.45 to 2.67])
Maternal		
Breast cancer[45, 46]	98	Ever vs. never BF associated with lower risk of breast cancer (OR, 0.78 [95% CI, 0.74 to 0.82])
	50	Lifetime BF ≥12 mo vs. never associated with lower risk of breast cancer (OR, 0.74 [95% CI, 0.69 to 0.79])
Ovarian cancer[45, 46]	41	Ever vs. never BF associated with lower risk of ovarian cancer (OR, 0.70 [95% CI, 0.64 to 0.77])

Table 2. Association Between Breastfeeding and Health Outcomes From Recent Existing Systematic Reviews

Outcome	*k*	Finding
	29	Lifetime BF ≥12 mo vs. never associated with lower risk of ovarian cancer (OR, 0.63 [95% CI, 0.56 to 0.71])
Hypertension[46]	5	Consistent association between longer duration of BF (>6-12 mo) and lower rates of HTN; magnitude of association varies by BF exposure comparisons and study design
CVD[46]	3	Unclear association between BF and CVD; three studies conclude an association between longer BF duration and lower CVD rates, each using a different composite outcome; magnitude of association varies by exposure comparisons, age at cohort enrolment, and study design
Diabetes mellitus: type 2[46, 47]	6	"Longer" vs. "shorter" duration of lifetime BF associated with reduced risk of type 2 diabetes (OR, 0.68 [95% CI, 0.57 to 0.82])
Postpartum depression[46, 48]	62	Magnitude of association and direction of effect unclear
Postpartum weight change[46]	16	Magnitude of postpartum weight change varies by BF exposure and outcome measure

Abbreviations: BF = breastfeeding; CI = confidence interval; CVD = cardiovascular disease; HTN = hypertension; IBD = inflammatory bowel disease; k = number of studies; mo = month; OR = odds ratio; RR = risk ratio; SIDS = sudden infant death syndrome; y = years.

Table 3. WHO/UNICEF BFHI Ten Steps to Successful Breastfeeding[54]

Critical management procedures **1a.** Comply fully with the International Code of Marketing of Breast-milk Substitutes and relevant World Health Assembly resolutions. **1b.** Have a written infant feeding policy that is routinely communicated to staff and parents. **1c.** Establish ongoing monitoring and data-management systems. **2.** Ensure that staff have sufficient knowledge, competence, and skills to support breastfeeding.
Key clinical practices **3.** Discuss the importance and management of breastfeeding with pregnant women and their families. **4.** Facilitate immediate and uninterrupted skin-to-skin contact and support mothers to initiate breastfeeding as soon as possible after birth. **5.** Support mothers to initiate and maintain breastfeeding and manage common difficulties. **6.** Do not provide breastfed newborns with any food or fluids other than breast milk, unless medically indicated. **7.** Enable mothers and their infants to remain together and to practice rooming-in 24 hours a day. **8.** Support mothers to recognize and respond to their infants' cues for feeding. **9.** Counsel mothers on the use and risks of feeding bottles, artificial nipples (teats) and pacifiers. **10.** Coordinate discharge so that parents and their infants have timely access to ongoing support and care.

Table 4. Study Characteristics, by Author

Author, Year, Quality	PR	KQs	Country	N Rand	General Population Description	Race and Ethnicity, %	Mean Age (range), years	Stage of Pregnancy*	Primi %	Previously BF, %	Intending to BF, %
Abbass-Dick, 2015[114] Good	X	KQ2	Canada	214	General (sociodemographics sparsely reported)	NR	31 (18+)	Delivery	100	0	100
Abbass-Dick, 2020[115] Good		KQ2, KQ3	Canada	113	General (sociodemographics sparsely reported)	NR	NR (18+)	Prenatal	NR	0	100
Acar, 2024[116] Fair		KQ2, KQ3	Turkey	80	General (sociodemographics sparsely reported)	NR	28 (18+)	Prenatal	100	0	100
Addicks, 2019[117] Fair		KQ2	US	81	Predominately White women, mixed SES	White: 89 Black: 4 Asian: 1 AI/AN: NR Hispanic: 4 Other: 1 Multiracial: 1 Hispanic Ethnicity: 9	28 (18+)	Prenatal	69	26	90
Anderson, 2005[118] Fair	X	KQ1, KQ2	US	182	Low-income, predominately urban Hispanic or Latina women	White: 7 Black: 18 Asian: NR AI/AN: NR Hispanic: 72 Other: 3	NR (18+)	Prenatal	52	40	100
Balaguer Martínez, 2018[119] Fair		KQ2	Spain	414	Latina women, mixed SES	NR	32 (18+)	Postpartum	48	47	NR
Baransel, 2024[120] Fair		KQ2, KQ3	Turkey	142	General (sociodemographics sparsely reported)	NR	28 (18+)	Delivery	100	0	NR
Bender, 2022[121] Good		KQ1, KQ2	US	216	Predominately Black or White women (SES NR)	White: 31 Black: 53 Asian: 8 AI/AN: NR Hispanic: 13	32 (18+)	Prenatal	NR	NR	94

Table 4. Study Characteristics, by Author

Author, Year, Quality	PR	KQs	Country	N Rand	General Population Description	Race and Ethnicity, %	Mean Age (range), years	Stage of Pregnancy*	Primi %	Previously BF, %	Intending to BF, %
						Other: 3					
Bernal, 2019[122] Fair		KQ2	US	40	WIC-eligible, low-income Hispanic or Latina women	Hispanic: 100	NR (NR)	Prenatal	47	100	NR
Bonuck, 2006[125] Fair MILK (Moms Into Learning about Kids)	X	KQ1, KQ2	US	382	Predominately urban Hispanic or Latina or Black low-income women	White: NR Black: 36 Asian: NR AI/AN: NR Hispanic: 57 Other: 7	25 (NR)	Prenatal	40	42	77
Bonuck, 2014a[123] Good BINGO (Best Infant Nutrition for Good Outcomes)	X	KQ2	US	666	Predominately urban Hispanic or Latina or Black low-income women	White: 5 Black: 29 Asian: 2 AI/AN: NR Hispanic: 57 Other: 8	28 (18+)	Prenatal	39	45	88
Bonuck, 2014b[124] Good Pairings (Provider Approaches to Improved Rates of Infant Nutrition and Growth Study)	X	KQ2	US	275	Predominately Hispanic or Latina or Black women	White: 5 Black: 28 Asian: 3 AI/AN: NR Hispanic: 56 Other: 8	28 (18+)	Prenatal	44	49	94
Bunik, 2010[127] Fair	X	KQ1, KQ2, KQ3	US	341	Predominately Hispanic or Latina low-income women	White: 4 Black: 6 Asian: NR AI/AN: NR Hispanic: 88 Other: 2	22† (18+)	Delivery	100	0	100
Bunik, 2022[126] Fair		KQ2	US	469	Predominately White women with higher education	White: 77 Black: 6 Asian: NR AI/AN: NR Hispanic: 17 Other: 17	28 (18+)	Prenatal	100	0	0

Table 4. Study Characteristics, by Author

Author, Year, Quality	PR	KQs	Country	N Rand	General Population Description	Race and Ethnicity, %	Mean Age (range), years	Stage of Pregnancy*	Primi %	Previously BF, %	Intending to BF, %
Cangol, 2017[128] Fair		KQ2, KQ3	Turkey	100	General (sociodemographics sparsely reported)	NR	22 (NR)	Prenatal	100	0	85
Carlsen, 2013[129] Fair	X	KQ2	Denmark	226	Obese women (sociodemographics sparsely reported)	NR	32 (NR)	Delivery	60	NR	100
Cauble, 2021[130] Good		KQ2	US	45	Predominately White women, mixed SES	White: 95 Black: NR Asian: NR AI/AN: NR Hispanic: NR Other: NR	26 (18 to 35)	Prenatal	71	NR	NR
Chan, 2016[131] Good		KQ2	Hong Kong	71	Chinese women, predominately higher education	Asian: 100	32 (NR)	Prenatal	100	0	100
Chapman, 2013[132] Fair	X	KQ1, KQ2	US	206	Overweight/obese, low-income, predominately Hispanic or Latina women	White: 5 Black: 10 Asian: NR AI/AN: NR Hispanic: 82 Other: 3	24† (18+)	Prenatal	NR	NR	100
Clarke, 2020[133] Fair ABA (Assets-Based feeding help Before and After birth)		KQ1, KQ2, KQ3	Great Britain	103	Predominately White women from socioeconomically disadvantaged neighborhoods	White: 92 Black: 2 Asian: 1 AI/AN: NR Hispanic: NR Other: 1	29 (16 to 43)	Prenatal	0	0	85
Dennis, 2002[134] Fair	X	KQ2, KQ3	Canada	258	General (sociodemographics sparsely reported)	NR	NR (16+)	Delivery	100	0	100
Di Meglio, 2010[135] Fair	X	KQ2	US	78	Younger (<21 years), predominately Black or White low-income women	White: 47 Black: 50 Asian: NR AI/AN: NR Hispanic: 13 Other: 3	18 (<20)	Delivery	87	9	71

Table 4. Study Characteristics, by Author

Author, Year, Quality	PR	KQs	Country	N Rand	General Population Description	Race and Ethnicity, %	Mean Age (range), years	Stage of Pregnancy*	Primi %	Previously BF, %	Intending to BF, %
Di Napoli, 2004[136] Fair	X	KQ2	Italy	605	General (sociodemographics sparsely reported)	NR	31 (18 to 47)	Delivery	44	37	100
Edwards, 2013[137] Fair	X	KQ2	US	248	Younger (<21 years) Black women, predominately lower income	White: 0 Black: 100 Asian: 0 AI/AN: 0 Hispanic: NR Other: NR	18 (<21)	Prenatal	89	NR	62
Elliott-Rudder, 2014[138] Good	X	KQ2	Australia	330	Women breastfeeding for at least 8 weeks	NR	NR (NR)	Postpartum	36	44	NR
Fan, 2022[139] Fair		KQ2	Hong Kong	33	Chinese women, predominately higher education	NR	33 (NR)	Prenatal	100	0	100
Fiks, 2017[140] Fair The Grow2Gether Intervention study		KQ2	US	87	Overweight/obese, low-income, predominately Black women	White: 6 Black: 88 Asian: NR AI/AN: NR Hispanic: 2 Other: 7	26 (18+)	Prenatal	17	NR	NR
Forster, 2004[141] Fair	X	KQ2	Australia	984	Low-income, culturally diverse women (sparse demographic data)	NR	28 (NR)	Prenatal	100	0	93
Forster, 2019[142] Good RUBY (Ringing up About Breastfeeding)		KQ2, KQ3	Australia	1,157	General (sociodemographics sparsely reported)	NR	31 (NR)	Delivery	100	0	100
Franco-Antonio, 2020[143] Good		KQ1, KQ2	Spain	88	General (sociodemographics sparsely reported)	NR	33 (NR)	Delivery	34	60	NR
Fu, 2014[144] Fair	X	KQ2	Hong Kong	724	Chinese women, predominately higher education	Asian: 100	31 (18+)	Delivery	100	0	100

Table 4. Study Characteristics, by Author

Author, Year, Quality	PR	KQs	Country	N Rand	General Population Description	Race and Ethnicity, %	Mean Age (range), years	Stage of Pregnancy*	Primi %	Previously BF, %	Intending to BF, %
Gagnon, 2002[145] Fair	X	KQ1, KQ2, KQ3	Canada	586	General (sociodemographics sparsely reported)	NR	30 (NR)	Delivery	33	NR	89
Gijsbers, 2006[146] Fair	X	KQ2	Netherla-nds	91	Women with a family history of asthma	NR	31 (NR)	Prenatal	42	54	87
Graffy, 2004[147] Fair	X	KQ2, KQ3	Great Britain	720	Predominately White women, mixed SES	White: 70 Black: 16 Asian: 8 AI/AN: NR Hispanic: NR Other: 7	NR (NR)	Prenatal	75	NR	97
Gross, 2016[148] Fair StEP (The Starting Early Program)		KQ2, KQ3	US	533	Hispanic or Latina women, predominately low-income	Hispanic: 100	28 (18+)	Prenatal	37	NR	NR
Hans, 2018[149] Fair		KQ1, KQ2	US	312	Predominately Hispanic or Latina or Black low-income women meeting criteria for high social risk	White: 8 Black: 45 Asian: NR AI/AN: NR Hispanic: 38 Other: NR	18 (<26)	Prenatal	98	NR	NR
Henderson, 2001[150] Good	X	KQ2, KQ3	Australia	160	General (sociodemographics sparsely reported)	NR	27 (NR)	Delivery	100	0	100
Hoffmann, 2019[151] Fair Healthy living in pregnancy (GeliS [Gesund leben in der Schwangerschaft]) trial		KQ1, KQ2	Germany	2,261	General (sociodemographics sparsely reported)	NR	30 (18 to 43)	Prenatal	58	NR	NR

Table 4. Study Characteristics, by Author

Author, Year, Quality	PR	KQs	Country	N Rand	General Population Description	Race and Ethnicity, %	Mean Age (range), years	Stage of Pregnancy*	Primi %	Previously BF, %	Intending to BF, %
Hopkinson, 2009[152] Good	X	KQ1, KQ2, KQ3	US	522	Predominately Hispanic or Latina women	White: NR Black: NR Asian: NR AI/AN: NR Hispanic: 98 Other: NR	27 (NR)	Delivery	NR	NR	NR
Howell, 2014[153] Fair	X	KQ2	US	540	Predominately Hispanic or Latina or black low-income women	White: 0 Black: 38 Asian: 0 AI/AN: 0 Hispanic: 62 Other: 0	28 (18 to 46)	Delivery	41	NR	NR
Jolly, 2012[154] Fair	X	KQ2, KQ3	Great Britain	2,724	Predominately of Asian or Middle Eastern origin living in deprived, urban areas	White: 9 Black: 15 Asian: 65 AI/AN: NR Hispanic: NR Other: 11	NR (NR)	Prenatal	34	46	81
Karaahmet, 2022[155] Fair		KQ2	Turkey	158	General (sociodemographics sparsely reported)	NR	26 (18 to 35)	Delivery	100	0	NR
Kellams, 2015[156] Good	X	KQ2	US	522	Low-income, predominately Black or White women	White: 42 Black: 45 Asian: NR AI/AN: NR Hispanic: 8 Other: 5	25 (NR)	Prenatal	NR	NR	67
Kenyon, 2016[157] Fair		KQ1, KQ2	Great Britain	1,324	Women reporting social risk factors, predominately British or Asian ethnicity	White: NR Black: NR Asian: NR AI/AN: NR Hispanic: NR Other: 7	22† (16+)	Prenatal	NR	NR	NR
Kools, 2005[158] Fair	X	KQ2	Netherla-nds	781	General (sociodemographics sparsely reported)	NR	31 (19 to 43)	Prenatal	56	29	68

Table 4. Study Characteristics, by Author

Author, Year, Quality	PR	KQs	Country	N Rand	General Population Description	Race and Ethnicity, %	Mean Age (range), years	Stage of Pregnancy*	Primi %	Previously BF, %	Intending to BF, %
Kronborg, 2012[159] Fair	X	KQ2, KQ3	Denmark	1,193	General (sociodemographics sparsely reported)	NR	29 (18+)	Prenatal	100	0	NR
Labarere, 2003[160] Good	X	KQ2, KQ3	France	210	General (sociodemographics sparsely reported)	NR	31 (18+)	Delivery	53	NR	NR
Labarere, 2005[161] Good	X	KQ2, KQ3	France	231	General (sociodemographics sparsely reported)	NR	30 (NR)	Delivery	52	NR	NR
Laliberté, 2016[162] Fair		KQ1, KQ2	Canada	472	General, predominately higher education	NR	NR	Delivery	62	NR	100
Lavender, 2005[163] Fair	X	KQ2	Great Britain	1,312	Predominately White women, lower income	White: 92 Black: NR Asian: NR AI/AN: NR Hispanic: NR Other: NR	30 (NR)	Prenatal	51	NR	100
Lewkowitz, 2018[165] Fair		KQ2	US	118	Overweight/obese, Black low-income women	Black: 100	NR (18 to 45)	Prenatal	NR	NR	NR
Lewkowitz, 2020[164] Good BFF (Breastfeeding Friend)		KQ2	US	170	Predominately Black, low-income women	White: 11 Black: 82 Asian: 1, AI/AN: NR Hispanic: 2 Other: 4	22 (NR)	Prenatal	100	0	54
Linares, 2019[166] Fair Las Dos Casas (breastfeeding supplemented with formula)		KQ2	US	39	Immigrant Hispanic or Latina women, predominately low-income	Hispanic: 100	25 (NR)	Prenatal	NR	NR	100
Little, 2021[167] Fair		KQ2, KQ3	US	100	Predominately Hispanic or Latina low-income women	White: NR Black: NR Asian: NR AI/AN: NR Hispanic: 95	26 (18+)	Prenatal	29	64	NR

Table 4. Study Characteristics, by Author

Author, Year, Quality	PR	KQs	Country	N Rand	General Population Description	Race and Ethnicity, %	Mean Age (range), years	Stage of Pregnancy*	Primi %	Previously BF, %	Intending to BF, %
						Other: NR					
Lucas, 2019[168] Fair		KQ2, KQ3	US	65	Predominately White women, mixed SES	White: 77 Black: 11 Asian: 5, AI/AN: NR Hispanic: 13 Other: NR	30 (18 to 45)	Delivery	41	54	100
Lutenbacher, 2022[169] Good		KQ1, KQ2, KQ3	US	132	Hispanic or Latina women, predominately low-income	Hispanic: 100	30 (18+)	Prenatal	4	68	NR
Mattar, 2007[170] Fair	X	KQ2	Singapor-e	401	Predominately Southeast Asian women with lower income	White: NR Black: NR Asian: 98 AI/AN: NR Hispanic: NR Other: 2	NR (NR)	Prenatal	37	64	95
McDonald, 2010[171] Good	X	KQ2, KQ3	Australia	849	General (sociodemographics sparsely reported)	NR	NR (NR)	Delivery	50	NR	100
McLachlan, 2016[172] Fair SILC (Supporting breastfeeding In Local Communities)		KQ2	Australia	9,675	Women who initiated breastfeeding after delivery	NR	31 (NR)	Postpartum	41	NR	NR
McQueen, 2011[173] Good	X	KQ2	Canada	150	Predominately White women (14% Aboriginal) with higher education	White: 81 Black: NR Asian: NR AI/AN: NR Hispanic: NR Other: 5	NR (NR)	Delivery	100	0	100
Milinco, 2020[174] Fair		KQ2, KQ3	Italy	208	General (sociodemographics sparsely reported)	NR	NR (NR)	Prenatal	60	91	100
Miremberg, 2022[175] Fair		KQ2	Israel	224	General (sociodemographics sparsely reported)	NR	32 (18 to 45)	Delivery	29	64	100

Table 4. Study Characteristics, by Author

Author, Year, Quality	PR	KQs	Country	N Rand	General Population Description	Race and Ethnicity, %	Mean Age (range), years	Stage of Pregnancy*	Primi %	Previously BF, %	Intending to BF, %
Mottl-Santiago, 2023[176] Good		KQ2	US	411	Low-income, predominately Black or Hispanic women	White: 7 Black: 35 Asian: 4 AI/AN: 0 Hispanic: 49 Other: 5	25 (18+)	Prenatal	100	0	NR
Muirhead, 2006[177] Fair	X	KQ2	Great Britain	225	General (sociodemographics sparsely reported)	NR	28 (16 to 43)	Prenatal	53	24	52
Nilsson, 2017[178] Fair		KQ1, KQ2, KQ3	Denmark	3,541	General (sociodemographics sparsely reported)	NR	30 (NR)	Prenatal	40	NR	100
Noel-Weiss, 2006[179] Fair	X	KQ2	Canada	101	General (sociodemographics sparsely reported)	NR	30 (17 to 42)	Prenatal	100	0	100
O'Reilly, 2024[180] Good Latch ON		KQ2	Ireland	225	Predominantly White women with BMI ≥25 kg/m^2	White: 78 Black: NR Asian: NR AI/AN: NR Hispanic: NR Other: NR	43 (18+)	Prenatal	100	0	97
Paul, 2012[181] Fair NITTANY	X	KQ2	US	1,154	Predominately White women, mixed SES	White: 88 Black: 6 Asian: 4 AI/AN: NR Hispanic: 5 Other: 1	29 (NR)	Delivery	48	49	100
Pollard, 2011[182] Good	X	KQ2	US	86	Predominately White women, mixed SES	White: 97 Black: NR Asian: NR AI/AN: NR Hispanic: NR Other: 4	26 (18 to 40)	Delivery	100	0	100
Puharic, 2020[183] Fair		KQ1, KQ2, KQ3	Croatia	272	General (sociodemographics sparsely reported)	NR	NR (NR)	Prenatal	100	0	99
Quinlivan, 2003[184]	X	KQ2	Australia	136	Adolescents (<18 years), predominately low-	NR	16 (<18)	Prenatal	NR	NR	NR

Table 4. Study Characteristics, by Author

Author, Year, Quality	PR	KQs	Country	N Rand	General Population Description	Race and Ethnicity, %	Mean Age (range), years	Stage of Pregnancy*	Primi %	Previously BF, %	Intending to BF, %
Fair					income, 24% indigenous Australian						
Reeder, 2014[185] Fair	X	KQ2	US	1,948	WIC-eligible, low-income predominately Hispanic or Latina or White women	NR	27 (NR)	Prenatal	NR	NR	NR
Saglik, 2021[186] Fair		KQ2, KQ3	Turkey	70	Women with at least primary education	NR	27 (18 to 35)	Prenatal	NR	52	NR
Santamaria-Martin, 2022[187] Fair PROLACT		KQ2	Spain	434	Women exclusively breastfeeding for at least 4 weeks	NR	33 (18+)	Postpartum	58	100	NR
Sari, 2020[188] Fair		KQ1, KQ2	Turkey	88	General (sociodemographics sparsely reported)	NR	28 (20 to 35)	Prenatal	100	0	NR
Sari Ozturk, 2023[189] Good		KQ1, KQ2	Turkey	66	General (sociodemographics sparsely reported)	NR	29 (19 to 37)	Prenatal	100	NR	NR
Saucedo Baza, 2023[190] Fair		KQ2	US	40	Racially diverse, mixed SES	White: 43 Black: 48 Asian: 3 AI/AN: NR Hispanic: 8 Other: NR	25 (16 to 37)	Delivery	NR	NR	100
Schwarz, 2024 Fair		KQ2	US	472	Racially diverse, generally higher SES	White: 60 Black: 20 Asian: 6 AI/AN: 1 Hispanic: 5 Other: 7	32 (NR)	Prenatal	100	0	96
Sevda, 2023[192] Fair		KQ2, KQ3	Turkey	150	General (sociodemographics sparsely reported)	NR	25 (18+)	Prenatal	100	0	NR
Simsek-Cetinkaya, 2024[193] Fair		KQ1, KQ3	Turkey	81	General (sociodemographics sparsely reported)	NR	33 (18 to 35)	Prenatal	100	0	100

Table 4. Study Characteristics, by Author

Author, Year, Quality	PR	KQs	Country	N Rand	General Population Description	Race and Ethnicity, %	Mean Age (range), years	Stage of Pregnancy*	Primi %	Previously BF, %	Intending to BF, %
Stockdale, 2008[194] Fair	X	KQ2	Ireland	182	General (sociodemographics sparsely reported)	NR	NR (NR)	Prenatal	100	0	NR
Su, 2007[195] Fair	X	KQ2	Singapore	450	Southeast Asian women (48% Malay, 38% Chinese, 11% Indian), predominantly low-income	Asian: 100	30 (NR)	Delivery	40	56	100
Taylor, 2017[196] Fair		KQ2	New Zealand	428	General, predominately higher education	NR	32 (16+)	Prenatal	48	NR	NR
Uscher-Pines, 2020[197] Good Tele-MILC		KQ2	US	203	Rural, predominately White women, mixed SES	White: 96 Black: NR Asian: NR AI/AN: NR Hispanic: 2 Other: NR	27 (18+)	Delivery	40	57	100
Wallace, 2006[198] Fair	X	KQ2, KQ3	Great Britain	370	General (sociodemographics sparsely reported)	NR	NR (NR)	Delivery	100	0	100
Wambach, 2011[199] Fair	X	KQ2	US	390	Adolescents (15-18 years), predominately Black and from low-income families	White: NR Black: 61 Asian: NR AI/AN: NR Hispanic: NR Other: NR	17 (15 to 18)	Prenatal	100	0	NR
Wen, 2011[200] Good	X	KQ2	Australia	667	General (sociodemographics sparsely reported)	NR	26 (16 to 47)	Prenatal	100	0	NR
Wen, 2020[201] Good CHAT (Communicating Healthy Beginnings Advice by Telephone)		KQ2	Australia	1,155	General (sociodemographics sparsely reported)	NR	32 (16+)	Prenatal	46	NR	NR
Wong, 2014[202] Good	X	KQ2	Hong Kong	469	Cantonese-speaking women, predominately	Asian: 100	31 (18+)	Prenatal	100	0	100

Table 4. Study Characteristics, by Author

Author, Year, Quality	PR	KQs	Country	N Rand	General Population Description	Race and Ethnicity, %	Mean Age (range), years	Stage of Pregnancy*	Primi %	Previously BF, %	Intending to BF, %
					higher education and income						
Yesil, 2023[203] Good		KQ2	Turkey	90	General (sociodemographics sparsely reported)	NR	29 (18 to 43)	Delivery	36	50	NR

Abbreviations: AI/AN = American Indian or Alaska Native; BF = breastfeed(ing); BL = baseline; KQ = key question; Prev Inc = included in prior review; Rand = randomized; N = number; NA = not applicable; NR = not reported; PR = included in the prior review; Primi = Primiparous; SES = socioeconomic status; WIC = Women, Infants, and Children program; US = United States of America

* Stage of pregnancy at time of recruitment. “Delivery” reflects at or around the time of delivery.
† Median.

Table 5. Intervention Characteristics, by Author and Focus of Intervention

Author, Year, Country	Group	Brief Description	Timing of Intervention	Duration (weeks)	Intervention Dose	Interventionist(s)
BREASTFEEDING SUPPORT ONLY INTERVENTIONS						
Abbass-Dick, 2015[114] Canada	IG1	Coparenting workbook, website, and professional breastfeeding support	Peripartum, Postpartum	3	1 x 15 min in-hospital postpartum coparenting counseling session	Lactation care provider
Abbass-Dick, 2020[115] Canada	IG1	Web-based co-parenting breastfeeding education	Prenatal, Peripartum, Postpartum	52	6 weekly e-mail reminders about access to the website and 52 weeks of passive access to the website	NA
Acar, 2024[116] Turkey	IG1	Mobile application-based breastfeeding support	Peripartum, Postpartum	8	8 weeks of access to a mobile application	NA
Addicks, 2019[117] US	IG1	Motivational interviewing	Prenatal	0.7	1 x 45-min in-person MI session	Therapist
Anderson, 2005[118] US	IG1	Peer home-visiting breastfeeding support	Prenatal, Peripartum, Postpartum	14	3 x 85-min prenatal home visits Daily in-hospital visits 9 x postpartum home visits Breastfeeding video + optional phone support	Peer counselor
Balaguer Martínez, 2018[119] Spain	IG1	Professional phone-based breastfeeding support	Postpartum	26	16 telephone calls (minutes NR)	Nurse
Baransel, 2024[120] Turkey	IG1	Professional education and text message support	Peripartum, Postpartum	6	2 x 25 min in-person sessions Daily text messages	Midwife
Bender, 2022[121] US	IG1	Text message breastfeeding information and support	Peripartum, Postpartum	6	1 x text message weekly for 6 weeks + optional on-demand daily text-based support	Physician
Bernal, 2019[122] US	IG1	Peer telephone breastfeeding support	Prenatal, Peripartum, Postpartum	12	≤ 7 x 40 min phone calls	Peer counselor
Bonuck, 2006[125] US	IG1	Professional in-person breastfeeding support	Prenatal, Peripartum, Postpartum	68	2 x 60 min prenatal visits In-hospital visits 1 x 90 min postpartum home visit + optional followup phone support for a year	Lactation care provider

Table 5. Intervention Characteristics, by Author and Focus of Intervention

Author, Year, Country	Group	Brief Description	Timing of Intervention	Duration (weeks)	Intervention Dose	Interventionist(s)
					+ nursing bra + manual or electronic breast pump	
Bonuck, 2014a[123] (BINGO) US	IG1	Professional in-person and telephone breastfeeding support and EHR-prompts to facilitate support	Prenatal, Peripartum, Postpartum	24	5 x brief prenatal education sessions 2 x 45 min prenatal sessions 1 x 15 min in-hospital visit 1 x 15 min postpartum pediatric session ≤12 postpartum phone calls + 1 x 15 min optional postpartum home visit + optional nursing bra + optional breast pump	Lactation care provider (IBCLC) and physician or midwife
	IG2	Professional in-person and telephone breastfeeding support	Prenatal, Peripartum, Postpartum	24	2 x 45 min prenatal sessions 1 x 15 min in-hospital visit 1 x 15 min postpartum pediatric session ≤12 postpartum phone calls 1 x 15 min optional postpartum home visit + optional nursing bra + optional breast pump	Lactation care provider (IBCLC)
	IG3	EHR-prompts to facilitate professional breastfeeding support	Prenatal	12	5 x brief prenatal education sessions	Physician or midwife
Bonuck, 2014b[124] (PAIRINGS) US	IG1	Professional in-person and telephone breastfeeding support	Prenatal, Peripartum, Postpartum	24	5 x brief prenatal education sessions 2 x 45 min prenatal sessions 1 x 15 min in-hospital visit 1 x 15 min postpartum pediatric session ≤12 postpartum phone calls + 1 x 15 min optional postpartum home visit + optional nursing bra + optional breast pump	Physician or midwife and lactation care provider (IBCLC)
Bunik, 2010[127] US	IG1	Professional telephone breastfeeding support	Postpartum	2	14 x postpartum phone calls	Nurse
Bunik, 2022[126] US	IG1	Text message-based breastfeeding support	Prenatal, Postpartum	16	60 x daily text message prompts (20 delivered prenatally, 40 delivered postpartum)	NA
Cangol, 2017[128] Turkey	IG1	Professional in-person breastfeeding support	Prenatal, Peripartum, Postpartum	14	NR	NR

Table 5. Intervention Characteristics, by Author and Focus of Intervention

Author, Year, Country	Group	Brief Description	Timing of Intervention	Duration (weeks)	Intervention Dose	Interventionist(s)
Carlsen, 2013[129] Denmark	IG1	Professional telephone breastfeeding support	Postpartum	26	≥9 x 5-20 min postpartum phone sessions	Lactation care provider (IBCLC)
Cauble, 2021[130] US	IG1	Group, telephone breastfeeding education	Prenatal	6	6 x 60 min group counseling telephone sessions	Lactation care provider (IBCLC) and registered dietitian
Chan, 2016[131] Hong Kong	IG1	Group breastfeeding education + professional telephone counseling	Prenatal, Postpartum	14	1x 150-min in-person session 1 x 30-60 minute phone call	Research staff
Chapman, 2013[132] US	IG1	Peer clinic and home-visiting and telephone breastfeeding support	Prenatal, Peripartum, Postpartum	30	3 x 60-90 min prenatal visits ≥1 in-hospital visits ≤11 postpartum home visits ≥ 1 postpartum phone calls + electric breast pump	Peer counselor
Clarke, 2020[133] UK	IG1	Peer in-person, text, and telephone breastfeeding support	Prenatal, Postpartum	40	1 x prenatal in-person session Monthly prenatal monthly telephone/text messages Daily postpartum telephone/text message contact for first 2 weeks, monthly text messages months 3-5 + In-person visits arranged as needed	Peer counselor
Dennis, 2002[134] Canada	IG1	Peer telephone breastfeeding support	Postpartum	26	5 x 15 min postpartum phone calls	Peer counselor
Di Meglio, 2010[135] US	IG1	Peer telephone breastfeeding support	Postpartum	5	7 x postpartum telephone support calls	Peer counselor
Di Napoli, 2004[136] Italy	IG1	Professional home-visiting and telephone breastfeeding support	Postpartum	1	1 x 30 min postpartum home visit 1 x postpartum phone call	Midwife
Elliott-Rudder, 2014[138] Australia	IG1	Professional in-person support to continue breastfeeding	Postpartum	0.14	1 x postpartum counseling session	Nurse
Fan, 2022[139] Hong Kong	IG1	Peer text-messaging breastfeeding support	Postpartum	26	26 weeks on online support via WhatsApp	Peer counselor
	IG1	Group breastfeeding	Prenatal	2	2 x 60 min prenatal group sessions	Midwife and community educator

Table 5. Intervention Characteristics, by Author and Focus of Intervention

Author, Year, Country	Group	Brief Description	Timing of Intervention	Duration (weeks)	Intervention Dose	Interventionist(s)
Forster, 2004[141] Australia		education (attitude modification focus)				
	IG2	Group breastfeeding education (practical skills training focus)	Prenatal	0.14	1 x 90 min prenatal group session	Midwife and community educator
Forster, 2019[142] Australia	IG1	Peer telephone breastfeeding support	Postpartum	26	≤17 (average of 6) x 12 min phone calls	Peer counselor
Franco-Antonio, 2020[143] Spain	IG1	Professional in-person and telephone breastfeeding support	Peripartum, Postpartum	24	1 x 20-30 min in-person session 3 x 15 min phone calls + printed leaflet	Midwife
Fu, 2014[144] Hong Kong	IG1	Professional telephone breastfeeding support	Postpartum	4	4 x 20 min postpartum phone counseling sessions	Nurse
	IG2	Professional in-hospital breastfeeding support	Peripartum	0.42	3 x 30 min in-hospital postpartum counseling sessions	Nurse
Gagnon, 2002[145] Canada	IG1	Professional home-visiting breastfeeding support	Postpartum	0.14	1 x 60 min postpartum home visit + optional followup support	Nurse
Gijsbers, 2006[146] Netherlands	IG1	Professional home-visiting breastfeeding support	Prenatal, Postpartum	26	2 x 60 min prenatal home sessions 1 x 60 min postpartum home session + breastfeeding booklet	Research staff
Graffy, 2004[147] UK	IG1	Peer in-person and telephone breastfeeding support	Prenatal	0.14	1 x prenatal clinic visit + optional postpartum phone support + optional postpartum home visits + print materials	Peer counselor
Henderson, 2001[150] Australia	IG1	Professional in-hospital breastfeeding support	Peripartum	0.14	1 x 30 min in-hospital support session + additional technical support sessions while in the hospital	Research staff
Hopkinson, 2009[152] US	IG1	Professional in-person	Postpartum	0.14	1 x 60 min postpartum session + optional follow-up visits and/or phone calls	Breastfeeding counselor

Table 5. Intervention Characteristics, by Author and Focus of Intervention

Author, Year, Country	Group	Brief Description	Timing of Intervention	Duration (weeks)	Intervention Dose	Interventionist(s)
		breastfeeding support				
Jolly, 2012[154] UK	IG1	Peer clinic and home-visiting and telephone breastfeeding support	Prenatal, Postpartum	17	3 x prenatal clinic or home visits ≥1 x postpartum home visits + optional phone support	Peer counselor
Karaahmet, 2022[155] Turkey	IG1	Professional hands-on support, written materials, and counseling	Peripartum, Postpartum	24	1 x in-person breastfeeding demonstration and support session + written materials + online help	Health professional (NR)
Kellams, 2015[156] US	IG1	Educational breastfeeding video	Prenatal	0.14	1 x 25 min educational video	NA
Kools, 2005[158] Netherlands	IG1	Professional home-visiting and telephone breastfeeding support and printed workbook	Prenatal, Postpartum	16	1 x 17 min prenatal home visit ≥2 x 9 min postpartum home visits + optional phone sessions+ booklet	Physician, nurse, and lactation care provider
Kronborg, 2012[159] Denmark	IG1	Group breastfeeding education	Prenatal	5	3 x 180 min prenatal group sessions	Midwife
Labarere, 2003[160] France	IG1	Professional in-person breastfeeding education	Peripartum	0.14	1 x 30 min in-hospital education session + optional peer support group	Midwife
Labarere, 2005[161] France	IG1	Professional in-person breastfeeding support	Postpartum	0.14	1 x postpartum session	Pediatrician or primary care physician
Lavender, 2005[163] UK	IG1	Group breastfeeding education	Prenatal	0.14	1 x 150 min prenatal group session	Infant feeding coordinator
Lewkowitz, 2020[164] US	IG1	App-based breastfeeding education	Prenatal, Peripartum, Postpartum	16	16 weeks of app-based on-demand breastfeeding and education support	NA
Linares, 2019[166] US	IG1	Peer and professional home-visiting and telephone breastfeeding support	Prenatal, Postpartum	24	2 x 30-40 min prenatal home visit session 3 x 10-15 min prenatal phone calls 1 x 20-30 min hospital visit 2 x 40-60 min postpartum home visit 6 x 10-20 min postpartum phone calls	Peer counselor and lactation care provider (IBCLC)

Table 5. Intervention Characteristics, by Author and Focus of Intervention

Author, Year, Country	Group	Brief Description	Timing of Intervention	Duration (weeks)	Intervention Dose	Interventionist(s)
Little, 2021[167] US	IG1	Received an infant carrier	Prenatal	0.14	1 x in-person session	Community educator
Lucas, 2019[168] US	IG1	App-based breastfeeding education and support	Postpartum	6	2 x text messages a week for 6 weeks 7 x 5-minute modules 6 journal prompts/day x 2 weeks 1 journal prompt/day x 4 weeks	Nurse
Mattar, 2007[170] Singapore	IG1	Video-based breastfeeding education and printed materials	Prenatal	0.14	1 x 15 min prenatal session with lactation consultant + prenatal video and booklet	Lactation care provider
	IG2	Video-based breastfeeding education and printed materials	Prenatal	0.14	Prenatal video and booklet	NA
McDonald, 2010[171] Australia	IG1	Professional in-person and telephone breastfeeding support	Peripartum, Postpartum	6	1 x in-hospital education session ≤6 postpartum home visits ≤12 postpartum phone calls	Midwife
McLachlan, 2016[172] Australia	IG1	Professional home-visiting breastfeeding support plus access to a breastfeeding support center	Postpartum	52	~3 x 60-70 min sessions	Nurse
	IG2	Professional home-visiting breastfeeding support	Postpartum	52	~2 x 60-70 min sessions	Nurse
McQueen, 2011[173] Canada	IG1	Professional in-person and telephone breastfeeding support	Peripartum, Postpartum	2	2 x in-hospital sessions 1 x postpartum phone call	Nurse
Milinco, 2020[174] Italy	IG1	Professional breastfeeding support and video to promote a biological nurturing approach to decrease	Peripartum	0.14	1 video	Nurse and midwife

Table 5. Intervention Characteristics, by Author and Focus of Intervention

Author, Year, Country	Group	Brief Description	Timing of Intervention	Duration (weeks)	Intervention Dose	Interventionist(s)
		breastfeeding problems				
Miremberg, 2022[175] Israel	IG1	App-based, individualized professional breastfeeding support	Peripartum, Postpartum	24	On-demand access to web-based smartphone app for 24 weeks	Lactation care provider (certified by Israeli Ministry of Health), clinical psychologist, and nurse
Muirhead, 2006[177] UK	IG1	Peer in-person and telephone breastfeeding support	Prenatal, Postpartum	16	≥1 x prenatal visit ≥14 x postpartum home visits or phone calls	Peer counselor
Nilsson, 2017[178] Denmark	IG1	Co-parenting professional breastfeeding support	Prenatal, Peripartum, Postpartum	6	1 prenatal counseling session with written support 1 postpartum phone call Postpartum counseling (varied)	Midwife
Noel-Weiss, 2006[179] Canada	IG1	Group breastfeeding education	Prenatal	0.14	1 x 180 min prenatal group session	NR
O'Reilly, 2024[180] Ireland	IG1	Professional breastfeeding education and support	Prenatal, Peripartum, Postpartum	6	1 x in-person group session 1 x in-person individual session 6 x postpartum phone calls	Lactation care provider (IBCLC)
Pollard, 2011[182] US	IG1	Completion of a feeding log to self-monitor breastfeeding	Peripartum, Postpartum	6	Instructions for completing a daily breastfeeding log	Research staff
Puharic, 2020[183] Croatia	IG1	Professional telephone breastfeeding support and printed educational materials	Prenatal, Postpartum	20	4 x telephone sessions + printed materials	Nurse
Reeder, 2014[185] US	IG1	Peer telephone breastfeeding support	Prenatal, Postpartum	18	2 x prenatal phone calls 2-6 x postpartum phone calls + print materials	Peer counselor
Saglik, 2021[186] Turkey	IG1	Professional in-person breastfeeding support	Prenatal, Peripartum, Postpartum	12	NR	Lactation care provider (certified by National breastfeeding counseling program)
Santamaria-Martin, 2022[187] Spain	IG1	Group breastfeeding education	Postpartum	6	6 x 120 min group sessions	Healthcare professional

Table 5. Intervention Characteristics, by Author and Focus of Intervention

Author, Year, Country	Group	Brief Description	Timing of Intervention	Duration (weeks)	Intervention Dose	Interventionist(s)
Sari, 2020[188] Turkey	IG1	Web-based breastfeeding education	Prenatal	8	4 x on-demand web-based videos and support 2 x in-person postpartum appointments	Health professional
Sari Ozturk, 2023[189] Turkey	IG1	Technology-based support with phone counseling	Prenatal	8	3 educational models with 4 art-based activities + followup phone counseling after each module	Research staff
Saucedo Baza, 2023[190] US	IG1	Education through smartphone app	Postpartum	6	Self-directed smartphone app	NA
Schwarz, 2024[191] US	IG1	Virtual educational session	Prenatal	0.14	1 x 10 min virtual counseling session	NR
Sevda, 2023[192]	IG1	Breastfeeding education via WhatsApp with online support as needed	Peripartum, Postpartum	26	16 x 2 min virtual sessions + optional online support	NA
Simsek-Cetinkaya, 2024[193] Turkey	IG1	Educational workshop followed by web-based support	Prenatal, Postpartum	24	1 x 120 min in-person sessions + ongoing web-based support	Nurse
Stockdale, 2008[194] Israel	IG1	Group breastfeeding education	Prenatal, Postpartum	11	1 x prenatal group session + breastfeeding information booklet and CD-ROM + postpartum support up to 3 weeks	Midwife
Su, 2007[195] Singapore	IG1	Professional in-person breastfeeding education	Peripartum	2	1 x 30 min in-hospital lactation support session 1 x 30 min postpartum clinic support session + printed guides	Lactation care provider
	IG2	Video-based breastfeeding education and printed materials	Prenatal	0.14	Prenatal video + printed guides + optional 15 min prenatal session with lactation consultant	Lactation care provider
Uscher-Pines, 2020[197] US	IG1	App-based, individualized professional breastfeeding support	Peripartum, Postpartum	12	12 weeks of unlimited, on-demand access to IBCLC telehealth support	Lactation care provider (IBCLC)
Wallace, 2006[198] UK	IG1	Professional "hands off" breastfeeding support and printed materials	Peripartum	0.14	1 x 240 min training session for midwives on a "hands off" support protocol	Midwife

Table 5. Intervention Characteristics, by Author and Focus of Intervention

Author, Year, Country	Group	Brief Description	Timing of Intervention	Duration (weeks)	Intervention Dose	Interventionist(s)
Wambach, 2011[199] US	IG1	Peer and professional in-person and telephone breastfeeding education and support	Prenatal, Peripartum, Postpartum	8	2 x 90-120 min prenatal group sessions 3 x prenatal phone calls ≥1 x in-hospital session ≤5 x postpartum phone calls + electric breast pump *Support person encouraged to attend	Peer counselor and lactation care provider (IBCLC)
Wen, 2020[201] Australia	IG1	Professional telephone breastfeeding support and printed educational materials	Prenatal, Postpartum	52	6 x 30-60 min phone support calls	Nurse
	IG2	App-based breastfeeding education and printed educational materials	Prenatal, Postpartum	52	8 SMS over 4 weeks 6 mailed intervention booklets across 4 weeks	NA
Wong, 2014[202] Hong Kong	IG1	Professional in-person breastfeeding support	Prenatal	0.14	1 x 45 min prenatal support session	Nurse
Yesil, 2023[203] Turkey	IG1	Group hospital-based education and followup phone support	Peripartum, Postpartum	12	2 x 45-60 minutes group education sessions 2 x 15-30 minutes telephone support	Research staff
BREASTFEEDING SUPPORT PLUS OTHER INTERVENTIONS						
Edwards, 2013[137] US	IG1	Professional comprehensive prenatal and maternal health home-visiting intervention	Prenatal, Peripartum, Postpartum	30	10 x weekly prenatal home visits In-hospital support 12 x postpartum home visits + optional postpartum phone support + optional breast pump	Doula
Fiks, 2017[140] US	IG1	Web-based peer support intervention focused on childhood obesity prevention	Prenatal, Postpartum	48	Mothers participated in groups as frequently as they desired	Psychologist-led peer support
Gross, 2016[148] US	IG1	Family-centered group education focused on	Prenatal, Peripartum, Postpartum	36	2 x 45-60 min individual nutrition counseling sessions 5 nutrition and parenting support groups	Registered dietitians with maternal-child health experience and trained as

Table 5. Intervention Characteristics, by Author and Focus of Intervention

Author, Year, Country	Group	Brief Description	Timing of Intervention	Duration (weeks)	Intervention Dose	Interventionist(s)
		childhood obesity prevention				certified lactation counselors
Hans, 2018[149] US	IG1	Professional and peer comprehensive prenatal and maternal health home-visiting intervention	Prenatal, Peripartum, Postpartum	16	15 x in-person sessions 1 x in-hospital support during birth	Doula and peer counselor
Hoffmann, 2019[151] Germany	IG1	Professional in-person support focused on healthy weight gain during pregnancy	Prenatal, Postpartum	36	4 x 30-45 min in-person sessions	Midwives, gynecologists or medical staff
Howell, 2014[153] US	IG1	Professional in-person and telephone support to reduce postpartum depressive symptoms	Peripartum, Postpartum	2	1 x in-hospital education session 1 x postpartum followup phone call	Social worker
Kenyon, 2016[157] UK	IG1	Peer, individualized case management to reduce postpartum depressive symptoms	Prenatal, Postpartum	18	NR	Pregnancy outreach worker
Laliberté, 2016[162] Canada	IG1	Comprehensive support intervention, including professional breastfeeding support	Postpartum	6	~3 sessions*	Lactation care provider, nurse, and physician
Lewkowitz, 2018[165] US	IG1	Peer home-visiting intervention focused on healthy weight gain during pregnancy	Prenatal	26	13 x 60 min individual sessions	Peer counselor

Table 5. Intervention Characteristics, by Author and Focus of Intervention

Author, Year, Country	Group	Brief Description	Timing of Intervention	Duration (weeks)	Intervention Dose	Interventionist(s)
Lutenbacher, 2022[169] US	IG1	Comprehensive intervention focused on providing services to families considered at-risk for poor health outcomes, including peer-based breastfeeding support	Prenatal, Postpartum	74	Monthly home (or remote) visits	Community health worker
Mottl-Santiago, 2023[176] US	IG1	Enhanced community doula support	Prenatal, Peripartum, Postpartum	8	Up to 8 x 2-hr prenatal home visits Support through labor and delivery Up to 4 x 2-hr postpartum home visits + screening and legal intervention for social risks	Doula
Paul, 2012[181] US	IG1	Professional home-visiting postpartum intervention	Postpartum	2	1 x postpartum home visit 1 x postpartum clinic visit	Nurse
Quinlivan, 2003[184] Australia	IG1	Professional comprehensive prenatal and maternal health home-visiting intervention	Postpartum	16	6 x 60–240 min postpartum home visits	Midwife
Taylor, 2017[196] New Zealand	IG1	Professional clinic- and home-based intervention focused on obesity prevention, including professional breastfeeding support	Prenatal, Postpartum	19	8 total sessions, 3 focused on breastfeeding 1x 30-min group session 2 x 30-45 min individual sessions	Lactation care provider (IBCLC)
Wen, 2011[200] Australia	IG1	Professional home-visiting intervention focused on childhood obesity prevention	Prenatal, Postpartum	62	1 x 60-120 min prenatal home visit 5 x 60-120 min postpartum home visits	Nurse

Table 5. Intervention Characteristics, by Author and Focus of Intervention

Abbreviations: BF = breastfeeding; EHR = electronic health record; Hrs = hours; IBCLC = International Board-Certified Lactation Consultant; IG = intervention group; MI = motivational interviewing; min = minutes; NA = not applicable; NR = not reported; US = United States; WIC = Women, Infants and Children.

* Most women attended 3 or more clinic visits.

Table 6. Infant Health Outcomes

Author, Year	Group	Outcome	FU (wks)	IG N	CG N	IG (n/N, %)	CG (n/N, %)	Between-group value	Study-reported between group difference	Study-reported p-value
Anderson, 2005[118]	IG1	Infant GI Infection (1 or more diarrhea episodes)	12	63	72	11/63 (17.5%)	27/72 (37.5%)	RR (95% CI)	2.15 (1.16 to 3.97)	NR
Bonuck, 2006[125]	IG1	Infant GI Infection (ED or outpatient visits for >1 GI illness)	52	163	175	37/163 (22.7%)	45/175 (25.7%)	NR	NR	NR
		Infant otitis media (ED or outpatient visits for >1 case of otitis media)	52	163	175	71/163 (43.6%)	96/175 (54.9%)	NR	NR	NR
		Infant RTI (ED or outpatient visits for >2 respiratory tract illnesses)	52	163	175	125/163 (76.7%)	146/175 (83.4%)	NR	NR	NR
Bunik, 2010[127]	IG1	Infant HC utilization (Sick visit)	4	149	165	37/149 (25.0%)	59/165 (36.0%)	T-Test	NR	0.05
Chapman, 2013[132]	IG1	Infant HC utilization (Infant hospitalizations)	12	NR	NR	NR/NR (10.0%)	NR/NR (26.0%)	aOR (95% CI)	0.24 (0.07 to 0.82)	0.02
			26	NR	NR	NR/NR (11.0%)	NR/NR (28.0%)	aOR (95% CI)	0.24 (0.07 to 0.86)	0.03
Gagnon, 2002[145]	IG1	Infant HC utilization (Number of hospital admissions)	8	259	254	3/259 (1.2%)*	7/254 (2.8%)†	NR	NR	NR
Hopkinson, 2009[152]	IG1	Infant HC utilization (Visited emergency room)	4	225	240	20/225 (8.9%)	22/240 (9.2%)	NR	NR	0.951
		Infant HC utilization (Visited pediatrician)	4	225	240	172/225 (76.3%)	197/240 (82.1%)	NR	NR	0.127
Laliberte, 2016[162]	IG1	Infant HC utilization (total participants with at least one reported ED visit)	12	307	145	63/307 (20.5%)	26/145 (17.9)	OR (95% CI)	1.02 (0.61 to 1.72)	NR
		Infant HC utilization (total participants with at least one reported infant readmission)	12	307	145	20/307 (6.5%)	9/145 (6.2%)	OR (95% CI)	0.97 (0.42 to 2.20)	NR
Puharic, 2020[183]	IG1	Childhood Illness ("Childhood illness")	12	129	123	9/129 (7%)	29/123 (24%)	NR	NR	NR
			24	129	123	9/129 (7%)	16/123 (2%)	NR	NR	NR
		Infant HC utilization (Sought medical assistance)	12	9	29	8/9 (89%)	28/29 (97%)	NR	NR	NR
			24	9	11	7/9 (78%)	11/11 (100%)	NR	NR	NR
Nilsson, 2017[178]	IG1	Infant HC utilization‡	1	2065	1476	43/2065 (2.2%)	55/1476 (3.6%)	aOR (95% CI)	0.55 (0.37 to 0.81)	<0.01
			4	2065	1476	54/2065 (2.8%)	40/1476 (2.5%)	aOR (95% CI)	0.96 (0.58 to 1.59)	0.89
Sari, 2020[188]	IG1	Minor infant health outcomes§	12	NR	NR	NR/NR (NR%)	NR/NR (NR%)	NR	NR	NR‖

Abbreviations: aOR = adjusted OR, aRR = adjusted risk ratio; CG = control group; CI = confidence interval; ED = emergency department; FU = followup; GI = gastrointestinal; HC = healthcare; IG = intervention group; N = number; NR = not reported; RR = risk ratio; wks = weeks.

Table 6. Infant Health Outcomes

[*] 2 admissions for fever/viral episodes and 1 for whooping cough.
[†] 2 admissions for jaundice, 2 for fever/viral episodes, 1 for cord infection, 1 for ear infection, and 1 for lethargy.
[‡] Readmission of the infant within 7-28 days postnatally due to jaundice, dehydration, excessive weight loss, and nutritional problems.
[§] Identified problems: eye, nasal obstruction, skin lesion, rash, umbilicus, moniliasis, jaundice, inguinal hernia, colic, hiccup, constipation, diarrhea, gas problems.
[‖] The most common health problem for the infants in both groups was gas that increased in the first month. However, this rate was lower in the intervention group (31.4% in first month; 14.3% in third month) compared to the control group (44.4% in first month; 33.3% in third month). At the end of the first postnatal month, the incidence of rash, moniliasis, colic, and constipation was lower in the intervention compared to the control group.

