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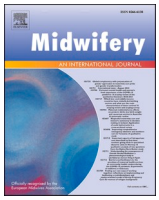

Review Article

Pacifier use in full-term infants and its impact on breastfeeding: A scoping review

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ABSTRACT

Problem: The widespread use of pacifiers among healthy full-term infants has raised concerns about possible interference with breastfeeding. Conflicting recommendations in clinical practice reflect uncertainty about their impact on breastfeeding outcomes.
Background: Pacifier use is common across different cultural and healthcare settings. Despite extensive research, its effects on breastfeeding initiation, exclusivity, and duration remain unclear. Divergent findings and inconsistent professional guidance highlight the need for a comprehensive synthesis of the evidence.
Aim: To map and describe the literature on pacifier use in healthy full-term infants and its relationship with breastfeeding outcomes, and to explore influencing factors such as timing of introduction, maternal intention, and healthcare practices.
Methods: A scoping review was conducted following established methodological frameworks and reporting standards. Four databases were searched for studies published between 1994 and 2024. Italian national and international guidelines were also reviewed. Eligible studies included those published in English and involving healthy full-term infants. Data were charted across predefined categories; no critical appraisal was performed.
Findings: Fifty-four studies were included. Observational studies often reported a negative association between early pacifier use and breastfeeding, whereas randomized trials and systematic reviews did not confirm this association. Contextual factors such as maternal intention, cultural norms and healthcare policies appeared influential.
Discussion: Substantial heterogeneity and inconsistent findings suggest that pacifier use interacts with broader maternal and healthcare factors rather than exerting a simple causal effect.
Conclusion: Evidence on the relationship between pacifier use and breastfeeding outcomes remains inconclusive. Timing of pacifier introduction appears critical. Further research should clarify causal mechanisms and guide coherent, evidence-based recommendations.

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Statement of Significance

Problem or Issue	The relationship between pacifier use and breastfeeding outcomes remains controversial, with inconsistent guidance for parents and healthcare professionals.
What is Already Known	Existing studies suggest that early pacifier introduction may interfere with breastfeeding establishment, yet other evidence shows no significant negative impact when breastfeeding is already well established.
What this Paper Adds	This scoping review maps and synthesizes available evidence on pacifier use in full-term infants, identifying key gaps in knowledge and providing a comprehensive overview to inform breastfeeding support and future research.

Introduction

Rationale

Breastfeeding is globally recognized as the optimal feeding method for newborns, offering substantial health, psychological, and social benefits for both infants and mothers (WHO, 2003). The World Health Organization (WHO) recommends exclusive breastfeeding for the first six months of life, followed by continued breastfeeding alongside complementary feeding up to two years or beyond (WHO, 2018). Despite these clear recommendations, breastfeeding initiation, exclusivity, and duration are influenced by a complex interplay of biological, social, and contextual factors, including maternal age, education, mode of birth, psychological well-being, return to work, and infant feeding practices (Thulier and Mercer, 2009; Meedya et al., 2009).

One infant feeding practice that has received considerable attention is the use of pacifiers, a common form of non-nutritive sucking introduced primarily for soothing purposes. While pacifiers may provide benefits such as promoting infant self-soothing and reducing the risk of Sudden Infant Death Syndrome (SIDS) (AAP, 2022), concerns persist regarding their potential interference with breastfeeding. Early guidelines by WHO/UNICEF discouraged pacifier use during breastfeeding (WHO/UNICEF, 1989), but more recent recommendations emphasize individualized counseling and delaying pacifier introduction until breastfeeding is well established (ABM, 2021; Queensland Health, 2021; WHO/UNICEF, 2018).

The relationship between pacifier use and breastfeeding outcomes remains controversial. Observational studies have frequently reported associations between pacifier use and shorter breastfeeding duration or early cessation (Kronborg and Vaeth, 2009; Victora et al., 1997). However, randomized controlled trials and systematic reviews provide conflicting or inconclusive evidence, failing to establish a clear causal link (Buccini et al., 2016; Howard et al., 2003; Tolppola et al., 2022). Several factors may contribute to this inconsistency, including reverse causality (pacifier use as a response to breastfeeding difficulties), heterogeneity in study design and populations, variability in the timing of pacifier introduction, and differences in how breastfeeding outcomes are defined and measured across studies. Moreover, pacifier use may sometimes be a response to breastfeeding difficulties rather than their cause, complicating the interpretation of findings (Rocha et al., 2019). This ambiguity contributes to inconsistent clinical guidelines and professional recommendations worldwide (ABM, 2021; IBFAN, 2013).