Table 7. Maternal Health Outcomes

Author, Year	Group	Outcome	FU (wks)	IG N	CG N	Within-group value	IG	CG	Study-reported between group value	Study-reported between-group difference	Study-reported p-value
Bender, 2022[121]	IG1	Depressive Symptoms (PHQ-2, Scale)	2	NR	NR	Median (IQR)	2 (0 to 4)	2 (0 to 4)	NR	NR	0.77
			6	NR	NR	Median (IQR)	2 (1 to 3)	2.5 (1.5 to 3.5)	NR	NR	0.33
Clarke, 2020[133]	IG1	Maternal wellbeing (Warwick-Edinburgh Mental Well-Being Scale)	8	40	44	Mean (95% CI)	-2.5 (-4.6 to -0.5)	-0.1 (-3.1 to 3.0)	NR	NR	NR
			24	39	44	Mean (95% CI)	-2.9 (-4.8 to -1.0)	-0.2 (-2.8 to 2.4)	NR	NR	NR
Franco-Antonio, 2020[143]	IG1	Depressive Symptoms (EPDS, Scale)	12	42	40	Median (IQR)	5.5 (1.75 to 9)	8 (6 to 11)	NR	NR	0.023
		Depression (EPDS, Score ≥10)	12	42	40	n/N (%)	5/42 (11.9%)	13/40 (32.5%)	aOR (IQR)	0.33 (0.10 to 1.08)	0.068
Gagnon, 2002[145]	IG1	Anxiety Symptoms (State-Trait Anxiety Inventory, Scale)	2	259	253	Mean (SD)	28.7 (7.9)	28.4 (8.0)	Mean Difference (Range)	0.3 (-0.5 to 1.1)	NR
Hans, 2018[149]	IG1*	Depressive Symptoms (CES-D, Score ≥16)	3	140	142	n/N (%)	31/140 (22.1%)	31/142 (21.8%)	aOR (95% CI)	0.96 (0.53 to 1.71)	>0.05
			12	138	139	n/N (%)	18/138 (13.0%)	21/139 (15.1%)	aOR (95% CI)	0.95 (0.47 to 1.91)	0.45
Kenyon, 2016[157]	IG1†	Depressive Symptoms (EPDS, Scale)	12	489	519	Mean (SE)	6.76 (0.23)	7.35 (0.24)	MD (95% CI)	-0.59 (-1.24 to 0.06)	0.08
		Depression (EPDS, Score ≥13)	12	489	519	n/N (%)	61/489 (12%)	87/519 (17%)	aRR (95% CI)	0.74 (0.55 to 1.01)	0.05
Hoffmann, 2019[151]	IG1‡	Weight loss (kg)	8	970	929	Mean (SD)	9.9 (3.4)	9.7 (3.4)	aMD (95% CI)	0.11 (-0.22 to 0.44)	0.500
			52	841	828	Mean (SD)	14.3 (5.9)	13.4 (6.0)	aMD (95% CI)	0.85 (0.22 to 1.49)	0.008
			8	49	41	Mean (SD)	81.0 (18.6)	79.7 (20.1)	Cohen's d	0.07	NR
			26	49	41	Mean (SD)	76.3 (18.9)	79.0 (17.1)	Cohen's d	-0.14	NR
			36	48	41	Mean (SD)	72.8 (18.1)	80.2 (9.6)	Cohen's d	-0.41	NR
			52	49	41	Mean (SD)	69.0 (15.4)	79.2 (10.0)	Cohen's d	-0.66	NR
			60	49	41	Mean (SD)	59.9 (15.2)	78.1 (11.9)	Cohen's d	-1.19	0.001‖
Lutenbacher, 2022[169]	IG1	Depressive Symptoms (EPDS, Scale)	0§	51	51	Median (IQR)	(0 to 5)	2.0 (0 to 5)	Cohen's d	-0.06	NR
			2	56	53	Median (IQR)	0.0 (0 to 2)	0.0 (0 to 2)	Cohen's d	-0.01	NR

Table 7. Maternal Health Outcomes

Author, Year	Group	Outcome	FU (wks)	IG N	CG N	Within-group value	IG	CG	Study-reported between group value	Study-reported between-group difference	Study-reported p-value
			8	57	53	Median (IQR)	0.0 (0 to 2)	0.0 (0 to 2)	Cohen's d	0.02	NR
			26	57	53	Median (IQR)	0.0 (0 to 2)	0.0 (0 to 2)	Cohen's d	0.13	NR
			36	56	53	Median (IQR)	0.0 (0 to 2)	0.0 (0 to 5)	Cohen's d	-0.56	NR
			52	57	53	Median (IQR)	0.0 (0 to 0)	1.0 (0 to 4)	Cohen's d	-0.79	NR
			60	57	53	Median (IQR)	0.0 (0 to 0)	1.0 (0 to 4)	Cohen's d	-0.67	<0.001‖
		Parental Stress (PSI-SF, Score)	0§	49	41	Mean (SD)	85.1 (20.1)	85.7 (20.7)	Cohen's d	NR	0.823
			2	48	41	Mean (SD)	78.0 (22.1)	83.0 (19.8)	Cohen's d	-0.223	NR
			8	49	41	Mean (SD)	81.0 (18.6)	79.7 (20.1)	Cohen's d	0.07	NR
			26	49	41	Mean (SD)	76.3 (18.9)	79.0 (17.1)	Cohen's d	-0.14	NR
			36	48	41	Mean (SD)	72.8 (18.1)	80.2 (9.6)	Cohen's d	-0.41	NR
			52	49	41	Mean (SD)	69.0 (15.4)	79.2 (10.0)	Cohen's d	-0.66	NR
			60	49	41	Mean (SD)	59.9 (15.2)	78.1 (11.9)	Cohen's d	-1.19	0.001‖
Puharic, 2020[183]	IG1	BMI (kg/m^2)	12	129	123	Median (IQR)	23.2 (21.8 to 25.3)	24.0 (21.4 to 26.5)	NR	NR	0.933
			24	129	123	Median (IQR)	22.3 (20.9 to 24.4)	23.3 (20.9 to 25.7)	NR	NR	0.551
Sari Ozturk, 2023[189]	IG1	Anxiety Symptoms (State-Trait Anxiety Inventory, Scale)	0¶	33	33	Mean (SD)	44.7 (1.3)	50.3 (2.1)	NR	NR	0.04
			8	33	33	Mean (SD)	45.7 (0.9)	55.8 (2.1)	NR	NR	0.00
Simsek-Cetinkaya, 2024[193]	IG1	Depressive Symptoms (EPDS, Scale)	1	36	36	Mean (SD)	8.5 (1.1)	8.6 (1.1)	NR	NR	0.678
			12	36	36	Mean (SD)	6.9 (3.3)	8.1 (1.0)	NR	NR	0.038
			24	36	36	Mean (SD)	6.0 (2.7)	7.5 (3.6)	NR	NR	0.042

Abbreviations: aMD = adjusted mean difference; aOR = adjusted odds ratio; aRR = adjusted risk ratio; BMI = body mass index; CES-D = Center for Epidemiological Studies Depression Scale; CG = control group; CI = confidence interval; EPDS = Edinburgh Postnatal Depression Scale; FU = followup; IG = intervention group; IQR = interquartile range; kg = kilograms; m = meters; MD = mean difference; N = number; NR = not reported; PHQ-2 = Patient Health Questionnaire 2; PSI = Parenting Stress Index-Short Form; SD = standard deviation; SE = standard error; wks = weeks.

*Comprehensive prenatal/postpartum intervention, including professional breastfeeding support.
† Intervention to reduce postpartum depressive symptoms, including professional or peer breastfeeding support.
‡ Intervention to support healthy weight gain during pregnancy, including professional breastfeeding support.
§ Prenatal.‖ Interaction effect in mixed-effects general linear model controlling for baseline score.
¶ 32 – 33 weeks of pregnancy.

Table 8. Summary of Pooled Results for Any and Exclusive Breastfeeding

Time Point	Breastfeeding Outcome	K (new)	N Analyzed	RR (95% CI)	I^2, %	Absolute Risk Difference, Median (IQR)
Initiation*	Any	37 (19)	15,006	1.01 (1.00, 1.02)	13.2	1.45 (0 to 5.1)
	Exclusive	27 (18)	10,622	1.16 (1.05, 1.29)	75.6	5.3 (-0.2 to 18.25)
<3 months	Any	47 (18)	15,663	1.06 (1.03, 1.08)	55.1	5.2 (1.5 to 9.8)
	Exclusive	51 (29)	17,431	1.21 (1.14, 1.28)	36.6	7.1 (3.0 to 22.0)
3 to <6 months	Any	40 (14)	17,580	1.09 (1.04, 1.12)	42.6	4.1 (-2.6 to 9.95)
	Exclusive	40 (22)	11,032	1.31 (1.17, 1.46)	66.6	5.8 (0.35 to 14.95)
6 months	Any	37 (16)	13,579	1.13 (1.05, 1.22)	73.4	6.0 (-2.1 to 10.8)
	Exclusive	37 (20)	14,398	1.46 (1.20, 1.78)	76.8	3.2 (0.9 to 8.7)
12 months	Any	8 (4)	4,607	1.04 (0.91, 1.18)	0.0	1.3 (-1.4 to 6.1)

*From birth to 1 week postpartum

Abbreviations: BF = breastfeeding; CI = confidence interval; IQR = interquartile range; K = number of studies; N = number (of persons); RR = risk ratio.

Table 9. Summary of Evidence

KQ	No. of Included Trials No. of Participants	Summary of Findings	Consistency and Precision	Other Limitations	Strength of Evidence	Applicability
KQ 1: Infant and maternal health outcomes	Infant health outcomes: k=10 n=6,592 Maternal health outcomes: k=11 n=5,441	Mixed results for the effects on infant gastrointestinal outcomes (k=2): one trial (n=182) found greater risk of ≥1 diarrheal episodes over 3 months in usual care vs. intervention groups (RR, 2.15 [95% CI, 1.16 to 3.97]) while the other trial (n=338) found no difference between intervention and control groups at 1 year (22.7% vs. 25.7%). One trial (n=338) found no difference in risk of otitis media (43.6% vs. 54.9%) or the number of health care visits for respiratory tract illnesses (76% vs. 83.4%) at 1 year. Eight trials reported lower rates of healthcare visits and hospitalizations among infants in intervention groups at up to 6 months, although differences between groups were not statistically significant. Nine trials (n=2,334) reported minimal differences between groups in maternal well-being at up to 3 months postpartum.	Infant health outcomes: NA Maternal well-being: Consistent, Precise	Infant health outcomes variably reported. Most outcomes based on maternal recall. Considerable range in followup from 4 weeks to 1 year.	Infant health outcomes: Insufficient Maternal well-being: Low for no benefit	Represents data from the United States and abroad; US trials represent predominately Hispanic and Black low-income individuals.
KQ 2: Breastfeeding outcomes	k=90 n=49,597	Breastfeeding support interventions were associated with a higher likelihood of exclusive breastfeeding initiation and of any and exclusive breastfeeding up to and at 6 months. There was no apparent effect on any breastfeeding initiation, but rates of breastfeeding initiation were relatively high in both intervention and control groups. Few studies reported rates of breastfeeding at 1 year. Pooled RR (95% CI) for each outcome were: Any breastfeeding: • Initiation: 1.01 (1.00, 1.02), k=37, n=15,006 • <3 mo: 1.06 (1.03, 1.08), k=47, n=15,663 • 3 to <6 mo: 1.09 (1.04, 1.12), k=40, n=17,580	Consistent, Precise	Clinical variation in samples. Lack of detail regarding measurement of breastfeeding, including recall period and definition of exclusivity. Sparse reporting of breastfeeding at 12 months.	Moderate for benefit	US trials (k=33, 37% of trials) represent predominantly Hispanic and Black low-income individuals. Non-US trials have unclear applicability to US settings given differences in usual care and underlying social

Table 9. Summary of Evidence

KQ	No. of Included Trials No. of Participants	Summary of Findings	Consistency and Precision	Other Limitations	Strength of Evidence	Applicability
		• 6 mo: 1.13 (1.05, 1.22), k=37, n=13,579 • 12 mo: 1.04 (0.91, 1.18), k=8, n=4,607 Exclusive breastfeeding: • Initiation: 1.16 (1.05, 1.29), k=27, n=10,622 • <3 mo: 1.21 (1.14, 1.28), k=51, n=17,580 • 3 to <6 mo: 1.31 (1.17, 1.46), k=40, n=11,032 • 6 mo: 1.46 (1.20, 1.78), k=37, n=14,398				and cultural differences.
KQ 3: Harms	k=28 n=15,011	Six trials reported "no adverse events" related to the intervention. One trial reported greater feelings of anxiety, decreased confidence, or concerns of confidentiality among intervention mothers and not among control group mothers. Twenty-two trials reported the incidence of breastfeeding problems, generally finding that women in the intervention groups experienced fewer problems or difficulties that women in the usual care control groups.	Consistent, Precise	Only seven trials reported harms and details about specific harms were lacking. Problems or difficulties related to breastfeeding could be a harm (due to increased breastfeeding) or could be improved because of the intervention.	Low for no harm	Unclear applicability given proportion of trials reporting harms.

Abbreviations: BMI = body mass index; CI = confidence interval; K = number of studies; KQ = Key Question; mo = months; N = number of participants; NA = not applicable; US = United States.

Appendix A. Detailed Methods

Literature Search Strategies for Primary Literature

Original search – Date delivered 3/29/22
Bridge1 – Date delivered 5/12/23
Bridge2 - Date delivered 6/3/24

Sources Searched: database and platform Search dates 2015-June 3, 2024
MEDLINE via Ovid
PsycInfo via Ovid
Cochrane Central Register of Controlled Clinical Trials via Wiley
CINAHL via Ebsco

While running the second bridge a typo had been identified that had been replicated in each database search, going back to the 2015 review. 'atenatal' was used when 'antenatal' should have been used: Medline line 28, PsycInfo line 25, Cochrane line 11, CINAHL line S2.
The search was modified, the misspelling was removed, and lines were added to capture the correct spelling with no limits on dates.

Search filters used:
RCT:

- Chris Cooper, Jo Varley-Campbell and Patrice Carter, Established search filters may miss studies when identifying randomized controlled trials, Journal of Clinical Epidemiology, 2019-08-01, Volume 112, Pages 12-19
- Glanville JM, Lefebvre C, Miles JN, Camosso-Stefinovic J. How to identify randomized controlled trials in MEDLINE: ten years on. Journal of the Medical Library Association 2006; 94: 130-136. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1435857/
- Box 3.d Cochrane Highly Sensitive Search Strategy for identifying randomized trials in MEDLINE: sensitivity- and precision-maximizing version (2008 revision); Ovid format from: Lefebvre C, Glanville J, Briscoe S, Littlewood A, Marshall C, Metzendorf M-I, Noel-Storr A, Rader T, Shokraneh F, Thomas J, Wieland LS. Chapter 4: Searching for and selecting studies. In: Higgins JPT, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, Welch VA (editors). Cochrane Handbook for Systematic Reviews of Interventions version 6.2 (updated February 2021). Cochrane, 2021. Available from www.training.cochrane.org/handbook
- Glanville J, Dooley G, Wisniewski S, Foxlee R, Noel-Storr A. Development of a search filter to identify reports of controlled clinical trials within CINAHL Plus. Health Info Libr J. 2019 Mar;36(1):73-90. doi: 10.1111/hir.12251. Epub 2019 Feb 8. PMID: 30737884.

Key:
/ = MeSH subject heading
$ = truncation
ti = word in title
ab = word in abstract
pt = publication type
* = truncation
kw = keyword

Appendix A. Detailed Methods

MEDLINE via Ovid

Database: Ovid MEDLINE(R) ALL <1946 to March 28, 2022>
Search Strategy:

---

1 Breast feeding/ (41475)
2 Milk, Human/ (21372)
3 Breast Milk Expression/ (378)
4 Lactation/ (45545)
5 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation).ti,kf. (38234)
6 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation).ti,ab,kf. (85938)
7 limit 6 to ("in data review" or in process or "pubmed not medline") (7143)
8 or/1-5,7 (104697)
9 Health Promotion/ (78958)
10 Health Education/ (62735)
11 Patient Education as Topic/ (87984)
12 Social Support/ (76308)
13 Counseling/ (38350)
14 Motivational Interviewing/ (2335)
15 Prenatal Education/ (321)
16 Education, Medical/ (59702)
17 Kangaroo-Mother Care Method/ (631)
18 Attitude of Health Personnel/ (129221)
19 Organizational Policy/ (14489)
20 Program development/ (30190)
21 Pacifiers/ (528)
22 motivational interview$.ti,ab,kf. (5030)
23 peer counsel$.ti,ab,kf. (613)
24 group counsel$.ti,ab,kf. (813)
25 social$ support$.ti,ab,kf. (48425)
26 home visit$.ti,ab,kf. (10112)
27 ((staff or nurs$ or midwife$ or midwives or doula$ or doctor$ or physician$ or obstetrician$ or p?ediatrician$) adj5 (train$ or educat$ or teach$ or class$)).ti,ab,kf. (133609)
28 ((prenatal or pre natal or postnatal or post natal or atenatal or ante natal or childbirth$ or child birth$) adj5 (train$ or educat$ or teach$ or class$)).ti,ab,kf. (3917)
29 (kangaroo adj3 care).ti,ab,kf. (940)
30 baby friendly.ti,ab,kf. (1021)
31 skin to skin.ti,ab,kf. (6818)
32 pacifier$.ti,ab,kf. (1179)
33 ((breast feed$ or breast fed or breastfeed$ or breastfed or lactation) adj on demand).ti,ab,kf. (102)
34 rooming in.ti,ab,kf. (793)
35 ((hospital$ or health system$ or health care system$) adj3 (policy or policies or initiative$ or program$ or practice$)).ti,ab,kf. (28789)
36 (express$ adj2 (breastmilk or breast milk)).ti,ab,kf. (718)
37 or/9-36 (705972)
38 8 and 37 (9846)
39 ((incr$ or improv$ or support$ or promot$ or encourag$ or counsel$ or educat$ or train$ or teach$ or class$ or facilitat$ or rate or rates) adj5 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation or newborn feeding or infant feeding)).ti,ab,kf. (17585)

40 ((intervention$ or program$ or clinic or clinics or policy or policies or plan$) adj5 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation or newborn feeding or infant feeding)).ti,ab,kf. (4307)
41 lactation consult$.ti,ab,kf. (506)
42 or/38-41 (23879)
43 limit 42 to (english language and yr="2015 -Current") (8652)
44 43 not (animals/ not humans/) (7865)
45 (randomized controlled trial or controlled clinical trial or clinical trial).pt. or clinical trials as topic/ or exp Randomized Controlled Trials as Topic/ or (randomized or randomised or placebo or randomly or phase iii or phase 3 or controlled trial).ti,ab. or trial.ti. (1760369)
46 control groups/ or double-blind method/ or single-blind method/ (203405)
47 (RCT or sham or dummy or single blind$ or double blind$ or allocated or allocation or triple blind$ or treble blind$ or random$ or control group).ti,ab. not medline.st. (249982)
48 45 or 46 or 47 (1890318)
49 44 and 48 (1296)

Medline via Ovid – bridge 2023

Ovid MEDLINE(R) ALL <1946 to May 11, 2023>
1 Breast feeding/ 43533
2 Milk, Human/ 22476
3 Breast Milk Expression/ 389
4 Lactation/ 47490
5 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation).ti,kf. 40829
6 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation).ti,ab,kf. 91659
7 limit 6 to ("in data review" or in process or "pubmed not medline") 8241
8 or/1-5,7 110243
9 Health Promotion/ 81107
10 Health Education/ 63550
11 Patient Education as Topic/ 88260
12 Social Support/ 78535
13 Counseling/ 39574
14 Motivational Interviewing/ 2540
15 Prenatal Education/ 345
16 Education, Medical/ 60904
17 Kangaroo-Mother Care Method/ 726
18 Attitude of Health Personnel/ 131204
19 Organizational Policy/ 14520
20 Program development/ 30294
21 Pacifiers/ 550
22 motivational interview$.ti,ab,kf. 5544
23 peer counsel$.ti,ab,kf. 650
24 group counsel$.ti,ab,kf. 877
25 social$ support$.ti,ab,kf. 54269
26 home visit$.ti,ab,kf. 10850
27 ((staff or nurs$ or midwife$ or midwives or doula$ or doctor$ or physician$ or obstetrician$ or p?ediatrician$) adj5 (train$ or educat$ or teach$ or class$)).ti,ab,kf. 142826
28 ((prenatal or pre natal or postnatal or post natal or atenatal or ante natal or childbirth$ or child birth$) adj5 (train$ or educat$ or teach$ or class$)).ti,ab,kf. 4225

29 (kangaroo adj3 care).ti,ab,kf. 1090
30 baby friendly.ti,ab,kf. 1091
31 skin to skin.ti,ab,kf. 7429
32 pacifier$.ti,ab,kf. 1242
33 ((breast feed$ or breast fed or breastfeed$ or breastfed or lactation) adj on demand).ti,ab,kf. 107
34 rooming in.ti,ab,kf. 847
35 ((hospital$ or health system$ or health care system$) adj3 (policy or policies or initiative$ or program$ or practice$)).ti,ab,kf. 30867
36 (express$ adj2 (breastmilk or breast milk)).ti,ab,kf. 784
37 or/9-36 732505
38 8 and 37 10336
39 ((incr$ or improv$ or support$ or promot$ or encourag$ or counsel$ or educat$ or train$ or teach$ or class$ or facilitat$ or rate or rates) adj5 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation or newborn feeding or infant feeding)).ti,ab,kf. 18948
40 ((intervention$ or program$ or clinic or clinics or policy or policies or plan$) adj5 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation or newborn feeding or infant feeding)).ti,ab,kf. 4698
41 lactation consult$.ti,ab,kf. 545
42 or/38-41 25538
43 limit 42 to (english language and yr="2015 -Current") 10295
44 43 not (animals/ not humans/) 9416
45 (randomized controlled trial or controlled clinical trial or clinical trial).pt. or clinical trials as topic/ or exp Randomized Controlled Trials as Topic/ or (randomized or randomised or placebo or randomly or phase iii or phase 3 or controlled trial).ti,ab. or trial.ti. 1855278
46 control groups/ or double-blind method/ or single-blind method/ 208625
47 (RCT or sham or dummy or single blind$ or double blind$ or allocated or allocation or triple blind$ or treble blind$ or random$ or control group).ti,ab. not medline.st. 283523
48 45 or 46 or 47 2002571
49 44 and 48 1536
50 (202202* or 202203* or 202204* or 202205* or 202206* or 202207* or 202208* or 202209* or 202210* or 202211* or 202212* or 2023*).dt,da,ez. 2422777
51 49 and 50 313

Medline via Ovid – bridge 2024

Ovid MEDLINE(R) ALL <1946 to May 30, 2024>
1 Breast feeding/ 45110
2 Milk, Human/ 23406
3 Breast Milk Expression/ 407
4 Lactation/ 49176
5 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation).ti,kf. 43326
6 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation).ti,ab,kf. 96879
7 limit 6 to ("in data review" or in process or "pubmed not medline") 9661
8 or/1-5,7 115499
9 Health Promotion/ 82900
10 Health Education/ 64291
11 Patient Education as Topic/ 88702
12 Social Support/ 80332

13 Counseling/ 40548
14 Motivational Interviewing/ 2690
15 Prenatal Education/ 365
16 Education, Medical/ 62076
17 Kangaroo-Mother Care Method/ 810
18 Attitude of Health Personnel/ 133184
19 Organizational Policy/ 14550
20 Program development/ 30403
21 Pacifiers/ 559
22 motivational interview$.ti,ab,kf. 6029
23 peer counsel$.ti,ab,kf. 689
24 group counsel$.ti,ab,kf. 938
25 social$ support$.ti,ab,kf. 59410
26 home visit$.ti,ab,kf. 11480
27 ((staff or nurs$ or midwife$ or midwives or doula$ or doctor$ or physician$ or obstetrician$ or p?ediatrician$) adj5 (train$ or educat$ or teach$ or class$)).ti,ab,kf. 151927
28 ((prenatal or pre natal or postnatal or post natal or ante natal or childbirth$ or child birth$) adj5 (train$ or educat$ or teach$ or class$)).ti,ab,kf. 4500
29 (kangaroo adj3 care).ti,ab,kf. 1183
30 baby friendly.ti,ab,kf. 1142
31 skin to skin.ti,ab,kf. 7994
32 pacifier$.ti,ab,kf. 1290
33 ((breast feed$ or breast fed or breastfeed$ or breastfed or lactation) adj on demand).ti,ab,kf. 111
34 rooming in.ti,ab,kf. 883
35 ((hospital$ or health system$ or health care system$) adj3 (policy or policies or initiative$ or program$ or practice$)).ti,ab,kf. 32695
36 (express$ adj2 (breastmilk or breast milk)).ti,ab,kf. 841
37 or/9-36 757218
38 8 and 37 10753
39 ((incr$ or improv$ or support$ or promot$ or encourag$ or counsel$ or educat$ or train$ or teach$ or class$ or facilitat$ or rate or rates) adj5 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation or newborn feeding or infant feeding)).ti,ab,kf. 20307
40 ((intervention$ or program$ or clinic or clinics or policy or policies or plan$) adj5 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation or newborn feeding or infant feeding)).ti,ab,kf. 5084
41 lactation consult$.ti,ab,kf. 588
42 or/38-41 27164
43 limit 42 to (english language and yr="2015 -Current") 11872
44 43 not (animals/ not humans/) 10896
45 (randomized controlled trial or controlled clinical trial or clinical trial).pt. or clinical trials as topic/ or exp Randomized Controlled Trials as Topic/ or (randomized or randomised or placebo or randomly or phase iii or phase 3 or controlled trial).ti,ab. or trial.ti. 1944356
46 control groups/ or double-blind method/ or single-blind method/ 213222
47 (RCT or sham or dummy or single blind$ or double blind$ or allocated or allocation or triple blind$ or treble blind$ or random$ or control group).ti,ab. not medline.st. 328079
48 45 or 46 or 47 2113585
49 44 and 48 1786

50 (202304* or 202305* or 202306* or 202307* or 202308* or 202309* or 20231* or 2024*).dt,da,ez. 1993988
51 49 and 50 298
52 (antenatal adj5 (train$ or educat$ or teach$ or class$)).ti,ab,kf. 2108
53 52 not 37 1280
54 8 and 48 and 53 11
55 51 or 54 306

PsycInfo via Ovid
Database: APA PsycInfo <1806 to March Week 3 2022>
Search Strategy:
---
1 Breast Feeding/ (3900)
2 Lactation/ (1639)
3 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation).ti,ab,id. (8459)
4 1 or 2 or 3 (9124)
5 Health Promotion/ (26945)
6 Counseling/ (24668)
7 Counselors/ (8846)
8 Motivational Interviewing/ (2819)
9 Client Education/ (4351)
10 Health Education/ (14113)
11 Childbirth Training/ (234)
12 Support Groups/ (4467)
13 Social Support/ (40256)
14 Prenatal Care/ (2032)
15 Policy Making/ (26307)
16 Organizational Behavior/ (32497)
17 Personnel Training/ (9994)
18 promotion & maintenance of health & wellness.cc. (68457)
19 motivational interview$.ti,ab,id. (4314)
20 peer counsel$.ti,ab,id. (778)
21 group counsel$.ti,ab,id. (3783)
22 social$ support$.ti,ab,id. (56609)
23 home visit$.ti,ab,id. (4783)
24 ((staff or nurs$ or midwife$ or midwives or doula$ or doctor$ or physician$ or obstetrician$ or p?ediatrician$) adj5 (train$ or educat$ or teach$ or class$)).ti,ab,id. (46423)
25 ((prenatal or pre natal or postnatal or post natal or atenatal or ante natal or childbirth$ or child birth$) adj5 (train$ or educat$ or teach$ or class$)).ti,ab,id. (1226)
26 (kangaroo adj3 care).ti,ab,id. (157)
27 baby friendly.ti,ab,id. (122)
28 skin to skin.ti,ab,id. (506)
29 pacifier$.ti,ab,id. (236)
30 ((breast feed$ or breast fed or breastfeed$ or breastfed or lactation) adj on demand).ti,ab,id. (12)
31 rooming in.ti,ab,id. (133)
32 ((hospital$ or health system$ or health care system$) adj3 (policy or policies or initiative$ or program$ or practice$)).ti,ab,id. (6761)
33 or/5-32 (312997)

34 4 and 33 (1809)
35 ((incr$ or improv$ or support$ or promot$ or encourag$ or counsel$ or educat$ or train$ or teach$ or class$ or facilitat$ or rate or rates) adj5 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation or newborn feeding or infant feeding)).ti,ab,id. (2513)
36 ((intervention$ or program$ or clinic or clinics or policy or policies or plan$) adj5 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation or newborn feeding or infant feeding)).ti,ab,id. (791)
37 lactation consult$.ti,ab,id. (80)
38 34 or 35 or 36 or 37 (3429)
39 limit 38 to (english language and yr="2015 -Current") (1234)
40 exp randomized controlled trials/ or placebo/ or random sampling/ or experiment controls/ (9051)
41 (randomized or randomised or placebo or randomly or phase iii or phase 3 or controlled trial or RCT or sham or dummy or single blind$ or double blind$ or allocated or allocation or triple blind$ or treble blind$ or randomly or control group).ti,ab. or trial.ti. (285987)
42 40 or 41 (287299)
43 38 and 42 (434)

PsycInfo via Ovid – bridge 2023
APA PsycInfo <1806 to May Week 2 2023>
1 Breast Feeding/ 4166
2 Lactation/ 1719
3 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation).ti,ab,id. 8877
4 1 or 2 or 3 9564
5 Health Promotion/ 28408
6 Counseling/ 25612
7 Counselors/ 9365
8 Motivational Interviewing/ 3025
9 Client Education/ 4576
10 Health Education/ 14765
11 Childbirth Training/ 251
12 Support Groups/ 4612
13 Social Support/ 43290
14 Prenatal Care/ 2225
15 Policy Making/ 29942
16 Organizational Behavior/ 33511
17 Personnel Training/ 10488
18 promotion & maintenance of health & wellness.cc. 73040
19 motivational interview$.ti,ab,id. 4625
20 peer counsel$.ti,ab,id. 797
21 group counsel$.ti,ab,id. 3854
22 social$ support$.ti,ab,id. 60572
23 home visit$.ti,ab,id. 5056
24 ((staff or nurs$ or midwife$ or midwives or doula$ or doctor$ or physician$ or obstetrician$ or p?ediatrician$) adj5 (train$ or educat$ or teach$ or class$)).ti,ab,id. 49006
25 ((prenatal or pre natal or postnatal or post natal or atenatal or ante natal or childbirth$ or child birth$) adj5 (train$ or educat$ or teach$ or class$)).ti,ab,id. 1286
26 (kangaroo adj3 care).ti,ab,id. 172
27 baby friendly.ti,ab,id. 126
28 skin to skin.ti,ab,id. 539

29 pacifier$.ti,ab,id. 243
30 ((breast feed$ or breast fed or breastfeed$ or breastfed or lactation) adj on demand).ti,ab,id. 12
31 rooming in.ti,ab,id. 137
32 ((hospital$ or health system$ or health care system$) adj3 (policy or policies or initiative$ or program$ or practice$)).ti,ab,id. 7057
33 or/5-32 332821
34 4 and 33 1931
35 ((incr$ or improv$ or support$ or promot$ or encourag$ or counsel$ or educat$ or train$ or teach$ or class$ or facilitat$ or rate or rates) adj5 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation or newborn feeding or infant feeding)).ti,ab,id. 2659
36 ((intervention$ or program$ or clinic or clinics or policy or policies or plan$) adj5 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation or newborn feeding or infant feeding)).ti,ab,id. 830
37 lactation consult$.ti,ab,id. 84
38 34 or 35 or 36 or 37 3637
39 limit 38 to (english language and yr="2015 -Current") 1439
40 exp randomized controlled trials/ or placebo/ or random sampling/ or experiment controls/ 9631
41 (randomized or randomised or placebo or randomly or phase iii or phase 3 or controlled trial or RCT or sham or dummy or single blind$ or double blind$ or allocated or allocation or triple blind$ or treble blind$ or randomly or control group).ti,ab. or trial.ti. 302005
42 40 or 41 303367
43 38 and 42 458
44 (202202* or 202203* or 202204* or 202205* or 202206* or 202207* or 202208* or 202209* or 202210* or 202211* or 202212* or 2023*).up. 237959
45 43 and 44 27

PsycInfo via Ovid – bridge 2023

APA PsycInfo <1806 to May Week 4 2024>
1 Breast Feeding/ 4447
2 Lactation/ 1793
3 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation).ti,ab,id. 9301
4 1 or 2 or 3 10002
5 Health Promotion/ 29756
6 Counseling/ 26456
7 Counselors/ 9824
8 Motivational Interviewing/ 3204
9 Client Education/ 4795
10 Health Education/ 15368
11 Childbirth Training/ 261
12 Support Groups/ 4778
13 Social Support/ 46122
14 Prenatal Care/ 2406
15 Policy Making/ 33134
16 Organizational Behavior/ 34694
17 Personnel Training/ 10954
18 promotion & maintenance of health & wellness.cc. 78363

19 motivational interview$.ti,ab,id. 4884
20 peer counsel$.ti,ab,id. 814
21 group counsel$.ti,ab,id. 3912
22 social$ support$.ti,ab,id. 64524
23 home visit$.ti,ab,id. 5319
24 ((staff or nurs$ or midwife$ or midwives or doula$ or doctor$ or physician$ or obstetrician$ or p?ediatrician$) adj5 (train$ or educat$ or teach$ or class$)).ti,ab,id. 51873
25 ((prenatal or pre natal or postnatal or post natal or atenatal or ante natal or childbirth$ or child birth$) adj5 (train$ or educat$ or teach$ or class$)).ti,ab,id. 1358
26 (kangaroo adj3 care).ti,ab,id. 182
27 baby friendly.ti,ab,id. 131
28 skin to skin.ti,ab,id. 571
29 pacifier$.ti,ab,id. 254
30 ((breast feed$ or breast fed or breastfeed$ or breastfed or lactation) adj on demand).ti,ab,id. 12
31 rooming in.ti,ab,id. 141
32 ((hospital$ or health system$ or health care system$) adj3 (policy or policies or initiative$ or program$ or practice$)).ti,ab,id. 7413
33 or/5-32 353021
34 4 and 33 2039
35 ((incr$ or improv$ or support$ or promot$ or encourag$ or counsel$ or educat$ or train$ or teach$ or class$ or facilitat$ or rate or rates) adj5 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation or newborn feeding or infant feeding)).ti,ab,id. 2819
36 ((intervention$ or program$ or clinic or clinics or policy or policies or plan$) adj5 (breast feed$ or breast fed or breastfeed$ or breastfed or lactation or newborn feeding or infant feeding)).ti,ab,id. 877
37 lactation consult$.ti,ab,id. 90
38 34 or 35 or 36 or 37 3865
39 limit 38 to (english language and yr="2015 -Current") 1679
40 exp randomized controlled trials/ or placebo/ or random sampling/ or experiment controls/ 10137
41 (randomized or randomised or placebo or randomly or phase iii or phase 3 or controlled trial or RCT or sham or dummy or single blind$ or double blind$ or allocated or allocation or triple blind$ or treble blind$ or randomly or control group).ti,ab. or trial.ti. 318513
42 40 or 41 319915
43 38 and 42 488
44 (202304* or 202305* or 202306* or 202307* or 202308* or 202309* or 20231* or 2024*).up. 229186
45 43 and 44 33

Cochrane Central Register of Controlled Clinical Trials (CENTRAL) via Wiley
Date Run: 30/03/2022 03:32:27
ID Search Hits
#1 (breastfeed* or breastfed or "breast fed" or lactation):ti,ab,kw 9943
#2 (breast next feed*):ti,ab,kw 5675
#3 (infant or newborn):ti,ab,kw next feeding:ti,ab,kw 1065
#4 #1 or #2 or #3 12007
#5 (motivational next interview*):ti,ab,kw 4589

#6 (peer next counsel*):ti,ab,kw 306
#7 (group next counsel*):ti,ab,kw 809
#8 (social* next support*):ti,ab,kw 9080
#9 (home next visit*):ti,ab,kw 4176
#10 (staff or nurs* or midwife* or midwives or doula* or doctor* or physician* or obstetrician* or pediatrician* or paediatrician*):ti,ab,kw near/5 (train* or educat* or teach* or class*):ti,ab,kw 15082
#11 (prenatal or "pre natal" or postnatal or "post natal" or atenatal or "ante natal" or childbirth* or (child next birth*)) near/5 (train* or educat* or teach* or class*):ti,ab,kw 969
#12 (kangaroo near/3 care):ti,ab,kw 566
#13 "baby friendly":ti,ab,kw 103
#14 "skin to skin":ti,ab,kw 560
#15 pacifier*:ti,ab,kw 318
#16 (breast next feed*):ti,ab,kw near/3 demand:ti,ab,kw 4
#17 (breast fed or breastfeed* or breastfed or lactation):ti,ab,kw near/3 demand:ti,ab,kw 29
#18 "rooming in":ti,ab,kw 81
#19 (hospital* or "health system" or "health systems" or "health care system" or "health care systems"):ti,ab,kw near/3 (policy or policies or initiative* or program* or practice*):ti,ab,kw 3850
#20 {or #5-#19} 37683
#21 #4 and #20 1547
#22 ((incr* or improv* or support* or promot* or encourag* or counsel* or educat* or train* or teach* or class* or facilitat* or rate or rates) near/5 ((breast next feed*) or "breast fed" or breastfeed* or breastfed or lactation or "newborn feeding" or "infant feeding")):ti,ab,kw 2707
#23 (intervention* or program* or clinic or clinics or policy or policies or plan*):ti,ab,kw near/5 ((breast next feed*) or "breast fed" or breastfeed* or breastfed or lactation or "newborn feeding" or "infant feeding"):ti,ab,kw 1505
#24 (lactation next consult*):ti,ab,kw 130
#25 #21 or #22 or #23 or #24 with Publication Year from 2015 to present, in Trials 2164

Cochrane via Wiley – bridge 2023
Date Run: 12/05/2023 18:56:07
ID Search Hits
#1 (breastfeed* or breastfed or "breast fed" or lactation):ti,ab,kw 11017
#2 (breast next feed*):ti,ab,kw 6296
#3 (infant or newborn):ti,ab,kw next feeding:ti,ab,kw 1152
#4 #1 or #2 or #3 13315
#5 (motivational next interview*):ti,ab,kw 5073
#6 (peer next counsel*):ti,ab,kw 326
#7 (group next counsel*):ti,ab,kw 884
#8 (social* next support*):ti,ab,kw 10078
#9 (home next visit*):ti,ab,kw 4576
#10 (staff or nurs* or midwife* or midwives or doula* or doctor* or physician* or obstetrician* or pediatrician* or paediatrician*):ti,ab,kw near/5 (train* or educat* or teach* or class*):ti,ab,kw 17121
#11 (prenatal or "pre natal" or postnatal or "post natal" or atenatal or "ante natal" or childbirth* or (child next birth*)) near/5 (train* or educat* or teach* or class*):ti,ab,kw 1108
#12 (kangaroo near/3 care):ti,ab,kw 664
#13 "baby friendly":ti,ab,kw 107
#14 "skin to skin":ti,ab,kw 644
#15 pacifier*:ti,ab,kw 342

#16 (breast next feed*):ti,ab,kw near/3 demand:ti,ab,kw 4
#17 (breast fed or breastfeed* or breastfed or lactation):ti,ab,kw near/3 demand:ti,ab,kw 27
#18 "rooming in":ti,ab,kw 87
#19 (hospital* or "health system" or "health systems" or "health care system" or "health care systems"):ti,ab,kw near/3 (policy or policies or initiative* or program* or practice*):ti,ab,kw 4153
#20 {or #5-#19} 42036
#21 #4 and #20 1745
#22 ((incr* or improv* or support* or promot* or encourag* or counsel* or educat* or train* or teach* or class* or facilitat* or rate or rates) near/5 ((breast next feed*) or "breast fed" or breastfeed* or breastfed or lactation or "newborn feeding" or "infant feeding")):ti,ab,kw 3020
#23 (intervention* or program* or clinic or clinics or policy or policies or plan*):ti,ab,kw near/5 ((breast next feed*) or "breast fed" or breastfeed* or breastfed or lactation or "newborn feeding" or "infant feeding"):ti,ab,kw 1685
#24 (lactation next consult*):ti,ab,kw 148
#25 #21 or #22 or #23 or #24 with Publication Year from 2015 to present, with Cochrane Library publication date from Feb 2022 to present, in Trials 540
#26 #25 NOT conference:pt 514
#27 #26 NOT (clinicaltrials or trialsearch):so 265

Cochrane via Wiley – bridge 2024
Date Run: 03/06/2024 20:31:51
ID Search Hits
#1 (breastfeed* or breastfed or "breast fed" or lactation):ti,ab,kw 12084
#2 (breast next feed*):ti,ab,kw 6837
#3 (infant or newborn):ti,ab,kw next feeding:ti,ab,kw 1256
#4 #1 or #2 or #3 14552
#5 (motivational next interview*):ti,ab,kw 5511
#6 (peer next counsel*):ti,ab,kw 349
#7 (group next counsel*):ti,ab,kw 940
#8 (social* next support*):ti,ab,kw 10987
#9 (home next visit*):ti,ab,kw 4823
#10 (staff or nurs* or midwife* or midwives or doula* or doctor* or physician* or obstetrician* or pediatrician* or paediatrician*):ti,ab,kw near/5 (train* or educat* or teach* or class*):ti,ab,kw 18806
#11 ((prenatal or "pre natal" or postnatal or "post natal" or "ante natal" or childbirth* or (child next birth*)) near/5 (train* or educat* or teach* or class*)):ti,ab,kw 1234
#12 (kangaroo near/3 care):ti,ab,kw 745
#13 "baby friendly":ti,ab,kw 117
#14 "skin to skin":ti,ab,kw 712
#15 pacifier*:ti,ab,kw 373
#16 (breast next feed*):ti,ab,kw near/3 demand:ti,ab,kw 4
#17 (breast fed or breastfeed* or breastfed or lactation):ti,ab,kw near/3 demand:ti,ab,kw 29
#18 "rooming in":ti,ab,kw 99
#19 (hospital* or "health system" or "health systems" or "health care system" or "health care systems"):ti,ab,kw near/3 (policy or policies or initiative* or program* or practice*):ti,ab,kw 4449
#20 {or #5-#19} 45794
#21 #4 and #20 1917

#22 ((incr* or improv* or support* or promot* or encourag* or counsel* or educat* or train* or teach* or class* or facilitat* or rate or rates) near/5 ((breast next feed*) or "breast fed" or breastfeed* or breastfed or lactation or "newborn feeding" or "infant feeding")):ti,ab,kw 3381
#23 (intervention* or program* or clinic or clinics or policy or policies or plan*):ti,ab,kw near/5 ((breast next feed*) or "breast fed" or breastfeed* or breastfed or lactation or "newborn feeding" or "infant feeding"):ti,ab,kw 1850
#24 (lactation next consult*):ti,ab,kw 154
#25 #21 or #22 or #23 or #24 with Publication Year from 2015 to present, with Cochrane Library publication date from Apr 2023 to present, in Trials 530
#26 (antenatal near/5 (train* or educat* or teach* or class*)):ti,ab,kw in Trials 406
#27 #26 NOT #20 190
#28 #4 and #27 40
#29 #25 or #28 564
#30 #29 NOT conference:pt 525
#31 #30 NOT (clinicaltrials or trialsearch):so 240

CINAHL via Ebsco
S7 S5 AND S6 Limiters - Published Date: 20150101-; English Language
Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 1,643
S6 (MH randomized controlled trials) or (MH double-blind studies) or (MH single-blind studies) or (MH random assignment) or (MH pretest-posttest design) or (MH cluster sample) or (TI (randomised OR randomized)) or (AB (random*)) or (TI (trial)) or (MH (sample size) AND AB (assigned OR allocated OR control)) or (MH (placebos)) or (PT (randomized controlled trial)) or (AB (control W5 group)) or (MH (crossover design) OR MH (comparative studies)) or (AB (cluster W3 RCT)) Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 944,865
S5 S3 OR S4 Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 16,127
S4 ((MH “Breast Feeding Promotion”) OR (MH “Breast Feeding/ED”)) OR ((MH “Lactation Consultants”) OR TI “lactation consult*” OR AB “lactation consult*”) OR (TI (((incr* or improv* or support* or promot* or encourag* or counsel* or educat* or train* or teach* or class* or facilitat* or rate or rates) N5 (“breast feed*” or “breast fed” or breastfeed* or breastfed or lactation or “newborn feeding” or “infant feeding”))) OR AB (((incr* or improv* or support* or promot* or encourag* or counsel* or educat* or train* or teach* or class* or facilitat* or rate or rates) N5 (“breast feed*” or “breast fed” or breastfeed* or breastfed or lactation or “newborn feeding” or “infant feeding”)))) OR (TI (((intervention* or program* or clinic or clinics or policy or policies or plan*) N5 (“breast feed*” or “breast fed” or breastfeed* or breastfed or lactation or “newborn feeding” or “infant feeding”))) OR AB (((intervention* or program* or clinic or clinics or policy or policies or plan*) N5 (“breast feed*” or “breast fed” or breastfeed* or breastfed or lactation or “newborn feeding” or “infant feeding”))))
Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases

Appendix A. Detailed Methods

Search Screen - Advanced Search
Database - CINAHL with Full Text 13,845
S3 S1 AND S2 Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 5,937
S2 ((MH "Counseling") OR (MH "Peer Counseling") OR (MH "Motivational Interviewing") OR (MH "Counselors") OR (MH "Nurse Counselors") OR (MH "Nutritional Counseling") OR (MH "Health Education") OR (MH "Patient Education") OR (MH "Patient Discharge Education") OR (MH "Prenatal Counseling") OR (MH "Parenting Education") OR (MH "Childbirth Education") OR (MH "Kangaroo Care") OR (MH "Rooming In") OR (MH "Program Implementation") OR (MH "Hospital Programs")) OR ((TI "motivational interview*" OR AB "motivational interview*") OR (TI "peer counsel*" OR AB "peer counsel*") OR (TI "group counsel*" OR AB "group counsel*") OR (TI "social* support*" OR AB "social* support*") OR (TI "home visit*" OR AB "home visit*") OR (TI "baby friendly" OR AB "baby friendly") OR (TI "skin to skin" OR AB "skin to skin") OR (TI pacifier* OR AB pacifier*) OR (TI "rooming in" OR AB "rooming in")) OR (TI ((((staff or nurs* or midwife* or midwives or doula* or doctor* or physician* or obstetrician* or pediatrician* or paediatrician*) N5 (train* or educat* or teach* or class*))) OR AB ((((staff or nurs* or midwife* or midwives or doula* or doctor* or physician* or obstetrician* or pediatrician* or paediatrician*) N5 (train* or educat* or teach* or class*)))) OR (TI (((prenatal or pre natal or postnatal or post natal or atenatal or ante natal or childbirth* or "child birth*") N5 (train* or educat* or teach* or class*))) OR AB (((prenatal or pre natal or postnatal or post natal or atenatal or ante natal or childbirth* or "child birth*") N5 (train* or educat* or teach* or class*)))) OR (TI (kangaroo N3 care) OR AB (kangaroo N3 care)) OR (TI (((“breast feed*" or "breast fed" or breastfeed* or breastfed or lactation) N1 "on demand")) OR AB (((“breast feed*" or "breast fed" or breastfeed* or breastfed or lactation) N1 "on demand"))) OR (TI (((hospital* or "health system" or "health systems" or "health care system" or "health care systems") N3 (policy or policies or initiative* or program* or practice*))) OR AB (((hospital* or "health system" or "health systems" or "health care system" or "health care systems") N3 (policy or policies or initiative* or program* or practice*)))) Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 342,580
S1 ((MH "Breast Feeding") OR (MH "Attitude to Breast Feeding") OR (MH "Breast Feeding Positions") OR (MH "Latching, Breastfeeding") OR (MH "Milk Expression")) OR (TI (breastfeed* OR "breast feed*") OR AB (breastfeed* OR "breast feed*")) OR (TI (breastfed OR "breast fed") OR AB (breastfed OR "breast fed")) OR (TI lactation OR AB lactation) Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 37,013

CINAHL via Ebsco – bridge 2023
S1 ((MH "Breast Feeding") OR (MH "Attitude to Breast Feeding") OR (MH "Breast Feeding Positions") OR (MH "Latching, Breastfeeding") OR (MH "Milk Expression")) OR (TI (breastfeed* OR "breast feed*") OR AB (breastfeed* OR "breast feed*")) OR (TI (breastfed OR "breast fed") OR AB (breastfed OR "breast fed")) OR (TI lactation OR AB lactation) Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 38,716

S2 ((MH “Counseling”) OR (MH “Peer Counseling”) OR (MH “Motivational Interviewing”) OR (MH “Counselors”) OR (MH “Nurse Counselors”) OR (MH “Nutritional Counseling”) OR (MH “Health Education”) OR (MH “Patient Education”) OR (MH “Patient Discharge Education”) OR (MH “Prenatal Counseling”) OR (MH “Parenting Education”) OR (MH “Childbirth Education”) OR (MH “Kangaroo Care”) OR (MH “Rooming In”) OR (MH “Program Implementation”) OR (MH “Hospital Programs”)) OR ((TI “motivational interview*” OR AB “motivational interview*”) OR (TI “peer counsel*” OR AB “peer counsel*”) OR (TI “group counsel*” OR AB “group counsel*”) OR (TI “social* support*” OR AB “social* support*”) OR (TI “home visit*” OR AB “home visit*”) OR (TI “baby friendly” OR AB “baby friendly”) OR (TI “skin to skin” OR AB “skin to skin”) OR (TI pacifier* OR AB pacifier*) OR (TI “rooming in” OR AB “rooming in”)) OR (TI ((((staff or nurs* or midwife* or midwives or doula* or doctor* or physician* or obstetrician* or pediatrician* or paediatrician*) N5 (train* or educat* or teach* or class*))) OR AB ((((staff or nurs* or midwife* or midwives or doula* or doctor* or physician* or obstetrician* or pediatrician* or paediatrician*) N5 (train* or educat* or teach* or class*)))) OR (TI (((prenatal or pre natal or postnatal or post natal or atenatal or ante natal or childbirth* or “child birth*”) N5 (train* or educat* or teach* or class*))) OR AB (((prenatal or pre natal or postnatal or post natal or atenatal or ante natal or childbirth* or “child birth*”) N5 (train* or educat* or teach* or class*)))) OR (TI (kangaroo N3 care) OR AB (kangaroo N3 care)) OR (TI (((“breast feed*” or “breast fed” or breastfeed* or breastfed or lactation) N1 “on demand”)) OR AB (((“breast feed*” or “breast fed” or breastfeed* or breastfed or lactation) N1 “on demand”))) OR (TI (((hospital* or “health system” or “health systems” or “health care system” or “health care systems”) N3 (policy or policies or initiative* or program* or practice*))) OR AB (((hospital* or “health system” or “health systems” or “health care system” or “health care systems”) N3 (policy or policies or initiative* or program* or practice*)))) Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 355,627
S3 S1 AND S2 Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 6,250
S4 ((MH “Breast Feeding Promotion”) OR (MH “Breast Feeding/ED”)) OR ((MH “Lactation Consultants”) OR TI “lactation consult*” OR AB “lactation consult*”) OR (TI (((incr* or improv* or support* or promot* or encourag* or counsel* or educat* or train* or teach* or class* or facilitat* or rate or rates) N5 (“breast feed*” or “breast fed” or breastfeed* or breastfed or lactation or “newborn feeding” or “infant feeding”))) OR AB (((incr* or improv* or support* or promot* or encourag* or counsel* or educat* or train* or teach* or class* or facilitat* or rate or rates) N5 (“breast feed*” or “breast fed” or breastfeed* or breastfed or lactation or “newborn feeding” or “infant feeding”)))) OR (TI (((intervention* or program* or clinic or clinics or policy or policies or plan*) N5 (“breast feed*” or “breast fed” or breastfeed* or breastfed or lactation or “newborn feeding” or “infant feeding”))) OR AB (((intervention* or program* or clinic or clinics or policy or policies or plan*) N5 (“breast feed*” or “breast fed” or breastfeed* or breastfed or lactation or “newborn feeding” or “infant feeding”))))
Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 14,640
S5 S3 OR S4 Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 16,998

S6 (MH randomized controlled trials) or (MH double-blind studies) or (MH single-blind studies) or (MH random assignment) or (MH pretest-posttest design) or (MH cluster sample) or (TI (randomised OR randomized)) or (AB (random*)) or (TI (trial)) or (MH (sample size) AND AB (assigned OR allocated OR control)) or (MH (placebos)) or (PT (randomized controlled trial)) or (AB (control W5 group)) or (MH (crossover design) OR MH (comparative studies)) or (AB (cluster W3 RCT)) Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 1,001,645
S7 S5 AND S6 Limiters - Published Date: 20210201-; English Language
Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 514

CINAHL via Ebsco – bridge 2024
S1 ((MH “Breast Feeding”) OR (MH “Attitude to Breast Feeding”) OR (MH “Breast Feeding Positions”) OR (MH “Latching, Breastfeeding”) OR (MH “Milk Expression”)) OR (TI (breastfeed* OR “breast feed*”) OR AB (breastfeed* OR “breast feed*”)) OR (TI (breastfed OR “breast fed”) OR AB (breastfed OR “breast fed”)) OR (TI lactation OR AB lactation) Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 39,926
S2 ((MH “Counseling”) OR (MH “Peer Counseling”) OR (MH “Motivational Interviewing”) OR (MH “Counselors”) OR (MH “Nurse Counselors”) OR (MH “Nutritional Counseling”) OR (MH “Health Education”) OR (MH “Patient Education”) OR (MH “Patient Discharge Education”) OR (MH “Prenatal Counseling”) OR (MH “Parenting Education”) OR (MH “Childbirth Education”) OR (MH “Kangaroo Care”) OR (MH “Rooming In”) OR (MH “Program Implementation”) OR (MH “Hospital Programs”)) OR ((TI “motivational interview*” OR AB “motivational interview*”) OR (TI “peer counsel*” OR AB “peer counsel*”) OR (TI “group counsel*” OR AB “group counsel*”) OR (TI “social* support*” OR AB “social* support*”) OR (TI “home visit*” OR AB “home visit*”) OR (TI “baby friendly” OR AB “baby friendly”) OR (TI “skin to skin” OR AB “skin to skin”) OR (TI pacifier* OR AB pacifier*) OR (TI “rooming in” OR AB “rooming in”)) OR (TI ((((staff or nurs* or midwife* or midwives or doula* or doctor* or physician* or obstetrician* or pediatrician* or paediatrician*) N5 (train* or educat* or teach* or class*))) OR AB ((((staff or nurs* or midwife* or midwives or doula* or doctor* or physician* or obstetrician* or pediatrician* or paediatrician*) N5 (train* or educat* or teach* or class*)))) OR (TI (((prenatal or pre natal or postnatal or post natal or ante natal or childbirth* or “child birth*”) N5 (train* or educat* or teach* or class*))) OR AB (((prenatal or pre natal or postnatal or post natal or ante natal or childbirth* or “child birth*”) N5 (train* or educat* or teach* or class*)))) OR (TI (kangaroo N3 care) OR AB (kangaroo N3 care)) OR (TI (((“breast feed*” or “breast fed” or breastfeed* or breastfed or lactation) N1 “on demand”)) OR AB (((“breast feed*” or “breast fed” or breastfeed* or breastfed or lactation) N1 “on demand”))) OR (TI (((hospital* or “health system” or “health systems” or “health care system” or “health care systems”) N3 (policy or policies or initiative* or program* or practice*))) OR AB (((hospital* or “health system” or “health systems” or “health care system” or “health care systems”) N3 (policy or policies or initiative* or program* or practice*)))) Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 364,613

S3 S1 AND S2 Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 6,418
S4 ((MH "Breast Feeding Promotion") OR (MH "Breast Feeding/ED")) OR ((MH "Lactation Consultants") OR TI "lactation consult*" OR AB "lactation consult*") OR (TI (((incr* or improv* or support* or promot* or encourag* or counsel* or educat* or train* or teach* or class* or facilitat* or rate or rates) N5 ("breast feed*" or "breast fed" or breastfeed* or breastfed or lactation or "newborn feeding" or "infant feeding"))) OR AB (((incr* or improv* or support* or promot* or encourag* or counsel* or educat* or train* or teach* or class* or facilitat* or rate or rates) N5 ("breast feed*" or "breast fed" or breastfeed* or breastfed or lactation or "newborn feeding" or "infant feeding")))) OR (TI (((intervention* or program* or clinic or clinics or policy or policies or plan*) N5 ("breast feed*" or "breast fed" or breastfeed* or breastfed or lactation or "newborn feeding" or "infant feeding"))) OR AB (((intervention* or program* or clinic or clinics or policy or policies or plan*) N5 ("breast feed*" or "breast fed" or breastfeed* or breastfed or lactation or "newborn feeding" or "infant feeding"))))
Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 15,093
S5 S3 OR S4 Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 17,532
S6 (MH randomized controlled trials) or (MH double-blind studies) or (MH single-blind studies) or (MH random assignment) or (MH pretest-posttest design) or (MH cluster sample) or (TI (randomised OR randomized)) or (AB (random*)) or (TI (trial)) or (MH (sample size) AND AB (assigned OR allocated OR control)) or (MH (placebos)) or (PT (randomized controlled trial)) or (AB (control W5 group)) or (MH (crossover design) OR MH (comparative studies)) or (AB (cluster W3 RCT)) Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 1,047,239
S7 S5 AND S6 Limiters - Publication Date: 20230401-; English Language
Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 204
S8 TI ((antenatal N5 (train* or educat* or teach* or class*))) OR AB ((antenatal N5 (train* or educat* or teach* or class*))) Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 1,401
S9 S8 NOT S2 Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 688
S10 S1 AND S6 AND S9 Limiters - English Language
Expanders - Apply equivalent subjects

Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 20
S11 S7 OR S10 Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL with Full Text 221

Appendix A Table 1. Study Selection Criteria

Category	Included	Excluded
Population*	Adolescents or adults involved with or making decisions about feeding their child	• Parents of preterm or very preterm newborns (<34 weeks of gestation or low or very low birth weight [<2,500 g]), because of their special feeding needs • Studies limited to special populations of individuals or infants (e.g., persons in institutions, infants with prenatal disease, infants born to substance-exposed individuals, infants in a neonatal intensive care unit, infants born to HIV-positive individuals)
Interventions	Interventions designed to support breastfeeding and the consumption of breastmilk, including individual or group counseling, peer counseling, home visits, structured education, technology- or computer-based support, distribution of written materials, and support provided prenatally, at time of delivery or postpartum	• Healthcare system–level interventions and hospital policies Mass media campaigns • Worksite lactation programs •
Comparisons	• Usual care, as defined within each study • Wait list control • No attention control	Active breastfeeding support intervention
Outcomes	**KQ 1:** • Maternal health outcomes such as rates of breast and ovarian cancer, diabetes mellitus, weight status, or mental health symptoms • Infant and child health outcomes such as gastrointestinal symptoms, atopic dermatitis, respiratory symptoms, otitis media, asthma, or obesity **KQ 2:** Breastfeeding initiation, duration, intensity,† or exclusivity, as defined within each study **KQ 3:** Harms associated with breastfeeding intervention (e.g., guilt or anxiety related to infant feeding, severity of postpartum depression, increased incidence of maternal mastitis or nipple pain, newborn hyperbilirubinemia, newborn dehydration, infant failure to thrive)	
Setting	Any setting linked with the healthcare system and provision of primary care (e.g., hospital, maternity services, home, or clinic)	• Correctional facilities • Worksites • Inpatient/residential facilities

Appendix A Table 1. Study Selection Criteria

Category	Included	Excluded
Study design	Randomized, clinical trials[§]	Non-randomized studies of interventions
Study geography	Studies that primarily take place in countries categorized as "Very High" on the 2019 Human Development Index (as defined by the United Nations Development Programme)	Studies that primarily take place in countries not categorized as "Very High" on the 2019 Human Development Index
Publication language	Studies published in English	Studies published in any language other than English
Quality rating	Fair- or good-quality studies	Poor-quality studies

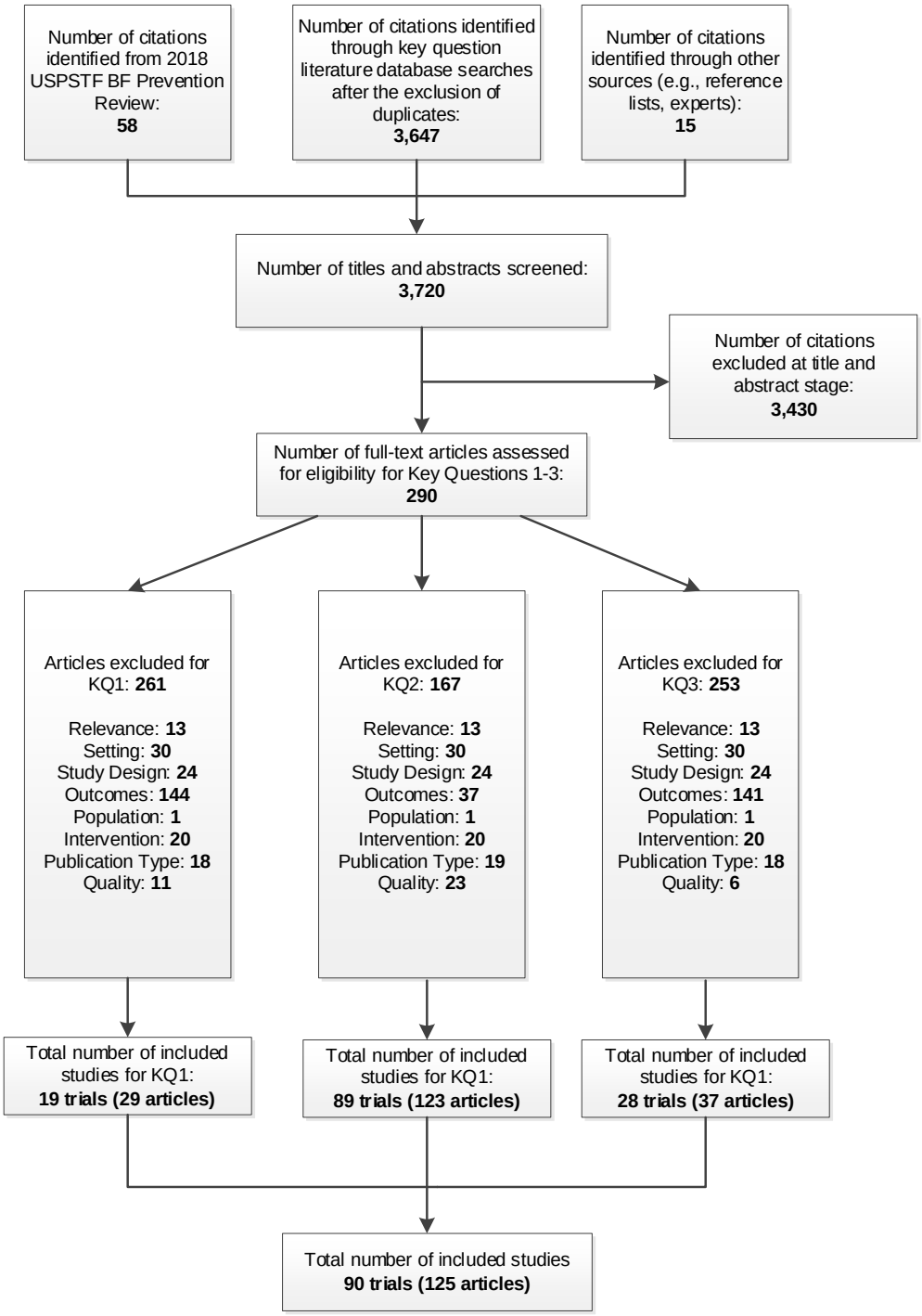
[*] We will aim to accurately describe the gender composition of the studies underlying the included evidence to the extent possible.
[†] Proportion of feedings that are breastmilk.
[§] Randomization to a breastfeeding support intervention or comparator; can include, but are not limited to: parallel, cluster, pragmatic, factorial, and stepped wedge trial designs as appropriate

Appendix A Table 2. Quality Rating Criteria for Randomized Clinical Trials

Quality Criteria*
Bias arising in the randomization process or due to confounding • Valid random assignment/random sequence generation method used • Allocation concealed • Balance in baseline characteristics **Bias due to departures from intended interventions** • Fidelity to the intervention protocol • Low risk of contamination between groups • Participants were analyzed as originally allocated **Bias from missing data** • No, or minimal, post-randomization exclusions • Outcome data are reasonably complete and comparable between groups • Reasons for missing data are similar across groups • Missing data are unlikely to bias results **Bias in measurement of outcomes** • Blinding of outcome assessors • Outcomes are measured using consistent and appropriate procedures and instruments across treatment groups • No evidence of biased use of inferential statistics **Bias in reporting results selectively** • No evidence that the measures, analyses, or subgroup analyses are selectively reported

*Signaling questions from the Cochrane Risk of Bias (RoB 2) tool[1] along with the design specific criteria from the U.S. Preventive Services Task Force Procedure Manual[2]

Appendix B. Literature Flow Diagram



Abbreviations: BF = breastfeeding.

Appendix C. Included Studies

Abbass-Dick J, Stern SB, Nelson LE, et al. Coparenting breastfeeding support and exclusive breastfeeding: a randomized controlled trial. Pediatrics. 2015;135(1):102-10. PMID: 254525653. http://dx.doi.org/10.1542/peds.2014-1416

> Abbass-Dick J. Evaluating the effectiveness of a coparenting breastfeeding support intervention (COSI) on exclusive breastfeeding rates at twelve weeks postpartum. Dissertation Abstracts International: Section B: The Sciences and Engineering. 2013;78(1-B(E)).

Abbass-Dick J, Sun W, Newport A, et al. The comparison of access to an eHealth resource to current practice on mother and co-parent teamwork and breastfeeding rates: A randomized controlled trial. Midwifery. 2020;90:102812. PMID: 32739716. https://dx.doi.org/10.1016/j.midw.2020.102812

Acar Z, Sahin N. Development of a mobile application-based breastfeeding program and evaluation of its effectiveness. J Pediatr Nurs. 2024;74:51-60. PMID: 37995477. https://dx.doi.org/10.1016/j.pedn.2023.11.011

Addicks SH, McNeil DW. Randomized Controlled Trial of Motivational Interviewing to Support Breastfeeding Among Appalachian Women. J Obstet Gynecol Neonatal Nurs. 2019;48(4):418-32. PMID: 31181186. https://dx.doi.org/10.1016/j.jogn.2019.05.003

Anderson AK, Damio G, Young S, et al. A randomized trial assessing the efficacy of peer counseling on exclusive breastfeeding in a predominantly Latina low-income community. Arch Pediatr Adolesc Med. 2005;159(9):836-41. PMID: 16143742. https://doi.org/10.1001/archpedi.159.9.836

Balaguer Martinez J, Valcarce PI, Esquivel OJ, et al. Telephone support for breastfeeding by primary care: a randomised multicentre trial. Anales de pediatria (Barcelona, Spain : 2003). 2018;89(6):344-51. PMID: 29576447. http://10.1016/j.anpedi.2018.02.007

Baransel ES, Caliskan BE. Effects of Face-to-Face Education Followed by Mobile Messaging to Primiparas on Maternal-Neonatal Care, Breastfeeding, and Motherhood Experience: A Randomized Controlled Trial. Z Geburtshilfe Neonatol. 2024;29:29. PMID: 38286412. https://dx.doi.org/10.1055/a-2222-6568

Bender W, Levine L, Durnwald C. Text Message-Based Breastfeeding Support Compared With Usual Care: A Randomized Controlled Trial. Obstet Gynecol. 2022;140(5):853-60. PMID: 36201773. http://dx.doi/org10.1097/aog.0000000000004961

Bernal D. The effect of a peer counseling support program on breastfeeding initiation, duration and exclusivity among low-income Hispanic women. Dissertation Abstracts International: Section B: The Sciences and Engineering. 2019;80(2-B(E)).

Bonuck K, Stuebe A, Barnett J, et al. Effect of primary care intervention on breastfeeding duration and intensity (BINGO). Am J Public Health. 2014_a;104 Suppl 1:S119-27. PMID: 24354834. http://dx.doi.org/10.2105/AJPH.2013.301360

Appendix C. Included Studies

Bonuck K, Stuebe A, Barnett J, et al. Effect of primary care intervention on breastfeeding duration and intensity (PAIRINGS). Am J Public Health. 2014_b;104 Suppl 1:S119-27. PMID: 24354834. http://dx.doi.org/10.2105/AJPH.2013.301360

Bonuck KA, Freeman K, Trombley M. Randomized controlled trial of a prenatal and postnatal lactation consultant intervention on infant health care use. Arch Pediatr Adolesc Med. 2006;160(9):953-60. PMID: 16953019. https://doi.org/10.1001/archpedi.160.9.953

Bonuck KA, Trombley M, Freeman K, et al. Randomized, controlled trial of a prenatal and postnatal lactation consultant intervention on duration and intensity of breastfeeding up to 12 months. Pediatrics. 2005;116(6):1413-26. PMID: 16322166. https://doi.org/10.1542/peds.2005-0435

Bunik M, Jimenez-Zambrano A, Solano M, et al. Mother's Milk Messaging TM: trial evaluation of app and texting for breastfeeding support. BMC Pregnancy Childbirth. 2022;22(1):660. PMID: 36002798. https://dx.doi.org/10.1186/s12884-022-04976-6

Bunik M, Shobe P, O'Connor ME, et al. Are 2 weeks of daily breastfeeding support insufficient to overcome the influences of formula? Acad Pediatr. 2010;10(1):21-8. PMID: 20129478. http://dx.doi.org/10.1016/j.acap.2009.09.014

Cangol E, Sahin NH. The Effect of a Breastfeeding Motivation Program Maintained During Pregnancy on Supporting Breastfeeding: A Randomized Controlled Trial. Breastfeed Med. 2017;12:218-26. PMID: 28287819. https://dx.doi.org/10.1089/bfm.2016.0190

Carlsen EM, Kyhnaeb A, Renault KM, et al. Telephone-based support prolongs breastfeeding duration in obese women: a randomized trial. Am J Clin Nutr. 2013;95(2):1226-32. PMID: 24004897. https://doi.org/10.3945/ajcn.113.059600

Cauble JS, Herman A, Wick J, et al. A prenatal group based phone counseling intervention to improve breastfeeding rates and complementary feeding: a randomized, controlled pilot and feasibility trial. BMC Pregnancy Childbirth. 2021;21(1):521. PMID: 34294051. https://dx.doi.org/10.1186/s12884-021-03976-2

Chan MY, Ip WY, Choi KC. The effect of a self-efficacy-based educational programme on maternal breast feeding self-efficacy, breast feeding duration and exclusive breast feeding rates: A longitudinal study. Midwifery. 2016;36:92-8. PMID: 27106949. https://dx.doi.org/10.1016/j.midw.2016.03.003

Chapman DJ, Morel K, Bermudez-Millan A, et al. Breastfeeding education and support trial for overweight and obese women: a randomized trial. Pediatrics. 2013;131(1):e162-70. PMID: 23209111. http://dx.doi.org/10.1542/peds.2012-0688

Clarke JL, Ingram J, Johnson D, et al. The ABA intervention for improving breastfeeding initiation and continuation: Feasibility study results. Matern Child Nutr. 2020;16(1):e12907. PMID: 31793233. https://dx.doi.org/10.1111/mcn.12907

Jolly K, Ingram J, Clarke J, et al. Protocol for a feasibility trial for improving breast feeding initiation and continuation: assets-based infant feeding help before and after birth (ABA). BMJ Open. 2018;8(1):e019142. PMID: 29362263. https://dx.doi.org/10.1136/bmjopen-2017-019142

Dennis CL, Hodnett E, Gallop R, et al. The effect of peer support on breast-feeding duration among primiparous women: a randomized controlled trial. CMAJ. 2002;166(1):21-8. PMID: 11800243.

Di Meglio G, McDermott MP, Klein JD. A randomized controlled trial of telephone peer support's influence on breastfeeding duration in adolescent mothers. Breastfeed Med. 2010;5(1):41-7. PMID: 20043705. http://dx.doi.org/10.1089/bfm.2009.0016

Di Napoli A, Di Lallo D, Fortes C, et al. Home breastfeeding support by health professionals: findings of a randomized controlled trial in a population of Italian women. Acta Paediatr. 2004;93(8):1108-14. PMID: 15456204.

Edwards RC, Thullen MJ, Korfmacher J, et al. Breastfeeding and complementary food: randomized trial of community doula home visiting. Pediatrics. 2013;132 Suppl 2:S160-6. PMID: 24187119. http://dx.doi.org/10.1542/peds.2013-1021P

Ekambareshwar M, Mihrshahi S, Wen LM, et al. Facilitators and challenges in recruiting pregnant women to an infant obesity prevention programme delivered via telephone calls or text messages. Trials. 2018;19(1):494. PMID: 30219067. 10.1186/s13063-018-2871-5

Elliott-Rudder M, Pilotto L, McIntyre E, et al. Motivational interviewing improves exclusive breastfeeding in an Australian randomised controlled trial. Acta Paediatr. 2014;103(1):e11-6. PMID: 24117857. http://dx.doi.org/10.1111/apa.12434

Fan HSL, Ho MY, Ko RWT, et al. Feasibility and effectiveness of WhatsApp online group on breastfeeding by peer counsellors: a single-blinded, open-label pilot randomized controlled study. Int Breastfeed J. 2022;17(1):91. PMID: 36544208. https://dx.doi.org/10.1186/s13006-022-00535-z

Lok KY, Ko RW, Fan HS, et al. Feasibility and Acceptability of an Online WhatsApp Support Group on Breastfeeding: Protocol for a Randomized Controlled Trial. JMIR Res Protoc. 2022;11(3):e32338. PMID: 35262504. https://dx.doi.org/10.2196/32338

Fiks AG, Gruver RS, Bishop-Gilyard CT, et al. A Social Media Peer Group for Mothers To Prevent Obesity from Infancy: The Grow2Gether Randomized Trial. Child. 2017;13(5):356-68. PMID: 28557558. https://dx.doi.org/10.1089/chi.2017.0042

Gruver RS, Bishop-Gilyard CT, Lieberman A, et al. A Social Media Peer Group Intervention for Mothers to Prevent Obesity and Promote Healthy Growth from Infancy: Development and Pilot Trial. JMIR Res Protoc. 2016;5(3):e159. PMID: 27485934. http://dx.doi/org/10.2196/resprot.5276

Appendix C. Included Studies

Forster D, McLachlan H, Lumley J, et al. Two mid-pregnancy interventions to increase the initiation and duration of breastfeeding: a randomized controlled trial. Birth. 2004;31(3):176-82. PMID: 15330879. https://doi.org/10.1111/j.0730-7659.2004.00302.x

Forster DA, McLardie-Hore FE, McLachlan HL, et al. Proactive Peer (Mother-to-Mother) Breastfeeding Support by Telephone (Ringing up About Breastfeeding Early [RUBY]): A Multicentre, Unblinded, Randomised Controlled Trial. EClinicalMedicine. 2019;8:20-8. PMID: 31193656. http://dx.doi.org/10.1016/j.eclinm.2019.02.003

Forster D, McLachlan H, Davey M-A, et al. Ringing Up about Breastfeeding: a randomised controlled trial exploring early telephone peer support for breastfeeding (RUBY) – trial protocol. BMC Pregnancy Childbirth. 2014;177. PMID: 24886264. https://doi.org/10.1186/1471-2393-14-177

Grimes HA, Forster DA, Shafiei T, et al. Breastfeeding peer support by telephone in the RUBY randomised controlled trial: A qualitative exploration of volunteers' experiences. PLoS ONE. 2020;15(8):e0237190. PMID: 32760148. https://dx.doi.org/10.1371/journal.pone.0237190

Grimes HA, McLachlan HL, Forster DA, et al. Implementing a successful proactive telephone breastfeeding peer support intervention: volunteer recruitment, training, and intervention delivery in the RUBY randomised controlled trial. Int Breastfeed J. 2021;16(1):90. PMID: 34852839. https://dx.doi.org/10.1186/s13006-021-00434-9

Grimes HA, Shafiei T, McLachlan HL, et al. Volunteers' experiences of providing telephone-based breast-feeding peer support in the RUBY randomised controlled trial. Public Health Nutr. 2020;23(16):3005-15. PMID: 32600489. https://dx.doi.org/10.1017/S136898002000124X

McLardie-Hore FE, McLachlan HL, Shafiei T, et al. Proactive telephone-based peer support for breastfeeding: a cross-sectional survey of women's experiences of receiving support in the RUBY randomised controlled trial. BMJ Open. 2020;10(10):e040412. PMID: 33127637. https://dx.doi.org/10.1136/bmjopen-2020-040412

Franco-Antonio C, Calderon-Garcia JF, Santano-Mogena E, et al. Effectiveness of a brief motivational intervention to increase the breastfeeding duration in the first 6 months postpartum: Randomized controlled trial. J Adv Nurs. 2020;76(3):888-902. PMID: 31782535. https://dx.doi.org/10.1111/jan.14274

Franco-Antonio C, Calderon-Garcia JF, Vilar-Lopez R, et al. A randomized controlled trial to evaluate the effectiveness of a brief motivational intervention to improve exclusive breastfeeding rates: Study protocol. J Adv Nurs. 2018;75(4):888-97. PMID: 30478855. https://dx.doi.org/10.1111/jan.13917

Franco-Antonio C, Santano-Mogena E, Chimento-Diaz S, et al. A randomised controlled trial evaluating the effect of a brief motivational intervention to promote breastfeeding in postpartum depression. Sci. 2022;12(1):373. PMID: 35013506. https://dx.doi.org/10.1038/s41598-021-04338-w

Fu I, Fong D, Heys M, et al. Professional breastfeeding support for first-time mothers: a multicentre cluster randomised controlled trial. Bjog. 2014;121(13):1673-83. PMID: 24861802. http://dx.doi.org/10.1111/1471-0528.12884

Gagnon AJ, Dougherty G, Jimenez V, et al. Randomized trial of postpartum care after hospital discharge. Pediatrics. 2002;109(6):1074-80. PMID: 12042545. https://doi.org/10.1542/peds.109.6.1074

Gijsbers B, Mesters I, Knottnerus JA, et al. The Success of an Educational Program to Promote Exclusive Breastfeeding for 6 Months in Families with a History of Asthma: A Randomized Controlled Trial. Pediatric Asthma, Allergy & Immunology. 2006;19(4):214-22. http://dx.doi.org/10.1089/pai.2006.19.214

Mesters I, Gijsbers B, Bartholomew K, et al. Social cognitive changes resulting from an effective breastfeeding education program. Breastfeed Med. 2013;8(1):23-30. PMID: 23186384. http://dx.doi.org/10.1089/bfm.2012.0011

Graffy J, Taylor J, Williams A, et al. Randomised controlled trial of support from volunteer counsellors for mothers considering breast feeding. Bmj. 2004;328(7430):26. PMID: 14703543. https://doi.org/10.1136/bmj.328.7430.26

Gross RS, Mendelsohn AL, Gross MB, et al. Randomized Controlled Trial of a Primary Care-Based Child Obesity Prevention Intervention on Infant Feeding Practices. Journal of Pediatrics. 2016;174:171-7.e2. PMID: 27113376. https://dx.doi.org/10.1016/j.jpeds.2016.03.060

Messito MJ, Katzow MW, Mendelsohn AL, et al. Starting Early Program Impacts on Feeding at Infant 10 Months Age: A Randomized Controlled Trial. Child. 2020;16:S-4-S-13. PMID: 145363138. https://doi.org/10.1089/chi.2019.0236

Hans SL, Edwards RC, Zhang Y. Randomized Controlled Trial of Doula-Home-Visiting Services: Impact on Maternal and Infant Health. Maternal & Child Health Journal. 2018;22(Suppl 1):105-13. PMID: 29855838. https://dx.doi.org/10.1007/s10995-018-2537-7

Henderson A, Stamp G, Pincombe J. Postpartum positioning and attachment education for increasing breastfeeding: a randomized trial. Birth. 2001;28(4):236-42. PMID: 11903211. https://doi.org/10.1046/j.1523-536x.2001.00236.x

Hoffmann J, Gunther J, Stecher L, et al. Effects of a lifestyle intervention in routine care on short-and long-term maternal weight retention and breastfeeding behaviorâ€"12 months follow-up of the cluster-randomized gelis trial. J [serial on the Internet]. 2019 [cited KQ Search - Cochrane; 8(6): Available from: https://www.cochranelibrary.com/central/doi/10.1002/central/CN-01980540/full

Günther J, Hoffmann J, Kunath J, et al. Effects of a Lifestyle Intervention in Routine Care on Prenatal Dietary Behavior-Findings from the Cluster-Randomized GeliS Trial. J Clin Med. 2019;8(7). PMID: 31269753. http://dx.doi.org/10.3390/jcm8070960

Hoffmann J, Günther J, Geyer K, et al. Effects of a lifestyle intervention in routine care on prenatal physical activity - findings from the cluster-randomised GeliS trial. BMC Pregnancy Childbirth. 2019;19(1):414. PMID: 31711430. http://dx.doi.org/10.1186/s12884-019-2553-7

Kunath J, Günther J, Rauh K, et al. Effects of a lifestyle intervention during pregnancy to prevent excessive gestational weight gain in routine care - the cluster-randomised GeliS trial. BMC Med. 2019;17(1):5. PMID: 30636636. http://dx.doi.org/10.1186/s12916-018-1235-z

Rauh K, Kunath J, Rosenfeld E, et al. Healthy living in pregnancy: a cluster-randomized controlled trial to prevent excessive gestational weight gain - rationale and design of the GeliS study. BMC Pregnancy Childbirth. 2014;14:119. PMID: 24678761. http://dx.doi.org/10.1186/1471-2393-14-119

Hopkinson J, Konefal Gallagher M. Assignment to a hospital-based breastfeeding clinic and exclusive breastfeeding among immigrant Hispanic mothers: a randomized, controlled trial. J Hum Lact. 2009;25(3):287-96. PMID: 19436060. http://dx.doi.org/10.1177/0890334409335482

Howell EA, Bodnar-Deren S, Balbierz A, et al. An intervention to extend breastfeeding among black and Latina mothers after delivery. Am J Obstet Gynecol. 2014;210(3):239.e1-5. PMID: 24262719. http://dx.doi.org/10.1016/j.ajog.2013.11.028

Howell EA, Balbierz A, Wang J, et al. Reducing postpartum depressive symptoms among black and Latina mothers: a randomized controlled trial. Obstet Gynecol. 2012;119(5):942-9. PMID: 22488220. http://dx.doi.org/10.1097/AOG.0b013e318250ba48

Jolly K, Ingram L, Freemantle N, et al. Effect of a peer support service on breast-feeding continuation in the UK: A randomised controlled trial. Midwifery. 2012;28(6):740-5. PMID: 21944571. http://dx.doi.org/10.1016/j.midw.2011.08.005

MacArthur C, Jolly K, Ingram L, et al. Antenatal peer support workers and initiation of breast feeding: Cluster randomised controlled trial. Bmj. 2009;338(7691):No Pagination Specified. PMID: 19181730. http://dx.doi.org/10.1136/bmj.b131

Karaahmet AY, Bilgic FS. Breastfeeding success in the first 6 months of online breastfeeding counseling after cesarean delivery and its effect on anthropometric measurements of the baby: a randomized controlled study. Rev Assoc Med Bras. 2022;68(10):1434-40. PMID: 36417649. https://dx.doi.org/10.1590/1806-9282.20220540

Kellams AL, Gurka KK, Hornsby PP, et al. The Impact of a Prenatal Education Video on Rates of Breastfeeding Initiation and Exclusivity during the Newborn Hospital Stay in a Low-income Population. J Hum Lact. 2015. PMID: 26289058. http://dx.doi.org/10.1177/0890334415599402

Hornsby PP, Gurka KK, Conaway MR, et al. Reasons for Early Cessation of Breastfeeding Among Women with Low Income. Breastfeed Med. 2019;14(6):375-81. PMID: 30994371. https://dx.doi.org/10.1089/bfm.2018.0206

Kellams AL, Gurka KK, Hornsby PP, et al. A Randomized Trial of Prenatal Video Education to Improve Breastfeeding Among Low-Income Women. Breastfeed Med. 2018;13(10):666-73. PMID: 30351169. https://dx.doi.org/10.1089/bfm.2018.0115

Kenyon S, Jolly K, Hemming K, et al. Lay support for pregnant women with social risk: a randomised controlled trial. BMJ Open. 2016;6(3):e009203. PMID: 26936901. https://dx.doi.org/10.1136/bmjopen-2015-009203

Kools EJ, Thijs C, Kester AD, et al. A breast-feeding promotion and support program a randomized trial in The Netherlands. Prev Med. 2005;40(1):60-70. PMID: 15530582. https://doi.org/10.1016/j.ypmed.2004.05.013

Kronborg H, Maimburg RD, Vaeth M. Antenatal training to improve breast feeding: a randomised trial. Midwifery. 2012;28(6):784-90. PMID: 22018394. http://dx.doi.org/10.1016/j.midw.2011.08.016

Labarere J, Bellin V, Fourny M, et al. Assessment of a structured in-hospital educational intervention addressing breastfeeding: a prospective randomised open trial. Bjog. 2003;110(9):847-52. PMID: 14511968.

Labarere J, Gelbert-Baudino N, Ayral AS, et al. Efficacy of breastfeeding support provided by trained clinicians during an early, routine, preventive visit: a prospective, randomized, open trial of 226 mother-infant pairs. Pediatrics. 2005;115(2):e139-e46. PMID: 15687421. https://doi.org/10.1542/peds.2004-1362

Laliberte C, Dunn S, Pound C, et al. A randomized controlled trial of innovative postpartum care model for mother-baby dyads. PLoS ONE. 2016;11(2) (no pagination). PMID: 26871448. http://10.1371/journal.pone.0148520

Lavender T, Baker L, Smyth R, et al. Breastfeeding expectations versus reality: a cluster randomised controlled trial. Bjog. 2005;112(8):1047-53. PMID: 16045516. https://doi.org/10.1111/j.1471-0528.2005.00644.x

Lewkowitz AK, Lopez JD, Carter EB, et al. Impact of a novel smartphone application on low-income, first-time mothers' breastfeeding rates: a randomized controlled trial. Am J Obstet Gynecol MFM. 2020;2(3):100143. PMID: 33345878. https://dx.doi.org/10.1016/j.ajogmf.2020.100143

Griffin LB, Lopez JD, Ranney ML, et al. Effect of Novel Breastfeeding Smartphone Applications on Breastfeeding Rates. Breastfeed Med. 2021;16(8):614-23. PMID: 33826418. https://dx.doi.org/10.1089/bfm.2021.0012

Lewkowitz AK, Lopez JD, Werner EF, et al. Effect of a Novel Smartphone Application on Breastfeeding Rates Among Low-Income, First-Time Mothers Intending to Exclusively Breastfeed: Secondary Analysis of a Randomized Controlled Trial. Breastfeed Med. 2021;16(1):59-67. PMID: 33085510. https://dx.doi.org/10.1089/bfm.2020.0240

Lewkowitz AK, Lopez JD, Stein RI, et al. Effect of a Home-Based Lifestyle Intervention on Breastfeeding Initiation Among Socioeconomically Disadvantaged African American Women with

Overweight or Obesity. Breastfeed Med. 2018;13(6):418-25. PMID: 29912571. https://dx.doi.org/10.1089/bfm.2018.0006

Cahill AG, Haire-Joshu D, Cade WT, et al. Weight Control Program and Gestational Weight Gain in Disadvantaged Women with Overweight or Obesity: A Randomized Clinical Trial. Obesity (Silver Spring). 2018;26(3):485-91. PMID: 29464907. http://dx.doi.org/10.1002/oby.22070

Linares AM, Cartagena D, Rayens MK. Las Dos Cosas Versus Exclusive Breastfeeding: A Culturally and Linguistically Exploratory Intervention Study in Hispanic Mothers Living in Kentucky. Journal of Pediatric Health Care. 2019;33(6):e46-e56. PMID: 31655788. https://dx.doi.org/10.1016/j.pedhc.2019.07.009

Little EE, Cioffi CC, Bain L, et al. An Infant Carrier Intervention and Breastfeeding Duration: A Randomized Controlled Trial. Pediatrics. 2021;148(1):07. PMID: 34193622. https://dx.doi.org/10.1542/peds.2020-049717

Lucas R, Zhang Y, Walsh SJ, et al. Efficacy of a Breastfeeding Pain Self-Management Intervention: A Pilot Randomized Controlled Trial. Nursing Research. 2019;68(2):E1-E10. PMID: 30829925. https://dx.doi.org/10.1097/NNR.0000000000000336

Lucchini-Raies C, Marquez-Doren F, Beca P, et al. The CRIAA Program complex intervention in primary care to support women and their families in breastfeeding: Study protocol for a pilot trial. J Adv Nurs. 2020;76(12):3641-53. PMID: 33058232. https://dx.doi.org/10.1111/jan.14534

Lutenbacher M, Elkins T, Dietrich MS. Using Community Health Workers to Improve Health Outcomes in a Sample of Hispanic Women and Their Infants: Findings from a Randomized Controlled Trial. Hisp Health Care Int. 2022:15404153221107680. PMID: 35702003. https://dx.doi.org/10.1177/15404153221107680

Mattar CN, Chong YS, Chan YS, et al. Simple antenatal preparation to improve breastfeeding practice: a randomized controlled trial. Obstet Gynecol. 2007;109(1):73-80. PMID: 17197590. https://doi.org/10.1097/01.AOG.0000249613.15466.26

McDonald SJ, Henderson JJ, Faulkner S, et al. Effect of an extended midwifery postnatal support programme on the duration of breast feeding: a randomised controlled trial. Midwifery. 2010;26(1):88-100. PMID: 18486287. http://dx.doi.org/10.1016/j.midw.2008.03.001

McLachlan HL, Forster DA, Amir LH, et al. Supporting breastfeeding In Local Communities (SILC) in Victoria, Australia: a cluster randomised controlled trial. BMJ Open. 2016;6(2):e008292. PMID: 26832427. https://dx.doi.org/10.1136/bmjopen-2015-008292

McLachlan HL, Forster DA, Amir LH, et al. Supporting breastfeeding In Local Communities (SILC): protocol for a cluster randomised controlled trial. BMC Pregnancy Childbirth. 2014;14:346. PMID: 25281300. https://10.1186/1471-2393-14-346

Ridgway L, Cramer R, McLachlan HL, et al. Breastfeeding Support in the Early Postpartum: Content of Home Visits in the SILC Trial. Birth. 2016;43(4):303-12. PMID: 27417659. https://dx.doi.org/10.1111/birt.12241

McQueen KA, Dennis CL, Stremler R, et al. A pilot randomized controlled trial of a breastfeeding self-efficacy intervention with primiparous mothers. J Obstet Gynecol Neonatal Nurs. 2011;40(1):35-46. PMID: 21244493. http://dx.doi.org/10.1111/j.1552-6909.2010.01210.x

Milinco M, Travan L, Cattaneo A, et al. Effectiveness of biological nurturing on early breastfeeding problems: a randomized controlled trial. Int Breastfeed J. 2020;15(1):21. PMID: 32248838. https://dx.doi.org/10.1186/s13006-020-00261-4

Miremberg H, Yirmiya K, Rona S, et al. Smartphone-based counseling and support platform and the effect on postpartum lactation: a randomized controlled trial. Am J Obstet Gynecol MFM. 2022;4(2):100543. PMID: 34871782. https://dx.doi.org/10.1016/j.ajogmf.2021.100543

Mottl-Santiago J, Dukhovny D, Cabral H, et al. Effectiveness of an Enhanced Community Doula Intervention in a Safety Net Setting: A Randomized Controlled Trial. Health Equity. 2023;7(1):466-76. PMID: 37731785. https://dx.doi.org/10.1089/heq.2022.0200

Muirhead PE, Butcher G, Rankin J, et al. The effect of a programme of organised and supervised peer support on the initiation and duration of breastfeeding: a randomised trial. Br J Gen Pract. 2006;56(524):191-7. PMID: 16536959.

Nilsson IMS, Strandberg-Larsen K, Knight CH, et al. Focused breastfeeding counselling improves short- and long-term success in an early-discharge setting: A cluster-randomized study. Matern Child Nutr. 2017;13(4):10. PMID: 28194877. https://dx.doi.org/10.1111/mcn.12432

Noel-Weiss J, Rupp A, Cragg B, et al. Randomized controlled trial to determine effects of prenatal breastfeeding workshop on maternal breastfeeding self-efficacy and breastfeeding duration. J Obstet Gynecol Neonatal Nurs. 2006;35(5):616-24. PMID: 16958717. https://doi.org/10.1111/j.1552-6909.2006.00077.x

Noel-Weiss J, Bassett V, Cragg B. Developing a prenatal breastfeeding workshop to support maternal breastfeeding self-efficacy. J Obstet Gynecol Neonatal Nurs. 2006;35(3):349-57. PMID: 16700684. http://dx.doi.org/10.1111/j.1552-6909.2006.00053.x

O'Reilly SL, McNestry C, McGuinness D, et al. Multicomponent perinatal breastfeeding support in women with BMI >25: The Latch On multi-centre randomised trial. BJOG: An International Journal of Obstetrics & Gynaecology. 2024;12:12. PMID: 38344894. https://dx.doi.org/10.1111/1471-0528.17782

O'Reilly SL, O'Brien EC, McGuinness D, et al. Latch On: A protocol for a multi-centre, randomised controlled trial of perinatal support to improve breastfeeding outcomes in women with a raised BMI. Contemp Clin Trials Commun. 2021;22:100767. PMID: 34095603. https://dx.doi.org/10.1016/j.conctc.2021.100767

Paul IM, Beiler JS, Schaefer EW, et al. A randomized trial of single home nursing visits vs office-based care after nursery/maternity discharge: the Nurses for Infants Through Teaching and Assessment After the Nursery (NITTANY) Study. Arch Pediatr Adolesc Med. 2012;166(3):263-70. PMID: 22064874. http://dx.doi.org/10.1001/archpediatrics.2011.198

Pollard DL. Impact of a feeding log on breastfeeding duration and exclusivity. Matern Child Health J. 2011;15(3):395-400. PMID: 20177755. http://dx.doi.org/10.1007/s10995-010-0583-x

Puharic D, Malicki M, Borovac JA, et al. The effect of a combined intervention on exclusive breastfeeding in primiparas: A randomised controlled trial. Matern Child Nutr. 2020;16(3):e12948. PMID: 31943761. https://dx.doi.org/10.1111/mcn.12948

Zakarija-Grkovic I, Puharic D, Malicki M, et al. Breastfeeding booklet and proactive phone calls for increasing exclusive breastfeeding rates: RCT protocol. Matern Child Nutr. 2017;13(1):01. PMID: 26990672. https://dx.doi.org/10.1111/mcn.12249

Quinlivan JA, Box H, Evans SF. Postnatal home visits in teenage mothers: a randomised controlled trial. Lancet. 2003;361(9361):893-900. PMID: 12648967. https://doi.org/10.1016/S0140-6736(03)12770-5

Reeder JA, Joyce T, Sibley K, et al. Telephone peer counseling of breastfeeding among WIC participants: a randomized controlled trial. Pediatrics. 2014;134(3):e700-9. PMID: 25092936. http://dx.doi.org/10.1542/peds.2013-4146

Saglik M, Karacam Z. Effectiveness of structured education and follow-up in the management of perceived breastmilk insufficiency: a randomized control trial. Health Care Women Int. 2021:1-19. PMID: 34919025. https://dx.doi.org/10.1080/07399332.2021.2007249

Santamaria-Martin MJ, Martin-Iglesias S, Schwarz C, et al. Effectiveness of a group educational intervention - prolact - in primary care to promote exclusive breastfeeding: a cluster randomized clinical trial. BMC Pregnancy Childbirth. 2022;22(1):132. PMID: 35172775. https://dx.doi.org/10.1186/s12884-022-04394-8

Martin-Iglesias S, Santamaria-Martin MJ, Alonso-Alvarez A, et al. Effectiveness of an educational group intervention in primary healthcare for continued exclusive breast-feeding: PROLACT study. BMC Pregnancy Childbirth. 2018;18(1):59. PMID: 29482516. https://dx.doi.org/10.1186/s12884-018-1679-3

Sari C, Altay N. Effects of providing nursing care with web-based program on maternal self-efficacy and infant health. Public Health Nurs. 2020;37(3):380-92. PMID: 32017251. https://dx.doi.org/10.1111/phn.12712

Sari Ozturk C, Demir K. The Effect of Mandala Activity and Technology-Based Breastfeeding Program on Breastfeeding Self-Efficacy and Mother-Infant Attachment of Primiparous Women: A Randomized Controlled Study. J Med Syst. 2023;47(1):44. PMID: 37004692. https://dx.doi.org/10.1007/s10916-023-01942-3

Saucedo Baza A, Mignacca C, Delgado PE, et al. A Technological Approach to Improved Breastfeeding Rates and Self-Efficacy: A Randomized Controlled Pilot Study. J Hum Lact. 2023;39(4):679-87. PMID: 37571838. https://dx.doi.org/10.1177/08903344231190625

Schwarz EB, Hoyt-Austin A, Fix M, et al. Prenatal Counseling on the Maternal Health Benefits of Lactation: A Randomized Trial. Breastfeed Med. 2024;19(1):52-8. PMID: 38190278. https://dx.doi.org/10.1089/bfm.2023.0219Sevda KO, Sevil I. Continuous Lactation Support Provided Through the WhatsApp Messaging Application: A Randomized Controlled Trial. J Hum Lact. 2023;39(4):666-78. PMID: 37646262. https://dx.doi.org/10.1177/08903344231192948

Simsek-Cetinkaya S, Gumus Calis G, Kibris S. Effect of Breastfeeding Education Program and Nurse-led Breastfeeding Online Counseling System (BMUM) for Mothers: A Randomized Controlled Study. J Hum Lact. 2024;40(1):101-12. PMID: 38006250. https://dx.doi.org/10.1177/08903344231210813

Stockdale J, Sinclair M, Kernohan WG, et al. Feasibility study to test DESIGNER BREASTFEEDING: a randomised controlled trial. Evidence Based Midwifery. 2008;6(3):76-82.

Su LL, Chong YS, Chan YH, et al. Antenatal education and postnatal support strategies for improving rates of exclusive breast feeding: randomised controlled trial. Bmj. 2007;335(7620):596. PMID: 17670909. https://doi.org/10.1136/bmj.39279.656343.55

Taylor B, Gray A, Galland B, et al. Targeting sleep, food, and activity in infants for obesity prevention: an RCT. Pediatrics. 2017;139(3) (no pagination). PMID: 28242860. http://10.1542/peds.2016-2037

Uscher-Pines L, Ghosh-Dastidar B, Bogen DL, et al. Feasibility and Effectiveness of Telelactation Among Rural Breastfeeding Women. Academic pediatrics. 2020;20(5):652-9. PMID: 31629118. https://dx.doi.org/10.1016/j.acap.2019.10.008

Wallace LM, Dunn OM, Alder EM, et al. A randomised-controlled trial in England of a postnatal midwifery intervention on breast-feeding duration. Midwifery. 2006;22(3):262-73. PMID: 16380197. https://doi.org/10.1016/j.midw.2005.06.004

Wambach KA, Aaronson L, Breedlove G, et al. A randomized controlled trial of breastfeeding support and education for adolescent mothers. West J Nurs Res. 2011;33(4):486-505. PMID: 20876551. http://dx.doi.org/10.1177/0193945910380408

Wen LM, Baur LA, Simpson JM, et al. Effectiveness of an early intervention on infant feeding practices and "tummy time": a randomized controlled trial. Arch Pediatr Adolesc Med. 2011;165(8):701-7. PMID: 21810633. http://dx.doi.org/10.1001/archpediatrics.2011.115

Wen LM, Baur LA, Rissel C, et al. Early intervention of multiple home visits to prevent childhood obesity in a disadvantaged population: a home-based randomised controlled trial (Healthy Beginnings Trial). BMC Public Health. 2007;7:76. PMID: 17490492. http://dx.doi.org/10.1186/1471-2458-7-76

Wen LM, Rissel C, Xu H, et al. Effects of Telephone and Short Message Service Support on Infant Feeding Practices, "Tummy Time," and Screen Time at 6 and 12 Months of Child Age: A 3-Group Randomized Clinical Trial. JAMA Pediatrics. 2020;174(7):657-64. PMID: 32282034. https://dx.doi.org/10.1001/jamapediatrics.2020.0215

Owen-Jones E, Bekkers MJ, Butler CC, et al. The effectiveness and cost-effectiveness of the Family Nurse Partnership home visiting programme for first time teenage mothers in England: a protocol for the Building Blocks randomised controlled trial. BMC Pediatr. 2013;13:114. PMID: 23919573. http://dx.doi.org/10.1186/1471-2431-13-114

Wen LM, Rissel C, Baur LA, et al. A 3-Arm randomised controlled trial of Communicating Healthy Beginnings Advice by Telephone (CHAT) to mothers with infants to prevent childhood obesity. BMC Public Health. 2017;17(1):79. PMID: 28088203. https://dx.doi.org/10.1186/s12889-016-4005-x

Wong KL, Tak Fong DY, Yin Lee IL, et al. Antenatal education to increase exclusive breastfeeding: a randomized controlled trial. Obstet Gynecol. 2014;124(5):961-8. PMID: 25437725. http://dx.doi.org/10.1097/AOG.0000000000000481

Yesil Y, Ekşioğlu A, Turfan EC. The effect of hospital-based breastfeeding group education given early perinatal period on breastfeeding self-efficacy and breastfeeding status. Journal of Neonatal Nursing. 2023;29(1):81-90. https://doi.org/10.1016/j.jnn.2022.02.013

Appendix D. Excluded Studies List

Exclusion Codes

E1. Study relevance (not related to breastfeeding intervention)
E2a. Setting: Not in very high human development country
E2b. Setting: Not linked to health care (e.g., worksites, correctional facilities)
E3a. Study design: Not an RCT
E3b. Study design: Not an included control group (e.g., comparative effectiveness)
E4a. Population: Studies of preterm or very preterm infants (<35 wks) or low or very low birth weight infants (<2,500 g)
E4b. Population: Studies limited to special populations of women or infants (e.g., institutionalized persons, infants with prenatal disease, infants in a NICU)
E5. Outcomes: No relevant outcomes (maternal or infant health outcomes; breastfeeding initiation, duration, exclusivity; or adverse events)
E6a. Intervention: Intervention otherwise out-of-scope (e.g., media campaign, community-wide program)
E6b. Intervention: Health system-level intervention or policy
E6c. Intervention: Skin-to-skin contact protocol
E6d. Intervention: Pacifier provision protocol
E7. Quality: Poor quality study
E7a. Parent study excluded for poor quality
E8. Publication Type: Editorial, conference presentation

1. Cash incentives may encourage breastfeeding rates early on. Nurs Child Young People. 30(1): 12-12. 2018. https://dx.doi.org/https://doi.org/10.7748/ncyp.30.01.12.s9. KQ1E8, KQ2E8, KQ3E8
2. ERRATUM. Zhao Y., Lin Q., Wang J. An evaluation of a prenatal individualised mixed management intervention addressing breastfeeding outcomes and postpartum depression: A randomised controlled trial. Journal of Clinical Nursing, 30 (9–10), 1347-1359. 30(): 2107-2107. 2021. https://dx.doi.org/https://doi.org/10.1111/jocn.15855. KQ1E8, KQ2E8, KQ3E8
3. Abbott, JL, Carty, JR, et al. Effect of Follow-Up Intervals on Breastfeeding Rates 5-6 Months Postpartum: A Randomized Controlled Trial. Breastfeeding Medicine: The Official Journal of the Academy of Breastfeeding Medicine. 14(1): 22-32. 2019. PMID: 30412416. https://dx.doi.org/https://dx.doi.org/10.1089/bfm.2018.0071. KQ1E3b, KQ2E3b, KQ3E3b
4. Ahmed, AH, Roumani, AM, et al. The Effect of Interactive Web-Based Monitoring on Breastfeeding Exclusivity, Intensity, and Duration in Healthy, Term Infants After Hospital Discharge. JOGNN - Journal of Obstetric, Gynecologic, & Neonatal Nursing. 45(2): 143-54. 2016. https://dx.doi.org/https://dx.doi.org/10.1016/j.jogn.2015.12.001. KQ1E7, KQ2E7, KQ3E5
5. Akyildiz, D, Bay, B. The effect of breastfeeding support provided by video call on postpartum anxiety, breastfeeding self-efficacy, and newborn outcomes: A randomized controlled study. Japan Journal of Nursing Science: JJNS. 20(1): e12509. 2023. PMID: 36071624. https://dx.doi.org/https://dx.doi.org/10.1

111/jjns.12509. KQ1E7, KQ2E5, KQ3E7

6. Aldana-Parra, F, Olaya, G, et al. Effectiveness of a new breastfeeding counselling intervention on breastfeeding prevalence, infant growth velocity and postpartum weight loss in overweight women: a randomized controlled trial. J Pediatr Gastroenterol Nutr. 74(): 976-977. 2022. https://dx.doi.org/https://doi.org/10.1097/MPG.0000000000003446. KQ1E2a, KQ2E2a, KQ3E2a
7. Alghamdi, S, Horodynski, M, et al. Racial and ethnic differences in breastfeeding, maternal knowledge, and self-efficacy among low-income mothers. Applied Nursing Research. 37(): 24-27. 2017. PMID: 28985916. https://dx.doi.org/https://dx.doi.org/10.1016/j.apnr.2017.07.009. KQ1E3a, KQ2E3a, KQ3E3a
8. Anokye, N, Coyle, K, et al. Cost-effectiveness of offering an area-level financial incentive on breast feeding: a within-cluster randomised controlled trial analysis. Arch Dis Child. 105(2): 155-159. 2020. PMID: 31444210. https://dx.doi.org/https://dx.doi.org/10.1136/archdischild-2018-316741. KQ1E6a, KQ2E6a, KQ3E6a
9. Antonanzas-Baztan, E, Belintxon, M, et al. Six-month breastfeeding maintenance after a self-efficacy promoting programme: an exploratory trial. Scand J Caring Sci. 35(2): 548-558. 2021. PMID: 32400032. https://dx.doi.org/https://dx.doi.org/10.1111/scs.12870. KQ1E3a, KQ2E3a, KQ3E3a
10. Antoñanzas-Baztán, Elena, Belintxon, Maider, et al. Six-month breastfeeding maintenance after a self-efficacy promoting programme: an exploratory trial. Scand J Caring Sci. 35(2): 548-558. 2021. https://dx.doi.org/https://doi.org/10.1111/scs.12870. KQ1E3a, KQ2E3a, KQ3E3a
11. Azimi, N, Nasiri, A. The effect of peer counseling on breastfeeding behavior of primiparous mothers: A randomized controlled field trial. Public Health Nurs. 37(3): 446-452. 2020. PMID: 31950527. https://dx.doi.org/https://dx.doi.org/10.1111/phn.12692. KQ1E2a, KQ2E2a, KQ3E2a
12. Ball, HL, Howel, D, et al. Bed-sharing by breastfeeding mothers: who bed-shares and what is the relationship with breastfeeding duration?. Acta Paediatr. 105(6): 628-34. 2016. PMID: 26848117. https://dx.doi.org/https://dx.doi.org/10.1111/apa.13354. KQ1E3a, KQ2E3a, KQ3E3a
13. Bond, DM, Shand, AW, et al. Breastfeeding patterns and effects of minimal supplementation on breastfeeding exclusivity and duration in term infants: A prospective sub-study of a randomised controlled trial. J Paediatr Child Health. 57(8): 1288-1295. 2021. PMID: 33768643. https://dx.doi.org/https://dx.doi.org/10.1111/jpc.15464. KQ1E3a, KQ2E3a, KQ3E3a
14. Bunik, Me, Jimenez-Zambrano, A, et al. Mother's milk messagingTM (MMM): mixed methods evaluation of bilingual app and texting program to support breastfeeding (BF). Pediatrics. 147(3): 324-325. 2021. https://dx.doi.org/https://doi.org/10.1542/peds.147.3-MeetingAbstract.324. KQ1E8, KQ2E8, KQ3E8
15. Buultjens, Melissa, Murphy, Gregory, et al. Supporting the transition to parenthood: Development of a group health-promoting programme. British Journal of Midwifery. 26(6): 387-397. 2018. https://dx.doi.org/https://doi.org/10.1296

8/bjom.2018.26.6.387. KQ1E3a, KQ2E3a, KQ3E3a

16. Callaghan, S, Geraghty, AA, et al. Exploration of Factors Associated with Intention, Initiation and Duration of Breastfeeding. Ir Med J. 113(7): 124. 2020. PMID: 35575604. https://dx.doi.org/. KQ1E3a, KQ2E3a, KQ3E3a
17. Carfoot, S, Williamson, P, et al. A randomised controlled trial in the north of England examining the effects of skin-to-skin care on breast feeding. Midwifery. 21(1): 71-79. 2005. PMID: 15740818. https://dx.doi.org/. KQ1E6c, KQ2E6c, KQ3E6c
18. Cercer, Z, Nazik, Dr E. The effects of the breastfeeding problems management model on breastfeeding problems, breastfeeding motivation and breastfeeding success: A randomized controlled trial. J Pediatr Nurs. 73(): e116-e124. 2023. PMID: 37550129. https://dx.doi.org/https://dx.doi.org/10.1016/j.pedn.2023.07.021. KQ1E5, KQ2E5, KQ3E5
19. Chang, M-W, Nitzke, S, et al. Recruitment challenges and enrollment observations from a community based intervention (Mothers In Motion) for low-income overweight and obese women. Contemporary clinical trials communications. 5(): 26-33. 2017. PMID: CN-01474305. https://dx.doi.org/https://doi.org/10.1016/j.conctc.2016.11.004. KQ1E1, KQ2E1, KQ3E1
20. Chaves, AFL, Ximenes, LB, et al. Telephone intervention in the promotion of self-efficacy, duration and exclusivity of breastfeeding: randomized controlled trial. Rev Lat Am Enfermagem. 27(): e3140.. 2019. PMID: 31038634. https://dx.doi.org/https://dx.doi.org/10.1590/1518-8345.2777-3140. KQ1E2a, KQ2E2a, KQ3E2a
21. Chegeni, Mitra Fathi, Valizadeh, Fatemeh, et al. Comparison of Different Virtual Follow-ups on Mother's Lactation. Journal for Nurse Practitioners. 18(9): 988-994. 2022. https://dx.doi.org/https://doi.org/10.1016/j.nurpra.2022.08.005. KQ1E2a, KQ2E2a, KQ3E2a
22. Chehreh, R, Zahrani, ST, et al. Effect of peer support on breastfeeding self-efficacy in ilamian primiparous women: A single-blind randomized clinical trial. Journal of Family Medicine & Primary Care. 10(9): 3417-3423. 2021. PMID: 34760767. https://dx.doi.org/https://dx.doi.org/10.4103/jfmpc.jfmpc_172_21. KQ1E2a, KQ2E2a, KQ3E2a
23. Citil Canbay, Funda, Citil, Elif Tugce, et al. The effect of breastfeeding education and skin-to-skin contact on breastfeeding efficiency and maternal attachment: A randomized controlled study. Early Child Dev Care. (): No Pagination Specified. 2024. https://dx.doi.org/https://dx.doi.org/10.1080/03004430.2024.2320885. KQ1E5, KQ2E5, KQ3E5
24. Clarke, Jl, Ingram, J, et al. An assets-based intervention before and after birth to improve breastfeeding initiation and continuation: the ABA feasibility RCT. Public health research. 8(7): . 2020. PMID: 32320172. https://dx.doi.org/https://doi.org/10.3310/phr08070. KQ1E5, KQ2E7, KQ3E5
25. Cloutier, MM, Wiley, J, et al. The Early Childhood Obesity Prevention Program (ECHO): an ecologically-based intervention delivered by home visitors for newborns and their mothers. BMC Public Health. 15(): 584. 2015. PMID: 26104068. https://dx.doi.org/https://dx.doi.org/10.1186/s12889-015-1897-9. KQ1E7a, KQ2E7a, KQ3E7a