Given the volume, heterogeneity, and conflicting nature of the available evidence, a scoping review methodology is particularly appropriate to comprehensively map the literature on this topic. Scoping reviews systematically examine the extent, range, and nature of research activity, identify gaps in knowledge, and inform future research priorities, clinical practice, and policy development (Arksey and O'Malley, 2005; Peters et al., 2020).

Objective

This scoping review aims to explore and map the scientific literature on the relationship between pacifier use in healthy full-term infants and breastfeeding outcomes. It seeks to identify and describe the types of studies conducted on this topic, including their designs, settings, and populations. The review also synthesizes the reported effects of pacifier use on key breastfeeding outcomes—such as initiation, exclusivity, duration, and cessation—and examines how the timing of pacifier introduction (early vs. late) may influence breastfeeding success. In addition, it highlights existing gaps in the evidence to inform future research priorities, clinical guidelines, and health policy. Finally, it provides an overview of recommendations from national and international guidelines regarding pacifier use during the breastfeeding period.

Methods

This scoping review was conducted to systematically map the existing literature on the relationship between pacifier use in healthy full-term infants and breastfeeding outcomes. The review followed the methodological framework proposed by Arksey and O'Malley (2005), refined by Levac et al. (2010) and the Joanna Briggs Institute (Peters et al., 2020). The reporting adheres to the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) checklist (Tricco et al., 2018). The primary research question guiding this review was: ***What is the relationship between pacifier use in healthy full-term infants and breastfeeding outcomes?***

Protocol and registration

A protocol for this scoping review was developed a priori and registered in PROSPERO (International Prospective Register of Systematic Reviews) under registration number CRD420250612783.

Eligibility criteria

The eligibility criteria were defined according to the Population–Concept–Context (PCC) framework, as recommended by the Joanna Briggs Institute for scoping reviews (Peters et al., 2020).

Population

This review focused on healthy full-term infants, defined as those born at ≥37 weeks of gestation. Studies were included if they examined these infants in relation to pacifier use and breastfeeding outcomes. Sources involving caregivers or healthcare professionals as key informants or actors in the feeding process were also eligible. Studies focusing exclusively on preterm infants, hospitalized neonates, or those with underlying medical conditions were excluded to ensure homogeneity in the population and avoid clinical confounding factors (Jaafar et al., 2016; Meedya et al., 2010).

Concept

The core concept investigated was the use of pacifiers—understood as non-nutritive sucking devices—and their potential association with breastfeeding outcomes. Outcomes of interest included breastfeeding initiation, exclusivity, duration, and cessation (Howard et al., 1999; Victora et al., 1997). Studies were included if they evaluated pacifier use

as a potential factor influencing these outcomes, whether directly or indirectly. Articles focusing primarily on other feeding-related behaviors or devices—such as bottle feeding, nipple shields, or thumb sucking—were excluded from the review (Buccini et al., 2016).

Context

All healthcare and non-healthcare settings in which pacifier use and breastfeeding practices were examined were eligible for inclusion, including maternity wards, neonatal units, primary care, and domestic or community-based settings. No restrictions were applied regarding geographic location, healthcare system, or cultural context, in order to reflect the global diversity in infant feeding practices (Kronborg and Vaeth, 2009).

Types of sources of evidence

Eligible sources of evidence included peer-reviewed primary research studies with quantitative, qualitative, or mixed-methods designs, as well as systematic reviews, meta-analyses, and clinical or institutional guidelines. Only articles published in English between January 1994 and December 2024 were considered. The time interval of approximately 30 years (1994–2024) was selected to ensure coverage of contemporary research while capturing the period during which major global breastfeeding promotion initiatives were established. In particular, this timeframe includes the 1990s, when the Baby-Friendly Hospital Initiative and related public health strategies began to shape international recommendations on infant feeding practices and non-nutritive sucking. Editorials, opinion pieces, commentaries, and case reports were excluded.