26. Cloutier, Mm, Wiley, Jf, et al. Outcomes of an early childhood obesity prevention program in a low-income community: a pilot, randomized trial. Pediatr Obes. (no pagination)(): . 2018. https://dx.doi.org/http://10.1111/ijpo.12458. KQ1E7a, KQ2E7a, KQ3E7a
27. Cloutier, MM, Wiley, JF, et al. Outcomes of an early childhood obesity prevention program in a low-income community: a pilot, randomized trial. Pediatr Obes. 13(11): 677-685. 2018. PMID: 132626184. https://dx.doi.org/https://doi.org/10.1111/ijpo.12458. KQ1E7, KQ2E7, KQ3E5
28. Comerford, DavidA, McGillivray, Tracy. Effect of obstacles/tips card on breastfeeding drop-off. British Journal of Midwifery. 29(9): 510-515. 2021. https://dx.doi.org/https://doi.org/10.12968/bjom.2021.29.9.510. KQ1E3a, KQ2E3a, KQ3E3a
29. Cooijmans, KellyHM, Beijers, Roseriet, et al. Daily skin-to-skin contact in full-term infants and breastfeeding: Secondary outcomes from a randomized controlled trial. Matern Child Nutr. 18(1): 1-10. 2022. PMID: 154314742. https://dx.doi.org/https://doi.org/10.1111/mcn.13241. KQ1E6c, KQ2E6c, KQ3E6c
30. Cui, R, Wang, E. The effect of postpartum family visits on the promotion of breastfeeding and improvement of maternal and infant health. Am J Transl Res. 13(12): 14089-14095. 2021. PMID: 35035752. https://dx.doi.org/. KQ1E2a, KQ2E2a, KQ3E2a
31. da, Silva Cf, Nunes, Lm, et al. Effect of a pro-breastfeeding intervention on the maintenance of breastfeeding for 2 years or more: randomized clinical trial with adolescent mothers and grandmothers. BMC Pregnancy Childbirth. 16(1) (no pagination): . 2016. https://dx.doi.org/http://10.1186/s12884-016-0878-z. KQ1E2a, KQ2E2a, KQ3E2a
32. Dagli, E, Topkara, FN. The effect of tele-education delivered to mothers during the COVID-19 pandemic on breastfeeding success and perceived breastfeeding self-efficacy: Randomized controlled longitudinal trial. Health Care Women Int. 44(3): 345-360. 2023. PMID: 36227641. https://dx.doi.org/https://dx.doi.org/10.1080/07399332.2022.2132251. KQ1E5, KQ2E5, KQ3E5
33. Dai, Hongxia. Influence of self - made breastfeeding manual combined with postpartum telephone guidance on infant feeding attitude of maternal. Chinese nursing research. 29(6b): 2079-2082. 2015. https://dx.doi.org/https://doi.org/10.3969/j.issn.1009-6493.2015.17.010. KQ1E8, KQ2E8, KQ3E8
34. Davis, KE, Klingenberg, A, et al. The Baby Bites Text Messaging Project with randomized controlled trial: texting to improve infant feeding practices. Began with 2015. 9(): 11. 2023. PMID: 37089270. https://dx.doi.org/https://dx.doi.org/10.21037/mhealth-22-31. KQ1E5, KQ2E7, KQ3E5
35. DC Berry, M Neal, EG Hall, TA Schwartz, et al. Rationale, design, and methodology for the optimizing outcomes in women with gestational diabetes mellitus and their infants study.. BMC Pregnancy Childbirth. 13(): . 2013. https://dx.doi.org/. KQ1E7a, KQ2E7a, KQ3E7a
36. Demirci, JR, Glasser, M, et al. Structured antenatal milk expression education for nulliparous pregnant people: results of a pilot, randomized controlled trial in the United States. Int Breastfeed J. 17(1): 50. 2022. PMID: 35799299. https://dx.doi.org/https://dx.doi.org/10.1

186/s13006-022-00491-8. KQ1E6a, KQ2E6a, KQ3E6a

37. Demirci, JR, Suffoletto, B, et al. The Development and Evaluation of a Text Message Program to Prevent Perceived Insufficient Milk Among First-Time Mothers: Retrospective Analysis of a Randomized Controlled Trial. JMIR MHealth and UHealth. 8(4): e17328. 2020. PMID: 32347815. https://dx.doi.org/https://dx.doi.org/10.2196/17328. KQ1E5, KQ2E5, KQ3E5
38. Dodt, Regina Claudia Melo, Joventino, Emanuella Silva, et al. An experimental study of an educational intervention to promote maternal self-efficacy in breastfeeding. Rev Lat Am Enfermagem. 23(4): 725-732. 2015. https://dx.doi.org/https://dx.doi.org/10.1590/0104-1169.0295.2609. KQ1E2a, KQ2E2a, KQ3E2a
39. Drennan, Vari. Study analyses effect of financial incentive on breastfeeding rates. Primary Health Care. 28(4): 13-13. 2018. https://dx.doi.org/https://doi.org/10.7748/phc.28.4.13.s12. KQ1E8, KQ2E8, KQ3E8
40. E Owen-Jones, MJ Bekkers, CC Butler, R Cannings-John, et al. The effectiveness and cost-effectiveness of the Family Nurse Partnership home visiting programme for first time teenage mothers in England: a protocol for the Building Blocks randomised controlled trial.. BMC Pediatr. 13(): . 2013. https://dx.doi.org/. KQ1E1, KQ2E1, KQ3E1
41. E Roby, EB Miller, DS Shaw, P Morris, et al. Improving Parent-Child Interactions in Pediatric Health Care: A Two-Site Randomized Controlled Trial.. Pediatrics. 147(3): . 2021. https://dx.doi.org/. KQ1E1, KQ2E1, KQ3E1
42. Efrat, Mw, Esparza, S, et al. The effect of lactation educators implementing a telephone-based intervention among low-income Hispanics: a randomised trial. Health Educ J. 74(4): 424-441. 2015. https://dx.doi.org/http://10.1177/0017896914542666. KQ1E5, KQ2E7, KQ3E5
43. Ekambareshwar, M, Taki, S, et al. Trial collaborators' perceptions of the process of delivering Healthy Beginnings advice via telephone calls or text messages. Health Promotion Journal of Australia. 02(): 02. 2021. PMID: 34856023. https://dx.doi.org/https://dx.doi.org/10.1002/hpja.562. KQ1E3a, KQ2E3a, KQ3E3a
44. Ekici, N, Suzer Ozkan, F. Effect of White Noise on Anxiety Levels and Breastfeeding Success of Primiparous Mothers Having Vaginal Delivery: A Randomized Controlled Trial. Breastfeeding Medicine: The Official Journal of the Academy of Breastfeeding Medicine. 02(): 02. 2024. PMID: 38563424. https://dx.doi.org/https://dx.doi.org/10.1089/bfm.2023.0309. KQ1E5, KQ2E5, KQ3E5
45. Eksioglu, A, Yesil, Y, et al. The Effects of Different Breastfeeding Training Techniques Given for Primiparous Mothers Before Discharge on the Incidence of Cracked Nipples. Breastfeeding Medicine: The Official Journal of the Academy of Breastfeeding Medicine. 12(): 311-315. 2017. PMID: 28472588. https://dx.doi.org/https://dx.doi.org/10.1089/bfm.2016.0150. KQ1E3a, KQ2E3a, KQ3E3a
46. Estafanous, M, Lee, A, et al. Breastfeeding and Antepartum Breast Milk Expression (BABE): A Randomized Control Trial Utilizing an Electric Breast Pump and its Effect on Postpartum Breastfeeding. Breastfeeding Medicine: The Official Journal of the Academy of

Breastfeeding Medicine. 18(10): 759-766. 2023. PMID: 37782909. https://dx.doi.org/https://dx.doi.org/10.1089/bfm.2023.0053. KQ1E6a, KQ2E6a, KQ3E6a

47. Fangupo, LJ, Heath, AL, et al. Impact of an early-life intervention on the nutrition behaviors of 2-y-old children: a randomized controlled trial. Am J Clin Nutr. 102(3): 704-12. 2015. PMID: 26224299. https://dx.doi.org/https://dx.doi.org/10.3945/ajcn.115.111823. KQ1E5, KQ2E5, KQ3E5
48. Fewtrell, Mary, Kennedy, Kathy, et al. Short-term efficacy of two breast pumps and impact on breastfeeding outcomes at 6 months in exclusively breastfeeding mothers: A randomised trial. Matern Child Nutr. 15(3): N.PAG-N.PAG. 2019. https://dx.doi.org/https://doi.org/10.1111/mcn.12779. KQ1E1, KQ2E1, KQ3E1
49. Forster, D, McLardie-Hore, F, et al. Ringing up about breastfeeding: a random controlled trial exploring early telephone peer support for breastfeeding (RUBY) – primary outcomes. Women and birth. 30(S1): 8. 2018. https://dx.doi.org/https://doi.org/. KQ1E8, KQ2E8, KQ3E8
50. Gabbe, Patricia, Reno, Rebecca, et al. Improving Maternal and Infant Child Health Outcomes with Community-Based Pregnancy Support Groups: Outcomes from Moms2B Ohio. Matern Child Health J. 21(5): 1130-1138. 2017. https://dx.doi.org/https://doi.org/10.1007/s10995-016-2211-x. KQ1E3a, KQ2E3a, KQ3E3a
51. Galland, BC, Sayers, RM, et al. Anticipatory guidance to prevent infant sleep problems within a randomised controlled trial: infant, maternal and partner outcomes at 6 months of age. BMJ Open. 7(5): e014908. 2017. PMID: 28576897. https://dx.doi.org/https://dx.doi.org/10.1136/bmjopen-2016-014908. KQ1E1, KQ2E1, KQ3E1
52. Giugliani, ERJ, Nunes, LM, et al. Involvement of maternal grandmother and teenage mother in intervention to reduce pacifier use: a randomized clinical trial. J Pediatr (Rio J). 95(2): 166-172. 2019. PMID: 29447832. https://dx.doi.org/https://dx.doi.org/10.1016/j.jped.2017.12.011. KQ1E2a, KQ2E2a, KQ3E2a
53. Gonzalez-Darias, A, Diaz-Gomez, NM, et al. 'Supporting a first-time mother': Assessment of success of a breastfeeding promotion programme. Midwifery. 85(): 102687. 2020. https://dx.doi.org/https://dx.doi.org/10.1016/j.midw.2020.102687. KQ1E5, KQ2E7, KQ3E7
54. Gouchon, S, Gregori, D, et al. Skin-to-skin contact after cesarean delivery: an experimental study. Nurs Res. 59(2): 78-84. 2010. PMID: 20179657. https://dx.doi.org/10.1097/NNR.0b013e3181d1a8bc. KQ1E6c, KQ2E6c, KQ3E6c
55. Gregson, Sarah, Meadows, Jean, et al. Skin-to-skin contact after elective caesarean section: Investigating the effect on breastfeeding rates. British Journal of Midwifery. 24(1): 18-25. 2016. https://dx.doi.org/https://doi.org/10.12968/bjom.2016.24.1.18. KQ1E6c, KQ2E6c, KQ3E6c
56. Griffin, L, Lopez, J, et al. Does increased use of breastfeeding smartphone applications improve breastfeeding rates among low-income women?. Breastfeeding medicine. 15(10): A28-a29. 2020. PMID: CN-02229740. https://dx.doi.org/https://doi.org/10.1089/bfm.2020.29162.abstracts. KQ1E8, KQ2E8, KQ3E8

57. Grimes, Heather, Forster, Della, et al. Volunteers' experiences of providing breastfeeding peer support in the 'Ringing Up about Breastfeeding' (RUBY) randomised controlled trial. Women & Birth. 31(): S33-S34. 2018. PMID: 132719275. https://dx.doi.org/https://doi.org/10.1016/j.wombi.2018.08.103. KQ1E8, KQ2E8, KQ3E8
58. Hails, KA, Whipps, MDM, et al. Breastfeeding and Responsive Parenting as Predictors of Infant Weight Change in the First Year. J Pediatr Psychol. 46(7): 768-778. 2021. PMID: 34270767. https://dx.doi.org/https://dx.doi.org/10.1093/jpepsy/jsab049. KQ1E1, KQ2E1, KQ3E1
59. Harris-Luna, ML, Badr, LK. Pragmatic Trial to Evaluate the Effect of a Promotora Telephone Intervention on the Duration of Breastfeeding. JOGNN - Journal of Obstetric, Gynecologic, & Neonatal Nursing. 47(6): 738-748. 2018. https://dx.doi.org/https://dx.doi.org/10.1016/j.jogn.2018.09.001. KQ1E3a, KQ2E3a, KQ3E3a
60. Havens, Jessica Mary Evelyn, Wines, Maria. Screening for Mothers at Risk to Wean Early and Referral to a Lactation Support Person for Prolonging Breastfeeding. Journal of Perinatal Education. 28(1): 51-60. 2019. PMID: 134987983. https://dx.doi.org/https://doi.org/10.1891/1058-1243.28.1.51. KQ1E5, KQ2E7, KQ3E5
61. Hawkins, SS, Stern, AD, et al. Compliance with the Baby-Friendly Hospital Initiative and impact on breastfeeding rates. Arch Dis Child Fetal Neonatal Ed. 99(2): F138-43. 2014b. PMID: 24277661. https://dx.doi.org/http://dx.doi.org/10.1136/archdischild-2013-304842. KQ1E6b, KQ2E6b, KQ3E6b
62. Hawkins, SS, Stern, AD, et al. Evaluating the impact of the Baby-Friendly Hospital Initiative on breast-feeding rates: a multi-state analysis. Public Health Nutr. (): 1-9. 2014a. PMID: 24625787. https://dx.doi.org/10.1017/s1368980014000238. KQ1E6b, KQ2E6b, KQ3E6b
63. Hermanson, A, Astrand, LL. The effects of early pacifier use on breastfeeding: A randomised controlled trial. Women & Birth: Journal of the Australian College of Midwives. 33(5): e473-e482. 2020. PMID: 31704126. https://dx.doi.org/https://dx.doi.org/10.1016/j.wombi.2019.10.001. KQ1E6d, KQ2E6d, KQ3E6d
64. HM Wasser, AL Thompson, CM Suchindran, BD Goldman, et al. Home-based intervention for non-Hispanic black families finds no significant difference in infant size or growth: results from the Mothers & Others randomized controlled trial.. BMC Pediatr. 20(1): . 2020. https://dx.doi.org/. KQ1E5, KQ2E5, KQ3E5
65. Hoddinott, P, Britten, J, et al. Effectiveness of policy to provide breastfeeding groups (BIG) for pregnant and breastfeeding mothers in primary care: cluster randomised controlled trial. BMJ. 338(): a3026. 2009. PMID: 19181729. https://dx.doi.org/http://dx.doi.org/10.1136/bmj.a3026. KQ1E6b, KQ2E6b, KQ3E6b
66. Horodynski, MA, Pierce, SJ, et al. Feeding Practices and Infant Growth: Quantifying the Effects of Breastfeeding Termination and Complementary Food Introduction on BMI z-Score Growth Velocity through Growth Curve Models. Childhood Obesity. 13(6): 490-498. 2017. PMID: 28767287. https://dx.doi.org/https://dx.doi.org/10.1

089/chi.2017.0079. KQ1E3a, KQ2E3a, KQ3E3a

67. Hosseini, Sa, Vakilian, K, et al. Effect of Midwife-led Breastfeeding Counseling based on Bandura's Model on Self-efficacy and Breastfeeding Performance: an Educational Trial Study. Open public health journal. 16(1): . 2023. https://dx.doi.org/https://doi.org/10.2174/18749445-v16-230221-2022-174. KQ1E2a, KQ2E2a, KQ3E2a
68. Howard, CR, Howard, FM, et al. Randomized clinical trial of pacifier use and bottle-feeding or cupfeeding and their effect on breastfeeding. Pediatrics. 111(3): 511-518. 2003. PMID: 12612229. https://dx.doi.org/. KQ1E6d, KQ2E6d, KQ3E6d
69. Hoyt-Austin, AE, Cheng, JH, et al. Providing Low-Income Women With a Manual Pump: A Pilot Study. Hospital Pediatrics. 13(2): 115-124. 2023. PMID: 36646639. https://dx.doi.org/https://dx.doi.org/10.1542/hpeds.2021-006380. KQ1E5, KQ2E7, KQ3E5
70. Huang, P, Yao, J, et al. Individualized intervention to improve rates of exclusive breastfeeding: A randomised controlled trial. Medicine (Baltimore). 98(47): e17822. 2019. PMID: 31764775. https://dx.doi.org/https://dx.doi.org/10.1097/MD.0000000000017822. KQ1E2a, KQ2E2a, KQ3E2a
71. Huang, X, Chen, L, et al. Effects of Paternal Skin-to-Skin Contact in Newborns and Fathers After Cesarean Delivery. Journal of Perinatal & Neonatal Nursing. 33(1): 68-73. 2019. PMID: 30676465. https://dx.doi.org/https://dx.doi.org/10.1097/JPN.0000000000000384. KQ1E2a, KQ2E2a, KQ3E2a
72. J Banna, M Campos, C Gibby, RE Graulau, et al. Multi-site trial using short mobile messages (SMS) to improve infant weight in low-income minorities: Development, implementation, lessons learned and future applications.. Contemp Clin Trials. 62(): . 2017. https://dx.doi.org/. KQ1E7a, KQ2E7a, KQ3E7a
73. Jenik, AG, Vain, NE, et al. Does the recommendation to use a pacifier influence the prevalence of breastfeeding?. J Pediatr. 155(3): 350-4. 2009. PMID: 19464025. https://dx.doi.org/http://dx.doi.org/10.1016/j.jpeds.2009.03.038. KQ1E6d, KQ2E6d, KQ3E6d
74. Kao, JC, Johnson, JE, et al. The Positive Effect of a Group Intervention to Reduce Postpartum Depression on Breastfeeding Outcomes in Low-Income Women. Int J Group Psychother. 65(3): 445-58. 2015. PMID: 26076207. https://dx.doi.org/https://dx.doi.org/10.1521/ijgp.2015.65.3.445. KQ1E1, KQ2E1, KQ3E1
75. Kapinos, K, Kotzias, V, et al. The Use of and Experiences With Telelactation Among Rural Breastfeeding Mothers: Secondary Analysis of a Randomized Controlled Trial. J Med Internet Res. 21(9): e13967. 2019. PMID: 31482848. https://dx.doi.org/https://dx.doi.org/10.2196/13967. KQ1E5, KQ2E5, KQ3E5
76. Kellams, A, Kerr, SM, et al. The Impact of Breastfeeding and Safe Sleep Mobile Health Messaging on Breastfeeding and Bedsharing. Acad Pediatr. 04(): 04. 2022. PMID: 35124281. https://dx.doi.org/https://dx.doi.org/10.1016/j.acap.2022.01.016. KQ1E1, KQ2E1, KQ3E1
77. Kim, Tae-Hee, Lee, Hae-Hyeog, et al. Re: Professional breastfeeding support for first-time mothers: a multi-centre cluster randomised controlled trial...Fu IC, Fong DY, Heys M, et al. Professional breastfeeding support for first-time mothers: a multicentre cluster

randomised controlled trial. BJOG,2014;121:1673-83. . 123(): 2052-2052. 2016. https://dx.doi.org/https://doi.org/10.1111/1471-0528.14121. KQ1E8, KQ2E8, KQ3E8

78. Kim, TH, Lee, HH, et al. Re: Professional breastfeeding support for first-time mothers: a multi-centre cluster randomised controlled trial. BJOG: An International Journal of Obstetrics & Gynaecology. 123(12): 2052. 2016. PMID: 27753249. https://dx.doi.org/https://dx.doi.org/10.1111/1471-0528.14121. KQ1E8, KQ2E8, KQ3E8
79. Kluka, SM. A randomized controlled trial to test the effect of an antenatal educational intervention on breastfeeding duration among primiparous women. . (Ph.D.): 219 p-219 p. 2004. https://dx.doi.org/https://doi.org/. KQ1E5, KQ2E8, KQ3E5
80. Korgali, E, Orhon, F. The Effects of Education Program Applied to the Families of Moderate and Late Premature Infants on Breastfeeding, Parental-infant Attachment and Parents' Anxiety Levels in the First Year: a Randomised Controlled Trial. Hong kong journal of paediatrics. 28(3): 144-156. 2023. https://dx.doi.org/https://doi.org/. KQ1E4a, KQ2E4a, KQ3E4a
81. Kramer, MS, Barr, RG, et al. Pacifier use, early weaning, and cry/fuss behavior: a randomized controlled trial. JAMA. 286(3): 322-326. 2001. PMID: 11466098. https://dx.doi.org/. KQ1E6d, KQ2E6d, KQ3E6d
82. Krowchuk, HeidiV. TOWARD EVIDENCE-BASED PRACTICE. Online Participatory Intervention to Promote and Support Exclusive Breastfeeding: Randomized Clinical Trial. MCN: The American Journal of Maternal Child Nursing. 44(6): 366-366. 2019. https://dx.doi.org/https://doi.org/10.1097/NMC.0000000000000577. KQ1E2a, KQ2E2a, KQ3E2a
83. Kul Uctu, A, Ozerdogan, N. Effect of teach-back method on breastfeeding success: A single blind randomized controlled study. Health Care Women Int. (): 1-14. 2022. PMID: 35175908. https://dx.doi.org/https://dx.doi.org/10.1080/07399332.2021.2021915. KQ1E5, KQ2E5, KQ3E5
84. Kul Uctu, Arzu, Ozerdogan, Nebahat. Effect of teach-back method on breastfeeding success: A single blind randomized controlled study. Health Care Women Int. 44(3): 314-327. 2023. https://dx.doi.org/https://dx.doi.org/10.1080/07399332.2021.2021915. KQ1E5, KQ2E5, KQ3E5
85. Lambermon, FJ, van Duijnhoven, NTL, et al. Client-centered flexible planning of home-based postpartum care: A randomized controlled trial on the quality of care. Birth. 08(): 08. 2024. PMID: 38716628. https://dx.doi.org/https://dx.doi.org/10.1111/birt.12824. KQ1E3b, KQ2E3b, KQ3E3b
86. Lee, Yi-Hua, Chang, Guey-Ling, et al. Effects of education and support groups organized by IBCLCs in early postpartum on breastfeeding. Midwifery. 75(): 5-11. 2019. https://dx.doi.org/https://doi.org/10.1016/j.midw.2019.03.023. KQ1E3a, KQ2E3a, KQ3E3a
87. Lewkowitz, AdamK, Lopez, JuliaD, et al. 45: Impact of a novel smartphone application on low-income women's breastfeeding rates: a randomized controlled trial. Am J Obstet Gynecol. 222(1): S38-S39. 2020. PMID: 140989549. https://dx.doi.org/https://doi.org/10.1016

/j.ajog.2019.11.061. KQ1E8, KQ2E8, KQ3E8

88. Li, G, Cong, J, et al. Effects of nursing with information support and behavior intervention on lactation and breastfeeding success rate for primiparas. Int J Clin Exp Med. 11(3): 2617-2623. 2018. https://dx.doi.org/https://doi.org/. KQ1E2a, KQ2E2a, KQ3E2a
89. Liao, Q, Chen, L, et al. Effect of kangaroo mother care method on pain, growth and breastfeeding in newborns. Int J Clin Exp Med. 13(6): 4403-4408. 2020. https://dx.doi.org/https://doi.org/. KQ1E2a, KQ2E2a, KQ3E2a
90. Liu, Lingying, Zhu, Jiemin, et al. The effect of a perinatal breastfeeding support program on breastfeeding outcomes in primiparous mothers. West J Nurs Res. 39(7): 906-923. 2017. https://dx.doi.org/https://dx.doi.org/10.1177/0193945916670645. KQ1E2a, KQ2E2a, KQ3E2a
91. Lok, KY, Chow, CLY, et al. Feasibility, acceptability, and potential efficacy of an innovative postnatal home-based breastfeeding peer support programme in Hong Kong: a feasibility and pilot randomised controlled trial. Int Breastfeed J. 16(1): 34. 2021. PMID: 33849582. https://dx.doi.org/https://dx.doi.org/10.1186/s13006-021-00381-5. KQ1E5, KQ2E7, KQ3E5
92. Lucchini-Raies, C, Marquez-Doren, F, et al. The CRIAA Program complex intervention in primary care to support women and their families in breastfeeding: Study protocol for a pilot trial. J Adv Nurs. 76(12): 3641-3653. 2020. PMID: 33058232. https://dx.doi.org/https://dx.doi.org/10.1111/jan.14534. KQ1E5, KQ2E5, KQ3E5
93. Lucchini-Raies, Camila, Marquez-Doren, Francisca, et al. A complex intervention to support breastfeeding: A feasibility and acceptability study. International Journal of Nursing Practice (John Wiley & Sons, Inc.). 29(6): 1-15. 2023. https://dx.doi.org/https://doi.org/10.1111/ijn.13184. KQ1E3a, KQ2E3a, KQ3E3a
94. Mackert, Michael, Guadagno, Marie, et al. Improving gestational weight gain and breastfeeding promotion: Visual communication to overcome health literacy barriers. J Commun Healthc. 9(2): 90-97. 2016. https://dx.doi.org/https://doi.org/10.1080/17538068.2016.1168199. KQ1E3a, KQ2E3a, KQ3E3a
95. Marshall, S, Xu, H, et al. Engagement, satisfaction, retention and behavioural outcomes of linguistically diverse mothers and infants participating in an Australian early obesity prevention trial. Health Promotion Journal of Australia. 10(): 10. 2021. PMID: 34245623. https://dx.doi.org/https://dx.doi.org/10.1002/hpja.521. KQ1E5, KQ2E5, KQ3E5
96. Marshall, Sarah, Taki, Sarah, et al. Feasibility of a culturally adapted early childhood obesity prevention program among migrant mothers in Australia: a mixed methods evaluation. BMC Public Health. 21(1): 1-18. 2021. https://dx.doi.org/https://doi.org/10.1186/s12889-021-11226-5. KQ1E5, KQ2E5, KQ3E5
97. Martin, J, MacDonald-Wicks, L, et al. Reducing postpartum weight retention and improving breastfeeding outcomes in overweight women: a pilot randomised controlled trial. Nutrients. 7(3): 1464-79. 2015. PMID: 25723973. https://dx.doi.org/https://dx.doi.org/10.3390/nu7031464. KQ1E5, KQ2E5, KQ3E5
98. Martinez, JosefaL. Predictors of exclusive breastfeeding behavior in low-income women attending the special supplemental nutrition program for

women, infants, and children. Dissertation Abstracts International: Section B: The Sciences and Engineering. 78(7-B(E)): No Pagination Specified. 2018. https://dx.doi.org/. KQ1E5, KQ2E5, KQ3E5

99. Martinez-Brockman, JL, Harari, N, et al. A qualitative analysis of text message conversations in a breastfeeding peer counselling intervention. Matern Child Nutr. 16(2): e12904. 2020. PMID: 31823503. https://dx.doi.org/https://dx.doi.org/10.1111/mcn.12904. KQ1E7a, KQ2E7a, KQ3E7a
100. Martinez-Brockman, JL, Harari, N, et al. Impact of the Lactation Advice Through Texting Can Help (LATCH) Trial on Time to First Contact and Exclusive Breastfeeding among WIC Participants. J Nutr Educ Behav. 50(1): 33-42.e1. 2018. PMID: 29325660. https://dx.doi.org/https://dx.doi.org/10.1016/j.jneb.2017.09.001. KQ1E5, KQ2E7, KQ3E5
101. Maycock, BR, Scott, JA, et al. A study to prolong breastfeeding duration: design and rationale of the Parent Infant Feeding Initiative (PIFI) randomised controlled trial. BMC Pregnancy Childbirth. 15(): 159. 2015. PMID: 26231519. https://dx.doi.org/https://dx.doi.org/10.1186/s12884-015-0601-5. KQ1E7a, KQ2E7a, KQ3E7a
102. McGinnis, Sandra, Lee, Eunju, et al. Let's Talk About Breastfeeding: The Importance of Delivering a Message in a Home Visiting Program. American Journal of Health Promotion. 32(4): 989-996. 2018. https://dx.doi.org/https://doi.org/10.1177/0890117117723802. KQ1E3a, KQ2E3a, KQ3E3a
103. Mersky, JP, Janczewski, CE, et al. Home Visiting Effects on Breastfeeding and Bedsharing in a Low-Income Sample. Health Education & Behavior. 48(4): 488-495. 2021. PMID: 33078655. https://dx.doi.org/https://dx.doi.org/10.1177/1090198120964197. KQ1E3a, KQ2E3a, KQ3E3a
104. Mizrak, Berrak, Ozerdogan, Nebahat, et al. The Effect of Antenatal Education on Breastfeeding Self-Efficacy: Primiparous Women in Turkey. International Journal of Caring Sciences. 10(1): 503-510. 2017. PMID: 123010481. https://dx.doi.org/https://doi.org/. KQ1E5, KQ2E5, KQ3E5
105. Molinero, Diaz P, Burgos, Rodriguez Mj, et al. Results of a health education intervention in the continuity of breastfeeding. Enferm Clin. 25(5): 232-238. 2015. https://dx.doi.org/http://10.1016/j.enfcli.2015.05.002. KQ1E8, KQ2E8, KQ3E8
106. Montazeri, Maryam, Mirghafourvand, Mojgan, et al. Effects of journal therapy counseling with anxious pregnant women on their infants' sleep quality: a randomized controlled clinical trial. BMC Pediatr. 20(1): 1-11. 2020. PMID: 143297094. https://dx.doi.org/https://doi.org/10.1186/s12887-020-02132-7. KQ1E2a, KQ2E2a, KQ3E2a
107. Moon, RY, Mathews, A, et al. Impact of a Randomized Controlled Trial to Reduce Bedsharing on Breastfeeding Rates and Duration for African-American Infants. J Community Health. 42(4): 707-715. 2017. PMID: 28064421. https://dx.doi.org/https://dx.doi.org/10.1007/s10900-016-0307-2. KQ1E6a, KQ2E6a, KQ3E6a
108. Moorhead, AM, Amir, LH, et al. Breastfeeding outcomes at 3 months for women with diabetes in pregnancy: Findings from the Diabetes and Antenatal Milk Expressing randomized controlled trial. Birth. 09(): 09. 2024. PMID: 38193243.

https://dx.doi.org/https://dx.doi.org/10.1111/birt.12807. KQ1E6a, KQ2E6a, KQ3E6a

109. Mosca, F, Roggero, P, et al. Determinants of breastfeeding discontinuation in an Italian cohort of mother-infant dyads in the first six months of life: a randomized controlled trial. Ital J Pediatr. 44(1): 134. 2018. PMID: 30400806. https://dx.doi.org/https://dx.doi.org/10.1186/s13052-018-0572-z. KQ1E6a, KQ2E6a, KQ3E6a
110. Mulupuru, Suseela, Siddu, Anita, et al. Breast crawl at birth, effect on breastfeeding rate and infant growth in infants delivered at an urban tertiary care public hospital: A randomized controlled trial. Journal of Neonatal Nursing. 25(5): 236-239. 2019. PMID: 138458507. https://dx.doi.org/https://doi.org/10.1016/j.jnn.2019.04.008. KQ1E2a, KQ2E2a, KQ3E2a
111. Necipoglu, D, Bebis, H, et al. The effect of nursing interventions on immigrant women living in Northern Cyprus on their breastfeeding self-efficacy and success: a randomized controlled trial. Health Care Women Int. 42(2): 235-247. 2021. PMID: 33667155. https://dx.doi.org/https://dx.doi.org/10.1080/07399332.2021.1883023. KQ1E5, KQ2E5, KQ3E5
112. Nolan, A, Lawrence, C. A pilot study of a nursing intervention protocol to minimize maternal-infant separation after Cesarean birth. J Obstet Gynecol Neonatal Nurs. 38(4): 430-42. 2009. PMID: 19614878. https://dx.doi.org/10.1111/j.1552-6909.2009.01039.x. KQ1E6c, KQ2E6c, KQ3E6c
113. Oksuz, SK, Inal, S. The effect of kangaroo mother care applied to the healthy newborns in the early postpartum period on breastfeeding: A randomized controlled trial. JPMA - Journal of the Pakistan Medical Association. 71(9): 2124-2129. 2021. PMID: 34580499. https://dx.doi.org/https://dx.doi.org/10.47391/JPMA.376. KQ1E5, KQ2E5, KQ3E5
114. Padua, Ana Rita, Melo, Elsa Maria, et al. An intervention program based on regular home visits for improving maternal breastfeeding self-efficacy: A pilot study in portugal. Matern Child Health J. (): No Pagination Specified. 2022. https://dx.doi.org/https://dx.doi.org/10.1007/s10995-021-03361-7. KQ1E3a, KQ2E3a, KQ3E3a
115. Palacios, C, Campos, M, et al. Effect of a Multi-Site Trial using Short Message Service (SMS) on Infant Feeding Practices and Weight Gain in Low-Income Minorities. J Am Coll Nutr. 37(7): 605-613. 2018. PMID: 29708471. https://dx.doi.org/https://dx.doi.org/10.1080/07315724.2018.1454353. KQ1E7, KQ2E7, KQ3E5
116. Panahi, F, Rashidi Fakari, F, et al. Educating fathers to improve exclusive breastfeeding practices: a randomized controlled trial. BMC Health Serv Res. 22(1): 554. 2022. PMID: 35468827. https://dx.doi.org/https://dx.doi.org/10.1186/s12913-022-07966-8. KQ1E2a, KQ2E2a, KQ3E2a
117. Park, Mk, Moon, Sh. Effects of an Individual Breast-feeding Promotion Program for Married Immigrant Women. J Korean Acad Nurs. 46(1): 128-139. 2016. https://dx.doi.org/https://doi.org/10.4040/jkan.2016.46.1.128. KQ1E8, KQ2E8, KQ3E8
118. Pouraboli, Batool, Estabraghi, Mahdieh, et al. THE EFFECT OF EARLY SKIN TO SKIN CONTACT IN TERM NEONATES AFTER C-SECTION ON BREASTFEEDING CHOICE AT THE

TIME OF DISCHARGE. Journal on Nursing. 9(2): 1-8. 2019. https://dx.doi.org/https://doi.org/10.26634/jnur.9.2.15981. KQ1E2a, KQ2E2a, KQ3E2a

119. Raat, H, Struiji, MK, et al. Primary prevention of overweight in preschool children, the BeeBOFT study (breastfeeding, breakfast daily, outside playing, few sweet drinks, less TV viewing): design of a cluster randomized controlled trial. BMC Public Health. 13(974): . 2013. PMID: 24138805. https://dx.doi.org/10.1186/1471-2458-13-974. KQ1E7a, KQ2E7a, KQ3E7a
120. Raj Kumawat, S, Vyas, H, et al. 90 versus 60 min of early skin-to-skin contact on exclusive breastfeeding rate in healthy infants' >=35 weeks: A randomised controlled trial. Acta Paediatr. 113(2): 199-205. 2024. PMID: 37905336. https://dx.doi.org/https://dx.doi.org/10.1111/apa.17021. KQ1E3b, KQ2E3b, KQ3E3b
121. Reifsnider, E, McCormick, DP, et al. Randomized Controlled Trial to Prevent Infant Overweight in a High-Risk Population. Acad Pediatr. 18(3): 324-333. 2018. PMID: 29277462. https://dx.doi.org/https://dx.doi.org/10.1016/j.acap.2017.12.007. KQ1E7, KQ2E7, KQ3E5
122. Relton, C, Strong, M, et al. Effect of Financial Incentives on Breastfeeding: A Cluster Randomized Clinical Trial. JAMA Pediatr. 172(2): e174523. 2018. PMID: 29228160. https://dx.doi.org/https://dx.doi.org/10.1001/jamapediatrics.2017.4523. KQ1E6a, KQ2E6a, KQ3E6a
123. Robling, M, Bekkers, MJ, et al. Effectiveness of a nurse-led intensive home-visitation programme for first-time teenage mothers (Building Blocks): a pragmatic randomised controlled trial. Lancet. 387(10014): 146-55. 2016. PMID: 26474809. https://dx.doi.org/https://dx.doi.org/10.1016/S0140-6736(15)00392-X. KQ1E1, KQ2E1, KQ3E1
124. Rodriguez-Gallego, I, Corrales-Gutierrez, I, et al. Effectiveness of a Postpartum Breastfeeding Support Group Intervention in Promoting Exclusive Breastfeeding and Perceived Self-Efficacy: A Multicentre Randomized Clinical Trial. Nutrients. 16(7): 28. 2024. PMID: 38613021. https://dx.doi.org/https://dx.doi.org/10.3390/nu16070988. KQ1E7, KQ2E7, KQ3E5
125. Rodriguez-Gallego, I, Leon-Larios, F, et al. Evaluation of the impact of breastfeeding support groups in primary health CENTRES in Andalusia, Spain: a study protocol for a cluster randomized controlled trial (GALMA project). BMC Public Health. 20(1): 1129. 2020. PMID: 32682408. https://dx.doi.org/https://dx.doi.org/10.1186/s12889-020-09244-w. KQ1E5, KQ2E7a, KQ3E5
126. Rodriguez-Gallego, I, Vila-Candel, R, et al. Evaluation of the Impact of a Midwife-Led Breastfeeding Group Intervention on Prevention of Postpartum Depression: A Multicentre Randomised Clinical Trial. Nutrients. 16(2): 10. 2024. PMID: 38257120. https://dx.doi.org/https://dx.doi.org/10.3390/nu16020227. KQ1E5, KQ2E7a, KQ3E5
127. Rosas, Bs, Rodriguez, J, et al. Effect of skin to skin care on the success of breastfeeding exlusivity: a randomised controlled trial. Pediatric academic societies (PAS) annual meeting; 2015 apr 25 - 28; san diego, USA. (): . 2015. https://dx.doi.org/https://doi.org/. KQ1E8, KQ2E8, KQ3E8
128. Rosas-Herrera, Bs, Rodríguez-de, Ita J, et al. Impact of skin-to-skin contact at birth on exclusive breastfeeding and the

regulation of vital signs. Salud Publica Mex. 61(5): 560. 2019. PMID: 31661733. https://dx.doi.org/https://doi.org/10.21149/10477. KQ1E8, KQ2E8, KQ3E8

129. Rotheram-Fuller, EJ, Swendeman, D, et al. Replicating Evidence-Based Practices with Flexibility for Perinatal Home Visiting by Paraprofessionals. Matern Child Health J. 21(12): 2209-2218. 2017. PMID: 28755042. https://dx.doi.org/https://dx.doi.org/10.1007/s10995-017-2342-8. KQ1E7, KQ2E7, KQ3E7
130. Rouse, CandaceL. Increasing Initiation and Exclusivity of Breastfeeding In the Hospitalized Postpartum Dyad. . (D.N.P.): 69 p-69 p. 2015. https://dx.doi.org/https://doi.org/. KQ1E8, KQ2E8, KQ3E8
131. Saunders, CM, Rehbinder, EM, et al. Feeding Practices and Dietary Diversity in the First Year of Life: PreventADALL, a Scandinavian Randomized Controlled Trial and Birth Cohort Study. J Nutr. 153(8): 2463-2471. 2023. PMID: 37336319. https://dx.doi.org/https://dx.doi.org/10.1016/j.tjnut.2023.06.015. KQ1E1, KQ2E1, KQ3E1
132. Savas, EH, Semerci, R, et al. Impact of psychosexual development theory-based breastfeeding education on infant feeding attitudes and knowledge of primiparous mothers: A randomized controlled study. J Pediatr Nurs. 17(): 17. 2024. PMID: 38762425. https://dx.doi.org/https://dx.doi.org/10.1016/j.pedn.2024.05.016. KQ1E5, KQ2E5, KQ3E5
133. Schiller, T, Gassner, T, et al. Prenatal Breastfeeding Counseling Intervention in Women with Pre-Gestational Diabetes Mellitus-A Randomized Controlled Trial. Healthcare. 12(3): 04. 2024. PMID: 38338291. https://dx.doi.org/https://dx.doi.org/10.3390/healthcare12030406. KQ1E3a, KQ2E3a, KQ3E3a
134. Schwartz, R, Vigo, A, et al. The effect of a pro-breastfeeding and healthy complementary feeding intervention targeting adolescent mothers and grandmothers on growth and prevalence of overweight of preschool children. PLoS One. 10(7): . 2015. https://dx.doi.org/http://10.1371/journal.pone.0131884. KQ1E2a, KQ2E2a, KQ3E2a
135. Scott, JA, Burns, SK, et al. Impact of a Face-To-Face Versus Smartphone App Versus Combined Breastfeeding Intervention Targeting Fathers: Randomized Controlled Trial. JMIR Pediatrics and Parenting. 4(2): e24579. 2021. PMID: 33843604. https://dx.doi.org/https://dx.doi.org/10.2196/24579. KQ1E7, KQ2E7, KQ3E7
136. Sharma, A. Efficacy of early skin-to-skin contact on the rate of exclusive breastfeeding in term neonates: a randomized controlled trial. Afr Health Sci. 16(3): 790-797. 2016. PMID: 27917213. https://dx.doi.org/. KQ1E2a, KQ2E2a, KQ3E2a
137. Shaughnessy, AF. Provided Infant Carriers Increase the Rate of Sustained Breastfeeding. Am Fam Physician. 105(1): 93-94. 2022. PMID: 35029950. https://dx.doi.org/. KQ1E8, KQ2E8, KQ3E8
138. Shipp, GM, Weatherspoon, LJ, et al. Breastfeeding Self-Efficacy as a Predictor of Breastfeeding Intensity Among African American Women in the Mama Bear Feasibility Trial. Breastfeeding Medicine: The Official Journal of the Academy of Breastfeeding Medicine. 15(): 15. 2022. PMID: 35166571. https://dx.doi.org/https://dx.doi.org/10.1089/bfm.2021.0301. KQ1E5, KQ2E5, KQ3E5

139. Shipp, GM, Weatherspoon, LJ, et al. Understanding the Impact of Perceived Social Support for Breastfeeding Among African American Women: Results From the Mama Bear Feasibility Trial. Am J Health Promot. (): 8901171221138275. 2022. PMID: 36330772. https://dx.doi.org/10.1177/08901171221138275. KQ1E5, KQ2E5, KQ3E5

140. Şimşek, Songül, Karahan, Nazan. Assessment of The Impact of Mother-Infant Skin-to-Skin Contact at Childbirth on Breastfeeding. Konuralp Medical Journal / Konuralp Tip Dergisi. 9(1): 70-77. 2017. https://dx.doi.org/https://doi.org/10.18521/ktd.296559. KQ1E5, KQ2E5, KQ3E5

141. Souza, Efdc, Pina-Oliveira, AA, et al. Effect of a breastfeeding educational intervention: a randomized controlled trial. Rev Lat Am Enfermagem. 28(): e3335. 2020. PMID: 33027400. https://dx.doi.org/https://dx.doi.org/10.1590/1518-8345.3081.3335. KQ1E2a, KQ2E2a, KQ3E2a

142. Sreekumar, Kavita, D'Lima, Annely, et al. Cognitive Breastfeeding Counseling: A Single Session Helps Improve LATCH Score. Journal of Perinatal Education. 27(3): 148-151. 2018. https://dx.doi.org/https://doi.org/10.1891/1058-1243.27.3.148. KQ1E2a, KQ2E2a, KQ3E2a

143. Stuebe, AM, Bonuck, K, et al. A Cluster Randomized Trial of Tailored Breastfeeding Support for Women with Gestational Diabetes. Breastfeeding Medicine: The Official Journal of the Academy of Breastfeeding Medicine. 11(): 504-513. 2016. PMID: 27782758. https://dx.doi.org/. KQ1E7, KQ2E7, KQ3E5

144. Taheri, Z, Bakouei, F, et al. Effectiveness of distance education program on mothers' empowerment in exclusive breastfeeding: A randomized clinical trial. J Educ Health Promot. 11(): 420. 2022. PMID: 36824088. https://dx.doi.org/https://dx.doi.org/10.4103/jehp.jehp_1614_21. KQ1E2a, KQ2E2a, KQ3E2a

145. Tarrant, Marie. Author's reply re: Professional breastfeeding support for first-time mothers: a multi-centre cluster randomised controlled trial...Kim TH, Lee HH, Kim JM, et al. Professional breastfeeding support for first-time mothers: a multi-centre cluster randomised controlled trial. BJOG, 2016;123(12):2052-2052. . 123(): 2052-2053. 2016. https://dx.doi.org/https://doi.org/10.1111/1471-0528.14122. KQ1E8, KQ2E8, KQ3E8

146. Taylor, RW, Williams, SM, et al. Effect of a Baby-Led Approach to Complementary Feeding on Infant Growth and Overweight: A Randomized Clinical Trial. JAMA Pediatr. 171(9): 838-846. 2017. PMID: 28692728. https://dx.doi.org/https://dx.doi.org/10.1001/jamapediatrics.2017.1284. KQ1E1, KQ2E1, KQ3E1

147. Tender, JenniferAF, Henderson, Chrisonne, et al. Integrating a Breastfeeding Peer Counselor Into an Academic Hospital's Obstetric Clinic: A Pilot Study. Journal of Perinatal Education. 33(2): 81-87. 2024. https://dx.doi.org/https://doi.org/10.1891/JPE-2023-0003. KQ1E5, KQ2E7, KQ3E5

148. Tseng, JF, Chen, SR, et al. Effectiveness of an integrated breastfeeding education program to improve self-efficacy and exclusive breastfeeding rate: A single-blind, randomised controlled study. Int J Nurs Stud. 111(): 103770. 2020. PMID: 32961461. https://dx.doi.org/https://dx.doi.org/10.1016/j.ijnurstu.2020.103770. KQ1E2a, KQ2E2a, KQ3E2a

149. Tubay, AT, Mansalis, KA, et al. The Effects of Group Prenatal Care on Infant Birthweight and Maternal Well-Being: A Randomized Controlled Trial. Mil Med. 184(5-6): e440-e446. 2019. PMID: 30535396. https://dx.doi.org/https://dx.doi.org/10.1093/milmed/usy361. KQ1E7, KQ2E7, KQ3E7

150. Ulloa Sabogal, IM, Dominguez Narino, CC, et al. Educational intervention for the maintenance of exclusive breastfeeding in adolescent mothers: A feasibility study. Int J Nurs Knowl. 21(): 21. 2022. PMID: 36269054. https://dx.doi.org/https://dx.doi.org/10.1111/2047-3095.12404. KQ1E2a, KQ2E2a, KQ3E2a

151. Vila-Candel, R, Mena-Tudela, D, et al. Effects of a mobile application on breastfeeding maintenance in the first 6 months after birth: Randomised controlled trial (COMLACT study). Midwifery. 128(): 103874. 2024. PMID: 37979550. https://dx.doi.org/https://dx.doi.org/10.1016/j.midw.2023.103874. KQ1E5, KQ2E7, KQ3E5

152. Vlasblom, E, van Grieken, A, et al. Parenting support to prevent overweight during regular well-child visits in 0-3 year old children (BBOFT+ program), a cluster randomized trial on the effectiveness on child BMI and health behaviors and parenting. PLoS ONE [Electronic Resource]. 15(8): e0237564. 2020. PMID: 32810194. https://dx.doi.org/https://dx.doi.org/10.1371/journal.pone.0237564. KQ1E5, KQ2E7, KQ3E5

153. Wagijo, MA, Crone, M, et al. The Effect of CenteringPregnancy Group Antenatal Care on Maternal, Birth, and Neonatal Outcomes Among Low-Risk Women in the Netherlands: A Stepped-Wedge Cluster Randomized Trial. J Midwifery Womens Health. 69(2): 191-201. 2024. PMID: 38339816. https://dx.doi.org/https://dx.doi.org/10.1111/jmwh.13582. KQ1E3a, KQ2E3a, KQ3E3a

154. Washio, Y, Humphreys, M, et al. Incentive-based Intervention to Maintain Breastfeeding Among Low-income Puerto Rican Mothers. Pediatrics. 139(3): . 2017. PMID: 28167511. https://dx.doi.org/https://dx.doi.org/10.1542/peds.2016-3119. KQ1E6a, KQ2E6a, KQ3E6a

155. Wen, J, Yu, G, et al. Effects of a theory of planned behavior-based intervention on breastfeeding behaviors after cesarean section: A randomized controlled trial. International Journal of Nursing Sciences. 8(2): 152-160. 2021. PMID: 33997128. https://dx.doi.org/https://dx.doi.org/10.1016/j.ijnss.2021.03.012. KQ1E2a, KQ2E2a, KQ3E2a

156. White, B, Giglia, RC, et al. Gamifying Breastfeeding for Fathers: Process Evaluation of the Milk Man Mobile App. JMIR Pediatrics and Parenting. 2(1): e12157. 2019. PMID: 31518324. https://dx.doi.org/https://dx.doi.org/10.2196/12157. KQ1E7a, KQ2E7a, KQ3E7a

157. White, BK, Burns, SK, et al. Designing evaluation plans for health promotion mHealth interventions: a case study of the Milk Man mobile app. Health Promotion Journal of Australia. 27(3): 198-203. 2016. PMID: 27784506. https://dx.doi.org/https://dx.doi.org/10.1071/HE16041. KQ1E7a, KQ2E7a, KQ3E7a

158. Wilkinson, SA, van der Pligt, P, et al. Trial for Reducing Weight Retention in New Mums: a randomised controlled trial evaluating a low intensity, postpartum weight management programme. J Hum Nutr Diet. 28 Suppl 1(): 15-28. 2015. PMID: 24267102. https://dx.doi.org/https://dx.doi.org/10.1

111/jhn.12193. KQ1E1, KQ2E1, KQ3E1

159. Wong, MS, Chien, WT. A Pilot Randomized Controlled Trial of an Online Educational Program for Primiparous Women to Improve Breastfeeding. J Hum Lact. 39(1): 107-118. 2023. PMID: 36189735. https://dx.doi.org/https://dx.doi.org/10.1177/08903344221125129. KQ1E7, KQ2E7, KQ3E5
160. Yesil, Y, Ozturk Can, H. Postpartum Breastfeeding Practices and Attitudes in Parents: A Randomized Study to Evaluate the Effects of Individual and Group Breastfeeding Education of Mothers and Fathers. Cureus. 15(9): e44811. 2023. PMID: 37809220. https://dx.doi.org/https://dx.doi.org/10.7759/cureus.44811. KQ1E5, KQ2E7, KQ3E7
161. Yildirim Goksen, DF, Ozkan, S. The effect of online breastfeeding education on breastfeeding motivation: A randomized controlled study. J Pediatr Nurs. 75(): e42-e48. 2024. PMID: 38182483. https://dx.doi.org/https://dx.doi.org/10.1016/j.pedn.2023.12.026. KQ1E5, KQ2E5, KQ3E5
162. Yilmaz, M, Aykut, M. The effect of breastfeeding training on exclusive breastfeeding: a randomized controlled trial. Journal of Maternal-Fetal & Neonatal Medicine. 34(6): 925-932. 2021. PMID: 31345049. https://dx.doi.org/https://dx.doi.org/10.1080/14767058.2019.1622672. KQ1E5, KQ2E7, KQ3E5
163. You, H, Lei, A, et al. Effects of breastfeeding education based on the self-efficacy theory on women with gestational diabetes mellitus: A CONSORT-compliant randomized controlled trial. Medicine (Baltimore). 99(16): e19643. 2020. PMID: 32311936. https://dx.doi.org/https://dx.doi.org/10.1097/MD.0000000000019643. KQ1E2a, KQ2E2a, KQ3E2a
164. Yurtsal, B, Hasdemir, O. Effects of the WhatsApp midwife breastfeeding support line on early postpartum breastfeeding process of mothers. Health Care Women Int. 43(12): 1433-1448. 2022. PMID: 35417317. https://dx.doi.org/https://dx.doi.org/10.1080/07399332.2021.1972303. KQ1E5, KQ2E5, KQ3E5
165. Zhu, Yu, Zhang, Zhihong, et al. Impact of intervention on breastfeeding outcomes and determinants based on theory of planned behavior. Women & Birth. 30(2): 146-152. 2017. PMID: 123371331. https://dx.doi.org/https://doi.org/10.1016/j.wombi.2016.09.011. KQ1E2a, KQ2E2a, KQ3E2a
166. Zhuang, J. Developing Messages Tailored to Self-construal, Time-orientation, and Perspective Taking to Promote 6-Month Exclusive Breastfeeding. J Health Commun. 26(3): 204-213. 2021. PMID: 33899682. https://dx.doi.org/https://dx.doi.org/10.1080/10810730.2021.1903626. KQ1E1, KQ2E1, KQ3E1

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
Abbass-Dick, 2015[3] Canada	IG1	Coparenting breastfeeding support intervention consisting of one 15-minute counseling session in the postpartum hospital unit, at which time the couples were provided with breastfeeding information, an information package including a coparenting workbook, breastfeeding workbook, and information on a secure study website was reviewed, and couples were given the option of watching an 11-minute coparenting and breastfeeding video in the hospital or at home at a later point in time. The couples were followed up at home with e-mails at 1 and 3 weeks postpartum and a telephone call at 2 weeks postpartum. The coparenting workbook, video, and website contained extensive information on breastfeeding and coparenting. Elements were designed to help couples work cooperatively towards meeting their jointly determined child health outcomes.	In person	Hospital	Standard in-hospital breastfeeding support and any breastfeeding assistance that was proactively sought in the community.
Abbass-Dick, 2020[4] Canada	IG1	Couples were provided access to a previously created, publicly available eHealth breastfeeding coparenting website, which they could access independently throughout the perinatal period. To receive access, a telephone or web-based meeting was held where the resource was reviewed with the mother and her coparent and a PDF was sent to the couple that described the eHealth resource, its contents, and how to access it. The resource contained comprehensive breastfeeding information in 8 main sections: 1) Why breastfeed, 2) How to breastfeed, 3) The early days, 4) Common concerns, 5) Supporting mom/fathers/partners, 6) Where to get help, 7) Everyday life, and 8) Helpful links. The website also included extensive information on how to work as a team to meet breastfeeding goals. This content covered the five elements of the Breastfeeding Coparenting Framework: supporting mom, how to work as a team, joint goal setting, coparent involvement with their breastfed child, and effective communication and problem solving. Participants could also access additional breastfeeding information generally available in the community. Mothers received the usual levels of care and information provided by their health care provider.	Remote	Home	Couples were informed that they could assess breastfeeding resources generally available in the community. They were encouraged to work as a team to meet their breastfeeding goals and to keep track of the resources they used and of how satisfied they were with the resources. Usual care and standard breastfeeding information was provided by the woman's healthcare provider.
Acar, 2024[5] Turkey	IG1	On first postpartum day, the mobile application was installed on the mothers' phones. They were free to use the app at any time throughout the study. The app included information about the importance of breast milk and WHO breastfeeding recommendations, as well as screens on breastfeeding, expression/storage of milk, troubleshooting breastfeeding problems, FAQs, and a way to keep track of number and length of breastfeeding sessions, milking status, and other issues. Additionally, researchers sent weekly notifications via the mobile application to increase mothers' breastfeeding motivation.	Remote	Home	Routine postpartum care (not described).
Addicks, 2019[6] US	IG1	Participants assigned to the MI group received a 45-min (+/-5 min) intervention provided by one of the two therapists. The MI sessions were patient centered and conversational in style consistent with the	In person	Mental health clinic, community	The psychoeducation intervention consisted of 45(+/-5) min of psychoeducation on typical infant developmental stages and infant feeding. The

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		spirit of MI. We provided a bubble sheet of possible topics related to breastfeeding to participants and encouraged them to lead the conversation by selecting topics from the sheet that interested them. As appropriate, change rulers were used as a tool to elicit change talk. These rulers provide visual scales of confidence and importance associated with a given behavior change on a scale of 0 (i.e., not at all important/ not at all confident) to 10 (i.e., extremely important/extremely confident).		location, and home homes	participants in this group responded to several sham questions about what they learned from the intervention.
Anderson, 2005[7] US	IG1	Three prenatal home visits (first after enrollment, second before 36 weeks, and third at 36 weeks) where a peer counselor reviewed the benefits and reasons for exclusive breastfeeding, avoidance of the use of feeding bottles and pacifiers, and tested for inverted nipples. They also reviewed behaviors that impede early initiation and successful breastfeeding and explained why exclusively breastfed babies do not need water during the first 6 months of life, infant cues for readiness to breastfeed, and proper latch-on technique or positioning. If the woman had a video cassette recorder, she was provided with an opportunity to watch a breastfeeding video. The entire family was encouraged to participate in the education, especially the principal person expected to support the woman after delivery. The assigned peer counselor also visited the mother-infant pair at least once a day starting within 24 hours after delivery and continued for as long as the dyad remained hospitalized (average 2.2 hours). Finally, 9 postpartum home visits were to provide hands-on breastfeeding support and counseling according to the mother's needs. The mothers could contact the peer counselor during lactation crises occurring between scheduled home visits. The content of the postpartum home visits and any phone counseling were based on the specific needs for breastfeeding education and support of the mother-infant pair. Routine breastfeeding care from the hospital was also delivered.	In person	Home and hospital	Conventional breastfeeding prenatal education from the Women's Ambulatory Health Services clinic staff. On delivery, they received hands-on breastfeeding assistance and education from the maternity ward nursing staff. If any of these mothers experienced breastfeeding problems requiring assistance beyond that routinely provided by staff nurses, the hospital's lactation consultant on duty was called to assist the patient. Hospital is BFHI-certified and staff are trained to provide lactation education and support to mothers who attend the prenatal clinic and deliver at the hospital. The hospital also provides a breastfeeding warm line that nursing mothers can call 24 hours a day for support and counseling from a staff nurse/lactation consultant during lactation crises after hospital discharge.
Balaguer Martínez, 2018[8] Spain	IG1	In addition to having the same routine visits as the control group [an initial postnatal visit with the paediatrician (between days 7 and 15 post birth), and checkups at 1, 2, 4 and 6 months with the nurse], mothers assigned to the experimental group received a weekly call during the first 2 months and a call every other week between months 2 and 6 post birth. The nurse assigned to the infant made the calls. Likewise, the specific nurse that managed the face-to-face visits with the mother was the one that provided support over the phone. During the first month: position of the newborn for breastfeeding, frequency of feeds, number and consistency of stools, general breast care, normal weight gain, and, in mothers that supplemented feedings, advice and support to try to re-establish EBF. In months 2-3: advice on expressing breast	Remote	Home	Mothers in both groups attended the visits included in the preventive care protocol: an initial postnatal visit with the paediatrician (between days 7 and 15 post birth), and checkups at 1, 2, 4 and 6 months with the nurse assigned to the patient, under the supervision of the paediatrician. The nurse, as is customary in our primary care clinics, was the professional in charge of counselling the mother regarding nutrition during these visits. Mothers were offered the option of scheduling additional appointments or calling the

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		milk to have stores in case the mother returned to work or ever needed to be away from home, with instructions on how to handle and store breast milk. In months 4-6: how to use stored breast milk (if any was stored) and techniques on the administration of stored milk to infants, importance of maintaining EBF and avoiding administration of other types of milk or foods. If any mother in the intervention group stopped breast-feeding completely, she stopped receiving these calls.			nurse on the phone to receive guidance regarding breastfeeding problems.
Baransel, 2024[9] Turkey	IG1	Education on breastfeeding and basic maternal-neonatal care was given to the women in the experimental group within the first 24 hours after the birth, and the training topics were sent as a mobile message for six weeks after birth. Educational content and messages created by the researchers in line with the guidelines of ACOG and WHO, together with the literature review, were organized with the opinion of five experts in their field. The content of education and mobile messages was as follows: the importance of breastfeeding, breastfeeding techniques and things to be considered while breastfeeding, milking and storage conditions, nipple problems, postpartum mother-neonatal care, and post-discharge emergencies. Education on breastfeeding and basic maternal-neonatal care was given in two postpartum sessions. In the first session, breastfeeding education was given to women in practice, together with the first postpartum breastfeeding. At the beginning of the second session, breastfeeding training was repeated, and then basic maternal-neonatal care training was given. The first session was given at the first breastfeeding time, and the second session was given between 20–24 hours after birth. Each session lasted approximately 20–25 minutes. Information messages were sent by the researcher via mobile message between 08:00 and 10:00 every day for six weeks following the first day after discharge.	In-person, Remote	Hospital and home	Breastfeeding training, which is included in the standard care of the hospital, was given to these women by the healthcare professionals in the clinic.
Bender, 2022[10] US	IG1	Patients received a text message-based intervention starting with a congratulatory text message after delivery. Thereafter, they received informational and motivational text message-based content on breastfeeding at weekly intervals and inquiry text messages similar to the control group until 6 weeks post-hospital discharge. Patients had the option of asking questions or presenting breastfeeding concerns as needed. These questions were responded to by the primary author daily. Questions and concerns were addressed on the same calendar day they were received using two-way text messaging; there were no standardized responses. In the rare instance that issues could not be remedied by text message, referrals for telehealth or in-person visits with lactation specialists or other health care professionals were made.	Remote	Home	Received a congratulatory text message after delivery. Thereafter, they received a text message once per week asking how they were feeding their infant. Information on type of feeding, reasons for pumping or formula feeding, and feeding frequency were collected in this way. These inquiry text messages were repeated weekly until 6 weeks post–hospital discharge.
Bernal, 2019[11] US	IG1	All enrolled participants received the standard breastfeeding and support activities offered by the local WIC clinic. Participants assigned to the peer education group received additional breastfeeding education and support by a breastfeeding peer counselor. The peer	Remote	Home	All enrolled participants received the standard breastfeeding and support activities being offered by the local WIC clinic.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		counselor was of Hispanic origin and had similar cultural, demographic, and socio-economic backgrounds to women in the intervention, was a local community woman, a former WIC participant and had experienced breastfeeding success. The peer counselor was trained by both the local WIC agency and the PI in breastfeeding management and patient confidentiality. The breastfeeding peer counselor attempted 1 prenatal telephone call, 1 immediate postpartum telephone call, and 1 subsequent postpartum telephone call. The breastfeeding peer counselor also attempted telephone contacts during the first 2-3 days after hospital discharge, after 2 weeks postpartum, after 4 weeks postpartum, after 6 weeks postpartum, after 8 weeks postpartum. Peer counseling intervention services included: information about the benefits of breastfeeding (including techniques, contraindications, common problems and practical solutions), modeling and hands-on coaching, making referrals to appropriate professional assistance and services, and providing encouragement and emotional support. On average, the peer counselor spent 40 minutes of one-on-one telephone interactions with each participant.			
Bonuck, 2006[12] US	IG1	Two 60-minute prenatal clinic or home visits by a study lactation consultant (LC). The initial prenatal meeting focused first on trust and rapport and then educational content including feeding intentions and the benefits of breastfeeding. A flipchart depicting the physiologic features of breastfeeding and color pamphlets were reviewed. The second meeting addressed what to expect after birth and specifics on how to initiate breastfeeding in the hospital (e.g., latch-on, positioning, importance of early initiation, and demand feeding). Practice with a culturally appropriate lactation doll and nipple was offered. During the postpartum hospital and 90-minute home visits, the consultants provided hands-on instruction in latching on, proper positioning, and other techniques to avoid common breastfeeding complications, as well as pump use. After breastfeeding was established, topics included frequency of feeding, confidence, stooling patterns, determining adequate intake, and maternal nutrition. If later contacts were made, they tended to focus on expressing and storing milk, fatigue, nursing in public, returning to school or work, and supplementing. The LCs helped mothers garner support from their families, schools, workplaces, and health care providers. Study LCs offered a nursing bra to women in the intervention group, free of charge, to facilitate breastfeeding. Study LCs also provided manual or mini electric breast pump to women, free of charge, in certain circumstances. The general policy of the study LCs was to discourage the use of breast pumps in favor of nursing for women who were in continual proximity to their infants.	In person	Home and hospital	At one site, usual care included a mandatory prenatal care class, which did not address infant feeding in any detail. At the other site, there was no routine prenatal education. Neither site followed an established protocol for breastfeeding education or support or offered a private lactation space. Participants enrolled in WIC had the opportunity to visit with a breastfeeding coordinator at the WIC site, although such use was not assessed specifically. Given the study population's diversity, it would be difficult to characterize a community "standard" with respect to breastfeeding.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
Bonuck, 2014a[13] (BINGO) US	IG1	Participants received both prenatal education by physician or midwife as well as support with a lactation consultant during the prenatal and postpartum periods. Support: Study staff programmed prompts to appear in the electronic medical record during 5 prenatal visits. Each included 2 to 3 brief open-ended questions for providers (resident, attending obstetrician or gynecologist, or certified nurse-midwives) to ask that portrayed breastfeeding as the norm (e.g., "What are your plans for breastfeeding?"), sought to clarify knowledge about how long or how much to breastfeed, and elicited information on social network support. At the 36-week prenatal visit, the provider encouraged immediate skin-to-skin contact, initiating breastfeeding after birth, decreasing mother/baby separation, and asking for help breastfeeding. Lactation support: Two study-supported lactation consultants had routine presence at prenatal sites and hospitals. The intervention included 2 prenatal sessions, a hospital visit, 1 visit during a routine pediatric appointment at 1 week, and regular phone calls postpartum through 3 months or until breastfeeding ceased. The prenatal sessions occurred in the examination room during the 30-plus minutes of "downtime" while waiting for the prenatal care provider. If sessions were interrupted, attempts were made to finish them after the prenatal appointment. The first session focused on rapport building and education, and the second was on the practical aspects of breastfeeding. The study provided nursing bras and breast pumps to participants, as needed. Lactation consultants met mothers and their infants at the 1-week routine pediatric visit. Postpartum home visits were optional, based upon participants' and lactation consultant's preferences and comfort.	In person	Prenatal clinic, hospital, and home	No explicit breastfeeding promotion or support. Hospital had 1 lactation consultant (IBCLC), available weekdays, whose primary focus was women intending to exclusively breastfeed or at risk for breastfeeding difficulties. Midway through the study, hospital postpartum and labor and delivery nursing staff began attending a 20-hour Certified Lactation Consultant training course.
	IG2	Two 45-minute prenatal sessions, a 15-minute hospital visit, 1 15-minute visit during a routine pediatric appointment at 1 week, and regular phone calls postpartum through 3 months or until breastfeeding ceased all with a licensed lactation consultant. The prenatal sessions occurred in the examination room during the 30-plus minutes of "downtime" while waiting for the prenatal care provider. If sessions were interrupted, attempts were made to finish them after the prenatal appointment. The first session focused on rapport building and education, and the second was on the practical aspects of breastfeeding. The study provided nursing bras and breast pumps to participants, as needed. Lactation consultants met mothers and their infants at the 1-week routine pediatric visit. Postpartum home visits were optional, based upon participants' and lactation consultant's preference and comfort.	In person	Prenatal clinic, hospital, and home	No explicit breastfeeding promotion or support. Hospital had 1 lactation consultant (IBCLC), available weekdays, whose primary focus was women intending to exclusively breastfeed or at risk for breastfeeding difficulties. Midway through the study, hospital postpartum and labor and delivery nursing staff began attending a 20-hour Certified Lactation Consultant training course.
	IG3	Study staff programmed prompts to appear in the electronic medical record during 5 prenatal visits. Each included 2 to 3 brief open-ended questions for providers (resident, attending obstetrician or	In person	Prenatal clinic	No explicit breastfeeding promotion or support. Hospital had 1 lactation consultant (IBCLC), available weekdays, whose primary focus was

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		gynecologist, or certified nurse-midwives) to ask that portrayed breastfeeding as the norm (e.g., "What are your plans for breastfeeding?"), sought to clarify knowledge about how long or how much to breastfeed, and elicited information on social network support. At the 36-week prenatal visit, the provider encouraged immediate skin-to-skin contact, initiating breastfeeding after birth, decreasing mother/baby separation, and asking for help breastfeeding.			women intending to exclusively breastfeed or at risk for breastfeeding difficulties. Midway through the study, hospital postpartum and labor and delivery nursing staff began attending a 20-hour Certified Lactation Consultant training course.
Bonuck, 2014b[14] (PAIRINGS) US	IG1	Participants received both prenatal education by a physician or midwife as well as support with a lactation consultant during the prenatal and postpartum periods. Brief support: Study staff programmed prompts to appear in the electronic medical record during 5 prenatal visits. Each included 2 to 3 brief open-ended questions for providers (resident, attending obstetrician or gynecologist, or certified nurse-midwives) to ask that portrayed breastfeeding as the norm (e.g., "What are your plans for breastfeeding?"), sought to clarify knowledge about how long or how much to breastfeed, and elicited information on social network support. At the 36-week prenatal visit, the provider encouraged immediate skin-to-skin contact, initiating breastfeeding after birth, decreasing mother/baby separation, and asking for help breastfeeding. Lactation support: Two study-supported lactation consultants had routine presence at prenatal sites and hospitals. The intervention included 2 prenatal sessions, a hospital visit, 1 visit during a routine pediatric appointment at 1 week, and regular phone calls postpartum through 3 months or until breastfeeding ceased. The prenatal sessions occurred in the examination room during the 30-plus minutes of "downtime" while waiting for the prenatal care provider. If sessions were interrupted, attempts were made to finish them after the prenatal appointment. The first session focused on rapport building and education, and the second was on the practical aspects of breastfeeding. The study provided nursing bras and breast pumps to participants as needed. Lactation consultants met mothers and their infants at the 1-week routine pediatric visit. Postpartum home visits were optional, based upon participants' and lactation consultant's preference and comfort.	In person	Prenatal clinic, hospital, and home	No explicit breastfeeding promotion or support. Hospital had 1 lactation consultant (IBCLC), available weekdays, whose primary focus was women intending to exclusively breastfeed or at risk for breastfeeding difficulties. Midway through the study, hospital postpartum and labor and delivery nursing staff began attending a 20-hour Certified Lactation Consultant training course.
Bunik, 2010[15] US	IG1	The intervention included daily phone calls by trained bilingual (English/Spanish) nurses starting on the day of discharge and continuing daily for the first 2 weeks postpartum. Nurses followed scripted protocols, which included cultural issues previously found to influence breastfeeding initiation or continuation. Topics also included: 1) advantages of colostrum and importance of a good latch; 2) engorgement; 3) concerns about unnecessary formula supplementation, supply, and demand, assessing milk supply via infant stooling patterns; 5) breastfeeding duration and benefits; 6) causes of infant crying; 7) modesty, family support, violation of *la cuarentena*	Remote	Home	All participants received a bag with pamphlets in English and Spanish produced by US Department of Health and Human Services that included illustrations of breastfeeding positions and latch, a hand breast pump, lanolin cream, and a water bottle. Both groups also received usual hospital and discharge care, with included the formula company discharge bags.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		(i.e., 40 days postpartum); 8) support groups and WIC; 9) mother's illness; 10) baby blues versus postpartum depression; 11) medications and diet; 12) pumping and milk storage; 13) return to work or school or time away from baby; and 14) growth spurts and cluster feeding. During calls, the nurses also used a published screening tool designed to ensure necessary referrals for lactation issues or medical problems.			
Bunik, 2022[16] US	IG1	Mothers received daily text messages for 3–4 weeks before the birth of their baby and up to 3 months after the baby's birth. Mothers' Milk Messaging (MMM) messages were based on Social Cognitive Theory (SCT) and the Theory of Planned Behavior. Over 100 text messages were initially developed by the study team and then reduced to 60 messages based on pilot testing among pregnant and postpartum women. The daily messages were carefully planned during this period to be relevant to address specific issues for the breastfeeding journey. The 20 messages delivered during pregnancy focused on increasing perceived benefits, attitudes, positive outcome expectancies, and self-efficacy related to breastfeeding. The 40 messages delivered in the postpartum period centered on strategies to garner social support and enhance behavioral skills and self-efficacy to overcome barriers to breastfeeding (e.g., latching difficulties, inadequate milk supply, return to work). Information was available via short videos that were embedded on the app and linked through YouTube. We hosted a digital story workshop with Story Center and included these more personal videos in English and Spanish. We used content from Breastfeeding Telephone Triage and Advice that could be found in a scrolling format by topic. MMM also had a tracking feature for feedings.	Remote	Home	Same schedule of messages but focused on injury prevention messages.
Cangol, 2017[17] Turkey	IG1	A total of 4 sessions of the breastfeeding motivation program (BMP) were carried out, starting during pregnancy and continuing during the postnatal period. BMP schedule: -1st session [between 32nd and 36th weeks in the antenatal period]: Meet, review researchers' role, and study plan. Participants were informed on issues to be discussed in BMP and opinions on and intention to breastfeed were discussed. -2nd session [1st postnatal day]: Motivation was raised to encourage breastfeeding. Awareness on breastfeeding and the features and benefits of breast milk; breastfeeding techniques were shown, and information was given. A -presentation/brochure on nipple fissures or inverted nipples was available, as needed. The researchers also made a presentation and distributed flyers afterward to increase motivation. -3rd session [between the 4th and 6th postnatal weeks]: General discussions on breastfeeding; positive behaviors reinforced to provide self-efficacy and confidence. -4th session [in the 4th postnatal month]: Sustaining behaviors evaluated through phone calls.	In person	NR	Not described. The participants in the control group were trained in breast self-examination.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
Carlsen, 2013[18] Denmark	IG1	All participants were offered a minimum of 9 telephone consultations within the first 6 months postpartum with a lactation consultant, provided that the mothers breastfed during the entire period. All contacts followed a structured design posing questions of physical and psychological aspects related to breastfeeding and the well-being of the mother and child. During the conversation, it was determined whether the mother had sufficient knowledge of breastfeeding, and advice was provided if necessary. The initial contact was made within the first week postpartum. Three contacts were made during the first month, and thereafter, participants were contacted every second week until 8 weeks postpartum and, thereafter, once monthly. Extra contacts were offered for specific difficulties, whereas support was stopped when breastfeeding was terminated. All women had the direct telephone number to the lactation consultant, and she was available 7 days/week. The first contact was ~20 min, whereas the following calls were between 5-10 min.	Remote	Home	NR
Cauble, 2021[19] US	IG1	Intervention participants participated in 6 weekly group-based phone counselling sessions starting between 16–30 weeks gestation. Three groups containing between 6–10 participants each were held. Phone calls were conducted using the Acano Audio Conferencing System. Each session was approximately 60 minutes and was led by an IBCLC and registered dietitian. Participants were given a comprehensive manual that outlined weekly lessons, including: Introduction to Breastfeeding, Breastfeeding Basics, Pumping 101, Back to Work, Introducing Solids, and Nutrition and Physical Activity for Breastfeeding. The lessons were didactic in nature, but each lesson encouraged group participation by incorporating participant questions, discussion, and assigned tasks for the next week.	Remote	Home	Standard pregnancy and pediatric education provided by their healthcare provider.
Chan, 2016[20] Hong Kong	IG1	The self-efficacy-based educational program comprised a 2.5-hour breastfeeding workshop provided between 28-38 weeks gestation, with small groups of 6-8 mothers at each interactive session. Life-like dolls and blankets were provided to each participant for practice. The interaction motivated the participant to acquire more information about breastfeeding. At home, the participants were encouraged to practice what they learned from the breastfeeding workshop. Telephone counseling was provided to the participants at 2 weeks postpartum, focusing on evaluating their emotional/physiological condition and breastfeeding status. Each call lasted for 30-60 minutes. The researcher addressed problems, such as fear and pain, with the aim of correcting misconceptions. Coping strategies were reinforced and emotional support was provided to the participants. The researcher evaluated the participants based on their description of positioning, infant cues of hunger, and frequency of breastfeeding. Appropriate advice was given, and breastfeeding practices were encouraged.	In person	Hospital and phone	The usual care provided by the study hospital includes breastfeeding support that was provided by midwives in the hospital, seeking help from a lactation consultant, and postpartum follow-up by midwives or doctors.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
Chapman, 2013[21] US	IG1	Access to 3 60–90-minute prenatal visits (average=2), daily in-hospital visits (average=3), up to 11 postpartum home visits (average=5), and optional telephone calls (average=9) from a specialized breastfeeding peer counselor during the first 6 months postpartum. The peer counseling intervention replaced the optional routine peer counseling program that was available to women in the control group. Prenatal peer counselor visits involved assessments of previous breastfeeding knowledge/experiences, personalized education on breastfeeding logistics, the risks of formula feeding, and anticipatory guidance. Daily peer counselor visits were similar to those usually provided, except the peer counselor ensured that women received a manual breast pump before discharge. Postpartum visits and phone calls were individualized and tentatively scheduled as follows: 3 visits (first week postpartum); 2 visits during each of the second, third, and fourth weeks; and weekly visits during weeks 5 and 6. Participants were contacted by telephone between 2 and 3 months postpartum, with additional calls and home visits provided, as needed. Participants received a large breastfeeding sling to facilitate close infant contact and discreet breastfeeding. Those separated from their infant due to work or school received a single electric breast pump with correctly sized flanges.	In person	Clinic and home	Prenatal breastfeeding education included brief breastfeeding discussions during routine clinic appointments and receipt of written educational materials. Staff nurses provided routine perinatal breastfeeding assistance, with lactation consultants available as needed. After discharge, participants could call the hospital's "warm line" with breastfeeding questions. Standard care also included optional support from peer counselors, who provided the following: up to 3 prenatal visits; daily in-hospital visits to assist with latch and positioning and to educate regarding infant cues and breastfeeding frequency; up to 7 personalized home visits during the first year postpartum; and telephone support. If available, electric breast pumps were loaned as needed. To receive prenatal peer counselor visits, controls could self-refer or be referred to the program at no charge. During the hospital stay, controls were routinely visited by standard peer counselors during daily rounds, and those desiring peer counseling services after discharge were enrolled in the standard peer counseling program.
Clarke, 2020[22] Great Britain	IG1	Women received telephone counseling at about 30 weeks gestation and were offered a face-to-face discussion at home or location of their choice to discuss infant feeding and explore their assets for breastfeeding. A narrative storytelling approach was used to produce a family tree diagram (genogram) of infant feeding experiences, widening to the natural social network to enable women to reflect on future feeding relationships. This allowed breastfeeding to be introduced in a woman-centered rather than promotional way. Partners/family members were encouraged to be present so their support role could be emphasized and encouraged. Further follow-up was conducted via monthly texts during the remaining weeks of pregnancy. Women were encouraged to contact the intervention team as soon as convenient after birth occurred by swapping mobile phone numbers, encouraging them to be on the list of people notified after the birth, and by the use of a fridge magnet with contact details. The objective was for the feeding helper to telephone within 24 hours of the woman going home and offer an early face-to-face meeting. Post-birth, subsequent support was provided by brief daily telephone calls/texts until the baby was 2 weeks, then reducing text message frequency through 8 weeks postpartum based on maternal preference, with final texts at 3, 4, and 5 months postpartum. Home visits/meetings in community venues were also organized, as needed.	In person	Home and community sites	Usual care includes midwife and health visiting support. This did not include any proactive support from peer supporters either antenatally or postnatally. Women were given a leaflet detailing usual care services to support infant feeding.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
Dennis, 2002[23] Canada	IG1	Peer volunteers were asked to contact new mothers within 48 hours after hospital discharge and as frequently thereafter as the mother deemed necessary. 97% were telephone contacts and 3% were face-to-face meetings. Frequency of contact was not standardized in order to individualize the intervention to the mothers' specific needs and to give credibility to the peer volunteers' experiential knowledge.	Remote	Home	Women had access to the conventional in-hospital and community postpartum support services such as those provided by hospital-based nursing and medical staff, a hospital-based breastfeeding clinic managed by lactation consultants, a telephone breastfeeding support line managed by hospital nursing staff, and support services provided by public health nurses at the local regional community health department and by community-based physicians and pediatricians.
Di Meglio, 2010[24] US	IG1	Peer support persons telephoned the new mother at 2, 4, and 7 days post-discharge and then at 2, 3, 4, and 5 weeks post-discharge. No specific discussion topics were assigned. Peers introduced themselves and asked about the breastfeeding experience. They offered their telephone numbers so that the new mothers could call for support. They were advised to refer anyone with a problem to telephone resources for breastfeeding information or to their physician.	Remote	Home	NR
Di Napoli, 2004[25] Italy	IG1	A home visit by a midwife was carried out within the first 7 days after discharge to assist with breastfeeding and provide breastfeeding support. After this session, the same midwife that conducted the home visit initiated a telephone counseling session to provide additional breastfeeding support.	In person	Home	NR
Edwards, 2013[26] US	IG1	During weekly prenatal home visits (10 visits on average), trained doulas focused on building relationships with the mother while discussing pregnancy health, childbirth preparation, and bonding with the unborn infant. They engaged mothers in ongoing conversations about infant feeding, listened to mothers' ideas and concerns about breastfeeding, and worked to dispel any myths that the mothers held. Doulas sometimes shared their personal experiences of breastfeeding or the experiences of others in their community to help normalize the idea of breastfeeding for women from their cultural and community backgrounds. The doulas educated mothers about the benefits of breastfeeding, sometimes using printed, video, or other informational materials. The doulas included fathers and mothers' family members in discussions about the benefits of breastfeeding and helped mothers gain family acceptance for decisions around feeding. During labor and delivery, the doulas were present to provide emotional support and encourage breastfeeding soon after birth. During the hospital stay and after discharge home, the doulas continued to provide encouragement and guidance as mothers negotiated the initial challenges of breastfeeding, including relieving breast discomfort, getting the infant to latch, and finding effective holding positions. Doulas suggested to mothers that they put the infant to the breast at frequent intervals and that they not introduce formula to infants while establishing lactation.	In person	Hospital and home	NR

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		The doulas provided information on ways to assess and reassure mothers that the infant was getting enough milk. During home visits made during the first 3 months postpartum (12 visits, on average), doulas helped mothers adjust to parenthood and get to know their infants and how to care for them. Doulas were available to breastfeeding mothers by telephone 24 hours/day to help with problems. Doulas provided breast pumps for mothers who were returning to work or school. For mothers who were feeding breast milk from bottles or using formula, doulas discouraged the use of cereal in the bottle. Doulas discouraged the introduction of solid food during the early months of life for both breastfed and formula-fed infants.			
Elliott-Rudder, 2014[27] Australia	IG1	The intervention was a structured conversation to support continuation of breastfeeding among mothers who had been breastfeeding for at least 8 weeks using a motivational interviewing approach. A Conversation Tool was used with each breastfeeding mother who attended a general practice intervention site for their infant to be immunized at 2, 4, or 6 months. Mothers were informed of the recommendation for breastfeeding exclusively to 6 months and maintenance to 1 to 2 years and asked, "How would that work for you?" According to the mother's response, the practice nurse provided a targeted, proactive, conversational action. Those who planned to cease breastfeeding were given nondirective health information, and their autonomy was affirmed. Those who were unsure were asked about perceived barriers and benefits, and their ambivalence was acknowledged. Those who planned to continue breastfeeding were asked about future challenges such as their return to work and were given anticipatory guidance. The conversation closed after community support resources were offered.	In person	Clinic	Usual care from nurses who had not received WHO breastfeeding support training and who commonly asked whether the mother had any problems.
Fan, 2022[28] Hong Kong	IG1	Women received standard care and peer support group on a popular online messaging mobile app, WhatsApp. They were added into the WhatsApp group within two days after recruitment. Three trained peer counselors hosted the WhatsApp group. The peer supporters were women with at least 2-month breastfeeding experience and trained to provide breastfeeding peer support under the Department of Health in Hong Kong. Once they joined the WhatsApp group, participants received a welcome message, introducing the peer counselors and encouraging them to ask questions and discuss breastfeeding-related issues. Peer counsellors provide the emotional, informational, and appraisal support to the participants. They sent prompts asking for questions and providing breastfeeding related information weekly for six months. In addition, they gave advice, shared their experience, and answered questions from participants when asked. Participants were also welcomed to share their experiences in the WhatsApp group. Participants in both groups received telephone followup at 1, 2 and 4,	Remote	Home	Standard postpartum care. Participants in both groups received telephone followup at 1, 2 and 4, and 6 months postpartum or until they stopped breastfeeding.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		and 6 months postpartum or until they stopped breastfeeding, which ever came first.			
Fiks, 2017[29] US	IG1	Participants joined a private Facebook peer group for mothers (Grow2Gether), focused on healthy parenting and infant growth. The intervention solely involved online group activities for 11 months (2 months prenatal to facilitate mothers' bonding before delivery, until infant age 9 months) with the exception of 2 in-person meetings (prenatally, for introductions and setting group ground rules, and at infant age 4 months). Four separate peer groups of 9-13 women were formed based on infant due date. Each group was facilitated by a psychologist specializing in obesity treatment. Based on obesity prevention recommendations, the curriculum included infant feeding practices (11 weeks), sleep (7 weeks), positive parenting (12 weeks total: 4 activity, 4 parenting expectations, 4 infant cues and calming), and maternal well-being (8 weeks). Topics rotated between these 4 general content areas and were matched to infant developmental age. The Facebook group was structured around a video-based curriculum and encouraged participant interaction. Short videos were posted to the group weekly from the start of the group through infant age 6 months, then biweekly (i.e., every 2 weeks). Videos featured mothers and infants (many from the same community as the participants) demonstrating behaviors and discussing topics related to healthy infant growth. Information presented in videos was also provided to the group in written posts and PDFs. Mothers responded to the curriculum, discussing parenting topics and sharing photos, videos, and questions. Participants provided feedback on one another's posts, and received feedback from the facilitator (e.g., positive reinforcement, examples of effective parenting behavior) and each other. Mothers participated in groups as frequently as they desired.	Remote	Online	Participants in both the intervention and control groups received text message reminders for recommended infant primary care visits. The control group received no additional intervention.
Forster, 2004[30] Australia	IG1	Two 60-minute prenatal group sessions (starting at 20-25 weeks gestation) that focused on changing attitudes regarding breastfeeding. Women were encouraged to bring their partners or significant other. The first class included information about advantages of breastfeeding, an exploration of the expectant parents' views and attitudes on breastfeeding, and their perceptions of the views of their family and friends, as well as community attitudes. Each participant was encouraged to interview her own mother and her partner's mother about how they fed them as babies and about the mother's present attitudes towards breastfeeding. The second class was a group discussion based on these interviews and participant's reactions, and a discussion of resources available for breastfeeding women. Women were encouraged to develop a breastfeeding plan.	In person	Clinic	Standard care which included formal breastfeeding education sessions; breastfeeding information as a component of standard childbirth education courses; lactation consultant support as necessary (inpatient and outpatient); peer support by means of community breastfeeding groups; optional attendance at a breastfeeding information evening; any videos or education on breastfeeding presented in the postnatal ward during their stay; 24-hour telephone counseling support; and a postnatal home visit by a domiciliary midwife.
	IG2	Single 90-minute prenatal group session (starting at 20-25 weeks gestation) that focused on practical breastfeeding skills using teaching aids that were previously developed and tested. The technique of	In person	Clinic	Standard care which included formal breastfeeding education sessions; breastfeeding information as a component of standard childbirth

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		attachment of the baby to the breast was explained and demonstrated using dolls and knitted breasts. Breastfeeding complications and management were discussed.			education courses; lactation consultant support as necessary (inpatient and outpatient); peer support by means of community breastfeeding groups; optional attendance at a breastfeeding information evening; any videos or education on breastfeeding presented in the postnatal ward during their stay; 24-hour telephone counseling support; and a postnatal home visit by a domiciliary midwife.
Forster, 2019[31] Australia	IG1	Women received proactive telephone-based support from a peer volunteer. Peers made an initial telephone call to the new mother 24 to 48 hours after hospital discharge, with a follow-up call 3 to 4 days after the initial call. Subsequent calls were to be made each week for the first 12 weeks after birth, then 3 to 4 weekly between 12 weeks and 6 months. The calls focused on the new mother's wellbeing and breastfeeding experience, with volunteers referring the mother to existing support services as required. The participant was able to contact the peer volunteer between the scheduled calls as needed. Each mother received 6 calls on average and call length median duration was 12 minutes (range 1 to 111 minutes).	Remote	Home	All women in the study had access to the usual supports for breastfeeding. The standard postpartum hospital stay at all sites was up to 48 hours after vaginal birth and 72 hours after caesarean section, with each site providing access to hospital specialist breastfeeding services by lactation consultants if needed. Women were offered one to two postnatal visits in the home from a hospital midwife within the first week after discharge from hospital, after which a Maternal and Child Health Nurse service was provided in the community. All women could also access a telephone helpline service, staffed by trained volunteer breastfeeding counsellors. This free service is available 24 hours/day seven days per week but is reliant upon the breastfeeding mother accessing the service herself; that is, reactive rather than proactive, and does not provide continuity between the counsellor and the mother.
Franco-Antonio, 2020[32] Spain	IG1	During the immediate postpartum period, women in the intervention group received a brief motivational interview (BMI) consisting of a 20–30-minute interview performed by a midwife with previous specific training in BMI provided by psychologists specializing in motivational interviewing. At the first, third, and sixth months postpartum, women received a phone booster (lasting ≤15 minutes) from the same midwife. Both the initial BMI and the telephone booster follow-up were conducted through a semi-structured interview based on open questions, reflections, and summaries, according to the principles of motivational interviewing. At the beginning, the aims of the intervention were explained and interest was expressed and confidence was promoted through and empathic therapeutic approach; the motivation to continue breastfeeding was explored, which promoted the discovery of the pros and cons of breastfeeding as perceived by the mother; possible ambivalences were addressed with non-confrontational responses to resistance using customized normative feedback about	In person	Hospital and home	Single educational session that addressed the correct guidelines for achieving successful breastfeeding, which was conducted in the hospital after birth. The session consisted of providing information regarding breastfeeding and tips for success using the information leaflet distributed and approved by the Spanish Association of Pediatrics. Women in the control group also received a booster call at the first postpartum month, in which they were encouraged to continue breastfeeding and offered resolutions to possible doubts.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		the position of the mother with regard to breastfeeding, her motivation, and her perception of self-efficacy; breastfeeding goals were negotiated by identifying the mother's objectives, the available resources and possible difficulties, thereby reinforcing the mother's self-efficacy; and a final summary was made, with a verbal review of the most important issues addressed in the BMI and responses to any doubts that may have remained. Women also received a leaflet with information about breastfeeding and community resources to support breastfeeding.			
Fu, 2014[33] Hong Kong	IG1	Participants in the telephone support intervention were contacted within 72 hours of hospital discharge, and then weekly for up to 4 weeks postpartum or until they had stopped breastfeeding. Early support sessions focused on general breastfeeding knowledge, assessing infant feeding patterns, the physical and emotional health of the mother, and guidance on managing problems such as poor latching, poor weight gain, insufficient milk production, and breast complications. In later support sessions, additional advice was given on breastfeeding discretely in public places, preparation for returning to work, and expressing and storing breast milk. Exclusive breastfeeding was promoted and encouraged at each telephone support session, and participants were told where to seek further professional support or medical consultation, if necessary. Sessions lasted for 20-30 minutes.	Remote	Home	Standard hospital postnatal care consisted of routine perinatal care according to the type of delivery, group postnatal lactation education provided by a midwife or lactation consultant, one-on-one assistance with breastfeeding if problems arose and time permitted, and post-discharge follow-up, either at the outpatient clinic of the delivery hospital or at the nearest Maternal and Child Health Center. Information on available peer-support groups is also provided upon hospital discharge.
	IG2	In-hospital support consisted of 3 one-on-one sessions, with 2 delivered to participants in the first 24 hours postpartum and 1 delivered in the second 24 hours, prior to discharge. Participants were given information on the benefits of exclusive breastfeeding, the physiology of lactation, and common early breastfeeding problems. In addition, participants were given guidance and instruction on breastfeeding techniques, such as positioning the infant, latching and attachment, assessing feeding behaviors, and manual breast milk expression. During each session, participants were observed positioning, attaching, and feeding the newborn, with appropriate feedback provided and hands-on guidance given only when necessary. Each session lasted for 30–45 minutes, and participants were encouraged to raise questions and concerns.	In person	Hospital	Standard hospital postnatal care consisted of routine perinatal care according to the type of delivery, group postnatal lactation education provided by a midwife or lactation consultant, one-on-one assistance with breastfeeding if problems arose and time permitted, and post-discharge follow-up, either at the outpatient clinic of the delivery hospital or at the nearest Maternal and Child Health Center. Information on available peer-support groups is also provided upon hospital discharge.
Gagnon, 2002[34] Canada	IG1	Nurse visit at 3-4 days postpartum in the woman's home by community nurse. Home visits were planned to last 1 hour, during which time "usual care" similar to that described in the literature on early postpartum care would be provided. Nurse contacts continued when community follow-up was judged to be required. They also received nurse telephone contact at 48 hours post-birth as part of usual care.	In person	Women's homes	Usual care was a 48-hour postpartum telephone contact and a day 3 postpartum hospital visit. Clinic contacts lasted a maximum of 45 minutes, during which time a standardized plan of care was provided. The care provided during each contact (telephone and visit) was similar to that described in the literature on early postpartum care. Nurse contacts were terminated at the completion of the

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
					clinic visit, although referral for continued care was available.
Gijsbers, 2006[35] Netherlands	IG1	A trained research assistant visited families twice before the birth of the baby (the first between the 3rd & 6th month of pregnancy and the second around the 8th month) and once after (within 4 weeks after delivery); the 3 visits lasted approximately 1 hour each. The main goal was to prepare the women for future problems that might occur during breastfeeding for at least 6 months. During the first visit, the women received a booklet about breastfeeding. The contents of the booklet reinforced the information given orally and included specific health benefits for families predisposed to asthma, how breastfeeding works, and how to manage breastfeeding side effects such as sore nipples. During the home visits, the assistant motivated the women to breastfeed for 6 months and to postpone solids for 6 months. Questions about breastfeeding were then answered. All aspects of breastfeeding illustrated in the booklet were reviewed. At the end of the 1stand 2ndvisit the women were encouraged to read the booklet themselves and with their partner before the next home visit. The booklet was divided into 3 parts: pregnancy, the period just after birth, and the months after birth, in which practical information regarding breastfeeding and expressing milk alternated with the personal experiences of 3 mothers and 1 father, who were used as models. The models differed in age, ethnic group, and socioeconomic status in order to increase the chance that families could identify with a model.	In person	Home	Families received usual care in which breastfeeding was recommended for 6 months for all babies.
Graffy, 2004[36] Great Britain	IG1	Peer counselors accredited by the UK National Childbirth Trust visited women once before birth and offered postnatal telephone support or further home visits if requested. At the antenatal visit the counselors gave the women a contact card and two leaflets published by the National Childbirth Trust and Health Education Authority.	In person	Antenatal clinics	NR
Gross, 2016[37] US	IG1	The Starting Early intervention is a family-centered, primary care-based early child obesity prevention intervention designed for low-income Hispanic families beginning in the third trimester of pregnancy and continuing until the child is age 3 years. Seven intervention sessions occurred before the 10-month assessment, including 2 individual nutrition counseling sessions in the third trimester and the peri-partum period, and 5 nutrition and support group (NPSG) at the 1-, 2-, 4-, 6-, and 9-month well-child visits. The intervention is delivered by registered dietitians (RDs) with maternal-child health experience who have been trained as certified lactation counselors (CLCs). The RD/CLCs were all bilingual English/Spanish speakers. The intervention components were: 1) individual nutrition counseling in the prenatal and postpartum periods; 2) nutrition and parenting support groups coordinated with well-child visits; 3) plain language handouts; and 4) nutrition education DVDs. All curriculum and materials were developed in English and Spanish.	In person	Primary care prenatal and pediatric clinics and the postpartum ward	Standard prenatal care at the study sites included prenatal visits with an attending or resident obstetrician or nurse midwife. An initial individual consultation with a nutritionist (RD) and group childbirth and breastfeeding classes were offered to all women. Women with poor weight gain, obesity, or diabetes were offered additional RD visits. On the postpartum unit, all nurses were trained in lactation support and a certified lactation counselor was available for one-half a day on Monday through Friday to assist mothers with breastfeeding difficulties. Approximately 90% of study subjects were WIC clients and were offered breastfeeding and nutrition counseling at their WIC certifications sites.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
Hans, 2018[38] US	IG1	Families were assigned a home visitor (also called a Family Support Worker or Parent Education) and a community doula. Doulas and home visitors all had deep roots in their communities. During pregnancy and postpartum, mothers were visited weekly by a home visitor, doula, or both together. The doula worked with the mother more intensively during pregnancy and the first weeks postpartum, while the home visitor became the primary provider by 6 weeks postpartum. Home visitors focused on the mother-infant relationship, child development, child safety, and educational-work planning, as well as screening to make sure that basic family needs were met. Doulas focused on issues related to pregnancy health, childbirth preparation, breastfeeding, newborn care, postpartum health, and early bonding. Doulas sometimes accompanied mothers to prenatal and postpartum medical visits. Doulas attended births at the hospital where they provided mothers with physical comfort, emotional support, and advocacy during labor and delivery, and breastfeeding counseling postpartum. Doulas also offered prenatal classes at the program sites. All programs conducted regular depression screenings and made referrals to mental health consultants.	In person	Hospital and home	Mothers were provided information about case management services in their communities, and case management providers were given mothers' contact information. Case managers screened to identify needs for services regarding substance misuse, depression, and domestic violence.
Henderson, 2001[39] Australia	IG1	One 30-minute one-on-one standardized education lasting 30 minutes was completed during the infant's breastfeeding session(s). Materials covered simple breast anatomy, various positions of infant at the breast, principles of correct attachment, and the three stages of suckling. A cloth breast model was used to demonstrate anatomy and physiology and the importance of positioning. Advice and verbal assistance were given with positioning and attachment during breastfeeding using a hands-off technique (educator did not physically position or attach the infant). The technique of self-positioning and self-attachment by the woman and the cues she could use to determine that her technique was correct were the main foci of the intervention. During the session and on each subsequent day in the hospital the woman's positioning and attachment technique was assessed and immediate feedback given.	In person	Hospital	NR
Hoffmann, 2019[40] Germany	IG1	Alongside routine care visits, women received three antenatal (12th-16th, 16th-20th, and 30th-34th weeks gestation) and one postpartum (6th-8th weeks postpartum) face-to-face counseling sessions lasting between 30 and 45 minutes. The 4 structured and partially individualized counseling sessions emphasized diet, physical activity, and weight monitoring. The counseling sessions were exclusively given by specifically trained and certified midwives, gynecologists, or medical staff alongside routine prenatal visits and followed a defined curriculum. Pregnant women received a pedometer and brochures including examples for adequate exercise and a list of local prenatal physical exercise programs as well as recommendations for a balanced diet in pregnancy according to the above-mentioned	In person	Prenatal clinic	Attended standard antenatal care and obtained only limited information on a healthy antenatal lifestyle and the importance of breastfeeding by means of a flyer.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		recommendations on nutrition in pregnancy. Furthermore, they received a weight gain chart according to their baseline body mass index category for self-monitoring of weight development as proposed by the IOM.			
Hopkinson, 2009[41] US	IG1	One 60-minute counseling session at the hospital-based breastfeeding clinic at 3 to 7 days postpartum. An appointment reminder card was included with the discharge papers. A breastfeeding history, breast exam, infant oral-motor assessment, measurement of infant weight, evaluation of latch and milk transfer, and discussion of maternal concerns and support system were included in counseling sessions. The importance of exclusive breastfeeding was reviewed, and plans for attaining exclusivity were discussed if the mother desired to achieve that goal. Information and skills training were provided as indicated for identified deficits, concerns, and breastfeeding problems. Additional visits and/or telephone consultations were provided if deemed necessary by the mother and the clinic staff. Visits were rescheduled if possible; if not, counseling was provided over the phone. During phone counseling, mothers were screened for breastfeeding problems and concerns regarding adequacy of milk supply. Problem management was discussed where indicated.	In person	Clinic	Routine care included 4 hours or more of mother-infant separation immediately after delivery, bedside breastfeeding assistance before discharge, and free formula discharge packs. Infants at elevated risk for hyperbilirubinemia and their mothers returned to the hospital's Newborn Follow-up Clinic at 3 to 5 days, where they were screened for medical and breastfeeding problems. Both high- and low-risk mothers received the telephone number of the hospital's breastfeeding clinic and the WIC office with instructions to call for breastfeeding assistance if needed. The first well child exam for low-risk infants occurred approximately 2 weeks after discharge coincidently with the first postpartum WIC visit.
Howell, 2014[42] US	IG1	Women were given a 2-step, culturally tailored intervention. The first step occurred in the hospital when a trained, bilingual social worker reviewed an education pamphlet and partner summary sheet with each mother. Education materials included information on breastfeeding, breast/nipple pain, c-section delivery, site pain, episiotomy site pain, urinary incontinence, back pain, headaches, hair loss, hemorrhoids, infant colic, and depressive symptoms. Additional information was provided on social support. A partner summary sheet spelled out the typical pattern of experience for mothers after delivery to help normalize the experience. During the second step, which was the 2-week post-delivery call, the social worker assessed patients' symptoms, skills in symptom management, and other needs. Patients and the social worker created action plans to address current needs that included assessment of community resources.	In person	Hospital and home	Women received routine postpartum education (i.e., discharge materials, television educational programs on infant care, breastfeeding, and peripartum care). Additionally, they received a 2-week postdelivery call to inform them of future study assessments and a list of health-related and community resources was mailed to them.
Jolly, 2012[43] Great Britain	IG1	A new community-based prenatal service using peer support workers which included 1 initial introduction in the prenatal clinic followed by a minimum of 2 contacts, one at 24-28 weeks gestation and the other around 36 weeks gestation. The first of these could directly follow the initial introduction, but at least one contact was to be in the home. The duration of each support session was based on need. The peer support worker followed up with women who initiated breast feeding to give postnatal support. They were informed directly by hospital peer support workers or community midwives when women were discharged from the hospital, so that they could contact and visit them within 24-48 hours. Further contacts would be needs-based (by phone	In person	Clinic and home	Community prenatal and postnatal midwife care (some home-based), which included breastfeeding advice. Health visitors also routinely see women postnatally, sometimes home-based, from 10 to 14 days, which includes breastfeeding advice as appropriate. In-hospital breastfeeding advice and breastfeeding peer support workers were available from some midwives and hospitals in study area.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		or home visits), but with a minimum of 1 contact in the first week. The purpose of the prenatal consultations was to provide advice and information on the benefits of breast feeding and to be able to support women with particular cultural barriers or concerns.			
Karaahmet, 2022[44] Turkey	IG1	In addition to routine clinic care, breastfeeding techniques were applied to the mothers in the intervention group using demonstration method to develop breastfeeding skills after the importance of breastfeeding and breast milk was explained verbally with a face-to-face interview technique. Mothers were given a breastfeeding training manual developed by researchers at the end of the training. Breastfeeding counseling was provided by asking about breastfeeding problems via an online interview method for 6 months.	In person	Hospital and home	Usual clinic care (not described)
Kellams, 2015[45] US	IG1	25-minute educational breastfeeding video (Better Breastfeeding) that provided general information about breastfeeding, including: importance, latch, hunger cues, positioning, sore nipples, engorgement, how breast milk is produced, and lifestyle issues. The videos were shown using a laptop and earbuds either in an alcove in the waiting room and/or in the examination room while the participant waited to be seen by the physician or nurse practitioner.	In person	Clinic	20-minute educational video about nutrition during pregnancy covering topics including healthy diet and the importance of exercise during pregnancy. The videos were shown using a laptop and earbuds either in an alcove in the waiting room and/or in the examination room while the participant waited to be seen by the physician or nurse practitioner.
Kenyon, 2016[46] Great Britain	IG1	Pregnancy Outreach Workers (POWs) were trained to provide individual case management, including home visits, and were integrated into the community midwifery teams. Objectives were to encourage women to attend antenatal appointments, make healthy lifestyle choices, provide social/emotional support, and help ensure social benefits, housing difficulties, and mental health problems were managed. In the postnatal period (up to 6 weeks postpartum), POWs also provided breastfeeding advice and advice about infant care.	In person	Home or other location, not specified	Standard maternity care, including provision for referring women with social risk factors to specialist midwives or directing them to other agencies; did not include the offer of the Pregnancy Outreach Worker service.
Kools, 2005[47] Netherlands	IG1	Intervention started during the usual care prepartum home visit by the maternity nurse and included personal communication, a brochure, and mother's booklet. Home visit post-childbirth included personal communication, the mother's booklet, and telephone calls. The health counseling and mother's booklet included 6 steps addressing the behavioral determinants of breastfeeding including: 1) knowledge, 2) motivation, 3) ability, 4) intention, 5) practice, and 6) continuation. The mother's booklet was created to enhance cooperation between various interventionists. Mothers were asked to log their breastfeeding barriers, problems, and motivation to continue breastfeeding before each next regular contact with the interventionists. Mothers were also given a telephone number to reach the interventionist in case BF questions or problems arose. Lactation consultants, free of charge, were available for interventionists to consult 24 hours a day via a structured faxed form. After receiving the fax, the lactation consultants contacted the interventionist or the mother within 24 hours and tried to resolve the	In person	Home	Pregnant women typically apply for maternity care between the 6th and 7th months of pregnancy and receive a home visit by a maternity care nurse in the 7th or 8th month. Postpartum care NR.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		problems. If needed, the lactation consultants could make home visits or follow-up phone calls.			
Kronborg, 2012[48] Denmark	IG1	The "Ready for Child programme" consisted of 3 group sessions, each lasting 3 hours. The training sessions were attended between the 30th and 35th weeks of pregnancy and the woman's partner was also invited to participate. The maximum number of couples in each class was 8. The content of the 3 modules included lectures and discussions about: 1) the delivery process, pain relief, and coping strategies, 2) infant care and breastfeeding, and 3) the paternal role and the relationship between the woman and her partner. The intervention sought to create a sense of coherence by taking its starting point in the experiences of the soon-to-be parents and asking them to bring a doll for the sessions. The doll was used as an icebreaker, a connector to the time following birth, and an instrumental guide in infant care and breastfeeding practice. In module 2, the parents-to-be were told about components of importance for successful breastfeeding establishment, prepared for conceivable breastfeeding problems, and shown a film about breastfeeding. The breastfeeding part was scheduled to approximately 2 hours.	In person	Clinic	Usual care offered by the clinic, which did not include any antenatal training program, but no effort was made to prevent the reference group from seeking additional support elsewhere. Different antenatal training programs were provided by other stakeholders, mainly by relaxation therapists. Existing prenatal care includes standardized regular visits: 2 consultations at the GP, 2 ultrasound scans in early pregnancy, 4-5 midwifery consultations, and a home visit by a health visitor for primiparous women.
Labarere, 2003[49] France	IG1	One 30-minute one-on-one educational session taking place during the postpartum hospital stay delivered by a midwife or maternity ward intern. Session covered breastfeeding positions, importance of feeding on demand, avoidance of formula and pacifier, management of sore nipples and breast engorgement, and opportunities for prolonging lactation after returning to work. French law requires employers to allow working mothers to breastfeed or express milk at work. The intervention focused on legal dispositions such as adjustments in working hours, provision of lactation breaks, and availability of a refrigerator in which to store expressed milk. At the end of the session, the mother received a brochure containing key information in text and pictures on combining breastfeeding and maternal employment. They were also provided with the telephone number of a peer support group that they could call to ask questions and request help (21.5% of IG mothers versus 25.8% of CG mothers contacted peer support group, p=0.49). In France, the paid maternity leave is 6 weeks before giving birth and 10 weeks after birth. On the birth of third child, the paid maternity leave is increased to 8 weeks before and 18 weeks after the birth.	In person	Hospital	Breastfeeding support by ward nurses, an examination at discharge, and a telephone number of a peer support group that they could call to ask questions or request help. Post-discharge follow-up monitoring consisted of routine outpatient visits in a PCP's office.
Labarere, 2005[50] France	IG1	In addition to the usual predischarge and post-discharge support, mothers were invited to attend an individual, routine, preventive, outpatient visit in the office of a participating primary care physician within 2 weeks after birth.	In person	Clinic	Breastfeeding support by ward nurses, an examination at discharge, and a telephone number of a peer support group that they could call to ask questions or request help. Post-discharge follow-up monitoring consisted of routine outpatient visits in a PCP's office.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
Laliberté, 2016[51] Canada	IG1	Participants allocated to the intervention group were discharged according to current hospital standards and were required to attend a pre-booked appointment at the postpartum clinic, scheduled within 48 hours of their discharge. Clinic staff followed up with participants if they failed to keep the mandatory follow-up appointment. This first appointment included maternal assessment and care (e.g., wound care, prescriptions), neonatal care (e.g., weight gain assessment, jaundice screening using transcutaneous bilirubinometer), blood work including total serum bilirubin (TSB), and breastfeeding assessment and support. Family physicians were available for on-site consultations in the mornings, and lactation consultants and registered nurses were at the clinic throughout the day from Monday to Friday and Saturday mornings. The Bilirubin Pathway, established by the Champlain Maternal Newborn Regional Program, was used to guide the management of neonatal jaundice. Those guidelines provide recommendation for subsequent TSB and or trans-cutaneous bilirubin follow-up, according to the modified Buthani's normogram and whether risk factors for hyperbilirubinemia are present or not. For babies discharged before 24 hours, blood for the newborn screening was drawn at the first visit and sent by mail to the Newborn Screening Ontario laboratory located at our local children's hospital. Additional follow-up visits were offered to participants as clinically indicated and as many times as they desired up to a maximum of six weeks following the birth of their baby.	In person	Hospital	Participants were discharged according to current hospital standards and as per their physician's or midwife's decision. After hospital discharge, the participant and her baby were entitled to receive follow-up care and seek currently available breastfeeding support in the community (e.g., through their family doctor, Public Health Unit or private services), but could not attend the postpartum clinic.
Lavender, 2005[52] Great Britain	IG1	Women were invited to attend one educational group support session with their attending community midwife during the third trimester. Each session involved up to 8 women. Community midwives were also asked to attend a separate training workshop immediately preceding the joint educational session. The objectives of the sessions were to assist midwives to revise their knowledge of lactation management and to educate women on basic lactation physiology and effective breastfeeding techniques. Potential breastfeeding difficulties and possible solutions were also highlighted.	In person	Clinic	Included breastfeeding advice from attending midwives and information about hospital parent education classes.
Lewkowitz, 2018[53] US	IG1	Participants in both groups were seen by the parent educators in 1-hour home visits, every other week during pregnancy. Participants assigned to PAT+ received the standard PAT curriculum plus a lifestyle curriculum based on cognitive behavior change theory, which included participant goals for achieving appropriate gestational weight gain, regular self-assessment of weight, education and reinforcement of positive eating and physical activity behaviors, observational learning through role play, and environmental changes in the home. PAT+ covered multiple objectives for breastfeeding, including improving understanding about breastfeeding benefits, exploring strategies to improve successful breastfeeding within the home and in public or at work, providing interactive support	In person	Home	Participants in both groups were visited by trained parent educators in interactive 1-hour home visits every other week during pregnancy. Participants assigned to the standard PAT curriculum had home visits focused on development-centered parenting support and education using a family strength-based approach. The standard PAT curriculum included limited content encouraging breastfeeding within a single home visit geared toward helping women get ready for their baby; breastfeeding support was provided in subsequent visits as requested by parents.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		on basic breastfeeding techniques using a doll to practice, and assisting in the development of a postpartum breastfeeding plan.			
Lewkowitz, 2020[54] US	IG1	The Breastfeeding Friend (BFF) app contains on-demand educational materials and videos with various content, including: 1) Interactive advice on overcoming common breastfeeding challenges, 2) Educational content on breastfeeding benefits, normal infant behavior, and normal maternal postpartum physiology, 3) Diet and exercise recommendations, 4) Strategies to optimize breastfeeding and pumping at work or school, 5) Hyperlinks to on-demand videos of: tips for successful latch, troubleshooting latch difficulties, common breastfeeding positions, using a breast milk pump, cleaning breast milk pump parts, making sterile formula, and 6) Hyperlinks to local, national, and international breastfeeding resources, including: breastfeeding non-profits, in-person support groups, online support groups, Facebook profile pages, and Instagram handles. All BFF app materials were tailored to a fifth grade reading level. The videos utilized in the app were publicly available and created from prominent lactation consultants or national or international breastfeeding support organizations. Most videos featured at least one woman of color breastfeeding. As usual care at the BFHI hospital, lactation consultants meet each patient on the postpartum unit at least once after delivery, but no gifts or other incentives are provided to encourage breastfeeding. As part of their discharge paperwork, women were made available of a free in-person breastfeeding support group that meets weekly in the hospital and is proctored by lactation consultants. Women were provided with prepaid smartphones.	Remote	App-based, available on-demand	As part of BFHI usual care, lactation consultants meet each patient at least once after delivery. At discharge, women were told of a free in-person breastfeeding support group that meets weekly in the hospital. Women also received prepaid smartphones, but the app installed only included generic conventional breastfeeding support that was routinely given in the 3rd trimester.
Linares, 2019[55] US	IG1	Two prenatal home visiting sessions were conducted by a peer counselor, during which women were oriented to the purpose of the intervention and collaboration was established between peer counselor and participant. Discussion of a participant's past experiences with breastfeeding was initiated. The intervention was explained, including discussion of the benefits of adoption healthy behavior (e.g., exclusive breastfeeding for 6 months, delaying introduction of solid foods until after 6 months old). Infant feeding and qualms about mixed feeding were described and discussed ("*las dos casas*"), and barriers to exclusive breastfeeding and self-efficacy were assessed. A binder with printed materials on the following was provided: benefits of exclusive breastfeeding, breastfeeding logistics, avoidance of pacifiers, feeding cues, breastfeeding video review. The "My Action Plan" tool to breastfeed was described, and the participant stated her own goals. During the prenatal follow-up phone calls by peer counselor, the My	In person	Hospital and home	All women in the control group received the basic education on breastfeeding that was given to all women during their prenatal care visit at the clinic. In addition, participants from both groups gave birth in a BFHI setting that allowed them to receive support from a clinical IBCLC from the birthing hospital. Women in the control group did not have any contact with the IBCLC and peer counselor study team.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		Action Plan was reviewed, and participant commitments to breastfeeding goals were reinforced. Barriers to exclusive breastfeeding were discussed, including perceptions concerning the lack of availability, inconvenience, difficulty, or time-consuming nature of the future action, and promoting self-efficacy with problem solving. Women were encouraged to study the program materials and were asked about any concerns associated with breastfeeding goals. Strategies available to accomplish breastfeeding goals were discussed, and all questions answered. Follow-up calls were made every week until the birth of the infant. The peer counselor visited the women postpartum while still in the hospital to assess infant feeding pattern. Peer counselors observed breastfeeding techniques and offered hands-on assistance when needed. Discussion of techniques, feeding cues, demand feeding, and other support essential to maintain exclusive breastfeeding, anticipate barriers, problem-solving, and self-efficacy were discussed, and all questions answered. Women were praised for their commitment to initiate breastfeeding. An IBCLC visited women at home 2-3 days after hospital discharge to assess infant feeding pattern, and conducted observation of breastfeeding techniques with hands-on assistance, if needed. IBCLCs discussed techniques, feeding cues, demand feeding, and other issues needed to maintain the exclusivity of breastfeeding, anticipate barriers, share problem-solving strategies, and encourage self-efficacy. If needed, IBCLCs provided supplemental breastfeeding devices (e.g., nipple shields, manual breast pump, nipple cream). Anticipatory guidance was given, and all questions answered. The IBCLC followed-up with a phone call as needed and a second visit was scheduled if needed. The peer counselor visited women at home 7-10 days after hospital discharge to encourage women in their commitment to exclusive breastfeeding. Guidance was given on problems/concerns, and questions were answered. Motivation and self-efficacy were promoted. The peer counselor praised the mother for her efforts in taking care of her infant. Anticipatory guidance based on the age of the infant was given. The mother was encouraged to call the IBCLC if any concerns arose. After the 7–10-day postpartum home visit, peer counselors checked in with mothers via phone calls at least once a month for 6 months. During these calls, the mother was asked to describe her experience with infant feeding and discuss any problems/questions. Peer counselors promoted motivation and self-efficacy and praised the			