Information sources

We searched four electronic databases—PubMed (via MEDLINE), Cochrane Library, CINAHL (via EBSCO), and Web of Science—for relevant literature published between January 1994 and December 2024. To contextualize the findings within current clinical practice, we reviewed selected clinical guidelines and position statements from major international organizations involved in breastfeeding promotion and infant feeding recommendations, including the World Health Organization (WHO), UNICEF, the American Academy of Pediatrics (AAP), the Academy of Breastfeeding Medicine (ABM), International Baby Food Action Network (IBFAN), and Queensland Health. In addition, Italian national guidelines were examined to provide contextual insight relevant to the healthcare setting in which the review was developed, rather than as the sole source of guideline evidence.

Reference lists of included articles were also hand-searched to identify additional sources. The final search was executed in July 2025.

Search strategy

The search strategy included both Medical Subject Headings (MeSH) and free-text keywords such as “pacifier”, “dummy”, “soother”, “breastfeeding”, “non-nutritive sucking”, and “sucking behavior”. Boolean operators (AND, OR, NOT) were used to combine terms and optimize sensitivity and specificity.

A range of search combinations was tested and refined to capture the breadth of relevant literature, including additional strings incorporating terms such as “nipples”, “nutritive sucking habits”, and “bottle feeding” in various combinations with “pacifier”, “dummy”, and “soother”. Filters for publication date (1994–2024) and language (English) were applied where available.

An example of a complete search string used in PubMed was:

(("pacifiers"[MeSH Terms] OR "pacifier"[All Fields] OR "dummy"[All Fields] OR "soother"[All Fields]) AND ("breast feeding"[MeSH Terms] OR "breastfeeding"[All Fields])) NOT ("bottle feeding"[All Fields]) AND (1997:2024[pdat])