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		mother for her effort in taking care of her infant. Anticipatory guidance was given based on the age of the infant. The peer counselor encouraged the mother to call them or the IBCLC if any concerns arose. Referral to IBCLC was given as needed.			
Little, 2021[56] US	IG1	Intervention participants were provided an ergonomic infant carrier during a prenatal home visit to facilitate increased physical contact from birth onward. The home-visiting team was trained to help participants with their carrier, and all participants had unlimited access to an instructional video.	In person	Home	Waitlist control group. Parents in this group received the same infant carrier and educational training at 6 months.
Lucas, 2019[57] US	IG1	The BSM intervention incorporated educational modules that covered information to address breastfeeding challenges and skills to manage breastfeeding pain, text-based instrumental support for self-managing breastfeeding pain duration, a daily journal and nurse coaching for women experiencing breast and nipple pain during breastfeeding at 1, 2, and 6 weeks. After discharge home, a nurse-lead team member contacted women in the intervention group biweekly (i.e., twice per week) for 6 weeks. The PI and the team's IBCLC-adapted MumBubConnect texting scripts were used to create standardized text responses addressing breastfeeding concerns women encounter during the first 6 weeks of breastfeeding. Biweekly, women were texted and asked about their breastfeeding experience and given five optional text responses: "happy," "average," "sore," "engorged," or "always (feeding)." The study team's texted response provided strategies to address pain, soreness, engorgement, and if the strategies were not working, to encourage women to contact the study team or the hospital provided IBCLC. If breastfeeding was going well after the first 2 weeks, the texts changed to an educational response to reinforce the health and cognitive benefit their infant was receiving from breastfeeding. Otherwise, the texts were focused on providing instrumental support to facilitate problem-solving and pain self-efficacy. Women were texted access to seven, 5-minute education modules via REDCap; the study team was notified when women accessed the educational modules. Up to 3 reminders were went to women to view the modules using text and email. Each module provided the women with strategies to manage breast and nipple pain. The educational modules addressed the neurophysiological basis of pain, common triggers for breast and nipple pain, breastfeeding challenges, general lactation support, pain catastrophizing, stress reactivity, therapeutic breathing, and guided imagery. Each of the modules also provided hyperlinks to additional online resources. The intervention participants were provided a bound breastfeeding	Remote	Home	Women in the control group were contacted by text at 1, 2, and 6 weeks to check their email to complete data collection.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		journal to evaluate 6 sessions a day of breastfeeding during weeks 1 and 2 and 1 session a day of breastfeeding during weeks 3, 4, 5, and 6. Each journal entry asked the participant to rate their infant's temperament, infant latch, suction pattern, and a visual analogue scale (0-100) of breast and nipple pain for each session of breastfeeding.			
Lutenbacher, 2022[58] US	IG1	The Maternal Infant Health Outreach Worker (MIHOW) program provides services to families considered at risk for poor health outcomes due to low income or education, limited support, physical isolation, limited English, or public assistance eligibility. Services typically begin in pregnancy and continue until the child's third birthday. Similar to a promotora model, MIHOW utilizes community health workers (CHWs) from the target community to educate and support participants. The focus is on relationships beginning in pregnancy, providing monthly home visits, and offering periodic group gatherings. Its theoretical foundation is strength-based, training CHWs to focus on the strengths, abilities, and potential of program participants rather than problems or deficits when helping participants progress toward goals. To be a MIHOW home visitor, women must: be from the target community, be of the same culture and/or language group of families served, have strong problem solving and communication skills, have a respect for children and enjoyment of parenting their own child(ren), have completed all MIHOW training, and use the MIHOW curriculum. All CHWs were from the local Hispanic community. All study participants received the minimal education intervention (MEI), which consisted of distribution of printed educational materials about health and child development (in preferred language) at the end of each data collection interview. Due to COVID-19 restrictions, between late March 2020 through October 2020, all home visits occurred virtually, and all participants received mailed educational materials.	In person~~Both~~In person	Home	Minimal education intervention (MEI), which consisted of distribution of printed educational materials about health and child development (in preferred language) at the end of each data collection interview.
Mattar, 2007[59] Singapore	IG1	Women received one session of antenatal breastfeeding education in which they were shown a 16-minute educational video entitled "14 Steps to Better Breastfeeding," which introduced the benefits of breastfeeding, demonstrated correct positioning, latch on, breast care, and discussed common concerns. They also received a booklet describing the techniques and benefits of breastfeeding. In addition, women had one 15-minute session with a lactation counselor who assessed adequacy for breastfeeding and answered questions.	In person	Clinic	Included access to postnatal breastfeeding support.
	IG2	Women received one session of antenatal breastfeeding education in which they were shown a 16-minute educational video entitled "14 Steps to Better Breastfeeding," which introduced the benefits of breastfeeding, demonstrated correct positioning, latch on, breast care,	In person	Clinic	Included access to postnatal breastfeeding support.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		and discussed common concerns. They also received a booklet describing the techniques and benefits of breastfeeding.			
McDonald, 2010[60] Australia	IG1	Received a package of interventions in addition to the routine midwifery care. The package included a comprehensive individual educational session in their hospital room and follow-up support at home. The aim was to complement information available in the routine promotional literature or the in-house video. The session reinforced advice about positioning and attachment, and reviewed common breastfeeding problems, growth and development, crying patterns, and settling techniques. On discharge, women were telephoned twice weekly and offered weekly home visits by a research midwife until the baby was 6 weeks old.	In person	Hospital and home	All women received breastfeeding promotional literature and had access to an in-house video system on which they were able to view videos giving current information about establishing breastfeeding. The majority of women received 1 or more home visits by a hospital-based midwife after discharge and before their baby was 7 days old (to provide health checks of mothers and babies, although breastfeeding was addressed). All women had access to lactation consultants at outpatient clinics.
McLachlan, 2016[61] Australia	IG1	Intervention LGAs will continue to have access to all standard care. Home visiting (HV): LGAs allocated to the HV trial arm provided early home-based visiting by a maternal child health nurse (MCHN) to women identified at risk of breastfeeding cessation. MCHNs were specifically employed from within the LGAs; prior to the start of the intervention, they attended 6 hours of workshops/training regarding intervention implementation (SILC-MCHNs). The SILC-MCHN HV was arranged during the MCH service's first contact with the woman after hospital discharge, aimed at providing proactive breastfeeding assistance as early as possible after birth. The aim was to fill the gap that currently exists between cessation of hospital-based care and start of MCH care (usually 7 days or more). LGAs were asked to undertake the “routine” telephone call as early as possible postpartum in order to assign women an early SILC-MCHN visit if required, and much of the education focus of the trial was on this aspect. The focus of the SILC-MCHN HVs was the normalization of breastfeeding, building women's confidence to breastfeed, reassurance, development of an infant feeding plan (where needed), and provision of a list of useful websites and telephone numbers. The topics covered at individual visits were driven by the specific needs of the woman, with no set way of approaching issues. Women were referred to additional services as needed, including 24-hour professional telephone support. It was planned that within each intervention LGA, SILC-MCHNs would conduct an average of 2 home visits to approximately 30% of women who left hospital breastfeeding. An assessment tool was developed to determine eligibility for a SILC-MCHN visit. The aim was to provide proactive support to the women most likely to cease breastfeeding. A visit would be arranged: 1) If a woman's infant received any infant formula in addition to breast milk (either at the breast or expressed breast milk (EBM)), in the 24 h prior to telephone contact; or 2) If a	In person	Home visit and drop-in center	Services in LGAs allocated to usual care were those routinely available to women after birth in Victoria. These included hospital midwife visits 1-2 days after discharge, with the usual length of stay in hospital after the birth being 48 hours or less, and with a general focus on the well-being of mother and infant. Women also routinely receive a maternal child health nurse (MCHN) home visit, usually 10 days to 2 weeks after birth, with breastfeeding assessment, support, and advice a core component of care. Other community supports include a state-wide 24-hour MCH helpline; a 24-hour Australian Breastfeeding Association (ABA) helpline; and support by general practitioners and other health professionals as sought by families.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		woman was distressed about breastfeeding or asked for help with breastfeeding when telephoned, even if she was not supplementing with infant formula. MCHNs could also identify women for a SILC-MCHN home visit at a later standard MCH visit, if needed. In LGAs where infant formula use was consistently ascertained as less than 25% of women who left hospital breastfeeding, EBM use in the 24 hours prior to telephone contact (whether or not infant formula had been given) was included in the assessment criteria. Most LGAs were unable to assess all women for eligibility for early BF support; they provided fewer home visits than planned, and most were later than planned. BF drop-in center: In addition to SILC-MCHN early home-based breastfeeding support, LGAs allocated to the HV+drop-in trial arm established a local community breastfeeding drop-in center staffed by a SILC-MCHN, and where possible with a trained peer supporter or community educator or counsellor. The drop-in centers were welcoming spaces offering privacy, where women could discuss breastfeeding concerns with the SILC-MCHN, with access to drinks, change tables and toilets, and the opportunity to meet and learn from other mothers. Women were informed about drop-in centers in a range of ways. This included written information provided to women at the hospital where they gave birth, distribution of fliers to new mothers by MCH nurses, and displaying of posters in MCH centers, medical clinics, kindergartens, and childcare centers. Estimated that on average, drop-in centers would be able to run for 2 half days per week in small and medium LGAs and 3 half days in the large LGAs.			
	IG2	Intervention LGAs will continue to have access to all standard care. Home visiting (HV): LGAs allocated to the HV trial arm provided early home-based visiting by a maternal child health nurse (MCHN) to women identified at risk of breastfeeding cessation. MCHNs were specifically employed from within the LGAs; prior to the start of intervention, they attended 6 hours of workshops/training regarding intervention implementation (SILC-MCHNs). The SILC-MCHN HV was arranged during the MCH service's first contact with the woman after hospital discharge, aimed at providing proactive breastfeeding assistance as early as possible after birth. The aim was to fill the gap that currently exists between cessation of hospital-based care and start of MCH care (usually 7 days or more). LGAs were asked to undertake the “routine” telephone call as early as possible postpartum in order to assign women an early SILC-MCHN visit if required, and much of the education focus of the trial was on this aspect. The focus of the SILC-MCHN HVs was the normalization of breastfeeding,	In person	Home visit	Services were those routinely available to women after birth in Victoria. These included hospital midwife visits 1-2 days after discharge, with the usual length of stay in hospital after the birth being 48 hours or less, and with a general focus on the well-being of mother and infant. Women also routinely receive a maternal child health nurse (MCHN) home visit, usually 10 days to 2 weeks after birth, with breastfeeding assessment, support, and advice a core component of care. Other community supports include a state-wide 24-hour MCH helpline; a 24-hour Australian Breastfeeding Association (ABA) helpline; and support by general practitioners and other health professionals as sought by families.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		building women's confidence to breastfeed, reassurance, development of an infant feeding plan (where needed), and provision of a list of useful websites and telephone numbers. The topics covered at individual visits were driven by the specific needs of the woman, with no set way of approaching issues. Women were referred to additional services as needed, including access to 24-hour professional telephone support. It was planned that within each intervention LGA, SILC-MCHNs would conduct an average of 2 home visits to approximately 30% of women who left hospital breastfeeding. An assessment tool was developed to determine eligibility for a SILC-MCHN visit. The aim was to provide proactive support to the women most likely to cease breastfeeding. A visit would be arranged: 1) If a woman's infant received any infant formula in addition to breast milk (either at the breast or expressed breast milk [EBM]), in the 24 hours prior to telephone contact; or 2) If a woman was distressed about breastfeeding or asked for help with breastfeeding when telephoned, even if she was not supplementing with infant formula. MCHNs could also identify women for a SILC-MCHN home visit at a later standard MCH visit, if needed. In LGAs where infant formula use was consistently ascertained as less than 25% of women who left hospital breastfeeding, EBM use in the 24 hours prior to telephone contact (whether or not infant formula had been given) was included in the assessment criteria. *Most LGAs were unable to assess all women for eligibility for early breastfeeding support; they provided fewer home visits than planned, and most were later than planned.			
McQueen, 2011[62] Canada	IG1	Standard in-hospital and community postpartum care that included followup by a public health nurse post-hospital discharge, plus a self-efficacy intervention. The first session occurred within 24 hours of delivery. The second session also took place in-hospital, ideally within 24 hours of the first session. In addition, observation of breastfeeding at 1 of the 2 in-hospital sessions was planned to try to maximize successful breastfeeding. The third session occurred via telephone within 1 week of hospital discharge. The one-on-one sessions were delivered in a standardized format that included: a) assessment, b) strategies to increase breastfeeding self-efficacy, and c) evaluation. The assessment component included an examination of the mother's a) breastfeeding goals, b) breastfeeding self-efficacy using the BSES-SF, c) low-scoring and high-scoring items on the BSES-SF, d) perceptions related to each low-scoring and high-scoring item, and e) general physiologic and elective state including fatigue, pain, and symptoms of depression and/or anxiety. Strategies were implemented to increase mothers' breastfeeding self-efficacy, including performance accomplishment, vicarious experience, verbal persuasion, and physiologic cues.	In person	Hospital	Standard in-hospital and community postpartum care that included followup by a public health nurse posthospital discharge.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
Milinco, 2020[63] Italy	IG1	Breastfeeding support according to the biological nurturing (BN) approach. The Italian version of the "Biological nurturing: laid-back breastfeeding for mothers" video, providing detailed information on BN, was given to women with the recommendation to watch it before delivery. Women received the videos in the form of DVDs, email link or USB pen-drive. During their stay in the maternity ward, women were supported by staff to breastfeed in a relaxed, laidback position, with their babies lying prone on their chests, to allow for the largest possible contact between the baby's body and the mother's chest and abdomen. All healthcare staff normally involved in maternity ward activities (nurses and midwifes) took care of women in both groups but were instructed to provide differentiated breastfeeding support depending on room allocation. All the staff working in the maternity ward are periodically trained on the WHO/UNICEF 20-hour course. In addition to this, a brief 6-hour course on BN was developed by a peer counselor to train maternity ward staff for the specific purpose of this study. All women received the standard post-partum care provided by the hospital: skin to skin contact in delivery room soon after birth; breastfeeding on demand and rooming-in 24 hours a day during maternity ward stay.	In person	Maternity ward	The Italian version of the "Breast is Best" video was given to women with the recommendation to watch it before delivery. During their stay in the maternity ward, mothers were shown how to breastfeed in the sitting upright position and helped to attach their babies to the breast correctly following the WHO/UNICEF 20-hour course. All healthcare staff normally involved in maternity ward activities (nurses and midwifes) took care of women in both groups but were instructed to provide differentiated breastfeeding support depending on room allocation. All women received the standard post-partum care provided by the hospital: skin to skin contact in delivery room soon after birth; breastfeeding on demand and rooming-in 24 hours a day, during maternity ward stay.
Miremberg, 2022[64] Israel	IG1	Patients assigned to the App group received standard care and additionally had the web-based application installed on their smartphones. The application was specifically tailored, web-based, in Hebrew language, and simple to use. The app was available during the 6-month study period. The app was mainly used for communication but also had information about the study, providers, and information regarding lactation and the possible emotional challenges expected after giving birth. Patients were encouraged to send queries to each of the intervention team members and would receive individualized responses from the team. The feedback consisted mainly of lactation tips attempting to optimize breastfeeding, to help patients cope with challenges, several questions regarding optimal lactation techniques, and reassurance and positive feedback. Additionally, patients were encouraged to use the platform to ask questions and receive answers regarding any physical or emotional distress in the postpartum period. Patients were offered, at any point during the study period, to schedule an in-person meeting with the lactation consultant in the hospital.	Remote	Web-based smartphone app	Routine postpartum care was provided by the maternity ward team, which includes nurses, lactation consultants, and obstetricians. Patients can choose among 24-hour rooming-in, partial rooming-in, and separate care. Before discharge from the hospital, all patients are encouraged to have at least 1 meeting with a postpartum nurse for lactation instructions and are given a short newborn care course.
Mottl-Santiago, 2023[65] US	IG1	Enhanced model of Birth Sisters Program services starting at 24 weeks, known as the Birth Sisters BBB intervention. The Birth Sisters Program is one of the few hospital-based doula programs in the country. It has provided racially and ethnically diverse doula support to low-income pregnant and birthing people in an urban safety net hospital since 1999. Birth Sister services include between one and eight 2-h prenatal home visits determined by the client's preference; continuous support through labor and birth; and between one and four	In-person	Hospital and home	Standard, interdisciplinary maternity care services at the safety net study site, including individual physician and midwifery care, group prenatal care that includes social support from other pregnant patients, childbirth education classes, social work support, inpatient lactation consultants, and 24-h interpreter services.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		2-h postpartum home visits through 6–8 weeks postpartum. Prenatal and postpartum activities include peer education, navigation of social and medical services, and social support. During labor, Birth Sisters provide physical and emotional comfort measures, as well as amplify the voice of the birthing person with the health care team. In addition to standard Birth Sister services, those in the intervention group received the enhancement of Medical Legal Partnership Boston (MLPB) services to augment the ability of the Birth Sisters to address legally relevant SDoH. MLPB is a team of legal experts who integrate legal assistance into the medical setting so that low-income patients can meet legal needs that impact health. This enhancement aimed to maximize the role of the doula as an advocate around structural barriers to health and well-being for the individual client. MLPB activities included training of Birth Sisters around SDoH resources, as well as serving as a consultant to the Birth Sister around individual participant needs. Each study participant assigned to the Birth Sisters Best Beginnings intervention was screened by the Birth Sister at 24 and 36 weeks for housing insecurity, food insecurity, and need for support around filling out the birth certificate. When participants screened positive, the Birth Sister received a phone consultation with the MLPB lawyer for support around navigation resources. In the rare case that the participant required legal counsel, the Birth Sister was then able to refer the participant to MLPB for a pro bono formal consultation directly with the lawyer.			
Muirhead, 2006[66] Great Britain	IG1	Peer supporters visited participants at least once during the prenatal period. Further prenatal support was provided to women who requested it. Peer support was available to women if they were breastfeeding on returning home after delivery and if peer supporters were informed in time. Mothers still breastfeeding when returning home were contacted by their peer supporters at least every 2 days or as often as required by phone or a personal visit up until day 28. If requested, the peer supporters provided further support up to 16 weeks. The content included both specific breastfeeding information and skills and the development of other transferable skills to enhance peer support.	In person	Home	Community midwife for the first 10 days, health visitor after 10 days, breastfeeding support groups, and breastfeeding workshops.
Nilsson, 2017[67] Denmark	IG1	A parental breastfeeding programme targeting an early discharge setting and focusing on increased skin-to-skin contact, frequent breastfeeding, good positioning, and enhanced father involvement. Mothers were recruited and provided with oral and written information about the study at their regular antenatal care visit with the midwife. All mothers at the intervention facilities were orally introduced to the 4 core components (listed below), which were also highlighted on a	In person	Prenatal maternity clinic and hospital	According to the national recommendations, healthcare providers are expected to base their breastfeeding support on the national handbook on breastfeeding, which addresses available evidence-based knowledge. However, breastfeeding support may vary depending on hospital routines. In Denmark, nurses and

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		postcard, handed out at recruitment. Subsequently, they were supported postnatally according to the manual and a written pamphlet was actively used during breastfeeding counseling. The parents were supposed to adhere to the programme during the first 3 days while the infant went through the metabolic adaptation and the mother's milk production increased or until the first home visit by the health visitor 3-5 days postnatally. The parents received a follow-up telephone call 24 hours after discharge. Content of the parental breastfeeding programme (4 core components): • Extended skin-to-skin contact as much as possible during the first 3 days while the mother and father were awake • Frequent breastfeeding defined as a minimum of 8 times including identifying the infant's cues for being ready for breastfeeding and signs of getting enough milk • Good positioning of the mother-infant dyad including introducing the parents to laid-back breastfeeding immediately after birth and focus on the mother's experience of pain and relaxation as guidelines for positional changes (Colson, 2006) • Acknowledgment of the mother and the father as equal parents with different roles in relation to breastfeeding In Denmark, nurses and midwives are the primary responsible for breastfeeding support of parents at the hospitals.			midwives are the primary responsible for breastfeeding support of parents at the hospitals.
Noel-Weiss, 2006[68] Canada	IG1	One 2.5-hour prenatal breastfeeding group workshop designed using Bandura's theory of self-efficacy and adult learning principles. The 4 sources influencing self-efficacy (performance accomplishment, vicarious learning, social/verbal persuasion, and emotional/physiological arousal) were provided by using life-like dolls, videos, and discussions in a comfortable atmosphere. Enrollment was limited to 8 women per session. Partners were welcome. Workshop design included a short intro questionnaire, a PowerPoint presentation, a hands-on segment using life-like dolls, two videos, and a brief post-class evaluation.	In person	Clinic	Women not limited in the types of breastfeeding support they could seek before and after their infant's birth. Usual care, including the choice of physician or midwife, frequency of prenatal visits, and attendance at prenatal classes, was defined by each mother.
O'Reilly, 2024[69] Ireland	IG1	The woman and her support partner were invited to a breastfeeding education class after 28 weeks gestation. Postnatally, a lactation consultant conducted an individual breastfeeding assessment during the hospital stay and continued support for 6 weeks postpartum via weekly phone calls. A breastfeeding clinic was available up to 6 weeks.	In person, Remote	Clinic and home	Usual care with access to optional antenatal education classes; lactation consultant support available by request; some sites also had access to a breastfeeding clinic.
Paul, 2012[70] US	IG1	Home nursing visits were scheduled to occur within 48 hours of discharge, typically 3 to 5 days after childbirth. Before hospital discharge, an office visit was also scheduled for intervention newborns approximately 1 week following the home visit to establish a medical	In person	Home	Usual care including only office-based care. Post-discharge visit timing for office-based care newborns was determined by the newborn

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		home for the newborn and to ensure recovery from expected, initial weight loss after birth. Depending on individual circumstances (e.g., day of the week, gestational age, early discharge), these visits were scheduled to occur 5 to 14 days after birth.			nursery physician, and maternal office followup was scheduled by the obstetricians.
Pollard, 2011[71] US	IG1	Instructions on completing a daily breastfeeding log for 6 weeks. The Daily Breastfeeding Log was an investigator-generated breastfeeding log. There were 9 columns in the log that addressed key aspects of monitoring the breastfeeding experience and included listing each breastfeeding session for the day, length of feeding, urine and stool output, use of supplement or pumping, and 3 open ended questions for subjects to respond to their feelings for the day. Participants also received 3 weekly followup phone calls at 1, 2, and 3 weeks following delivery aimed at providing a reminder to return any logs. All participants (both IG and CG) received a 35-minute educational video. The video included content on effective latch and positioning strategies, milk production and transfer, signs of adequate intake, infant feeding patterns, average length and frequency of feedings, use of breast massage/compression, management of sore nipples and engorgement, recognizing and managing plugged ducts and mastitis, manual expression, indications and use of manual and electric pumps, sources of support and resources, and maternal nutrition.	Remote	Home	Usual care, plus all participants received a 35-minute educational video. The video included content on effective latch and positioning strategies, milk production and transfer, signs of adequate intake, infant feeding patterns, average length and frequency of feedings, use of breast massage/compression, management of sore nipples and engorgement, recognizing and managing plugged ducts and mastitis, manual expression, indications and use of manual and electric pumps, sources of support and resources, and maternal nutrition.
Puharic, 2020[72] Croatia	IG1	Breastfeeding focused support in the form of printed educational material (booklet) and 4 proactive telephone calls. The booklet contained information based on Session 3: “Promoting Breastfeeding During Pregnancy” of the UNICEF/WHO 20-hour Course for Maternity Staff. Using a question and answer format, it provides evidence based information in a way that is easy to understand, including the importance of exclusive breastfeeding for the mother as well as the baby, the importance of skin-to-skin contact immediately after the birth, the importance of giving the baby colostrum, the importance of good positioning and attachment (with illustrations provided), the importance of rooming-in/keeping baby nearby, the importance of baby-led feeding, the importance of continuing breastfeeding after 6 months while giving other foods, knowing when baby is getting enough milk and the risks of not breastfeeding, including additional costs involved and the effect on the environment. In addition to the breastfeeding booklet, mothers in the intervention group received a general, pregnancy booklet. Telephone support aimed to provide women with relevant information, support and encouragement, using Michie's behaviour change technique. The first call began during pregnancy and aimed to assess the mother's general well-being, feelings about breastfeeding, and focused on the printed material content. Subsequent phone calls (at 2, 6 and 10 weeks postpartum) focused on the mother’s individual worries and concerns about breastfeeding her	Remote	Home	Participants did not receive any written materials in pregnancy nor telephone support phone calls at any stage, as is the routine procedure currently in Croatia.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		baby with the aim of acknowledging her struggles, providing relevant advice and encouragement to continue pursuing her goals.			
Quinlivan, 2003[73] Australia	IG1	All participants were provided with routine postnatal support, counselling, and information services provided by the hospital, including access to routine hospital home-visiting services. Patients in the intervention group also received a series of structured home visits undertaken by one of two certified nurse midwives. The topics of the visits, done 1 week, 2 weeks, 1 month, 2 months, 4 months, and 6 months after birth, included teaching breastfeeding and maternal bonding skills, as well as general breastfeeding support. Intervention also included education regarding infant vaccinations and contraception.	In person	Home	Routine postnatal support, counselling, and information services provided by the hospital, including access to routine hospital domiciliary home-visiting services.
Reeder, 2014[74] US	IG1	Women were assigned to low- or high-frequency telephone counseling (4 vs. 8 calls, respectively). Women assigned to the low-frequency peer counseling group were scheduled to receive 4 planned, peer-initiated contacts: the first after initial prenatal assignment, the second 2 weeks before the expected due date, and the third and fourth at 1 and 2 weeks postpartum. Women in the higher-frequency treatment group were to receive 8 scheduled calls. The first 4 calls were the same as those in the low frequency treatment group and the last 4 calls were scheduled at months 1, 2, 3, and 4. Also received a packet of information from the State office that included a guide to breastfeeding and an information sheet.	Remote	Home	Standard WIC breastfeeding promotion and support (NR).
Saglik, 2021[75] Turkey	IG1	The intervention took place in weeks 32-42 of pregnancy, days 3-7 postpartum and at the end of month 1. In the first stage, pregnant women were offered 15-20 minutes of training in the breastfeeding room of the facility, using an illustrated training booklet developed by the authors, later distributing the booklets to the participants. During subsequent follow-ups, the main points were repeated and any questions were answered. Topics contained in the education material were the benefits of breast milk, breastfeeding time and durations, breastfeeding techniques, assessing the amount of breast milk a baby is fed and the signs of a satisfactory feeding, anxieties creating the perceptions of insufficiency, and approaches to resolving problems. Materials also included information about how mothers can make assessments of their baby's physical growth and feeding habits. The intervention group was also provided all the routine care given to the CG by the health professionals at the family health centers (routine follow-up care in pregnancy and postpartum period from family doctors, midwives, and nurses and optional health care services from other private or public institutions).	In person	Family health centers	Routine care given by the health professionals at the family health centers including routine follow-up care in pregnancy and postpartum period from family doctors, midwives, and nurses and optional health care services from other private or public institutions.
Santamaria-Martin, 2022[76]	IG1	The complex PROLACT intervention is an educational group intervention based on a breastfeeding workshop designed by the expert group of the General Directorate of Primary Healthcare of the	In person	Health center	Received advice regarding the promotion of breastfeeding and the benefits of exclusive breastfeeding in individual consultations

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
Spain		Madrid Health Department. Its objectives were the acquisition, reinforcement, and/or consolidation of the knowledge and skills needed to initiate and maintain exclusive breastfeeding and the development of a positive attitude regarding breastfeeding. A total of 6 weekly group sessions of 120 minutes each were conducted. Sessions consisted of theoretical and practical content, active participation of the mothers in discussion groups and the learning of skills through the direct practice of breastfeeding. The activities began around the first month of life of the child (the maximum peak of abandonment according to existing studies) and lasted 6 weeks. The mothers were offered the possibility to come with the person that most influences their decision to breast-feed (social support)			according to clinical practices described in the portfolio of standardized services of the Community of Madrid.
Sari, 2020[77] Turkey	IG1	In the web-based education program provided to primiparous women, the benefits of breastfeeding, bathing and care, safe sleep, and communication with the baby in terms of maternal self-efficacy and infant health were applied according to the sub-concept of "perceived benefits." In the web-based education, possible situations that women may experience in terms of infant care and breastfeeding and solutions for these situations were prepared to conform with the Pender's Health Promotion Model's (PHPM) sub-concept of "perceived barriers," while shared videos or topics and motivational messages were prepared to conform with the sub-concept of "activity and interpersonal effects." Health professionals provided information and consultation support to the women in the context of web education, consistent with the concept of "social support." Education was planned within the framework of the "self-efficacy" concept. Additionally, 4 education videos were made by the researchers according to the educational content. The titles of these videos were as follows: "How should I breastfeed my baby?" "My baby's bath and care," "How should I care for my baby boy's genitals?" and "How should I care for my baby girl's genitals?" Thanks to the individualization of the education, women had the opportunity to ask questions and receive support on infant care and breastfeeding whenever they wanted. The website was designed to be compatible with computers, tablets, and mobile devices. Primiparous women were able to benefit from the website with any device whenever they wanted. In the 2 postpartum in-person visits, women were informed that they could review the related issues in the web-based education program on the issues determined according to the Infant Follow-Up Form.	In person	Home	Women in the control group did not receive any educational materials. During postpartum visit the women in the control group were referred to the physicians and nurses who followed them for any problems related to the infant's care and breastfeeding. After the research was completed, researchers ensured that women in the control group benefitted from the web-based care program.
Sari Ozturk, 2023[78] Turkey	IG1	Technology-based breastfeeding (including Zoom and WhatsApp platforms) program; participants received three education modules via WhatsApp. The intervention combined educational videos delivered electronically with mindfulness art-based activities (mandala) to reduce	Remote	Home	Standard practices of the hospital including being called by phone 24 h after birth and asked if they had any problems with breastfeeding. Mothers who had problems with breastfeeding were

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		stress. The 3 educational ""training videos that mother's were asked to watch focused on: 1) (34th wks gestation) The importance of breastfeeding, the intention and willingness to breastfeed, and its benefits in terms of maternal and infant health; 2) (35th wks gestation) Topics such as breastfeeding positions, continuity of breast milk, and mother-infant communication through breastfeeding, and 3) (36th wks gestation) the importance of developing motor-infant communication before and after birth. During the 37th wks gestation, a ready-made mandala template was sent to mothers with instructions to paint. Each module and mandala template was sent to mother's WhatsApp accounts. Mothers had the chance to watch videos before and after birth whenever and wherever they wanted. After watching the videos, the questions of the mothers, if any, were answered by the researcher. Mandala videos supporting each module were sent to mothers and they were asked to do drawing-painting activities. After each module, feedback was received from mothers via phone call and/or WhatsApp. Followup and counseling were provided by telephone until the second month after birth. The mothers informed the researcher when they came to the hospital in the 1st week, 1st month, and 2nd month for follow-up. The intervention was based on Watson's Theory of Human Care, and focused on the harmony of body, mind, and spirit			directed to the hospital. The mothers were asked to inform the researcher when they came for follow-up in the first week, first month, and second month after delivery.
Saucedo Baza, 2023[79] US	IG1	A unique application, “Breastfeeding at AU,” for internet-capable smartphone devices was created by study personnel. The application contained educational content which outlined the benefits of breastfeeding, a timeline of infant needs during breastfeeding, maternal products necessary for, or beneficial to, the breastfeeding process, suggested strategies to assist working participants during breastfeeding, answers to commonly asked questions regarding breastfeeding, and information about resources available at our institution for breastfeeding participants. All information regarding breastfeeding, as well as educational videos and infographics placed on the application, were obtained with permission from Milkology.org, KellyMom. com, USDA.gov, the American College of Obstetricians and Gynecologists, and the AAP. Participants in the intervention group received the smartphone application plus the usual care offered to breastfeeding participants at our institution (nursing assistance, physician assistance, lactation consultation, handouts). The participants in the intervention arm received access to the application by downloading it to their device immediately after enrollment and randomization. They had free access to the application for the duration of the study and beyond. They were asked to keep track of the amount of time they spent on the application.	Remote	Home	Usual care such as nursing assistance, physician assistance, lactation consultation, handouts.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
Schwarz, 2024[80] US	IG1	Each participant received a 10-minute virtual scripted counseling session (through Zoom) addressing the maternal health benefits of breastfeeding.	Remote	Home	Attention control received a 10-minute virtual counseling session on the benefits of a smoke-free home.
Sevda, 2023[81] Turkey	IG1	Participants in the intervention arm were given breastfeeding educational content every day during the 1st 10 days and once a month until the 6th month. Participants were informed about how to maintain breastfeeding during the COVID-19 pandemic, the potential disadvantages of pacifier use, and how to pump and store their milk. In addition to providing information to the intervention participants, messages, audio recordings, images, and videos encouraging breastfeeding were also shared, directed at increasing breastfeeding knowledge and motivation. In addition, they were given the opportunity to contact the researcher at any time to find immediate solutions to their problems. The researcher answered all questions through voice and video calls, audio recordings, and text messages. For all participants, the researcher also conducted individual interviews. Any breastfeeding problems experienced were resolved by addressing them using the "Plan – Do – Check – Act" cycle.	Remote	Home	Routine postpartum face-to-face group breastfeeding education was provided to all participants on their 1st day postpartum by the unit's lactation counselors.
Simsek-Cetinkaya, 2024[82] Turkey	IG1	Between 32 and 37weeks of pregnancy, a 2-hour breastfeeding class was offered, with small groups of five women attending each interactive session. The workshop included 2 hours of education on each of 3 days. In the second stage authors developed a web-based online tracking system (BMUM). BMUM is a web-based program that can work with small devices like a laptop, tablet, or smartphone. The system included many counseling topics: the benefits of breastfeeding, the mechanism of lactation, breastfeeding techniques, breastfeeding problems and their solutions, coping with negative emotions (feelings of loneliness, inadequacy, burnout) during breastfeeding, contraindications to breastfeeding, and human milk storage. Consultancy on breastfeeding was provided in accordance with a checklist that was created by consensus agreement among the researchers. A Skype link was added to the online system so that participants could remotely show the researchers the problems they were experiencing. If nipple or breastfeeding problems were encountered on Day 1 or in the 1st week after birth, researchers would follow-up with intervention participants. In the intervention group, participants expressed their breastfeeding problems online and received emotional support or education on coping strategies.	In person, Remote	Clinic	Standard care was given to both groups based on the Baby-Friendly Hospital Intervention Standards. Pamphlets about breastfeeding were given as part of usual prenatal care. Participants who wanted to learn more about pregnancy, breastfeeding, and childbirth attended an antenatal pregnancy school. Within 30minutes after delivery, the mother and infant were placed together for physical contact and breastfeeding. After receiving postpartum care services, the lactation nurse provided breastfeeding counseling once a day and organized breastfeeding support in line with the needs of each individual participant until discharge. When participants came for a routine check-up, they were evaluated together with their baby, and reported any problems with their breasts and breastfeeding to the family physician during that visit.
Stockdale, 2008[83] Ireland	IG1	One prenatal infant-feeding class at 32-36 weeks gestation focused on increasing motivation to breastfeed including a breastfeeding information booklet and CD-ROM. Postnatal instructional support was provided by midwives up to 3 weeks postnatal and additional lactation consultancy was provided on request.	In person	NR	NR

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
Su, 2007[84] Singapore	IG1	Two-session lactation support program. First, women were visited by a lactation consultant within the first 3 postnatal days before discharge from hospital. They also received the same printed guides (as IG2 received) on breastfeeding during this visit. A second support session was provided during their first routine postnatal visit 1 to 2 weeks after delivery. During these 2 encounters, the women received hands-on instructions in latching on, proper positioning, and other techniques to avoid common complications. Each encounter lasted about 30 minutes.	In person	Hospital and home	Received routine antenatal, intrapartum, and postnatal obstetric care with no special intervention applied. At study hospital, this included optional antenatal classes, which did address infant feeding, and postnatal visits by a lactation consultant should any problems with breast feeding arise.
	IG2	Women received one session of antenatal breastfeeding education in which they were shown a 16-minute educational video entitled "14 Steps to Better Breastfeeding," which introduced the benefits of breastfeeding, demonstrated correct positioning, latch on, and breast care, and discussed common concerns. They were also given printed guides on breast feeding and an opportunity to talk to a lactation counsellor for about 15 minutes.	In person	Clinic	Received routine antenatal, intrapartum, and postnatal obstetric care with no special intervention applied. At study hospital, this included optional antenatal classes, which did address infant feeding, and postnatal visits by a lactation consultant should any problems with breast feeding arise.
Taylor, 2017[85] New Zealand	IG1	Eight parent contacts, including 3 from an IBCLC promoting breastfeeding and delaying the introduction of solids until 6 months. Trained researchers (nurses, dietitians, and nutrition graduates) discussed with parents (predominantly mothers) nutrition behaviors believed to affect weight in face-to-face individual sessions at 7, 13, and 18 months of age. The local "Sport Otago" trust held group activity sessions with families to illustrate how to be active with infants and limit time in sedentary activities. Three visits (one 30-min prenatal group session [~36 weeks] at the University research center, one individual 30-45 min session in participants homes at 1 week postpartum, and one individual 30-45 min session in participants homes at 4 months postpartum) focused on breastfeeding support. The remaining sessions focus on delaying the introduction of solid foods, health food choices, physical activity and active play, and sedentary behavior and television watching. In addition to the lactation consultant contacts provided by the study, all participants could also request additional support from the lactation consultant from antenatal to 6 months postpartum.	In person	Clinic and home	Standard government-funded well-child care (7 core visits from 2–4 weeks to 2 years of age).
Uscher-Pines, 2020[86] US	IG1	Women randomized to the telelactation arm were given an orientation to Pacify Health's telelactation app by hospital nurses. The nurses showed women how to download the app on a personal device (smartphone or tablet), provided a coupon code for free, unlimited video calls, and encouraged women to conduct a test call on their own personal device or on a demonstration device (e.g., hospital iPad used to support the recruitment process). After this orientation, participants could request unlimited, on-demand video calls with IBCLCs through the app for as long as they desired. The telelactation app used in the trial aimed to provide video calls within seconds of a visit request by a mother. The app is also HIPAA-compliant, and the telelactation	Remote	Hospital and home	Women in the control arm received care as usual. Women enrolled in the WIC program could access WIC breastfeeding services.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		services it provides involves a large network of geographically dispersed IBCLCs available to take video calls 24 hours a day. Pacify Health's app was selected for this study because Pacify Health was the only vendor at the time that did not require visits to be scheduled in advance and allowed unlimited visits.			
Wallace, 2006[87] Great Britain	IG1	Midwives attended a 4-hour long workshop covering the rationale and skills of a "hands off" approach to care at first feed, including explanation of the protocol. The experimental protocol included advice about baby initiation of feeding, positioning, and attachment. The rationale included physiological explanation of milk synthesis, supply, and removal, facilitated by correct attachment of the baby to the breast, rather than the nipple. Positioning of the mother and baby to achieve comfortable and effective feeding includes ensuring the mother is sitting upright and supported, her baby is supported and able to take sufficient breast tissue into the mouth, feeding is uninterrupted and feed times and duration are baby-led. Verbal-only care was advised to ensure the mother was able to attach the baby herself. A leaflet explained this information and reminded mothers that their baby needed only breast milk until at least 4 months post-partum, in line with contemporary UK guidance.	In person	Postnatal wards of four maternity hospitals	Control midwives received at least an hour of breast-feeding policy update and briefing on the trial. Routine care followed each maternity unit's policy, which did not stipulate advice about positioning, attachment nor verbal-only care. Additional breast-feeding advice leaflets were available to mothers and staff in line with the local policy. However, the trial protocol required that this care was delivered by a midwife, which was not required by local maternity unit policies at this time.
Wambach, 2011[88] US	IG1	A certified lactation consultant (also an RN) and a trained peer counselor (who had been a breastfeeding teen mother) provided the intervention composed of prenatal, in-hospital, and postnatal education and support, through 4 weeks postpartum. Intervention was based on the theory of planned behavior, adolescent decision-making theory, and developmental theories. Two prenatal classes (1.5 and 2 hours in length) provided content from the Breastfeeding Educated and Supported Teen Club curriculum. Classes, co-taught by the lactation consultant and peer counselor, focused on the benefits of breastfeeding for mother and baby, decision making, and the "how to" of breastfeeding as well as managing breastfeeding after return to work and/or school. Participants were encouraged to bring a support person of their choice to the classes to enhance social network support for breastfeeding decision making and breastfeeding initiation and continuation. Participants were required to attend at least 1 class, or they were dropped from the study. Peer counselor telephone calls occurred before and after Class 1 and following Class 2 to provide ongoing decision-making support and information. The in-hospital experimental intervention was a face-to-face visit from the peer counselor who provided encouragement and support for early breastfeeding efforts. Those teens choosing to breastfeed, or leaning toward doing so, also received a lactation consultant visit. Postpartum telephone contact with the lactation consultant and/or peer counselor occurred at 4, 7, 11, and 18 days and 4 weeks for those experimental participants who initiated breastfeeding, unless they ceased	In person	Classroom; hospital; home	Participants received standard prenatal and postpartum care at their respective clinic, with varying provider types and birth settings. No standards were placed on level or content of care, or on educational or social support services for usual care group participants.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
		breastfeeding before 4 weeks. These calls provided ongoing support and advice to address barriers to continued breastfeeding (e.g., breastfeeding problems, milk supply concerns, preparation for return to school). Participants received a double-set-up electric breast pump at no charge on an as-needed basis (e.g., return to school or work).			
Wen, 2011[89] Australia	IG1	Four community nurses were recruited and then trained by health promotion practitioners to deliver the staged intervention, which in the first year comprised 1 home visit at 30 to 36 weeks gestation and 5 home visits at 1, 3, 5, 9, and 12 months after birth. Those mothers who received the baseline assessment after giving birth received only 5 home visits. The timing of the visits corresponds to milestones in early childhood development, particularly regarding healthy feeding practice, nutrition, and physical activity, as well as parent-child interactions. At each visit, the research nurse spent 1 to 2 hours with the mother and infant. The nurse addressed 4 key areas: infant feeding practices, infant nutrition and active play, family physical activity and nutrition, as well as social support. Each visit involved standard information with key discussion points for each key area and appropriate resources to reinforce the information. One-to-one consultation focusing on feeding behavior and recommended problem-solving activities were conducted. A checklist for each visit was developed to ensure all information was covered. The intervention resources promoting breastfeeding, appropriate timing of introduction of solids, tummy time and active play, as well as family nutrition and physical activity were developed based on the Infant Feeding Guidelines for Health Workers, the Australian National Health and Medical Research Council Dietary Guidelines, the Australian Guide to Healthy Eating, and the National Physical Activity Guidelines. The key intervention messages included “breast is best,” “no solids for me until 6 months,” “I eat a variety of fruits and vegetables every day,” “only water in my cup,” and “I am part of an active family.”	In person	Home	Usual childhood nursing service, comprising 1 home visit within a month of birth if needed.
Wen, 2020[90] Australia	IG1	One week after the mailing of the intervention booklet, a child and family health nurse called the participants to provide support within 1-2 weeks. Each call was approximately 30 to 60 minutes long, and the nurse and mother talked about the intervention information provided in the booklets and discussed issues raised by the mother. Guided by the Healthy Beginnings Trial checklists, 6 telephone support scripts were developed to assist the nurses providing telephone support which corresponded to key stages of child feeding and movement, including 1 intervention at the third trimester and 5 interventions postnatally at 1, 3, 5, 7, and 10 months of age. The staged intervention booklets were developed and mailed to the intervention groups matching the delivery timing of the SMS support.	Remote	Home	Mothers in the control group received usual care from child and family health nurses in the local health districts. Home safety promotion materials and a newsletter on "Kids' Safety" were sent to the control group at the third trimester and at 3, 6, and 9 months of child age as one of the retention strategies.

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

Author, Year Country	IG	Detailed Intervention Description	Delivery	Setting	Control Group
	IG2	One week after the mailing of the intervention booklet, mothers in this intervention group were sent text messages to their mobile phone automatically at a predetermined time (10 am–1 pm) and twice a week for 4 weeks. These messages were used to reinforce the intervention information and key messages in the booklets. The messages provided information/advice, motivation/reinforcing and prompting (messages), psychosocial support for healthy infant and child feeding and lifestyle. The typical length of the message will be <160 characters. The 6 staged interventions from the third trimester to 12 months of the child's age were developed based on the Healthy Beginnings Trial, which corresponded to key stages of child feeding and movement, including 1 intervention at the third trimester and 5 interventions postnatally at 1, 3, 5, 7, and 10 months of age. The staged intervention booklets were developed and mailed to the intervention groups matching the delivery timing of the SMS support.	Remote	Home	Mothers in the control group received usual care from child and family health nurses in the local health districts. Home safety promotion materials and a newsletter on "Kids' Safety" were sent to the control group at the third trimester and at 3, 6, and 9 months of child age as one of the retention strategies.
Wong, 2014[91] Hong Kong	IG1	The intervention consisted of standard prenatal care, plus a 20- to 30-minute one-to-one breastfeeding education and support session based on the WHO guidelines for baby-friendly hospitals and evidence-based maternity care. Handouts about the content discussed were distributed to participants at the end of the intervention and active communication with family and peers was encouraged. At the end of the education session, an additional 10–15 minutes was also allocated to answer questions or address any concerns of the mother. A log sheet was kept to ensure consistency in information delivery and to keep track of questions raised by participants.	In person	Hospital antenatal care	Routine maternal and fetal health checks by either clinic midwives or obstetricians along with health education to promote a healthy pregnancy. Breastfeeding was promoted and childbirth preparation and breastfeeding classes were available to mothers at no cost.
Yesil, 2023[92] Turkey	IG1	The mothers in the intervention group participated in a two-session breastfeeding group education program before they were discharged from the hospital and followup telephone counseling calls (15-30 min) at weeks 4 and 12 postpartum. Mothers participated in the education with their babies and breastfed whenever they needed. Group educations were limited to 5 people to ensure positive interaction. Discussions, experience sharing, demonstration, video and narration techniques were used to ensure that different techniques were utilized in the educations. Each education session lasted between 45 and 60 min. Telephone followup focused on problems in breastfeeding, whether they needed support, how they fed their babies, and how well the baby's growth and development was. At the same time, they were encouraged to breastfeed, and they were given appropriate advice in line with their needs. The mothers in both groups were referred to the nearest health institution in the presence of a problem.	In person	Hospital	Routine obstetric care and treatment procedures including being routinely evaluated for breastfeeding by an infant nurse in the hospital and the hospital's standard postpartum education on breastfeeding by a neonatal nurse. Mothers who were called for data collection on the 4th and 12th weeks were referred to a health institution for diagnosis and treatment if they reported any difficulties in regard to breastfeeding.

Abbreviations: BFHI = Breastfeeding Friendly Hospital Initiative; BMP = Breastfeeding Motivation Program; BSES-SF = Breastfeeding Self-Efficacy Scale—Short Form; BSM = breastfeeding self-management; CG = control group; EBM = expressed breast milk; GP = general practitioner; HIPAA = Health Insurance Portability and Accountability Act; ICBLC = International Board of Lactation Consultant Examiners ; IG = intervention group; IOM = Institute of Medicine; LGA = local government areas; NR = not reported; PAT = Parents as Teachers; PCP = primary care provider; PI = principal

Appendix E Table 1. Detailed Intervention and Control Group Descriptions, by Author

investigator; RN = registered nurse; SILC = Supporting Breastfeeding in Local Communities; SMS = short message/messaging service ; UK = United Kingdon; UNICEF = United Nations International Children's Emergency Fund; US = United States; WHO = World Health Organization; WIC = Women, Infants, and Children.