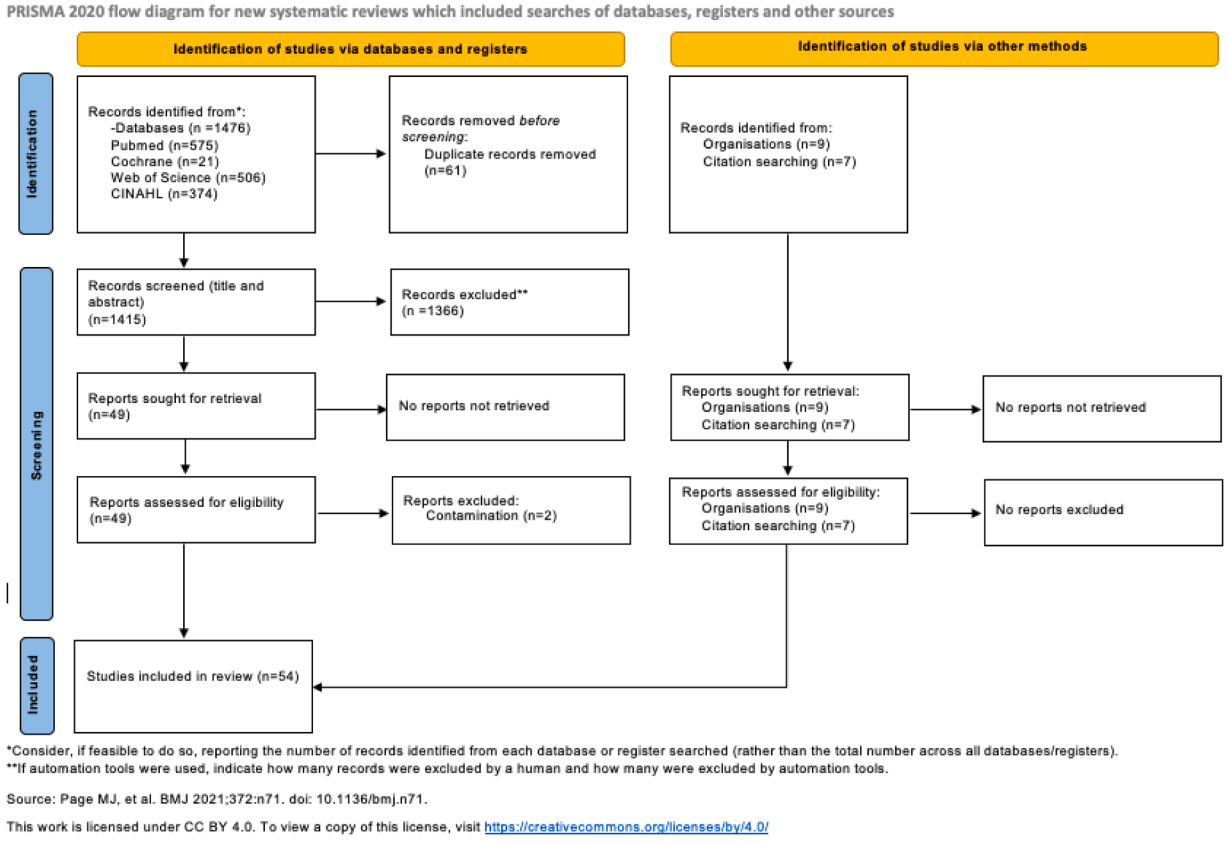

Fig. 1. Flow diagram of literature search, study selection, and inclusion/exclusion process (PRISMA, 2020).

Full details of the search strings used in PubMed, via MedLine CINAHL via EBSCOhost, Cochrane Library, and Web of Science are reported in Supplementary Table 1.

Selection of sources of evidence

The selection process involved a manual screening of records using Microsoft Excel spreadsheets. Two independent reviewers screened titles and abstracts of all retrieved records to identify potentially relevant studies. Following this, the full texts of the selected studies were independently reviewed by the same reviewers to assess eligibility based on the predefined criteria. Any disagreements were resolved through discussion until consensus was reached. This manual screening approach ensured a transparent and systematic process, with all decisions documented in Excel to maintain traceability throughout the review.

The study selection process is summarized in the PRISMA flow diagram (Fig. 1).

Data charting process

Data extraction from the included sources of evidence was conducted manually using standardized Microsoft Excel spreadsheets developed by the review team. Prior to full data extraction, the team pilot-tested the charting forms on a sample of studies to ensure clarity, consistency, and comprehensiveness of the extracted variables. Data charting was performed independently by two reviewers for each included study. Discrepancies were discussed and resolved by consensus to ensure accuracy and completeness. All extracted data were cross-checked and compiled into a master spreadsheet to support subsequent analysis and synthesis.

The extracted data from the included studies are presented in **Supplementary Table 2**.

Data items

For each included study, key variables were extracted to comprehensively describe the relationship between pacifier use and breastfeeding outcomes. These variables included study identification details such as authorship, year of publication, and country of origin. The study design was also recorded, specifying whether the study was observational, randomized controlled trial, meta-analysis, or systematic review.

Population characteristics were noted when available, with particular attention to infant gestational age (distinguishing full-term from preterm infants), sample size, and relevant maternal demographics including age, employment status, and breastfeeding intention.

Regarding pacifier use, data on the timing of introduction—such as within the neonatal period, during the first two weeks of life, or after breastfeeding was established—were collected, alongside information about the frequency and duration of pacifier use and the reasons reported for its use, including soothing or risk reduction for sudden infant death syndrome (SIDS).

Breastfeeding outcomes extracted encompassed the duration of exclusive breastfeeding, total breastfeeding duration, rates of breastfeeding cessation or early weaning, and any breastfeeding-related problems such as nipple confusion or latching difficulties. Additional feeding variables, including the timing and use of formula or bottle feeding and any maternal counseling or support interventions related to breastfeeding or pacifier use, were also documented.

When synthesizing the data, the longest reported durations of breastfeeding and exclusive breastfeeding were prioritized to provide a comprehensive perspective. In cases where studies included mixed populations of full-term and preterm infants, data were considered only if results for full-term infants were separately identifiable or could be reasonably inferred. For studies where frequency or timing of pacifier use was unspecified, data were categorized broadly as “pacifier use.” Maternal and psychosocial factors were incorporated narratively when inconsistently reported, acknowledging the heterogeneity across studies.

Only peer-reviewed published studies were included in this review; gray literature and unpublished data were excluded.

Critical appraisal of individual sources of evidence

Given the nature of this scoping review, the primary objective was to map the available literature on pacifier use and breastfeeding outcomes rather than to conduct a formal quality assessment or risk of bias evaluation of the included studies. However, the methodological rigor and evidence level of individual sources were considered during data extraction and synthesis to provide context for interpreting findings.

Included studies varied widely in design, ranging from observational studies and cross-sectional surveys to randomized controlled trials, systematic reviews, and meta-analyses. This heterogeneity inherently introduced variability in methodological quality, sample sizes, and outcome measures.

Randomized controlled trials and systematic reviews generally provided higher levels of evidence regarding the causal relationships between pacifier use and breastfeeding outcomes, whereas observational studies offered valuable insights into associations, real-world practices, and contextual factors influencing pacifier use.

Potential limitations identified across the literature included small sample sizes, retrospective data collection, self-reported measures prone to recall bias, and varying definitions of pacifier use and breastfeeding duration. Additionally, some studies lacked detailed control for confounding variables such as maternal intention, socioeconomic status, and infant health status.

While these limitations were noted, no study was excluded based on quality to maintain comprehensiveness and inclusivity of evidence. Instead, critical differences in study design and quality were considered in the narrative synthesis to highlight areas of consistency and divergence.

Future research should aim for more rigorous methodologies, standardized definitions, and comprehensive adjustment for confounders to strengthen the evidence base on the impact of pacifier use on breastfeeding.

Synthesis of results

The data extracted from the included studies were systematically organized and charted in a comprehensive table (**Supplementary Table 2**) to provide a clear overview of the evidence. As detailed in Supplementary Table 2, the included studies vary widely in design, population, and outcome measures. Given this diversity, data were synthesized narratively rather than quantitatively.

Key variables including study design, participant characteristics, parameters of pacifier use, breastfeeding outcomes, and main conclusions were examined comparatively. This approach facilitated the identification of consistent patterns, conflicting findings, and knowledge gaps across the literature.

Where appropriate, studies were grouped thematically—such as observational versus interventional designs, or those supporting versus refuting associations between pacifier use and breastfeeding outcomes—to enhance interpretative clarity and delineate areas of consensus and debate.

This narrative synthesis enabled a balanced presentation of the breadth of available research while providing critical insights into the implications of pacifier use on breastfeeding duration and exclusivity, highlighting key themes relevant for clinical practice and future investigations.

Results

Selection of sources of evidence

A total of 1476 records were identified through database searching: PubMed ($n = 575$), CINAHL ($n = 374$), Web of Science ($n = 506$), and the Cochrane Library ($n = 21$). After removing 61 duplicate records, 1415 unique records were screened by title and abstract. Of these, 1366 records were excluded because they did not meet the eligibility criteria. The most common reasons for exclusion were that the study population did not focus specifically on healthy full-term infants—often including preterm or hospitalized neonates—or that the study did not assess pacifier use in relation to breastfeeding outcomes. Other excluded sources were publications such as commentaries, editorials, protocols, or case reports, as well as articles addressing related but non-pertinent topics (e.g., thumb sucking, bottle feeding, or oral development unrelated to breastfeeding).

A total of **49 full-text articles** were retrieved and assessed for eligibility, of which **2 were excluded** due to population contamination (the studies included both full-term and preterm infants, and data for full-term infants were not reported separately).

In addition, **16 records** were identified through other sources, including **organisational websites ($n = 9$)** and **citation searching ($n = 7$).** All these records were retrieved and assessed for eligibility, with none excluded.

Ultimately, **54 studies** met all inclusion criteria and were included in the final review.

The complete selection process is illustrated in the PRISMA flow diagram (Fig. 1).

Characteristics of sources of evidence

The 54 included sources comprise a range of study types: 24 observational studies (cohort, case-control, or cross-sectional), 11 randomized controlled trials, 7 systematic reviews or meta-analyses, and 12 narrative or scoping reviews and guideline analyses. The studies span 14 countries, with a higher concentration in Brazil, the United States, and European countries.

Most studies involved mother–infant dyads recruited in maternity wards, neonatal units, or through population-based samples. Sample sizes ranged from fewer than 100 participants in qualitative or pilot trials to over 10,000 in large cohort studies or national surveys.