Appendix E Table 2. Results of Breastfeeding Support Interventions on Prevalence of Any and Exclusive Breastfeeding, by Author

Author, Year Country	General Population Description	IG	BF Outcome	FU, wks *	IG n/N (%)	CG n/N (%)	RR (95% CI)
Abbass-Dick, 2015[3] Canada	General (sociodemographics sparsely reported)	IG1	Any BF	6	102/104 (98.1)	94/102 (92.2)	1.06 (1.00, 1.13)
				12	100/104 (96.2)	92/105 (87.6)	1.10 (1.01, 1.19)
			Exclusive BF†	6	75/104 (72.1)	62/102 (60.8)	1.19 (0.97, 1.44)
				12	70/104 (67.3)	63/105 (60)	1.12 (0.91, 1.38)
Abbass-Dick, 2020[4] Canada	General (sociodemographics sparsely reported)	IG1	Any BF	0	56/56 (100)	56/56 (100)	1.00 (1.00, 1.00)
				4	56/56 (100)	55/56 (98.2)	1.02 (0.97, 1.07)
				12	52/56 (92.9)	53/56 (94.6)	0.98 (0.89, 1.08)
				26	49/55 (89.1)	50/56 (89.3)	1.00 (0.88, 1.14)
				52	39/55 (70.9)	42/54 (77.8)	0.91 (0.73, 1.14)
			Exclusive BF†	4	23/56 (41.1)	28/56 (50)	0.82 (0.55, 1.24)
				12	21/56 (37.5)	23/56 (41.1)	0.91 (0.58, 1.45)
				26	19/56 (33.9)	22/56 (39.3)	0.86 (0.53, 1.41)
Acar, 2024[5] Turkey	General (sociodemographics sparsely reported)	IG1	Exclusive BF‡	4	31/36 (86.1)	24/37 (64.9)	1.33 (1.01, 1.75)
Addicks, 2019[6] US	Predominately White women, mixed SES	IG1	Any BF	0	40/40 (100)	37/39 (94.9)	1.05 (0.97, 1.15)
				4	38/40 (95)	31/39 (79.5)	1.20 (1.00, 1.42)
			Exclusive BF‡	4	23/40 (57.5)	20/39 (51.3)	1.12 (0.75, 1.68)
			BF intensity: Low (0-19%)	4	0/40 (0)	0/39 (0)	NR
			BF intensity: Medium (20-39%)	4	0/40 (0)	1/39 (2.5)	NR
			BF intensity: Medium (40-59%)	4	3/40 (7.3)	2/39 (5.0)	NR
			BF intensity: Medium (60-79%)	4	3/40 (7.3)	3/39 (7.5)	NR
			BF intensity: High(≥ 80%)	4	8/40 (19.5)	5/39 (12.5)	NR
Anderson, 2005[7] US	Low-income, predominately urban Hispanic or Latina women	IG1	Any BF	0	57/63 (90.5)	55/72 (76.4)	1.18 (1.02, 1.38)
			Exclusive BF‡	0	37/63 (58.7)	32/72 (44.4)	1.32 (0.95, 1.84)
				4	17/63 (27)	5/72 (6.9)	3.89 (1.52, 9.93)
				8	15/63 (23.8)	1/72 (1.4)	17.14 (2.33, 126.14)
				12	13/63 (20.6)	1/72 (1.4)	14.86 (2.00, 110.41)
Balaguer Martinez, 2018[8] Spain	Latina women, mixed SES	IG1	Any BF	4	204/207 (98.6)	201/207 (97.1)	1.01 (0.99, 1.04)
				8	196/207 (94.7)	186/207 (89.9)	1.05 (1.00, 1.11)
				16	178/207 (86)	168/207 (81.2)	1.06 (0.97, 1.15)
				26	170/207 (82.1)	152/207 (73.4)	1.12 (1.01, 1.24)
			Exclusive BF‡	4	161/207 (77.8)	145/207 (70)	1.11 (0.99, 1.25)
				8	148/207 (71.5)	133/207 (64.3)	1.11 (0.97, 1.27)
				16	118/207 (57)	107/207 (51.7)	1.10 (0.92, 1.32)

Appendix E Table 2. Results of Breastfeeding Support Interventions on Prevalence of Any and Exclusive Breastfeeding, by Author

Author, Year Country	General Population Description	IG	BF Outcome	FU, wks *	IG n/N (%)	CG n/N (%)	RR (95% CI)
				26	62/207 (30)	44/207 (21.3)	1.41 (1.01, 1.97)
Baransel, 2024[9] Turkey	General (sociodemographics sparsely reported)	IG1	Any BF	0	65/65 (100)	65/65 (100)	1.00 (0.97, 1.03)
				6	65/65 (100)	65/65 (100)	1.00 (0.97, 1.03
			Exclusive BF‡	0	61/65 (93.8)	59/65 (90.8)	1.03 (0.94, 1.14)
				6	58/95 (89.2)	40/65 (61.5)	1.45 (1.18, 1.79)
Bender, 2022[10] US	Predominately Black or White women (SES NR)	IG1	Any BF	6	73/93 (78.5)	65/92 (70.7)	1.11 (0.94, 1.32)
			Exclusive BF‡	6§	45/93 (48.4)	38/92 (41.3)	1.17 (0.85, 1.62)
Bernal, 2019[11] US	WIC-eligible, low-income Hispanic or Latina women	IG1	Any BF	0**	15/18 (83.3)	12/18 (66.7)	1.25 (0.85, 1.84)
				0††	17/18 (94.4)	17/18 (94.4)	1.00 (0.85, 1.17)
			Exclusive BF†	2	15/18 (83.3)	14/18 (77.8)	1.07 (0.78, 1.48)
				4	11/18 (61.1)	11/18 (61.1)	1.00 (0.59, 1.68)
				8	11/18 (61.1)	7/18 (38.9)	1.57 (0.79, 3.12)
				12	7/18 (38.9)	5/18 (27.8)	1.40 (0.54, 3.60)
Bonuck, 2006[12] US	Predominately urban Hispanic or Latina or Black low-income women	IG1	Any BF	2	124/143 (86.7)	102/157 (65.0)	1.33 (1.17, 1.52)
				6	99/137 (72.3)	85/155 (54.8)	1.32 (1.10, 1.57)
				13	79/130 (60.8)	66/143 (46.2)	1.32 (1.05, 1.65)
				20	62/117 (53)	55/140 (39.3)	1.35 (1.03, 1.76)
				26	51/115 (44.3)	45/136 (33.1)	1.34 (0.98, 1.84)
				52	15/82 (18.3)	15/99 (15.2)	1.21 (0.63, 2.32)
			Exclusive BF‡	2	29/143 (20.3)	30/157 (19.1)	1.06 (0.67, 1.68)
				6	21/137 (15.3)	25/155 (16.1)	0.95 (0.56, 1.62)
				13	11/130 (8.5)	16/143 (11.2)	0.76 (0.36, 1.57)
				20	9/117 (7.7)	14/140 (10)	0.77 (0.35, 1.71)
				26	6/115 (5.2)	11/136 (8.1)	0.65 (0.25, 1.69)
				52	5/82 (6.1)	5/99 (5.1)	1.21 (0.36, 4.03)
Bonuck, 2014a (BINGO)[13] US	Predominately urban Hispanic or Latina or Black low-income women	IG1	Any BF	0	218/226 (96.5)	65/73 (89)	1.08 (1.00, 1.18)
				4	172/226 (76.1)	44/73 (60.3)	1.26 (1.03, 1.54)
				12	127/226 (56.2)	28/74 (37.8)	1.49 (1.09, 2.03)
				26	80/231 (34.6)	20/74 (27)	1.28 (0.85, 1.94)
			Exclusive BF†	4	31/226 (13.7)	7/73 (9.6)	1.43 (0.66, 3.11)
				12	24/226 (10.6)	2/74 (2.7)	3.93 (0.95, 16.23)
				26	6/231 (2.6)	1/71 (1.4)	1.84 (0.23, 15.06)
		IG2	Any BF	0	70/73 (95.9)	65/73 (89)	1.08 (0.98, 1.18)
				4	54/73 (74)	44/73 (60.3)	1.23 (0.97, 1.55)
				12	37/73 (50.7)	28/74 (37.8)	1.34 (0.93, 1.94)
				26	30/74 (40.5)	20/74 (27)	1.50 (0.94, 2.39)
			Exclusive BF†	4	10/73 (13.7)	7/73 (9.6)	1.43 (0.58, 3.55)
				12	8/73 (11)	2/74 (2.7)	4.05 (0.89, 18.45)
				26	1/71 (1.4)	1/71 (1.4)	1.00 (0.06, 15.68)
		IG3	Any BF	0	207/223 (92.8)	65/73 (89)	1.04 (0.95, 1.14)
				4	158/223 (70.9)	44/73 (60.3)	1.18 (0.96, 1.44)
				12	102/229 (44.5)	28/74 (37.8)	1.18 (0.85, 1.63)

Appendix E Table 2. Results of Breastfeeding Support Interventions on Prevalence of Any and Exclusive Breastfeeding, by Author

Author, Year Country	General Population Description	IG	BF Outcome	FU, wks *	IG n/N (%)	CG n/N (%)	RR (95% CI)
				26	75/227 (33)	20/74 (27)	1.22 (0.81, 1.86)
			Exclusive BF†	4	17/223 (7.6)	7/73 (9.6)	0.80 (0.34, 1.84)
				12	10/227 (4.4)	2/74 (2.7)	1.63 (0.37, 7.27)
				26	4/222 (1.8)	1/71 (1.4)	1.28 (0.15, 11.26)
Bonuck, 2014b (PAIRINGS)[14] US	Predominately Hispanic or Latina or Black women	IG1	Any BF	0	122/124 (98.4)	123/130 (94.6)	1.04 (0.99, 1.09)
				4	108/124 (87.1)	92/130 (70.8)	1.23 (1.08, 1.40)
				12	76/125 (60.8)	57/128 (44.5)	1.37 (1.07, 1.73)
				26	46/122 (37.7)	31/122 (25.4)	1.48 (1.01, 2.17)
			Exclusive BF†	4	30/124 (24.2)	9/130 (6.9)	3.49 (1.73, 7.06)
				12	20/125 (16)	8/129 (6.2)	2.58 (1.18, 5.64)
				26	2/125 (1.6)	2/125 (1.6)	1.00 (0.14, 6.99)
Bunik, 2010[15] US	Predominately Hispanic or Latina low-income women	IG1	Any BF	4	110/149 (73.8)	122/165 (73.9)	1.00 (0.88, 1.14)
				12	64/130 (49.2)	78/144 (54.2)	0.91 (0.72, 1.14)
				26	35/125 (28)	49/132 (37.1)	0.75 (0.53, 1.08)
Bunik, 2022[16] US	Predominately White women with higher education	IG1	Exclusive BF‡	12	112/310 (36.1)	57/157 (36.3)	1.00 (0.77, 1.28)
				26	93/310 (30)	41/157 (26.1)	1.15 (0.84, 1.57)
Cangol, 2017[17] Turkey	General (sociodemographics sparsely reported)	IG1	Exclusive BF‡	0	24/34 (70.6)	10/33 (30.3)	2.33 (1.33, 4.08)
				4	26/34 (76.5)	23/33 (69.7)	1.10 (0.82, 1.47)
				16	21/34 (61.8)	19/33 (57.6)	1.07 (0.72, 1.59)
Carlsen, 2013[18] Denmark	Obese women (sociodemographics sparsely reported)	IG1	Exclusive BF†	0	NR	NR	5.99 (2.27, 15.87)‡‡
				1	NR	NR	3.15 (1.60, 6.23)‡‡
				2	NR	NR	2.71 (1.43, 5.12)‡‡
				4	NR	NR	2.98 (1.61, 5.50)‡‡
				12	NR	NR	2.45 (1.36, 4.41)‡‡
Cauble, 2021[19] US	Predominately White women, mixed SES	IG1	Any BF	0	18/19 (94.7)	22/22 (100)	0.95 (0.85, 1.05)
				2	17/19 (89.5)	19/22 (86.4)	1.04 (0.83, 1.30)
				8	14/19 (73.7)	13/22 (59.1)	1.25 (0.80, 1.94)
				16	11/19 (57.9)	10/22 (45.5)	1.27 (0.70, 2.31)
				26	9/19 (47.4)	9/22 (40.9)	1.16 (0.58, 2.31)
			Exclusive BF†	2	12/19 (63.2)	13/22 (59.1)	1.07 (0.66, 1.74)
				8	10/19 (52.6)	11/22 (50)	1.05 (0.58, 1.91)
				16	6/19 (31.6)	7/22 (31.8)	0.99 (0.40, 2.44)
				26	6/19 (31.6)	7/22 (31.8)	0.99 (0.40, 2.44)
Chan, 2016[20] Hong Kong	Chinese women, predominately higher education	IG1	Any BF	0	29/35 (82.9)	30/36 (83.3)	0.99 (0.81, 1.23)
				26	10/32 (31.3)	5/30 (16.7)	1.88 (0.72, 4.85)
			Exclusive BF†	2	14/35 (40)	8/36 (22.2)	1.80 (0.86, 3.75)
				4	13/35 (37.1)	5/36 (13.9)	2.67 (1.07, 6.71)
				8	11/35 (31.4)	2/36 (5.6)	5.66 (1.35, 23.71)
				24	4/35 (11.4)	2/36 (5.6)	2.06 (0.40, 10.52)
Chapman, 2013[21]	Overweight/obese, low-income,	IG1	Any BF	0	75/76 (98.7)	77/78 (98.7)	1.00 (0.96, 1.04)
				2	71/76 (93.4)	66/78 (84.6)	1.10 (0.99, 1.23)

Appendix E Table 2. Results of Breastfeeding Support Interventions on Prevalence of Any and Exclusive Breastfeeding, by Author

Author, Year Country	General Population Description	IG	BF Outcome	FU, wks *	IG n/N (%)	CG n/N (%)	RR (95% CI)
US	predominately Hispanic or Latina women			12	26/57 (45.6)	31/62 (50)	0.91 (0.63, 1.33)
				26	13/55 (23.6)	20/53 (37.7)	0.63 (0.35, 1.13)
			Exclusive BF†	0	34/76 (44.7)	35/78 (44.9)	1.00 (0.70, 1.42)
				2	16/76 (21.1)	12/78 (15.4)	1.37 (0.69, 2.70)
				4	12/67 (17.9)	8/66 (12.1)	1.48 (0.65, 3.38)
				8	8/67 (11.9)	7/66 (10.6)	1.13 (0.43, 2.93)
				12	3/57 (5.3)	6/62 (9.7)	0.54 (0.14, 2.07)
				16	1/57 (1.8)	3/62 (4.8)	0.36 (0.04, 3.39)
				20	1/57 (1.8)	1/62 (1.6)	1.09 (0.07, 16.99)
				26	1/55 (1.8)	0/53 (0)	1.93 (0.07, 56.26)
Clarke, 2020[22] Great Britain	Predominately White women from socioeconomically disadvantaged neighborhoods	IG1	Any BF	0	35/41 (85.4)	36/47 (76.6)	1.11 (0.91, 1.36)
				8	24/48 (50)	22/50 (44)	1.14 (0.75, 1.73)
				24	18/39 (46.2)	16/44 (36.4)	1.27 (0.76, 2.13)
			Exclusive BF‡	8	16/41 (39)	17/47 (36.2)	1.08 (0.63, 1.85)
				8	11/41 (26.8)	12/47 (25.5)	1.05 (0.52, 2.12)
				24	12/39 (30.8)	13/44 (29.5)	1.04 (0.54, 2.01)
				24	3/39 (7.7)	2/44 (4.5)	1.69 (0.30, 9.61)
Dennis, 2002[23] Canada	General (sociodemographics sparsely reported)	IG1	Any BF	4	122/132 (92.4)	104/124 (83.9)	1.10 (1.01, 2.72)
				8	112/132 (84.8)	93/124 (75)	1.13 (1.00, 1.28)
				12	107/132 (81.1)	83/124 (66.9)	1.21 (1.04, 4.41)
			Exclusive BF†	4	98/132 (74.2)	78/124 (62.9)	1.18 (1.00, 1.40)
				8	83/132 (62.9)	68/124 (54.8)	1.15 (0.93, 1.41)
				12	75/132 (56.8)	50/124 (40.3)	1.41 (1.09, 1.83)
Di Napoli, 2004[25] Italy	General (sociodemographics sparsely reported)	IG1	Exclusive BF§§	16	59/266 (22.2)	69/276 (25)	0.89 (0.65, 1.20)
Edwards, 2013[26] US	Younger (<21 years) Black women, predominately lower income	IG1	Any BF	0	78/122 (63.9)	61/123 (49.6)	1.29 (1.03, 1.61)
				6	31/108 (28.7)	19/113 (16.8)	1.71 (1.03, 2.83)
				16	9/108 (8.3)	5/113 (4.4)	1.88 (0.65, 5.44)
Elliott-Rudder, 2014[27] Australia	Women breastfeeding for at least 8 weeks	IG1	Any BF	16	137/154 (89)	156/176 (88.6)	1.00 (0.93, 1.08)
				26	118/150 (78.7)	135/172 (78.5)	1.00 (0.89, 1.12)
			Exclusive BF‡	16	96/147 (65.3)	90/161 (55.9)	1.17 (0.97, 1.40)
				26	22/150 (14.7)	24/172 (14)	1.05 (0.62, 1.80)
Fan, 2022[28] Hong Kong	Chinese women, predominately higher education	IG1	Any BF	4	15/15 (100)	18/18 (100)	0.99 (0.89, 1.12)
				8	13/15 (86.7)	18/18 (100)	0.87 (0.69, 1.08)
				16	11/15 (73.3)	17/18 (94.4)	0.78 (0.56, 1.07)
				26	9/15 (60)	14/18 (77.8)	0.77 (0.48, 1.25)
			Exclusive BF†	4	3/15 (20)	6/18 (33.3)	0.60 (0.18, 2.00)
				8	5/15 (33.3)	8/18 (44.4)	0.75 (0.31, 1.81)
				16	7/15 (46.7)	6/18 (33.3)	1.40 (0.60, 3.27)
				26	4/15 (26.7)	4/18 (22.2)	1.20 (0.36, 4.00)
Fiks, 2017[29] US	Overweight/obese, low-income, predominately Black women	IG1	Exclusive BF‡	26	4/43 (9.3)	2/42 (4.8)	1.95 (0.38, 10.10)
Forster, 2004[30] Australia	Low-income, culturally diverse women (sparse demographic data)	IG1	Any BF	0	291/308 (94.5)	297/310 (95.8)	0.99 (0.95, 1.02)
				26	146/293 (49.8)	162/299 (54.2)	0.92 (0.79, 1.07)
			Exclusive BF‡	0	239/308 (77.6)	242/310 (78.1)	0.99 (0.91, 1.08)
				26	124/293 (42.3)	127/299 (42.5)	1.00 (0.83, 1.20)

Appendix E Table 2. Results of Breastfeeding Support Interventions on Prevalence of Any and Exclusive Breastfeeding, by Author

Author, Year Country	General Population Description	IG	BF Outcome	FU, wks *	IG n/N (%)	CG n/N (%)	RR (95% CI)
		IG2	Any BF	0	296/306 (96.7)	297/310 (95.8)	1.01 (0.98, 1.04)
				26	162/297 (54.5)	162/299 (54.2)	1.01 (0.87, 1.17)
			Exclusive BF‡	0	238/306 (77.8)	242/310 (78.1)	1.00 (0.92, 1.08)
				26	133/297 (44.8)	127/299 (42.5)	1.05 (0.88, 1.27)
Forster, 2019[31] Australia	General (sociodemographics sparsely reported)	IG1	Any BF	26	376/501 (75)	354/515 (68.7)	1.10 (1.02, 1.18)
Franco-Antonio, 2020[32] Spain	General (sociodemographics sparsely reported)	IG1	Exclusive BF§§	0	29/42 (69)	27/42 (64.3)	1.07 (0.79, 1.45)
				4	38/42 (90.5)	27/42 (64.3)	1.41 (1.10, 1.80)
				12	35/42 (83.3)	21/40 (52.5)	1.59 (1.15, 2.20)
				24	23/41 (56.1)	8/40 (20)	2.80 (1.43, 5.52)
Fu, 2014[33] Hong Kong	Chinese women, predominately higher education	IG1	Any BF	4	199/261 (76.2)	175/260 (67.3)	1.13 (1.02, 1.26)
				8	153/261 (58.6)	127/260 (48.8)	1.20 (1.02, 1.41)
				12	124/261 (47.5)	102/260 (39.2)	1.21 (0.99, 1.48)
				26	80/261 (30.7)	62/260 (23.8)	1.29 (0.97, 1.71)
			Exclusive BF†	4	74/261 (28.4)	44/260 (16.9)	1.68 (1.20, 2.33)
				8	56/261 (21.5)	40/260 (15.4)	1.39 (0.97, 2.01)
				12	46/261 (17.6)	37/260 (14.2)	1.24 (0.83, 1.84)
				26	33/261 (12.6)	27/260 (10.4)	1.22 (0.75, 1.97)
		IG2	Any BF	0	190/190 (100)	256/260 (98.5)	1.02 (1.00, 1.03)
				8	101/190 (53.2)	127/260 (48.8)	1.09 (0.91, 1.31)
				4	136/190 (71.6)	175/260 (67.3)	1.06 (0.94, 1.20)
				12	82/190 (43.2)	102/260 (39.2)	1.10 (0.88, 1.37)
				26	51/190 (26.8)	62/260 (23.8)	1.13 (0.82, 1.55)
			Exclusive BF†	0	108/190 (56.8)	133/260 (51.2)	1.11 (0.94, 1.32)
				4	41/190 (21.6)	44/260 (16.9)	1.28 (0.87, 1.87)
				8	33/190 (17.4)	40/260 (15.4)	1.13 (0.74, 1.72)
				12	34/190 (17.9)	37/260 (14.2)	1.26 (0.82, 1.93)
				26	22/190 (11.6)	27/260 (10.4)	1.12 (0.66, 1.90)
Gagnon, 2002[34] Canada	General (sociodemographics sparsely reported)	IG1	Any BF	2	247/252 (98)	243/247 (98.4)	1.00 (0.97, 1.02)
			Exclusive BF‡	2	183/252 (72.6)	171/247 (69.2)	1.04 (0.94, 1.17)
Gijsbers, 2006[35] Netherlands	Women with a family history of asthma	IG1	Exclusive BF†	26	21/44 (47.7)	12/45 (26.7)	1.79 (1.01, 3.18)
Graffy, 2004[36] Great Britain	Predominately White women, mixed SES	IG1	Any BF	0	320/336 (95.2)	324/336 (96.4)	0.99 (0.84, 1.16)
				6	218/336 (64.9)	213/336 (63.4)	1.02 (0.84, 1.24)
				16	143/310 (46.1)	131/310 (42.3)	1.09 (0.86, 1.39)
			Exclusive BF†	6	103/336 (30.7)	86/336 (25.6)	1.20 (0.89, 1.61)
Gross, 2016[37] US	Hispanic or Latina women, predominately low-income	IG1	Any BF	0	212/221 (95.9)	224/235 (95.3)	1.01 (0.97, 1.05)
				12	184/221 (83.3)	189/235 (80.4)	1.04 (0.95, 1.13)
				43	122/202 (60.4)	114/210 (54.3)	1.11 (0.94, 1.31)
			Exclusive BF‡	0	101/221 (45.7)	89/235 (37.9)	1.21 (0.97, 1.50)
				12	73/221 (33)	55/235 (23.4)	1.41 (1.05, 1.90)
				43	67/202 (33.2)	48/210 (22.9)	1.45 (1.06, 1.99)

Appendix E Table 2. Results of Breastfeeding Support Interventions on Prevalence of Any and Exclusive Breastfeeding, by Author

Author, Year Country	General Population Description	IG	BF Outcome	FU, wks *	IG n/N (%)	CG n/N (%)	RR (95% CI)
Hans, 2018[38] US	Predominately Hispanic or Latina or Black low-income women meeting criteria for high social risk	IG1	Any BF	0	116/143 (81.1)	107/144 (74.3)	1.09 (0.96, 1.24)
				12	24/139 (17.3)	31/139 (22.3)	0.77 (0.48, 1.25)
Henderson, 2001[39] Australia	General (sociodemographics sparsely reported)	IG1	Any BF	6	60/79 (75.9)	65/79 (82.3)	0.92 (0.79, 1.08)
				12	56/78 (71.8)	57/76 (75)	0.96 (0.79, 1.16)
				26	42/75 (56)	48/75 (64)	0.88 (0.67, 1.14)
Hoffmann, 2019[40] Germany	General (sociodemographics sparsely reported)	IG1	Any BF	52	701/828 (84.7)	685/804 (85.2)	0.99 (0.95, 1.04)
			Exclusive BF‡	52	588/673 (87.4)	558/661 (84.4)	1.03 (0.99, 1.08)
Hopkinson, 2009[41] US	Predominately Hispanic or Latina women	IG1	Any BF	4	202/226 (89.4)	218/241 (90.5)	0.99 (0.93, 1.05)
			Exclusive BF†	4	38/226 (16.8)	25/241 (10.4)	1.62 (1.01, 2.60)
Howell, 2014[42] US	Predominately Hispanic or Latina or black low-income women	IG1	Any BF	0	231/270 (85.6)	220/270 (81.5)	1.05 (0.97, 1.13)
			Exclusive BF***	26	19/270 (7)	11/270 (4.1)	1.73 (0.84, 3.56)
Jolly, 2012[43] Great Britain	Predominately of Asian or Middle Eastern origin living in deprived, urban areas	IG1	Any BF	0	896/1315 (68.1)	747/1083 (69)	0.99 (0.94, 1.04)
				2	818/1193 (68.6)	928/1370 (67.7)	1.01 (0.96, 1.07)
				6	170/271 (62.7)	194/301 (64.5)	0.97 (0.86, 1.10)
				26	93/271 (34.3)	117/301 (38.9)	0.88 (0.71, 1.10)
			Exclusive BF‡	2	446/1193 (37.4)	470/1370 (34.3)	1.09 (0.98, 1.21)
				6	104/271 (38.4)	123/301 (40.9)	0.94 (0.77, 1.15)
				26	48/271 (17.7)	59/301 (19.6)	0.90 (0.64, 1.27)
Karaahmet, 2022[44] Turkey	General (sociodemographics sparsely reported)	IG1	Any BF	0	76/76 (100)	75/75 (100)	1.00 (0.97, 1.03)
				4	76/76 (100)	71/75 (94.7)	1.06 (1.00, 1.12)
				24	76/76 (100)	51/75 (68)	1.47 (1.25, 1.71)
			Exclusive BF‡	0	76/76 (100)	69/75 (92)	1.09 (1.01, 1.17)
				4	73/76 (96.1)	54/75 (72)	1.33 (1.15, 1.55)
				24	40/76 (52.6)	19/75 (25.3)	2.08 (1.33, 3.24)
Kellams, 2015[45] US	Low-income, predominately Black or White women	IG1	Any BF	0	174/249 (69.9)	172/248 (69.4)	1.01 (0.90, 1.13)
			Exclusive BF‡	0	84/249 (33.7)	84/248 (33.9)	1.00 (0.78, 1.27)
Kenyon, 2016[46] Great Britain	Women reporting social risk factors, predominately British or Asian ethnicity	IG1	Any BF	0	300/595 (50.4)	302/615 (49.1)	1.03 (0.92, 1.15)
			Exclusive BF‡	0	285/584 (48.8)	303/606 (50)	0.98 (0.87, 1.10)
				6	110/540 (20.4)	99/537 (18.4)	1.10 (0.87, 1.41)
Kools, 2005[47] Netherlands	General (sociodemographics sparsely reported)	IG1	Any BF	0	254/371 (68.5)	238/330 (72.1)	0.95 (0.86, 1.05)
				12	119/368 (32.3)	124/330 (37.6)	0.86 (0.70, 1.05)
			Exclusive BF†	0	225/371 (60.6)	222/330 (67.3)	0.90 (0.81, 1.01)
				12	99/368 (26.9)	104/330 (31.5)	0.85 (0.68, 1.08)
Kronborg, 2012[48] Denmark	General (sociodemographics sparsely reported)	IG1	Any BF	1	533/552 (96.6)	529/538 (98.3)	0.98 (0.96, 1.00)
				6	503/535 (94)	478/525 (91)	1.03 (1.00, 1.07)
Labarere, 2003[49]		IG1	Any BF	17	32/93 (34.4)	39/97 (40.2)	0.86 (0.52, 1.40)

Appendix E Table 2. Results of Breastfeeding Support Interventions on Prevalence of Any and Exclusive Breastfeeding, by Author

Author, Year Country	General Population Description	IG	BF Outcome	FU, wks *	IG n/N (%)	CG n/N (%)	RR (95% CI)
France	General (sociodemographics sparsely reported)		Exclusive BF†	17	13/93 (14)	14/97 (14.4)	0.97 (0.42, 2.22)
Labarere, 2005[50] France	General (sociodemographics sparsely reported)	IG1	Any BF	4	100/112 (89.3)	93/114 (81.6)	1.09 (0.98, 1.22)
				8	87/112 (77.7)	84/114 (73.7)	1.05 (0.91, 1.22)
				12	80/112 (71.4)	72/114 (63.2)	1.13 (0.94, 1.36)
				16	61/112 (54.5)	48/114 (42.1)	1.29 (0.98, 1.70)
				20	52/112 (46.4)	40/114 (35.1)	1.32 (0.96, 1.82)
				24	44/112 (39.3)	30/114 (26.3)	1.49 (1.02, 2.19)
			Exclusive BF†	4	94/112 (83.9)	82/114 (71.9)	1.17 (1.01, 1.34)
Laliberte, 2016[51] Canada	General, predominately higher education	IG1	Any BF	2	278/295 (94.2)	127/140 (90.7)	1.04 (0.98, 1.10)
				4	276/294 (93.9)	123/134 (91.8)	1.02 (0.96, 1.08)
				12	267/295 (90.5)	117/132 (88.6)	1.02 (0.95, 1.10)
				24	242/292 (82.9)	112/138 (81.2)	1.02 (0.93, 1.12)
			Exclusive BF†	2	192/295 (65.1)	82/140 (58.6)	1.11 (0.94, 1.31)
				2	97/295 (32.9)	35/140 (25)	1.32 (0.95, 1.83)
				4	191/294 (65)	80/134 (59.7)	1.09 (0.92, 1.28)
				4	96/294 (32.7)	33/134 (24.6)	1.33 (0.95, 1.86)
				12	195/295 (66.1)	81/134 (60.4)	1.09 (0.93, 1.28)
				12	95/295 (32.2)	35/134 (26.1)	1.23 (0.89, 1.71)
				24	151/292 (51.7)	64/138 (46.4)	1.12 (0.90, 1.38)
Lavender, 2005[52] Great Britain	Predominately White women, lower income	IG1	Any BF	0	515/644 (80)	463/605 (76.5)	1.04 (0.99, 1.11)
				4	380/644 (59)	343/605 (56.7)	1.04 (0.95, 1.14)
				16	202/644 (31.4)	192/605 (31.7)	0.99 (0.84, 1.16)
				26	140/644 (21.7)	138/605 (22.8)	0.95 (0.77, 1.17)
				52	60/644 (9.3)	61/605 (10.1)	0.92 (0.66, 1.30)
			Exclusive BF‡	16	NR	NR	1.10 (0.60, 1.80)‡‡
Lewkowitz, 2018[53] US	Overweight/obese, Black low-income women	IG1	Any BF	0	46/59 (78)	44/59 (74.6)	1.05 (0.86, 1.28)
Lewkowitz, 2020[54] US	Predominately Black, low-income women	IG1	Any BF	0	62/82 (75.6)	66/84 (78.6)	0.96 (0.82, 1.14)
				0	66/83 (79.5)	70/85 (82.4)	0.97 (0.83, 1.12)
				6	39/83 (47)	49/85 (57.6)	0.83 (0.62, 1.10)
				12	23/76 (30.3)	28/76 (36.8)	0.82 (0.52, 1.29)
				24	10/60 (16.7)	16/67 (23.9)	0.70 (0.34, 1.42)
			Exclusive BF‡	0	30/82 (36.6)	30/84 (35.7)	1.02 (0.68, 1.53)
				6	12/83 (14.5)	14/85 (16.5)	0.89 (0.44, 1.80)
				12	10/76 (13.2)	10/76 (13.2)	1.00 (0.44, 2.26)
				24	5/60 (8.3)	7/67 (10.4)	0.80 (0.27, 2.38)
Linares, 2019[55] US	Immigrant Hispanic or Latina women, predominately low-income	IG1	Any BF	0	20/20 (100)	17/19 (89.5)	1.12 (0.96, 1.30)
			Exclusive BF‡	0	9/20 (45)	4/19 (21.1)	2.14 (0.79, 5.79)
				0	9/20 (45)	4/19 (21.1)	2.14 (0.79, 5.79)
				4	8/20 (40)	8/19 (42.1)	0.95 (0.45, 2.02)

Appendix E Table 2. Results of Breastfeeding Support Interventions on Prevalence of Any and Exclusive Breastfeeding, by Author

Author, Year Country	General Population Description	IG	BF Outcome	FU, wks *	IG n/N (%)	CG n/N (%)	RR (95% CI)
				12	7/20 (35)	2/19 (10.5)	3.33 (0.79, 14.04)
				24	3/20 (15)	1/19 (5.3)	2.85 (0.32, 25.07)
Little, 2021[56] US	Predominately Hispanic or Latina low-income women	IG1	Any BF	6	32/41 (78)	31/38 (81.6)	0.96 (0.77, 1.19)
				12	29/44 (65.9)	19/34 (55.9)	1.18 (0.82, 1.70)
				24	25/37 (67.6)	14/35 (40)	1.69 (1.06, 2.68)
			Exclusive BF‡	6	27/41 (65.9)	19/38 (50)	1.32 (0.89, 1.94)
				12	20/44 (45.5)	14/34 (41.2)	1.10 (0.66, 1.85)
				24	18/37 (48.6)	13/35 (37.1)	1.31 (0.76, 2.26)
Lucas, 2019[57] US	Predominately White women, mixed SES	IG1	Any BF	1	27/27 (100)	31/33 (93.9)	1.06 (0.98, 1.16)
				2	27/27 (100)	30/33 (90.9)	1.10 (0.99, 1.23)
				6	26/27 (96.3)	30/33 (90.9)	1.06 (0.93, 1.21)
Lutenbacher, 2022[58] US	Hispanic or Latina women, predominately low-income	IG1	Any BF	0	57/59 (96.6)	48/54 (88.9)	1.09 (0.98, 1.21)
				2	48/57 (84.2)	40/49 (81.6)	1.03 (0.87, 1.23)
				8	42/59 (71.2)	33/54 (61.1)	1.16 (0.89, 1.52)
				26	30/58 (51.7)	18/53 (34)	1.52 (0.97, 2.39)
				39	24/56 (42.9)	13/53 (24.5)	1.75 (1.00, 3.06)
				52	21/57 (36.8)	7/53 (13.2)	2.79 (1.29, 6.02)
				65	6/57 (10.5)	1/53 (1.9)	5.58 (0.69, 44.82)
Mattar, 2007[59] Singapore	Predominately Southeast Asian women with lower income	IG1	Any BF	2	106/112 (94.6)	124/135 (91.9)	1.03 (0.96, 1.10)
				6	79/112 (70.5)	86/135 (63.7)	1.11 (0.93, 1.32)
				12	64/112 (57.1)	61/130 (46.9)	1.22 (0.95, 1.55)
				26	48/112 (42.9)	43/129 (33.3)	1.29 (0.93, 1.78)
			Exclusive BF§§	2	61/112 (54.5)	69/135 (51.1)	1.07 (0.84, 1.35)
				6	40/112 (35.7)	36/135 (26.7)	1.34 (0.92, 1.95)
				12	27/112 (24.1)	15/130 (11.5)	2.09 (1.17, 3.73)
				26	16/112 (14.3)	9/129 (7)	2.05 (0.94, 4.45)
		IG2	Any BF	2	111/123 (90.2)	124/135 (91.9)	0.98 (0.91, 1.06)
				6	88/123 (71.5)	86/135 (63.7)	1.12 (0.95, 1.33)
				12	66/112 (58.9)	61/130 (46.9)	1.26 (0.99, 1.60)
				26	39/120 (32.5)	43/129 (33.3)	0.98 (0.68, 1.39)
			Exclusive BF§§	2	60/123 (48.8)	69/135 (51.1)	0.95 (0.75, 1.22)
				6	33/123 (26.8)	36/135 (26.7)	1.01 (0.67, 1.51)
				12	21/112 (18.8)	15/130 (11.5)	1.63 (0.88, 3.00)
				26	8/120 (6.7)	9/129 (7)	0.96 (0.38, 2.40)
McDonald, 2010[60] Australia	General (sociodemographics sparsely reported)	IG1	Any BF	26	267/418 (63.9)	286/421 (67.9)	0.96 (0.87, 1.04)
			Exclusive BF***	26	73/418 (17.5)	70/421 (16.6)	1.04 (0.78, 1.40)
McLachlan, 2016[61] Australia	Women who initiated breastfeeding after delivery	IG1	Any BF	16	1276/2344 (54.4)	1300/2414 (53.9)	1.01 (0.96, 1.07)
		IG2	Any BF	16	1429/2281 (62.6)	1300/2414 (53.9)	1.16 (1.11, 1.22)
McQueen, 2011[62] Canada	Predominately White women (14% Aboriginal) with higher education	IG1	Any BF	4	55/64 (85.9)	58/78 (74.4)	1.16 (0.98, 1.36)
				8	43/61 (70.5)	48/73 (65.8)	1.07 (0.85, 1.35)
				4	39/64 (60.9)	43/78 (55.1)	1.11 (0.84, 1.46)

Appendix E Table 2. Results of Breastfeeding Support Interventions on Prevalence of Any and Exclusive Breastfeeding, by Author

Author, Year Country	General Population Description	IG	BF Outcome	FU, wks *	IG n/N (%)	CG n/N (%)	RR (95% CI)
			Exclusive BF‡	8	31/61 (50.8)	33/73 (45.2)	1.12 (0.79, 1.60)
Milinco, 2020[63] Italy	General (sociodemographics sparsely reported)	IG1	Exclusive BF†	0	74/90 (82.2)	80/98 (81.6)	1.01 (0.88, 1.15)
				0	80/90 (88.9)	84/98 (85.7)	1.04 (0.93, 1.16)
				1	78/90 (86.7)	76/98 (77.6)	1.12 (0.98, 1.28)
				4	73/90 (81.1)	74/98 (75.5)	1.07 (0.92, 1.25)
				17	64/90 (71.1)	64/98 (65.3)	1.09 (0.90, 1.32)
Miremberg, 2022[64] Israel	General (sociodemographics sparsely reported)	IG1	Any BF	2	96/97 (99)	97/100 (97)	1.02 (0.98, 1.06)
				6	94/97 (96.9)	82/100 (82)	1.18 (1.07, 1.30)
				12	79/97 (81.4)	69/100 (69)	1.18 (1.00, 1.39)
				24	58/97 (59.8)	49/100 (49)	1.22 (0.94, 1.58)
Mottl-Santiago, 2023[65] US	Low-income, predominantly Black and Hispanic	IG1	Any BF	0	185/187 (98.9)	173/180 (96.1)	1.03 (1.00, 1.06)
			Exclusive BF‡	0	78/187 (41.7)	82/180 (45.6)	0.92 (0.73, 1.16)
Muirhead, 2006[66] Great Britain	General (sociodemographics sparsely reported)	IG1	Any BF	0	61/112 (54.5)	60/113 (53.1)	1.03 (0.81, 1.31)
				6	35/112 (31.3)	33/113 (29.2)	1.07 (0.72, 1.59)
				16	26/112 (23.2)	20/113 (17.7)	1.31 (0.78, 2.21)
			Exclusive BF‡	6	27/112 (24.1)	24/113 (21.2)	1.14 (0.70, 1.84)
				8	23/112 (20.5)	16/113 (14.2)	1.45 (0.81, 2.60)
				16	2/112 (1.8)	0/113 (0)	4.04 (0.18, 88.52)
Nilsson, 2017[67] Denmark	General (sociodemographics sparsely reported)	IG1	Exclusive BF†	1	1682/2065 (81.5)	1208/1476 (81.8)	1.00 (0.96, 1.03)
				4	1522/2065 (73.7)	1129/1476 (76.5)	0.96 (0.93, 1.00)
				26	135/2065 (6.5)	73/1476 (4.9)	1.32 (1.00, 1.74)
Noel-Weiss, 2006[68] Canada	General (sociodemographics sparsely reported)	IG1	Any BF	8	40/47 (85.1)	35/45 (77.8)	1.09 (0.90, 1.33)
			Exclusive BF†	8	34/47 (72.3)	29/45 (64.4)	1.12 (0.85, 1.49)
O'Reilly, 2024[69] Ireland	Predominantly White women with BMI ≥25 kg/m^2	IG1	Any BF	0	94/99 (94.9)	89/95 (93.7)	1.01 (0.95, 1.09)
				6	76/99 (76.8)	66/95 (69.5)	1.10 (0.93, 1.31)
				12	68/99 (68.7)	56/95 (62.1)	1.11 (0.90, 1.36)
				24	50/99 (56.8)	44/95 (51.8)	1.09 (0.81, 1.46)
			Exclusive BF‡	0	56/99 (56.6)	49/95 (51.6)	1.10 (0.85, 1.42)
				6	44/95 (46.3)	35/92 (38.0)	1.22 (0.87, 1.71)
				12	44/97 (45.4)	40/95 (42.1)	1.08 (0.78, 1.49)
				24	33/88 (37.5)	26/85 (30.6)	1.23 (0.81, 1.86)
Paul, 2012[70] US	Predominately White women, mixed SES	IG1	Any BF	2	497/538 (92.4)	467/527 (88.6)	1.04 (1.00, 1.08)
				8	367/509 (72.1)	326/491 (66.4)	1.09 (1.00, 1.18)
				26	244/491 (49.7)	221/453 (48.8)	1.02 (0.89, 1.16)
Pollard, 2011[71] US	Predominately White women, mixed SES	IG1	Any BF	3	32/41 (78)	28/43 (65.1)	1.20 (0.91, 1.57)
				6	30/41 (73.2)	26/43 (60.5)	1.21 (0.89, 1.64)
				12	23/41 (56.1)	18/43 (41.9)	1.34 (0.86, 2.09)
				18	17/41 (41.5)	16/43 (37.2)	1.11 (0.65, 1.90)
				24	15/41 (36.6)	14/43 (32.6)	1.12 (0.62, 2.03)
			Exclusive BF§§	24	10/41 (24.4)	3/43 (7)	3.50 (1.03, 11.81)

Appendix E Table 2. Results of Breastfeeding Support Interventions on Prevalence of Any and Exclusive Breastfeeding, by Author

Author, Year Country	General Population Description	IG	BF Outcome	FU, wks *	IG n/N (%)	CG n/N (%)	RR (95% CI)
Puharic, 2020[72] Croatia	General (sociodemographics sparsely reported)	IG1	Any BF	12	115/129 (89.1)	83/123 (67.5)	1.32 (1.15, 1.51)
				24	107/129 (82.9)	50/123 (40.7)	2.04 (1.63, 2.56)
			Exclusive BF§§	12	105/129 (81.4)	58/123 (47.2)	1.73 (1.41, 2.12)
				24	82/129 (63.6)	4/123 (3.3)	19.55 (7.39, 51.70)
Quinlivan, 2003[73] Australia	Adolescents (<18 years), predominately low-income, 24% indigenous Australian	IG1	Any BF	4	40/71 (56.3)	38/65 (58.5)	0.96 (0.72, 1.29)
				8	32/71 (45.1)	27/65 (41.5)	1.09 (0.74, 1.60)
				12	27/71 (38)	24/65 (36.9)	1.03 (0.67, 1.59)
				16	24/71 (33.8)	16/65 (24.6)	1.37 (0.80, 2.35)
				20	21/71 (29.6)	21/65 (32.3)	0.92 (0.55, 1.51)
				26	16/71 (22.5)	16/65 (24.6)	1.00 (0.55, 1.82)
Reeder, 2014[74] US	WIC-eligible, low-income predominately Hispanic or Latina or White women	IG1	Any BF	4	839/1065 (78.8)	312/470 (66.4)	1.19 (1.10, 1.27)
				12	672/1065 (63.1)	237/470 (50.4)	1.22 (1.10, 1.34)
				26	512/1065 (48.1)	177/470 (37.7)	1.18 (1.03, 1.34)
			Exclusive BF‡	4	650/1144 (56.8)	295/560 (52.7)	1.07 (0.97, 1.18)
				12	482/1144 (42.1)	208/560 (37.1)	1.09 (0.95, 1.24)
				26	327/1144 (28.6)	149/560 (26.6)	1.01 (0.85, 1.20)
Saglik, 2021[75] Turkey	Women with at least primary education	IG1	Exclusive BF‡	0	28/33 (84.8)	10/31 (32.3)	2.63 (1.55, 4.47)
				4	29/33 (87.9)	12/31 (38.7)	2.27 (1.43, 3.60)
				8	26/33 (78.8)	11/31 (35.5)	2.22 (1.34, 3.69)
Santamaria-Martin, 2022[76] Spain	Women exclusively breastfeeding for at least 4 weeks	IG1	Any BF	26	169/219 (77.2)	125/215 (58.1)	1.33 (1.16, 1.52)
			Exclusive BF†	4	203/219 (92.7)	172/215 (80)	1.16 (1.07, 1.25)
				8	180/219 (82.2)	137/215 (63.7)	1.29 (1.15, 1.45)
				13	162/219 (74)	121/215 (56.3)	1.31 (1.14, 1.51)
				17	145/219 (66.2)	90/215 (41.9)	1.58 (1.32, 1.90)
				22	98/219 (44.7)	58/215 (27)	1.66 (1.27, 2.16)
				26	49/219 (22.4)	19/215 (8.8)	2.53 (1.54, 4.15)
Sari, 2020[77] Turkey	General (sociodemographics sparsely reported)	IG1	Exclusive BF‡	1	28/35 (80)	10/36 (27.8)	2.88 (1.66, 5.00)
				12	31/35 (88.6)	12/36 (33.3)	2.66 (1.65, 4.28)
Sari Ozturk, 2023[78] Turkey	General (sociodemographics sparsely reported)	IG1	Any BF	1	33/33 (100)	33/33 (100)	1.00 (0.94, 1.06)
				4	28/33 (84.8)	26/33 (78.8)	1.08 (0.86, 1.35)
				8	33/33 (100)	26/33 (78.8)	1.26 (1.05, 1.52)
			Exclusive BF‡	1	27/33 (81.8)	17/33 (51.5)	1.59 (1.10, 2.29)
				4	22/33 (66.7)	14/33 (42.4)	1.57 (0.99, 2.50)
				8	29/33 (87.9)	14/33 (42.4)	2.07 (1.36, 3.14)
Saucedo Baza, 2023[79] US	Racially diverse, mixed SES	IG1	Exclusive BF†	6	11/17 (65)	6/19 (32)	2.05 (0.97, 4.33)
Schwarz, 2024[80] US	Racially diverse, generally higher SES	IG1	Any BF	4	180/200 (90.0)	175/199 (87.9)	1.02 (0.96, 1.10)
				52	110/196 (56.1)	111/191 (58.1)	0.97 (0.81, 1.15)
			Exclusive BF‡	24	51/196 (26.0)	55/191 (28.8)	0.90 (0.65, 1.25)

Appendix E Table 2. Results of Breastfeeding Support Interventions on Prevalence of Any and Exclusive Breastfeeding, by Author

Author, Year Country	General Population Description	IG	BF Outcome	FU, wks *	IG n/N (%)	CG n/N (%)	RR (95% CI)
Sevda, 2023[81] Turkey	General (sociodemographics sparsely reported)	IG1	Exclusive BF†	1	55/64 (85.9)	45/65 (69.2)	1.24 (1.03, 1.50)
				2	57/64 (89.1)	47/64 (72.3)	1.23 (1.04, 1.46)
				4	55/64 (85.9)	43/65 (66.2)	1.30 (1.06, 1.59)
				8	57/64 (89.1)	38/65 (58.5)	1.52 (1.22, 1.90)
				16	53/64 (82.8)	18/65 (27.7)	2.99 (1.99, 4.50)
				26	40/64 (62.5)	7/65 (10.8)	5.80 (2.81, 11.98)
Stockdale, 2008[83] Ireland	General (sociodemographics sparsely reported)	IG1	Exclusive BF***	0	44/69 (63.8)	33/75 (44)	1.45 (1.06, 1.98)
				3	36/69 (52.2)	15/75 (20)	2.61 (1.57, 4.33)
Su, 2007[84] Singapore	Southeast Asian women (48% Malay, 38% Chinese, 11% Indian), predominantly low-income	IG1	Any BF	0	131/134 (97.8)	131/138 (94.9)	1.03 (0.81, 1.31)
				2	126/128 (98.4)	96/136 (70.6)	1.05 (0.82, 1.35)
				6	108/128 (84.4)	96/136 (70.6)	1.19 (1.05, 1.36)
				12	71/122 (58.2)	65/134 (48.5)	1.20 (0.86, 1.68)
				26	48/119 (40.3)	43/126 (34.1)	1.18 (0.78, 1.78)
			Exclusive BF†	0	36/134 (26.9)	25/138 (18.1)	1.48 (0.89, 2.47)
				2	48/128 (37.5)	28/136 (20.6)	1.82 (1.14, 2.90)
				6	40/128 (31.3)	23/136 (16.9)	1.85 (1.11, 3.09)
				12	29/122 (23.8)	17/134 (12.7)	1.87 (1.03, 3.41)
				26	22/119 (18.5)	11/126 (8.7)	2.12 (1.03, 4.37)
		IG2	Any BF	0	132/138 (95.7)	131/138 (94.9)	1.01 (0.79, 1.28)
				2	126/133 (94.7)	127/136 (93.4)	1.02 (0.79, 1.20)
				6	97/133 (72.9)	96/136 (70.6)	1.03 (0.89, 1.20)
				12	73/127 (57.5)	65/134 (48.5)	1.19 (0.85, 1.66)
				26	52/122 (42.6)	43/126 (34.1)	1.25 (0.83, 1.87)
			Exclusive BF†	0	27/138 (19.6)	25/138 (18.1)	1.08 (0.63, 1.86)
				2	36/133 (27.1)	28/136 (20.6)	1.32 (0.80, 2.15)
				6	39/133 (29.3)	23/136 (16.9)	1.73 (1.04, 2.90)
				12	31/127 (24.4)	17/134 (12.7)	1.92 (1.07, 3.48)
				26	23/122 (18.9)	11/126 (8.7)	2.16 (1.05, 4.43)
Uscher-Pines, 2020[86] US	Rural, predominately White women, mixed SES	IG1	Any BF	12	67/94 (71.3)	63/93 (67.7)	1.05 (0.87, 1.27)
			Exclusive BF‡	12	48/94 (51.1)	43/93 (46.2)	1.10 (0.82, 1.48)
Wallace, 2006[87] Great Britain	General (sociodemographics sparsely reported)	IG1	Any BF	6	111/172 (64.5)	114/167 (68.3)	0.95 (0.81, 1.10)
				17	64/173 (37)	66/167 (39.5)	1.18 (0.82, 1.71)
			Exclusive BF§	6	42/172 (24.4)	37/163 (22.7)	1.08 (0.73, 1.58)
				17	7/174 (4)	7/168 (4.2)	0.97 (0.35, 2.69)
Wambach, 2011[88] US	Adolescents (15-18 years), predominately Black and from low-income families	IG1	Any BF	0	77/97 (79.4)	64/102 (62.7)	1.27 (1.06, 1.52)
				3	50/59 (84.7)	46/56 (82.1)	1.03 (0.88, 1.21)
				6	40/45 (88.9)	32/42 (76.2)	1.17 (0.96, 1.42)
				12	28/35 (80)	16/26 (61.5)	1.30 (0.92, 1.84)
				26	14/19 (73.7)	10/12 (83.3)	0.88 (0.61, 1.28)
			Exclusive BF‡	0	50/97 (51.5)	38/102 (37.3)	1.38 (1.01, 1.90)
Wen, 2011[89]		IG1	Any BF	0	312/337 (92.6)	304/330 (92.1)	1.00 (0.96, 1.05)

Appendix E Table 2. Results of Breastfeeding Support Interventions on Prevalence of Any and Exclusive Breastfeeding, by Author

Author, Year Country	General Population Description	IG	BF Outcome	FU, wks *	IG n/N (%)	CG n/N (%)	RR (95% CI)
Australia	General (sociodemographics sparsely reported)			26	117/278 (42.1)	91/283 (32.2)	1.31 (1.05, 1.63)
				52	56/268 (20.9)	39/259 (15.1)	1.39 (0.96, 2.01)
			Exclusive BF†	26	12/278 (4.3)	6/283 (2.1)	2.04 (0.77, 5.35)
Wen, 2020[90] Australia	General (sociodemographics sparsely reported)	IG1	Any BF	6	271/386 (70.2)	260/385 (67.5)	1.04 (0.95, 1.14)
				12	190/386 (49.2)	169/385 (43.9)	1.12 (0.96, 1.31)
			Exclusive BF‡	6	26/386 (6.7)	15/385 (3.9)	1.73 (0.93, 3.21)
		IG2	Any BF	6	271/384 (70.6)	260/385 (67.5)	1.05 (0.95, 1.15)
				12	188/384 (49)	169/385 (43.9)	1.12 (0.96, 1.30)
			Exclusive BF‡	6	23/384 (6)	15/385 (3.9)	1.54 (0.81, 2.90)
Wong, 2014[91] Hong Kong	Cantonese-speaking women, predominately higher education and income	IG1	Any BF	0	220/233 (94.4)	218/236 (92.4)	1.02 (0.97, 1.07)
				6	160/233 (68.7)	169/236 (71.6)	0.96 (0.85, 1.08)
				12	116/233 (49.8)	131/236 (55.5)	0.90 (0.75, 1.07)
				26	87/233 (37.3)	96/236 (40.7)	0.92 (0.73, 1.15)
			Exclusive BF†	0	149/233 (63.9)	143/236 (60.6)	1.06 (0.92, 1.22)
				6	88/233 (37.8)	86/236 (36.4)	1.04 (0.82, 1.31)
				12	62/233 (26.6)	61/236 (25.8)	1.03 (0.76, 1.39)
				26	34/233 (14.6)	30/236 (12.7)	1.15 (0.73, 1.81)
Yesil, 2023[92] Turkey	General (sociodemographics sparsely reported)	IG1	Exclusive BF***	0	29/40 (72.5)	12/40 (30)	2.42 (1.45, 4.03)
				4	34/40 (85)	24/40 (60)	1.42 (1.07, 1.88)
				12	32/40 (80)	19/40 (47.5)	1.68 (1.17, 2.42)

* 0 = breastfeeding initiation between the time of birth and up to 7 days postpartum
† Defined by WHO
‡ Exclusive, NR
§ The proportion of women breastfeeding at weeks 1-5 was also presented in the study; however, the denominator was unclear at each time point preventing calculations of between group effects.
** Immediately after birth
†† 1 hour after birth
‡‡ Author-reported OR and CI
§§ Exclusive or predominant, WHO
*** Defined by Labbok

Abbreviations: BF = breastfeeding; CG = control group; CI = confidence interval; d = days; FU = followup; IG = intervention group; N = number; NA = not applicable; NR = not reported; OR = odds ratio; RR = risk ratio; SES = socioeconomic status; WHO = World Health Organization; WIC = Women, Infants, and Children program; wks = weeks.