The timing of pacifier introduction was variably reported: while some studies assessed early introduction (within 0–2 weeks postpartum), others focused on delayed or unspecified use. Breastfeeding outcomes included initiation, exclusivity, duration (partial or total), and early cessation, along with secondary outcomes such as nipple confusion, maternal distress, and SIDS risk perception.

A detailed summary of study characteristics is presented in **Supplementary Table 2**.

Critical appraisal within sources of evidence

Consistent with scoping review methodology, no formal critical appraisal or risk of bias assessment was conducted on the included studies. This approach allows for the inclusion of a broad range of evidence regardless of methodological quality and supports the primary aim of mapping existing knowledge and identifying gaps.

However, during the data extraction and synthesis process, variations in methodological rigor, sample size, and clarity of outcome reporting were noted. Where relevant, these differences were acknowledged in the narrative synthesis to contextualize the strength and limitations of specific findings.

Results of individual sources of evidence

The 54 included studies provide a heterogeneous picture regarding the relationship between pacifier use and breastfeeding outcomes.

Observational studies ($n = 24$) consistently reported a negative association between early pacifier use and suboptimal breastfeeding outcomes, including shortened duration, reduced exclusivity, and early cessation. For instance, cohort studies conducted in Brazil (Batista et al., 2017; Gomes-Filho et al., 2019) and longitudinal studies in North America (Howard et al., 1999; Levy et al., 2002) highlighted significant associations between pacifier use and early weaning.

Several studies also identified variables associated with both pacifier use and reduced breastfeeding duration, such as low parental education, cesarean birth, maternal smoking, psychological distress, lack of breastfeeding support, absence from prenatal classes, return to work, and breastfeeding difficulties (Buccini et al., 2016; Janwadkar et al., 2023). Some observational studies suggested that pacifier use may reduce feeding frequency and breast stimulation, potentially lowering oxytocin and prolactin levels and thus contributing to diminished milk production and early weaning (Karabulut et al., 2009).

Additional reported risks associated with pacifier use included oral malocclusion, speech difficulties, increased risk of otitis media, and dysfunctional sucking behaviors such as poor tongue positioning and weak vacuum formation (Janwadkar et al., 2023; Karabulut et al., 2009). However, these outcomes were not always clearly distinguished from correlation.

Randomized controlled trials ($n = 11$), including those by Feldens et al. (2013); Jenik et al. (2009); Kramer et al. (2001), and Schubiger et al. (1997), generally reported no significant difference in breastfeeding duration or exclusivity between groups allowed pacifier use and those in which it was discouraged. In these studies, the timing of pacifier introduction appeared to moderate outcomes. Later use (after two to four weeks postpartum) was typically associated with minimal or no adverse impact on breastfeeding success.

Systematic reviews and meta-analyses ($n = 7$), including those by Buccini et al. (2016); Jaafar et al. (2016); Karabulut et al. (2009), and Tolppola et al. (2022), confirmed these trends. For example, Karabulut et al. (2009) reported that early pacifier use—particularly within the first two weeks—was associated with a twofold increased risk of early weaning, while this risk diminished significantly when pacifiers were introduced after four to six weeks.

Some systematic reviews noted differing conclusions depending on the type of studies included. Reviews focusing on observational studies tended to emphasize risks, whereas those incorporating randomized and quasi-experimental studies more often concluded that pacifier use does not directly interfere with breastfeeding.

One descriptive study (Janwadkar et al., 2023) explored healthcare professionals' knowledge of pacifier use and revealed considerable gaps in clinical guidance—particularly concerning optimal timing, risk-benefit communication, and proper parental counseling.

Overall, the results suggest that pacifier use is not an independent cause of breastfeeding cessation, but rather a possible indicator of existing breastfeeding difficulties or lack of support. The available evidence highlights the importance of timing, maternal intention, and contextual variables in shaping breastfeeding outcomes.

Synthesis of results

A narrative synthesis was conducted due to the high heterogeneity across the 54 included studies in terms of design, population, pacifier use definitions, timing of exposure, and breastfeeding outcomes. The synthesis aimed to address the review objectives by identifying recurring patterns, contradictions, and gaps across the literature.

A central theme emerging from the data was the critical role of timing in pacifier introduction. When introduced within the first two weeks postpartum, pacifier use was frequently associated with shorter

breastfeeding duration and lower exclusivity rates (Batista et al., 2017; Gomes-Filho et al., 2019; Howard et al., 1999; Karabulut et al., 2009; Levy et al., 2002). In contrast, studies evaluating pacifier use initiated after breastfeeding was well established—typically between the second and sixth week of life—reported fewer adverse effects and, in some cases, no measurable impact on breastfeeding outcomes (Feldens et al., 2013; Jenik et al., 2009; Kramer et al., 2001).

A consistent contrast emerged between observational studies, which tended to report negative associations, and randomized controlled trials, which generally did not confirm a causal link. Observational research often identified pacifier use as part of a broader cluster of factors associated with breastfeeding difficulties, such as low maternal education, return to work, lack of support, psychological distress, or cesarean delivery (Buccini et al., 2016; Janwadkar et al., 2023; Karabulut et al., 2009). Some authors suggested that pacifier use might reflect a response to existing challenges, rather than a cause of breastfeeding interruption.

Conversely, evidence from randomized controlled trials and systematic reviews found no significant differences in breastfeeding outcomes between groups allowed or discouraged from using pacifiers (Jaafar et al., 2016; Kramer et al., 2001; Tolppola et al., 2022; Schubiger et al., 1997). In this context, pacifier use appeared to act more as a marker of breastfeeding difficulties than an independent risk factor. Furthermore, one meta-analysis (Karabulut et al., 2009) found that the risk associated with pacifier use significantly declined when introduction occurred after the fourth week of life.

The context in which pacifiers were introduced also played a substantial role. Institutional practices, such as adherence to the Baby-Friendly Hospital Initiative, and parental counseling policies influenced both pacifier uptake and breastfeeding continuation. Cultural and regional norms surrounding infant soothing methods and maternal intention to breastfeed also affected the patterns observed (Buccini et al., 2016; Janwadkar et al., 2023).

Finally, while some reviews and individual studies emphasized potential risks associated with pacifier use—such as dental malocclusion, otitis media, or altered sucking behaviors—others reported benefits, including reduced crying, pain relief, and lower risk of sudden infant death syndrome (SIDS) due to improved airway patency (Karabulut et al., 2009; Tolppola et al., 2022). However, these outcomes were inconsistently reported and often fell outside the primary focus on breastfeeding.

In conclusion, the synthesis confirms that the relationship between pacifier use and breastfeeding is multifactorial and context-dependent. The current body of evidence does not support a universal contraindication of pacifier use but rather calls for individualized recommendations based on timing, parental intention, and clinical context.

Discussion

Summary of evidence

This scoping review aimed to map and synthesize the literature on pacifier use in healthy full-term infants and its relationship with breastfeeding outcomes, including initiation, exclusivity, duration, and cessation. A total of 54 studies were included, encompassing observational studies, randomized controlled trials, systematic reviews, and institutional recommendations. Overall, findings were heterogeneous, both in methodological quality and reported outcomes.

A key theme that emerged across the literature was that the **timing** of pacifier introduction is crucial. Observational studies frequently reported a negative association between early pacifier use—typically within the first two weeks postpartum—and suboptimal breastfeeding outcomes, including early cessation and reduced exclusivity (Batista et al., 2017; Gomes-Filho et al., 2019; Howard et al., 1999; Karabulut et al., 2009; Levy et al., 2002). These studies suggested that reduced feeding frequency and breast stimulation may decrease maternal oxytocin and prolactin secretion, thus leading to lower milk production and earlier weaning.

However, due to their design, observational studies are not able to establish causality and may be confounded by factors such as maternal distress, return to work, absence of support, or previous breastfeeding difficulties (Buccini et al., 2016; Janwadkar et al., 2023). In this regard, the pacifier may represent a **marker** rather than a **cause** of breastfeeding challenges.

In contrast, randomized controlled trials and systematic reviews (Feldens et al., 2013; Jaafar et al., 2016; Jenik et al., 2009; Kramer et al., 2001; Tolppola et al., 2022; WHO/UNICEF, 1997) generally failed to demonstrate a significant difference in breastfeeding success between infants who used pacifiers and those who did not, particularly when pacifier use was introduced after lactation was established. Only one RCT among those reviewed reported a direct correlation between pacifier use and reduced breastfeeding duration. The majority of high-level evidence supports the notion that pacifier use—when delayed until breastfeeding is well established (commonly between 2 and 6 weeks)—does not adversely affect breastfeeding continuation.