Appendix E Table 3. Results of Breastfeeding Support Interventions on Any and Exclusive Breastfeeding Duration and Breastfeeding Intensity, by Author

Author, Year Country	Outcome (Units)	Group	WG Measure	FU, weeks	IG N	IG	CG N	CG	Study-Reported HR (95 %CI)	Study-Reported p-value
Bernal, 2019[11] US	Any BF duration (Weeks)	IG1	Mean (SD)	12	18	12 (0)	18	9.78 (3.35)	-2.22 (-3.89, -0.56)*	0.01
	BF intensity (Scale score)†	IG1	Mean (SD)	2	18	5.7 (NR)	18	5.4 (NR)	NR	NR
				4	18	5.2 (NR)	18	4.7 (NR)	NR	NR
				8	18	5.1 (NR)	18	3.7 (NR)	NR	NR
				12	18	4.2 (NR)	18	2.6 (NR)	NR	NR
Bunik, 2022[16] US	Exclusive BF duration§§ (NR)	IG1	NR	26	310	NR (NR)	157	NR (NR)	NR	0.8
Carlsen, 2013[18] Denmark	Any BF duration (Days)	IG1	Median (IQR)	26	105	184 (92 to 185)	102	102 (16 to 185)	NR	0.02
	Exclusive BF duration‡ (Days)	IG1	Median (IQR)	26	105	120 (14 to 142)	102	41 (3 to 133)	NR	0.032
Cauble, 2021[19] US	Exclusive BF duration‡ (Weeks)	IG1	Mean (SD)	26	19	10 (1.6)	22	9 (1.5)	NR	NR
Di Meglio, 2010[24] US	Any BF duration (Days)	IG1	Median (IQR)	37	38	75 (NR)	40	35 (NR)	0.71 (0.39, 1.3)	0.26
	Exclusive BF duration§ (Days)	IG1	Median (IQR)	37	38	35 (NR)	40	10 (NR)	0.26 (0.1, 0.7)	0.004
Di Napoli, 2004[25] Italy	Any BF duration (NR)	IG1	NR	16	266	NR	276	NR	1.01 (0.85, 1.26)**	NR
	Any BF duration (NR)	IG1	NR	26	266	NR	276	NR	1.04 (0.82, 1.27)**	NR
Forster, 2004[30] Australia	Any BF duration (Weeks)	IG1	Mean (SD)	26	293	17 (10.2)	299	18 (9.7)	NR	NR
	Any BF duration (Weeks)	IG2	Mean (SD)	26	297	19 (9.3)	299	18 (9.7)	NR	NR
Forster, 2019[31] Australia	Any BF duration (NR)	IG1	NR	26	574	NR	578	NR	0.77 (0.61, 0.97)**	NR
Franco-Antonio, 2020[32] Spain	Any BF duration (Weeks)	IG1	Mean (SD)	12	42	11.06 (2.94)	40	9.02 (4.44)	NR	0.013
	Any BF duration (Weeks)	IG1	Median (IQR)	24	41	26 (18 to 26)	40	16 (4 to 26)	0.39 (0.2, 0.78)**	0.008
	Exclusive BF duration†† (Weeks)	IG1	Median (IQR)	24	41	22 (13.25 to 25)	40	11 (1 to 19)	0.37 (0.22, 0.6)**	<0.001
Fu, 2014[33] Hong Kong	Any BF duration (NR)	IG1	NR	26	261	NR	260	NR	0.93 (0.74, 1.15)**	0.49
	Any BF duration (NR)	IG2	NR	26	190	NR	260	NR	0.79 (0.64, 0.98)**	0.03
	Exclusive BF duration‡ (NR)	IG1	NR	26	261	NR	260	NR	0.92 (0.75, 1.14)**	0.46
	Exclusive BF duration‡ (NR)	IG2	NR	26	190	NR	260	NR	0.83 (0.69, 1.01)**	0.06

Appendix E Table 3. Results of Breastfeeding Support Interventions on Any and Exclusive Breastfeeding Duration and Breastfeeding Intensity, by Author

Author, Year Country	Outcome (Units)	Group	WG Measure	FU, weeks	IG N	IG	CG N	CG	Study-Reported HR (95 %CI)	Study-Reported p-value
Gijsbers, 2006[35] Netherlands	Exclusive BF duration‡ (NR)	IG1	NR	26	NR	NR	NR	NR	0.58 (0.33, 0.99)**	0.05
Graffy, 2004[36] Great Britain	Any BF duration (Days)	IG1	Median (IQR)	16	336	110 (NR)	336	96 (NR)	NR	0.445
Gross, 2016[37] US	BF intensity (Percentage)‡‡	IG1	Mean (SD)	12	220	67.7 (39.3)	234	59.7 (39.7)	-8 (-15.3, -0.75)*	0.03
Hoffmann, 2019[40] Germany	Any BF duration (Months)	IG1	Mean (SD)	52	828	6.6 (3.3)	804	6.4 (3.2)	0.23 (-0.07, 0.54) ***	0.135
	Exclusive BF duration§ (Months)	IG1	Mean (SD)	52	673	4.8 (1.8)	661	4.7 (1.7)	0.15 (-0.02, 0.32) ***	0.075
Howell, 2014[42] US	Any BF duration (Weeks)	IG1	Median (IQR)	26	270	12 (NR)	270	6.5 (NR)	0.79 (0.65, 0.97)	0.02
Kools, 2005[47] Netherlands	Any BF duration (NR)	IG1	NR	12	368	NR	330	NR	0.99 (0.93, 1.06) **	NR
Kronborg, 2012[48] Denmark	Any BF duration (NR)	IG1	NR	52	543	NR	530	NR	0.96 (0.84, 1.09)	NR
	Exclusive BF duration§§ (NR)	IG1	NR	52	533	NR	515	NR	0.99 (0.87, 1.12)	NR
Labarere, 2005[50] France	Any BF duration (Weeks)	IG1	Median (IQR)	26	112	18 (NR)	114	13 (NR)	1.4 (1.03, 1.92)***	0.03
Muirhead, 2006[66] Great Britain	Any BF duration (Days)	IG1	Median (95% CI)	16	61	72 (6 to 138)	60	56 (22 to 90)	NR	0.4
Noel-Weiss, 2006[68] Canada	Any BF duration (Days)	IG1	Mean (SD)	8	47	50.4 (14.2)	45	49.9 (14.5)	NR	0.875
Paul, 2012[70] US	Any BF duration (NR)	IG1	NR	26	NR	NR	NR	NR	NR	0.29
Pollard, 2011[71] US	Any BF duration (Weeks)	IG1	Median (IQR)	24	41	13.75 (NR)	43	12.12 (NR)	NR	0.2387
Quinlivan, 2003[73] Australia	Any BF duration (Weeks)	IG1	Median (95% CI)	26	71	12 (2 to 26)	65	8 (2 to 26)	NR	0.73
Saucedo Baza, 2023[79] US	Any BF duration (Weeks)	IG1	Median (IQR)	6	17	5.0 (4.0 to 6.0)	19	5.0 (5.0 to 5.5)	NR	0.346

Appendix E Table 3. Results of Breastfeeding Support Interventions on Any and Exclusive Breastfeeding Duration and Breastfeeding Intensity, by Author

Author, Year Country	Outcome (Units)	Group	WG Measure	FU, weeks	IG N	IG	CG N	CG	Study-Reported HR (95 %CI)	Study-Reported p-value
Sevda, 2023[81] Turkey	Exclusive breastfeeding duration (Months)	IG1	Mean (SD)	26	64	4.75 (1.72)	65	2.21 (1.98)	NR	0.001
Taylor, 2017[85] New Zealand	Exclusive BF duration‡ (Weeks)	IG1	Median	26	205	13	209	14.5	NR	NR
Wambach, 2011[88] US	Any BF duration (Days)	IG1	Mean (SE)	26	77	127 (10.6)	64	74.2 (7.6)	NR	NR
Wen, 2011[89] Australia	Any BF duration (Weeks)	IG1	Median (95% CI)	52	268	17 (13.9 to 20.4)	259	13 (10.1 to 15.6)	0.82 (0.68, 0.99)	0.03
Wong, 2014[91] Hong Kong	Any BF duration (NR)	IG1	NR	26	233	NR	236	NR	1.11 (0.88, 1.4)	NR
	Exclusive BF duration‡ (NR)	IG1	NR	26	233	NR	236	NR	0.96 (0.79, 1.17)	NR

Abbreviations: BF = breastfeeding; CG = control group; CI = confidence interval; FU = followup; HR = hazard ratio; IG = intervention group; IQR = interquartile range; N = number; NR = not reported; SD = standard deviation; SE = standard error; WG = within group; WHO = World Health Organization

* Mean difference in duration
† Based on the Index of Breastfeeding Algorithm where 6 = exclusive (no other liquid or solid is given), 5 = almost exclusive (vitamins, water, juice or ritualistic feeds given to infant in addition to breast milk), 4 = partial high (>80% of feeds are breast milk), 3 = partial medium (20-80% of feeds are breast milk), 2 = partial low (<20% of feeds are breast milk), 1 = token (minimal occasional irregular breastfeeds), and 0 = not breastfeeding at all
‡ As defined by WHO
§ Exclusive, NR
** Adjusted
†† Exclusive or predominant, WHO
‡‡ Continuous measure of breastfeeding intensity, defined as the percentage of all feedings in the past 24 hours that were breast milk
§§ As defined by Labbok
*** Risk of still breastfeeding.

Appendix E Table 4. Number Needed to Treat for Any and Exclusive Breastfeeding for Varying Levels of Usual Breastfeeding Rates

Breastfeeding Outcome	Followup	Breastfeeding in CG, %	Pooled RR	Absolute Change in Risk	Risk After Change	NNT Benefit (95% CI)
Any	<3 months	65	1.06	0.04	0.69	26 (15, 38)
		70	1.06	0.04	0.74	24 (14, 36)
		85	1.06	0.05	0.90	20 (12, 29)
	3 to <6 months	40	1.09	0.04	0.44	28 (17, 62)
		45	1.089	0.04	0.49	25 (15, 56)
		60	1.09	0.05	0.65	19 (11, 42)
	6 months	30	1.13	0.04	0.34	26 (15, 111)
		40	1.13	0.05	0.45	19 (11, 83)
		50	1.13	0.06	0.57	15 (9, 67)
Exclusive	<3 months	15	1.21	0.03	0.18	32 (26, 74)
		35	1.21	0.07	0.42	14 (11, 32)
		55	1.21	0.12	0.67	0 (7, 20)
	3 to <6 months	10	1.31	0.03	0.13	32 (23, 71)
		25	1.31	0.08	0.33	13 (9, 29)
		40	1.31	0.12	0.52	8 (6, 18)
	6 months	5	1.48	0.02	0.07	43 (23, 118)
		10	1.48	0.05	0.15	22 (11, 59)
		20	1.48	0.09	0.29	11 (6, 29)

Abbreviations: CG = control group; CI = confidence interval; RR = risk ratio

Appendix F. Implementation Table: Summary and Examples of Included Interventions

Primary Population	Pregnant and lactating adolescents and adults			
Primary Outcomes Measured	Prevalence of any and exclusive breastfeeding initiation and up to infant age of 6 months			
Study Findings	There was a statistically significant association between participating in a breastfeeding support intervention versus usual care and the prevalence of any and exclusive breastfeeding at <3 months, 3<6 months, and 6 months. There was an impact on exclusive, but not any, breastfeeding initiation. Few studies reported the prevalence of breastfeeding at 1 year.			
Behavior change goals and techniques	Most studies were designed to help participants improve self-efficacy to breastfeed and to address common challenges and problems associated with breastfeeding. Content typically focused on the importance of breastfeeding, how to breastfeed, common concerns, and how to get help. Many interventions included didactic education in addition to individualized encouragement and practical, and material support. Skills were taught through observed, direct practice of breastfeeding. Many interventions offered a "warm line" telephone support for participants to access as needed. Several interventions included postpartum home visits. A small number of interventions focused specifically on infant positioning while breastfeeding, providing ergonomic carriers to facilitate physical contact, and self-monitoring of breastfeeding sessions. Few emphasized the involvement of coparents or support persons.			
Duration of interventions	Varied widely from 1 day (1 session) to >1 year of support. Most interventions consisted of six or fewer sessions (median=4).			
Settings of Studies	Prenatal and pediatric clinics, hospitals, and homes; 37% took place in the United States.			
To Whom is Intervention Targeted?	Pregnant and lactating persons ranging in age from 16 to 33 years who were mostly intending to breastfeed.			
INTERVENTION TYPE	**Professional-Led Support**	**Peer-Led Support**	**Formal or Structured Education**	**Remotely Delivered Support**
Mode and intensity of delivery	Most professional support was provided at and around the time of delivery and postpartum. Intensity of support was highly variable and ranged from one 30-minute in-hospital session to a very intense intervention where women received 20 weeks of support from both a physician or midwife and an IBCLC during seven in-person prenatal sessions, up to 12 postpartum phone calls, an optional postpartum home visit. Most interventions were 4 sessions or less.	Highly variable in terms of duration and number of sessions. Most had contact in prenatal and postpartum periods and consisted of several home visits and telephone support. In all cases, peer counselors were recruited specifically for the study: they were chosen to represent the sample population (e.g., adolescents, WIC recipients, Hispanic women) and had previous breastfeeding experience.	In-person individual and group prenatal education during 1 session ranging from 15 minutes to 3 hours. Few included educational videos. 60 daily text messages offering professional advice to address specific issues of breastfeeding depending on stage of pregnancy/postpartum.	Included app-based breastfeeding education and support, peer and professional telephone support, group-based telephone support, text message breastfeeding information and support, and web-based education. Duration of these interventions was typically longer and most included support during the postpartum period.

Appendix F. Implementation Table: Summary and Examples of Included Interventions

Example interventions*†	Addicks, 2019[1] Bonuck, 2006[2] Bonuck, 2014a (BINGO)[3**] Bonuck, 2014b (PAIRINGS)[4**] Hopkinson, 2009[5**] Little, 2021[6]	Anderson, 2005[7] Chapman, 2013[8] Linares, 2019[9] (*Las Dos Cosas*) Lutenbacher, 2022[10**] Wambach, 2011[11]	Bunik, 2022[12] Kellams, 2015[13**]	Bender, 2022[14**] Bernal, 2019[15] Bunik, 2010[16] Cauble, 2021[17**] Di Meglio, 2010[18] Lewkowitz, 2020[19**] Lucas, 2019[20] Pollard, 2011[21**] Reeder, 2014[22] Uscher-Pines, 2020[23**] (Tele-MILC)
Materials Provided for Practice (Materials for specific cited programs) §	Intervention descriptions provided in individual trials; no materials provided for practice. Bonuck et al. summarize intervention development and translation in a publication titled "Clinical Translational Research Hits the Road"[24]	Intervention descriptions provided in individual trials; no materials provided for practice. Training for peer counselors used the Peer Counseling Training for WIC Managers from the U.S. Department of Agriculture;[25] Breastfeeding: Heritage and Pride: A Manual for the Training of Breastfeeding Peer Counselors in the Puerto Rican Community;[26, 27] the Breastfeeding Peer Counselor Program Curriculum from the La Leche League;[28] the World Health Organization/United Nations Children's Fund Breastfeeding Counseling Training Course;[29] the Maternal Infant Health Outreach Worker (MIHOW) "strengths perspectives" program materials[30]	25-minute educational breastfeeding video titled "Better Breastfeeding" (Injoy Productions, 2008)[31] 100 text messages initially developed by the study team and reduced to 60 messages based on pilot testing among pregnant and postpartum persons.[32]	Intervention descriptions provided in individual trials; no materials provided for practice. Two trials tested publicly available apps: the BreastFeeding Friend app,[33] and Pacify Health's telelactation app[34]
Evidence of effect modification	No pattern of effects was seen based on population characteristics (maternal age, intention to breastfeed, primiparity status, country) or intervention characteristics (timing of intervention, type of intervention, duration, number of sessions, and in-person vs. remote delivery).			
Comparison group	Usual prenatal, peripartum, and postpartum care. Description of lactation support was rarely described.			
Interventionist and Training Required	Most interventions were provided by highly trained professionals such as nurses, midwives, physicians, lactation care providers, and/or trained lay persons or peer counselors. Few studies noted certification of lactation care providers through the IBCLC or held some other lactation support certification.			

Abbreviations: IBCLC = International Board-Certified Lactation Consultants.

Appendix F. Implementation Table: Summary and Examples of Included Interventions

* Example interventions only include those that took place in the United States.
† Inclusion of studies and materials are for example purposes only and does not indicate endorsement by the USPSTF.
** Good quality
§ Materials provided for practice include materials or protocols that were noted within the source study and that we were able to locate.

Appendix F. References

1. Addicks SH, McNeil DW. Randomized Controlled Trial of Motivational Interviewing to Support Breastfeeding Among Appalachian Women. J Obstet Gynecol Neonatal Nurs. 2019;48(4):418-32. PMID: 31181186. https://dx.doi.org/10.1016/j.jogn.2019.05.003
2. Bonuck KA, Freeman K, Trombley M. Randomized controlled trial of a prenatal and postnatal lactation consultant intervention on infant health care use. Arch Pediatr Adolesc Med. 2006;160(9):953-60. PMID: 16953019.
3. Bonuck K, Stuebe A, Barnett J, et al. Effect of primary care intervention on breastfeeding duration and intensity (BINGO). Am J Public Health. 2014_a;104 Suppl 1:S119-27. PMID: 24354834. http://dx.doi.org/10.2105/AJPH.2013.301360
4. Bonuck K, Stuebe A, Barnett J, et al. Effect of primary care intervention on breastfeeding duration and intensity (PAIRINGS). Am J Public Health. 2014_b;104 Suppl 1:S119-27. PMID: 24354834. http://dx.doi.org/10.2105/AJPH.2013.301360
5. Hopkinson J, Konefal Gallagher M. Assignment to a hospital-based breastfeeding clinic and exclusive breastfeeding among immigrant Hispanic mothers: a randomized, controlled trial. J Hum Lact. 2009;25(3):287-96. PMID: 19436060. http://dx.doi.org/10.1177/0890334409335482
6. Little EE, Cioffi CC, Bain L, et al. An Infant Carrier Intervention and Breastfeeding Duration: A Randomized Controlled Trial. Pediatrics. 2021;148(1):07. PMID: 34193622. https://dx.doi.org/10.1542/peds.2020-049717
7. Anderson AK, Damio G, Young S, et al. A randomized trial assessing the efficacy of peer counseling on exclusive breastfeeding in a predominantly Latina low-income community. Arch Pediatr Adolesc Med. 2005;159(9):836-41. PMID: 16143742.
8. Chapman DJ, Morel K, Bermudez-Millan A, et al. Breastfeeding education and support trial for overweight and obese women: a randomized trial. Pediatrics. 2013;131(1):e162-70. PMID: 23209111. http://dx.doi.org/10.1542/peds.2012-0688
9. Linares AM, Cartagena D, Rayens MK. Las Dos Cosas Versus Exclusive Breastfeeding: A Culturally and Linguistically Exploratory Intervention Study in Hispanic Mothers Living in Kentucky. Journal of Pediatric Health Care. 2019;33(6):e46-e56. PMID: 31655788. https://dx.doi.org/10.1016/j.pedhc.2019.07.009
10. Lutenbacher M, Elkins T, Dietrich MS. Using Community Health Workers to Improve Health Outcomes in a Sample of Hispanic Women and Their Infants: Findings from a Randomized Controlled Trial. Hisp Health Care Int. 2022:15404153221107680. PMID: 35702003. https://dx.doi.org/10.1177/15404153221107680
11. Wambach KA, Aaronson L, Breedlove G, et al. A randomized controlled trial of breastfeeding support and education for adolescent mothers. West J Nurs Res. 2011;33(4):486-505. PMID: 20876551. http://dx.doi.org/10.1177/0193945910380408
12. Bunik M, Jimenez-Zambrano A, Solano M, et al. Mother's Milk Messaging TM: trial evaluation of app and texting for breastfeeding support. BMC Pregnancy Childbirth. 2022;22(1):660. PMID: 36002798. https://dx.doi.org/10.1186/s12884-022-04976-6
13. Kellams AL, Gurka KK, Hornsby PP, et al. The Impact of a Prenatal Education Video on Rates of Breastfeeding Initiation and Exclusivity during the Newborn Hospital Stay in a Low-income Population. J Hum Lact. 2015. PMID: 26289058. http://dx.doi.org/10.1177/0890334415599402
14. Bender W, Levine L, Durnwald C. Text Message-Based Breastfeeding Support Compared With Usual Care: A Randomized Controlled Trial. Obstet Gynecol. 2022;140(5):853-60. PMID: 36201773. https://doi.org/10.1097/aog.0000000000004961
15. Bernal D. The effect of a peer counseling support program on breastfeeding initiation, duration and exclusivity among low-income Hispanic women. Dissertation Abstracts International: Section B: The Sciences and Engineering. 2019;80(2-B(E)).

16. Bunik M, Shobe P, O'Connor ME, et al. Are 2 weeks of daily breastfeeding support insufficient to overcome the influences of formula? Acad Pediatr. 2010;10(1):21-8. PMID: 20129478. http://dx.doi.org/10.1016/j.acap.2009.09.014
17. Cauble JS, Herman A, Wick J, et al. A prenatal group based phone counseling intervention to improve breastfeeding rates and complementary feeding: a randomized, controlled pilot and feasibility trial. BMC Pregnancy Childbirth. 2021;21(1):521. PMID: 34294051. https://dx.doi.org/10.1186/s12884-021-03976-2
18. Di Meglio G, McDermott MP, Klein JD. A randomized controlled trial of telephone peer support's influence on breastfeeding duration in adolescent mothers. Breastfeed Med. 2010;5(1):41-7. PMID: 20043705. http://dx.doi.org/10.1089/bfm.2009.0016
19. Lewkowitz AK, Lopez JD, Carter EB, et al. Impact of a novel smartphone application on low-income, first-time mothers' breastfeeding rates: a randomized controlled trial. Am J Obstet Gynecol MFM. 2020;2(3):100143. PMID: 33345878. https://dx.doi.org/10.1016/j.ajogmf.2020.100143
20. Lucas R, Zhang Y, Walsh SJ, et al. Efficacy of a Breastfeeding Pain Self-Management Intervention: A Pilot Randomized Controlled Trial. Nursing Research. 2019;68(2):E1-E10. PMID: 30829925. https://dx.doi.org/10.1097/NNR.0000000000000336
21. Pollard DL. Impact of a feeding log on breastfeeding duration and exclusivity. Matern Child Health J. 2011;15(3):395-400. PMID: 20177755. http://dx.doi.org/10.1007/s10995-010-0583-x
22. Reeder JA, Joyce T, Sibley K, et al. Telephone peer counseling of breastfeeding among WIC participants: a randomized controlled trial. Pediatrics. 2014;134(3):e700-9. PMID: 25092936. http://dx.doi.org/10.1542/peds.2013-4146
23. Uscher-Pines L, Ghosh-Dastidar B, Bogen DL, et al. Feasibility and Effectiveness of Telelactation Among Rural Breastfeeding Women. Academic pediatrics. 2020;20(5):652-9. PMID: 31629118. https://dx.doi.org/10.1016/j.acap.2019.10.008
24. Bonuck KA, Lischewski J, Brittner M. Clinical translational research hits the road: RCT of breastfeeding promotion interventions in routine prenatal care. Contemp Clin Trials. 2009;30(5):419-26. PMID: 19523539. 10.1016/j.cct.2009.05.005
25. US Department of Agriculture. Peer Counseling Training for WIC Managers. https://wicworks.fns.usda.gov/resources/peer-counseling-training-wic-managers. Accessed: May 2023.
26. Hispanic Health Council. Breastfeeding: Heritage and Pride: A Manual for the Training of Breastfeeding Peer Counselors in the Puerto Rican Community. Hartford, Conn.: Hispanic Health Council; 2005. PMID.
27. Damio G, Hill N, Lebron E. *Breastfeeding Heritage and Pride*. Hartford, Conn.: Hispanic Health Council; 1995. PMID.
28. La Leche League International. Breastfeeding Peer Counselor Program, Curriculum, Revised Edition. Schaumberg, IL: La Leche League International; 2005.
29. World Health Organization/United Nations Children's Fund. *Breastfeeding Counseling: A Training Course*. Geneva, Switzerland: WHO/UNICEF; 1993.
30. Graeme S. What is the Strengths Perspective? https://sustainingcommunity.wordpress.com/2012/05/30/what-is-the-strengths-perspective/. Accessed: 2023.
31. InJoy Videos. Better Breastfeeding: Your Guide to a Healthy Start. https://emro.libraries.psu.edu/record/index.php?id=3208. Accessed: May 2023.
32. Maya Bunik, Jenn Leiferman JRR, Anna Furniss, et al., editors. Mother's Milk Messaging (MMM): A Pilot Study of an App to Support Breastfeeding in First Time Mothers. American Academy of Pediatrics National Conference and Exhibition; 2015. PMID.
33. Leite A. BreastFeeding Friend. https://apps.apple.com/us/app/breastfeeding-friend/id691337566. Accessed: May 2023.
34. Pacify Health. Telelactation App. https://www.pacify.com/how-it-works/#:~:text=Pacify%20is%20a%20mobile%20app,%2D%20no%20appointments%2C%20no%20waiting. Accessed: May 2023.

Appendix G. Ongoing Studies

Study Name Trial Identifier	Location	Estimated N	Description	Relevant Outcomes	2023 Status
Furthering Equity Through Infant Feeding EDucation and Support (FEEDS) NCT05441709	Chicago, IL	720	The purpose of this study is to identify whether adding clinically integrated breastfeeding peer counseling (ci-BPC) to standard lactation care is associated with a reduction in disparities in breastfeeding intensity and duration for Black and Hispanic/Latine families.	Any breastfeeding duration, Exclusive breastfeeding	Recruiting, estimated completion 2026
A Technological Approach to Improved Breastfeeding Rates and Self-Efficacy: A Randomized Controlled Clinical Trial NCT05673317	Augusta, GA	40	To provide patients with easily accessible information in the form of a smartphone application regarding medically appropriate information about breastfeeding and to assess the impact this information has on women's breastfeeding rates and perception of self-efficacy (primary outcome).	Any breastfeeding	Completed, No results published
Navigating New Motherhood 2: Patient Navigation to Improve Outcomes Among Low-income Women in the Postpartum Period NCT03922334	Chicago, IL	400	The primary aim of this study is to determine whether implementation of a postpartum patient navigation program improves health outcomes among low-income women. Patient navigation is a barrier focused, long-term patient-centered intervention that offers support for a defined set of health services. The intervention under investigation is a comprehensive postpartum patient navigator program. Women who are randomized to receive patient navigation will be compared to women who are randomized to receive usual care. Navigators will support women through one year postpartum. The NNM2 program will be grounded in understanding and addressing social determinants of health in order to promote self-efficacy, enhance access, and sustain long-term engagement. Participants will undergo surveys, interviews, and medical record review at 4-12 weeks and 11-13 months postpartum. The investigators will additionally conduct focus groups and surveys with clinical providers.	Any breastfeeding, Breastfeeding duration, Maternal depression, Quality of life	Estimated completion 2024
First Droplets: Feasibility Randomized Controlled Trial of Prenatal Breastfeeding Education NCT04549129	Boston, MA	60	In this pilot randomized control trial, the investigators will evaluate the feasibility and acceptability of using a video and website in a prenatal visit to provide breastfeeding education, focusing on how to hand express (HE) breast milk. Participants will be randomized to the video/website intervention group or to the control standard of care group. After delivery, participants will be asked to provide information on how long they breastfed and if they used the information in the video and website. Differences in the outcome measures will be analyzed between the two groups.	Exclusive breastfeeding, Any breastfeeding	Estimated completion 2023

Appendix G. Ongoing Studies

Study Name Trial Identifier	Location	Estimated N	Description	Relevant Outcomes	2023 Status
Breastfeeding - a Good Start Together NCT05311631	Copenhagen, Denmark	5010	The intervention consists of theory based breastfeeding support, supported by printed materials and a web-page providing support and knowledge for families when health visitors are off work, and an intensified intervention aimed at the high-risk group, comprising close follow-up by telephone and an extra home visit. In total, the high-risk group will receive seven telephone calls during week two post-partum and 15 weeks post-partum, with the highest intensity in the first month (contact once a week), gradually decreasing as the child grows older (contact every second week during the second month, and every third week during the third and fourth month).	Breastfeeding (full/not full), Breastfeeding problems	Estimated completion 2024
PRenatal Video-Based Education and PostPARtum Effects (PREPARE) NCT04258709	Pittsburgh, PA	280	The purpose of this randomized controlled trial is to examine the impact of a remotely-delivered antenatal milk expression intervention versus an attention control condition on breastfeeding outcomes among a sample of 280 nulliparous, non-diabetic women with pre-pregnancy body mass indices ≥ 25.	Any breastfeeding, Exclusive breastfeeding	Estimated completion 2025
MILC: A Comprehensive Mobile Application That Addresses the Breastfeeding Challenges of Low-income Hispanic Mothers (MILC) NCT06520696	Multisite, USA	178	The innovative platform MILC is designed to provide an integrated and comprehensive professional and social support network with personalized breastfeeding education to target exclusive breastfeeding and any BF behaviors in low-income Hispanic women.	Any breastfeeding, Exclusive breastfeeding, Maternal depression	Estimated completion 2025
Father-involvement Telephone Support Intervention on Breastfeeding NCT05109988	Hong Kong	738	The objectives of this study are to evaluate the effect of a father-involvement breastfeeding telephone support intervention on prevalence and duration of exclusive breastfeeding, postnatal depression and parent-infant bonding. The intervention consists of four weekly 20-30 minutes telephone-administered counselling sessions on breastfeeding, delivered individually in the first month postpartum for mothers and fathers. We expect that women who receive the intervention will have a higher rate and longer duration of exclusive breastfeeding, fewer depressive symptoms and better parent-child relationship.	Exclusive breastfeeding, Maternal depression	Estimated completion 2025
Client-Centered Breastfeeding Support: Effects on Primipara Mothers in a Randomized Trial Breastfeeding Self-Efficacy, Attitudes, and Problems in Primiparous Mothers: A Randomized Controlled Trial NCT06446362	Türkiye	45	The primary aim of this study is to investigate the impact of a breastfeeding support program, based on a client health behavior interaction model, on the breastfeeding self-efficacy, attitudes, and problems of first-time mothers.	Exclusive breastfeeding, Breastfeeding problems	Estimated completion 2026

Appendix References

1. Higgins JPT, Savović J, Page MJ, et al. Chapter 8: Assessing risk of bias in a randomized trial. In: Higgins JPT, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, Welch VA (editors). Cochrane Handbook for Systematic Reviews of Interventions version 6.3 (updated February 2022). 2022. PMID: None.
2. United States Preventive Services Task Force. U.S. Preventive Services Task Force Procedure Manual. Rockville, MD: U.S. Preventive Services Task Force; 2015. PMID: None.
3. Abbass-Dick J, Stern SB, Nelson LE, et al. Coparenting breastfeeding support and exclusive breastfeeding: a randomized controlled trial. Pediatrics. 2015;135(1):102-10.PMID: 254525653. http://dx.doi.org/10.1542/peds.2014-1416
4. Abbass-Dick J, Sun W, Newport A, et al. The comparison of access to an eHealth resource to current practice on mother and co-parent teamwork and breastfeeding rates: A randomized controlled trial. Midwifery. 2020;90:102812.PMID: 32739716. https://dx.doi.org/10.1016/j.midw.2020.102812
5. Acar Z and Sahin N. Development of a mobile application-based breastfeeding program and evaluation of its effectiveness. J Pediatr Nurs. 2024;74:51-60.PMID: 37995477. https://dx.doi.org/10.1016/j.pedn.2023.11.011
6. Addicks SH and McNeil DW. Randomized Controlled Trial of Motivational Interviewing to Support Breastfeeding Among Appalachian Women. J Obstet Gynecol Neonatal Nurs. 2019;48(4):418-32.PMID: 31181186. https://dx.doi.org/10.1016/j.jogn.2019.05.003
7. Anderson AK, Damio G, Young S, et al. A randomized trial assessing the efficacy of peer counseling on exclusive breastfeeding in a predominantly Latina low-income community. Arch Pediatr Adolesc Med. 2005;159(9):836-41.PMID: 16143742. https://doi.org/10.1001/archpedi.159.9.836
8. Balaguer Martinez J, Valcarce PI, Esquivel OJ, et al. Telephone support for breastfeeding by primary care: a randomised multicentre trial. Anales de pediatria (barcelona, spain : 2003). 2018;89(6):344-51.PMID: 29576447. https://doi.org/10.1016/j.anpedi.2018.02.007
9. Baransel ES and Caliskan BE. Effects of Face-to-Face Education Followed by Mobile Messaging to Primiparas on Maternal-Neonatal Care, Breastfeeding, and Motherhood Experience: A Randomized Controlled Trial. Z Geburtshilfe Neonatol. 2024;29:29.PMID: 38286412. https://dx.doi.org/10.1055/a-2222-6568
10. Bender W, Levine L and Durnwald C. Text Message-Based Breastfeeding Support Compared With Usual Care: A Randomized Controlled Trial. Obstet Gynecol. 2022;140(5):853-60.PMID: 36201773. https://doi.org/10.1097/aog.0000000000004961
11. Bernal D. The effect of a peer counseling support program on breastfeeding initiation, duration and exclusivity among low-income Hispanic women. Dissertation Abstracts International: Section B: The Sciences and Engineering. 2019;80(2-B(E)).PMID: None.
12. Bonuck KA, Freeman K and Trombley M. Randomized controlled trial of a prenatal and postnatal lactation consultant intervention on infant health care use. Arch Pediatr Adolesc Med. 2006;160(9):953-60.PMID: 16953019. https://doi.org/10.1001/archpedi.160.9.953
13. Bonuck K, Stuebe A, Barnett J, et al. Effect of primary care intervention on breastfeeding duration and intensity (BINGO). Am J Public Health. 2014_a;104 Suppl 1:S119-27.PMID: 24354834. http://dx.doi.org/10.2105/AJPH.2013.301360
14. Bonuck K, Stuebe A, Barnett J, et al. Effect of primary care intervention on breastfeeding duration and intensity (PAIRINGS). Am J Public Health. 2014_b;104 Suppl 1:S119-27.PMID: 24354834. http://dx.doi.org/10.2105/AJPH.2013.301360
15. Bunik M, Shobe P, O'Connor ME, et al. Are 2 weeks of daily breastfeeding support insufficient to overcome the influences of formula? Acad Pediatr. 2010;10(1):21-8.PMID: 20129478. http://dx.doi.org/10.1016/j.acap.2009.09.014

Appendix References

16. Bunik M, Jimenez-Zambrano A, Solano M, et al. Mother's Milk Messaging TM: trial evaluation of app and texting for breastfeeding support. BMC Pregnancy Childbirth. 2022;22(1):660.PMID: 36002798. https://dx.doi.org/10.1186/s12884-022-04976-6
17. Cangol E and Sahin NH. The Effect of a Breastfeeding Motivation Program Maintained During Pregnancy on Supporting Breastfeeding: A Randomized Controlled Trial. Breastfeed Med. 2017;12:218-26.PMID: 28287819. https://dx.doi.org/10.1089/bfm.2016.0190
18. Carlsen EM, Kyhnaeb A, Renault KM, et al. Telephone-based support prolongs breastfeeding duration in obese women: a randomized trial. Am J Clin Nutr. 2013;95(2):1226-32.PMID: 24004897. https://doi.org/10.3945/ajcn.113.059600
19. Cauble JS, Herman A, Wick J, et al. A prenatal group based phone counseling intervention to improve breastfeeding rates and complementary feeding: a randomized, controlled pilot and feasibility trial. BMC Pregnancy Childbirth. 2021;21(1):521.PMID: 34294051. https://dx.doi.org/10.1186/s12884-021-03976-2
20. Chan MY, Ip WY and Choi KC. The effect of a self-efficacy-based educational programme on maternal breast feeding self-efficacy, breast feeding duration and exclusive breast feeding rates: A longitudinal study. Midwifery. 2016;36:92-8.PMID: 27106949. https://dx.doi.org/10.1016/j.midw.2016.03.003
21. Chapman DJ, Morel K, Bermudez-Millan A, et al. Breastfeeding education and support trial for overweight and obese women: a randomized trial. Pediatrics. 2013;131(1):e162-70.PMID: 23209111. http://dx.doi.org/10.1542/peds.2012-0688
22. Clarke JL, Ingram J, Johnson D, et al. The ABA intervention for improving breastfeeding initiation and continuation: Feasibility study results. Matern Child Nutr. 2020;16(1):e12907.PMID: 31793233. https://dx.doi.org/10.1111/mcn.12907
23. Dennis CL, Hodnett E, Gallop R, et al. The effect of peer support on breast-feeding duration among primiparous women: a randomized controlled trial. CMAJ. 2002;166(1):21-8.PMID: 11800243. None
24. Di Meglio G, McDermott MP and Klein JD. A randomized controlled trial of telephone peer support's influence on breastfeeding duration in adolescent mothers. Breastfeed Med. 2010;5(1):41-7.PMID: 20043705. http://dx.doi.org/10.1089/bfm.2009.0016
25. Di Napoli A, Di Lallo D, Fortes C, et al. Home breastfeeding support by health professionals: findings of a randomized controlled trial in a population of Italian women. Acta Paediatr. 2004;93(8):1108-14.PMID: 15456204. None
26. Edwards RC, Thullen MJ, Korfmacher J, et al. Breastfeeding and complementary food: randomized trial of community doula home visiting. Pediatrics. 2013;132 Suppl 2:S160-6.PMID: 24187119. http://dx.doi.org/10.1542/peds.2013-1021P
27. Elliott-Rudder M, Pilotto L, McIntyre E, et al. Motivational interviewing improves exclusive breastfeeding in an Australian randomised controlled trial. Acta Paediatr. 2014;103(1):e11-6.PMID: 24117857. http://dx.doi.org/10.1111/apa.12434
28. Fan HSL, Ho MY, Ko RWT, et al. Feasibility and effectiveness of WhatsApp online group on breastfeeding by peer counsellors: a single-blinded, open-label pilot randomized controlled study. Int Breastfeed J. 2022;17(1):91.PMID: 36544208. https://dx.doi.org/10.1186/s13006-022-00535-z
29. Fiks AG, Gruver RS, Bishop-Gilyard CT, et al. A Social Media Peer Group for Mothers To Prevent Obesity from Infancy: The Grow2Gether Randomized Trial. Child. 2017;13(5):356-68.PMID: 28557558. https://dx.doi.org/10.1089/chi.2017.0042
30. Forster D, McLachlan H, Lumley J, et al. Two mid-pregnancy interventions to increase the initiation and duration of breastfeeding: a randomized controlled trial. Birth. 2004;31(3):176-82.PMID: 15330879. https://doi.org/10.1111/j.0730-7659.2004.00302.x
31. Forster DA, McLardie-Hore FE, McLachlan HL, et al. Proactive Peer (Mother-to-Mother) Breastfeeding Support by Telephone (Ringing up About Breastfeeding Early [RUBY]): A Multicentre, Unblinded, Randomised Controlled Trial. EClinicalMedicine. 2019;8:20-8.PMID: 31193656. https://doi.org/10.1016/j.eclinm.2019.02.003

Appendix References

32. Franco-Antonio C, Calderon-Garcia JF, Santano-Mogena E, et al. Effectiveness of a brief motivational intervention to increase the breastfeeding duration in the first 6 months postpartum: Randomized controlled trial. J Adv Nurs. 2020;76(3):888-902.PMID: 31782535. https://dx.doi.org/10.1111/jan.14274
33. Fu I, Fong D, Heys M, et al. Professional breastfeeding support for first-time mothers: a multicentre cluster randomised controlled trial. Bjog. 2014;121(13):1673-83.PMID: 24861802. http://dx.doi.org/10.1111/1471-0528.12884
34. Gagnon AJ, Dougherty G, Jimenez V, et al. Randomized trial of postpartum care after hospital discharge. Pediatrics. 2002;109(6):1074-80.PMID: 12042545. https://doi.org/10.1542/peds.109.6.1074
35. Gijsbers B, Mesters I, Knottnerus JA, et al. The Success of an Educational Program to Promote Exclusive Breastfeeding for 6 Months in Families with a History of Asthma: A Randomized Controlled Trial. Pediatric Asthma, Allergy & Immunology. 2006;19(4):214-22.PMID: None. http://dx.doi.org/10.1089/pai.2006.19.214
36. Graffy J, Taylor J, Williams A, et al. Randomised controlled trial of support from volunteer counsellors for mothers considering breast feeding. Bmj. 2004;328(7430):26.PMID: 14703543. https://doi.org/10.1136/bmj.328.7430.26
37. Gross RS, Mendelsohn AL, Gross MB, et al. Randomized Controlled Trial of a Primary Care-Based Child Obesity Prevention Intervention on Infant Feeding Practices. Journal of Pediatrics. 2016;174:171-7.e2.PMID: 27113376. https://dx.doi.org/10.1016/j.jpeds.2016.03.060
38. Hans SL, Edwards RC and Zhang Y. Randomized Controlled Trial of Doula-Home-Visiting Services: Impact on Maternal and Infant Health. Maternal & Child Health Journal. 2018;22(Suppl 1):105-13.PMID: 29855838. https://dx.doi.org/10.1007/s10995-018-2537-7
39. Henderson A, Stamp G and Pincombe J. Postpartum positioning and attachment education for increasing breastfeeding: a randomized trial. Birth. 2001;28(4):236-42.PMID: 11903211. https://doi.org/10.1046/j.1523-536x.2001.00236.x
40. Hoffmann J, Gunther J, Stecher L, et al. Effects of a lifestyle intervention in routine care on short-and long-term maternal weight retention and breastfeeding behaviorâ€"12 months follow-up of the cluster-randomized gelis trial. J [serial on the Internet]. 2019 [cited KQ Search - Cochrane; 8(6): Available from: https://www.cochranelibrary.com/central/doi/10.1002/central/CN-01980540/full

https://mdpi-res.com/d_attachment/jcm/jcm-08-00876/article_deploy/jcm-08-00876.pdf?version=1560935429.
41. Hopkinson J and Konefal Gallagher M. Assignment to a hospital-based breastfeeding clinic and exclusive breastfeeding among immigrant Hispanic mothers: a randomized, controlled trial. J Hum Lact. 2009;25(3):287-96.PMID: 19436060. http://dx.doi.org/10.1177/0890334409335482
42. Howell EA, Bodnar-Deren S, Balbierz A, et al. An intervention to extend breastfeeding among black and Latina mothers after delivery. Am J Obstet Gynecol. 2014;210(3):239.e1-5.PMID: 24262719. http://dx.doi.org/10.1016/j.ajog.2013.11.028
43. Jolly K, Ingram L, Freemantle N, et al. Effect of a peer support service on breast-feeding continuation in the UK: A randomised controlled trial. Midwifery. 2012;28(6):740-5.PMID: 21944571. http://dx.doi.org/10.1016/j.midw.2011.08.005
44. Karaahmet AY and Bilgic FS. Breastfeeding success in the first 6 months of online breastfeeding counseling after cesarean delivery and its effect on anthropometric measurements of the baby: a randomized controlled study. Rev Assoc Med Bras. 2022;68(10):1434-40.PMID: 36417649. https://dx.doi.org/10.1590/1806-9282.20220540
45. Kellams AL, Gurka KK, Hornsby PP, et al. The Impact of a Prenatal Education Video on Rates of Breastfeeding Initiation and Exclusivity during the Newborn Hospital Stay in a Low-income Population. J Hum Lact. 2015.PMID: 26289058. http://dx.doi.org/10.1177/0890334415599402
46. Kenyon S, Jolly K, Hemming K, et al. Lay support for pregnant women with social risk: a randomised controlled trial. BMJ Open. 2016;6(3):e009203.PMID: 26936901. https://dx.doi.org/10.1136/bmjopen-2015-009203

Appendix References

47. Kools EJ, Thijs C, Kester AD, et al. A breast-feeding promotion and support program a randomized trial in The Netherlands. Prev Med. 2005;40(1):60-70.PMID: 15530582. https://doi.org/10.1016/j.ypmed.2004.05.013
48. Kronborg H, Maimburg RD and Vaeth M. Antenatal training to improve breast feeding: a randomised trial. Midwifery. 2012;28(6):784-90.PMID: 22018394. http://dx.doi.org/10.1016/j.midw.2011.08.016
49. Labarere J, Bellin V, Fourny M, et al. Assessment of a structured in-hospital educational intervention addressing breastfeeding: a prospective randomised open trial. Bjog. 2003;110(9):847-52.PMID: 14511968. None
50. Labarere J, Gelbert-Baudino N, Ayral AS, et al. Efficacy of breastfeeding support provided by trained clinicians during an early, routine, preventive visit: a prospective, randomized, open trial of 226 mother-infant pairs. Pediatrics. 2005;115(2):e139-e46.PMID: 15687421. https://doi.org/10.1542/peds.2004-1362
51. Laliberte C, Dunn S, Pound C, et al. A randomized controlled trial of innovative postpartum care model for mother-baby dyads. PLoS ONE. 2016;11(2) (no pagination).PMID: 26871448. https://doi.org/10.1371/journal.pone.0148520
52. Lavender T, Baker L, Smyth R, et al. Breastfeeding expectations versus reality: a cluster randomised controlled trial. Bjog. 2005;112(8):1047-53.PMID: 16045516. https://doi.org/10.1111/j.1471-0528.2005.00644.x
53. Lewkowitz AK, Lopez JD, Stein RI, et al. Effect of a Home-Based Lifestyle Intervention on Breastfeeding Initiation Among Socioeconomically Disadvantaged African American Women with Overweight or Obesity. Breastfeed Med. 2018;13(6):418-25.PMID: 29912571. https://dx.doi.org/10.1089/bfm.2018.0006
54. Lewkowitz AK, Lopez JD, Carter EB, et al. Impact of a novel smartphone application on low-income, first-time mothers' breastfeeding rates: a randomized controlled trial. Am J Obstet Gynecol MFM. 2020;2(3):100143.PMID: 33345878. https://dx.doi.org/10.1016/j.ajogmf.2020.100143
55. Linares AM, Cartagena D and Rayens MK. Las Dos Cosas Versus Exclusive Breastfeeding: A Culturally and Linguistically Exploratory Intervention Study in Hispanic Mothers Living in Kentucky. Journal of Pediatric Health Care. 2019;33(6):e46-e56.PMID: 31655788. https://dx.doi.org/10.1016/j.pedhc.2019.07.009
56. Little EE, Cioffi CC, Bain L, et al. An Infant Carrier Intervention and Breastfeeding Duration: A Randomized Controlled Trial. Pediatrics. 2021;148(1):07.PMID: 34193622. https://dx.doi.org/10.1542/peds.2020-049717
57. Lucas R, Zhang Y, Walsh SJ, et al. Efficacy of a Breastfeeding Pain Self-Management Intervention: A Pilot Randomized Controlled Trial. Nursing Research. 2019;68(2):E1-E10.PMID: 30829925. https://dx.doi.org/10.1097/NNR.0000000000000336
58. Lutenbacher M, Elkins T and Dietrich MS. Using Community Health Workers to Improve Health Outcomes in a Sample of Hispanic Women and Their Infants: Findings from a Randomized Controlled Trial. Hisp Health Care Int. 2022:15404153221107680.PMID: 35702003. https://dx.doi.org/10.1177/15404153221107680
59. Mattar CN, Chong YS, Chan YS, et al. Simple antenatal preparation to improve breastfeeding practice: a randomized controlled trial. Obstet Gynecol. 2007;109(1):73-80.PMID: 17197590. https://doi.org/10.1097/01.AOG.0000249613.15466.26
60. McDonald SJ, Henderson JJ, Faulkner S, et al. Effect of an extended midwifery postnatal support programme on the duration of breast feeding: a randomised controlled trial. Midwifery. 2010;26(1):88-100.PMID: 18486287. http://dx.doi.org/10.1016/j.midw.2008.03.001
61. McLachlan HL, Forster DA, Amir LH, et al. Supporting breastfeeding In Local Communities (SILC) in Victoria, Australia: a cluster randomised controlled trial. BMJ Open. 2016;6(2):e008292.PMID: 26832427. https://dx.doi.org/10.1136/bmjopen-2015-008292
62. McQueen KA, Dennis CL, Stremler R, et al. A pilot randomized controlled trial of a breastfeeding self-efficacy intervention with primiparous mothers. J Obstet Gynecol Neonatal Nurs. 2011;40(1):35-46.PMID: 21244493. http://dx.doi.org/10.1111/j.1552-6909.2010.01210.x

Appendix References

63. Milinco M, Travan L, Cattaneo A, et al. Effectiveness of biological nurturing on early breastfeeding problems: a randomized controlled trial. Int Breastfeed J. 2020;15(1):21.PMID: 32248838. https://dx.doi.org/10.1186/s13006-020-00261-4
64. Miremberg H, Yirmiya K, Rona S, et al. Smartphone-based counseling and support platform and the effect on postpartum lactation: a randomized controlled trial. Am J Obstet Gynecol MFM. 2022;4(2):100543.PMID: 34871782. https://dx.doi.org/10.1016/j.ajogmf.2021.100543
65. Mottl-Santiago J, Dukhovny D, Cabral H, et al. Effectiveness of an Enhanced Community Doula Intervention in a Safety Net Setting: A Randomized Controlled Trial. Health Equity. 2023;7(1):466-76.PMID: 37731785. https://dx.doi.org/10.1089/heq.2022.0200
66. Muirhead PE, Butcher G, Rankin J, et al. The effect of a programme of organised and supervised peer support on the initiation and duration of breastfeeding: a randomised trial. Br J Gen Pract. 2006;56(524):191-7.PMID: 16536959. None
67. Nilsson IMS, Strandberg-Larsen K, Knight CH, et al. Focused breastfeeding counselling improves short- and long-term success in an early-discharge setting: A cluster-randomized study. Matern Child Nutr. 2017;13(4):10.PMID: 28194877. https://dx.doi.org/10.1111/mcn.12432
68. Noel-Weiss J, Rupp A, Cragg B, et al. Randomized controlled trial to determine effects of prenatal breastfeeding workshop on maternal breastfeeding self-efficacy and breastfeeding duration. J Obstet Gynecol Neonatal Nurs. 2006;35(5):616-24.PMID: 16958717. https://doi.org/10.1111/j.1552-6909.2006.00077.x
69. O'Reilly SL, McNestry C, McGuinness D, et al. Multicomponent perinatal breastfeeding support in women with BMI >25: The Latch On multi-centre randomised trial. BJOG: An International Journal of Obstetrics & Gynaecology. 2024;12:12.PMID: 38344894. https://dx.doi.org/10.1111/1471-0528.17782
70. Paul IM, Beiler JS, Schaefer EW, et al. A randomized trial of single home nursing visits vs office-based care after nursery/maternity discharge: the Nurses for Infants Through Teaching and Assessment After the Nursery (NITTANY) Study. Arch Pediatr Adolesc Med. 2012;166(3):263-70.PMID: 22064874. http://dx.doi.org/10.1001/archpediatrics.2011.198
71. Pollard DL. Impact of a feeding log on breastfeeding duration and exclusivity. Matern Child Health J. 2011;15(3):395-400.PMID: 20177755. http://dx.doi.org/10.1007/s10995-010-0583-x
72. Puharic D, Malicki M, Borovac JA, et al. The effect of a combined intervention on exclusive breastfeeding in primiparas: A randomised controlled trial. Matern Child Nutr. 2020;16(3):e12948.PMID: 31943761. https://dx.doi.org/10.1111/mcn.12948
73. Quinlivan JA, Box H and Evans SF. Postnatal home visits in teenage mothers: a randomised controlled trial. Lancet. 2003;361(9361):893-900.PMID: 12648967. https://doi.org/10.1016/S0140-6736(03)12770-5
74. Reeder JA, Joyce T, Sibley K, et al. Telephone peer counseling of breastfeeding among WIC participants: a randomized controlled trial. Pediatrics. 2014;134(3):e700-9.PMID: 25092936. http://dx.doi.org/10.1542/peds.2013-4146
75. Saglik M and Karacam Z. Effectiveness of structured education and follow-up in the management of perceived breastmilk insufficiency: a randomized control trial. Health Care Women Int. 2021:1-19.PMID: 34919025. https://dx.doi.org/10.1080/07399332.2021.2007249
76. Santamaria-Martin MJ, Martin-Iglesias S, Schwarz C, et al. Effectiveness of a group educational intervention - prolact - in primary care to promote exclusive breastfeeding: a cluster randomized clinical trial. BMC Pregnancy Childbirth. 2022;22(1):132.PMID: 35172775. https://dx.doi.org/10.1186/s12884-022-04394-8
77. Sari C and Altay N. Effects of providing nursing care with web-based program on maternal self-efficacy and infant health. Public Health Nurs. 2020;37(3):380-92.PMID: 32017251. https://dx.doi.org/10.1111/phn.12712
78. Sari Ozturk C and Demir K. The Effect of Mandala Activity and Technology-Based Breastfeeding Program on Breastfeeding Self-Efficacy and Mother-Infant Attachment of Primiparous Women: A

Randomized Controlled Study. J Med Syst. 2023;47(1):44.PMID: 37004692. https://dx.doi.org/10.1007/s10916-023-01942-3

79. Saucedo Baza A, Mignacca C, Delgado PE, et al. A Technological Approach to Improved Breastfeeding Rates and Self-Efficacy: A Randomized Controlled Pilot Study. J Hum Lact. 2023;39(4):679-87.PMID: 37571838. https://dx.doi.org/10.1177/08903344231190625
80. Schwarz EB, Hoyt-Austin A, Fix M, et al. Prenatal Counseling on the Maternal Health Benefits of Lactation: A Randomized Trial. Breastfeed Med. 2024;19(1):52-8.PMID: 38190278. https://dx.doi.org/10.1089/bfm.2023.0219
81. Sevda KO and Sevil I. Continuous Lactation Support Provided Through the WhatsApp Messaging Application: A Randomized Controlled Trial. J Hum Lact. 2023;39(4):666-78.PMID: 37646262. https://dx.doi.org/10.1177/08903344231192948
82. Simsek-Cetinkaya S, Gumus Calis G and Kibris S. Effect of Breastfeeding Education Program and Nurse-led Breastfeeding Online Counseling System (BMUM) for Mothers: A Randomized Controlled Study. J Hum Lact. 2024;40(1):101-12.PMID: 38006250. https://dx.doi.org/10.1177/08903344231210813
83. Stockdale J, Sinclair M, Kernohan WG, et al. Feasibility study to test DESIGNER BREASTFEEDING: a randomised controlled trial. Evidence Based Midwifery. 2008;6(3):76-82.PMID: None. None
84. Su LL, Chong YS, Chan YH, et al. Antenatal education and postnatal support strategies for improving rates of exclusive breast feeding: randomised controlled trial. Bmj. 2007;335(7620):596.PMID: 17670909. https://doi.org/10.1136/bmj.39279.656343.55
85. Taylor B, Gray A, Galland B, et al. Targeting sleep, food, and activity in infants for obesity prevention: an RCT. Pediatrics. 2017;139(3) (no pagination).PMID: 28242860. https://doi.org/10.1542/peds.2016-2037
86. Uscher-Pines L, Ghosh-Dastidar B, Bogen DL, et al. Feasibility and Effectiveness of Telelactation Among Rural Breastfeeding Women. Academic pediatrics. 2020;20(5):652-9.PMID: 31629118. https://dx.doi.org/10.1016/j.acap.2019.10.008
87. Wallace LM, Dunn OM, Alder EM, et al. A randomised-controlled trial in England of a postnatal midwifery intervention on breast-feeding duration. Midwifery. 2006;22(3):262-73.PMID: 16380197. https://doi.org/10.1016/j.midw.2005.06.004
88. Wambach KA, Aaronson L, Breedlove G, et al. A randomized controlled trial of breastfeeding support and education for adolescent mothers. West J Nurs Res. 2011;33(4):486-505.PMID: 20876551. http://dx.doi.org/10.1177/0193945910380408
89. Wen LM, Baur LA, Simpson JM, et al. Effectiveness of an early intervention on infant feeding practices and "tummy time": a randomized controlled trial. Arch Pediatr Adolesc Med. 2011;165(8):701-7.PMID: 21810633. http://dx.doi.org/10.1001/archpediatrics.2011.115
90. Wen LM, Rissel C, Xu H, et al. Effects of Telephone and Short Message Service Support on Infant Feeding Practices, "Tummy Time," and Screen Time at 6 and 12 Months of Child Age: A 3-Group Randomized Clinical Trial. JAMA Pediatrics. 2020;174(7):657-64.PMID: 32282034. https://dx.doi.org/10.1001/jamapediatrics.2020.0215
91. Wong KL, Tak Fong DY, Yin Lee IL, et al. Antenatal education to increase exclusive breastfeeding: a randomized controlled trial. Obstet Gynecol. 2014;124(5):961-8.PMID: 25437725. http://dx.doi.org/10.1097/AOG.0000000000000481
92. Yesil Y, Ekşioğlu A and Turfan EC. The effect of hospital-based breastfeeding group education given early perinatal period on breastfeeding self-efficacy and breastfeeding status. Journal of Neonatal Nursing. 2023;29(1):81-90.PMID: None. https://doi.org/10.1016/j.jnn.2022.02.013