Professional and institutional guidelines reflect this nuanced evidence. The American Academy of Pediatrics (2012), Holmes et al. (2013), Nguyen et al. (2018), and Queensland Health recommend introducing pacifiers after the establishment of breastfeeding. For instance, Nguyen et al. (2018) stated that "there is moderate evidence that unrestricted pacifier use, started at birth or after lactation has been established, does not decrease the likelihood of continued exclusive or partial breastfeeding through four months of age." Similarly, Holmes et al. (2013) concluded that pacifier use "did not significantly affect the prevalence or duration of exclusive and partial breastfeeding up to 4 months of age."

Despite these divergences, most sources agree on the importance of **ongoing education and training** for healthcare professionals. Effective breastfeeding support requires the ability to identify dyads at risk, promote maternal empowerment, involve partners and family networks, and ensure continuity of care—from prenatal education to home-based postpartum support (Feldens et al., 2013; Janwadkar et al., 2023).

Limitations

Several limitations emerged during the scoping review process. First, no formal critical appraisal of individual sources was conducted, in line with the objectives and methodology of scoping reviews. Consequently, findings should be interpreted with caution, particularly regarding the varying quality of included studies.

Second, the studies included show a **lack of consistency in defining breastfeeding success**, timing of pacifier use, and key outcomes. This variability complicates direct comparisons across studies and limits the generalizability of findings. Furthermore, many studies did not adequately adjust for confounding factors, such as maternal intention, mental health, or healthcare access.

Third, most studies were conducted in high- or upper-middle-income countries, limiting the transferability of findings to low-resource settings. Additionally, the inclusion of only English language sources may have introduced **language bias**.

Finally, although evidence was systematically mapped, the absence of meta-analytic synthesis precludes quantitative assessment of effect size, which is particularly relevant given the clinical implications of the topic.

Conclusions

This review confirms that the relationship between pacifier use and breastfeeding outcomes is complex and multifactorial. Early pacifier use appears associated with suboptimal breastfeeding outcomes in observational studies, but this association is not confirmed by randomized controlled trials or systematic reviews. The evidence suggests that when introduced **after breastfeeding is well established,** pacifiers do not

significantly interfere with breastfeeding success and may offer benefits, including analgesic and self-soothing effects, as well as a potential protective role in reducing the risk of Sudden Infant Death Syndrome (SIDS) (Karabulut et al., 2009; Tolppola et al., 2022).

Although findings vary across study designs, there is growing consensus—reflected in the positions of major scientific societies—that pacifiers should only be introduced **once breastfeeding is established.** While no universally accepted definition exists for this point in time, the optimal window is generally considered to fall between the **second and sixth week postpartum** (Holmes et al., 2013; Nguyen et al., 2018).

Future research should focus on clarifying the causal relationship between pacifier use and breastfeeding outcomes using high-quality study designs and standardized definitions. In particular, there is an urgent need to define what constitutes "established breastfeeding" in clinical and research contexts. Clarifying this concept would support the development of more precise recommendations and inform future updates of national and regional guidelines, particularly in settings where current guidance remains cautious or heterogeneous.

Finally, continuous and evidence-based training for healthcare professionals—including midwives, pediatricians, and lactation consultants—is essential to ensure that families receive personalized, consistent, and informed support. Strengthening professional competencies in this area is key to promoting maternal empowerment, supporting successful breastfeeding, and ultimately improving maternal and infant health outcomes.

In addition, future research should also explore the underlying reasons for the early use of pacifiers, as this behavior may reflect broader social determinants of health and highlight important ethical concerns related to equity and informed parental decision-making.

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Declaration of generative AI

No generative AI was used in the preparation of this manuscript.

CRediT authorship contribution statement

Alessia Bonaccorso: Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Francesca Reato:** Writing – original draft, Methodology. **Giulia Giampaoli:** Writing – original draft, Data curation, Conceptualization. **Luca Levrini:** Writing – review & editing, Supervision, Conceptualization. **Mario Picozzi:** Writing – review & editing, Supervision. **Antonella Cromi:** Writing – review & editing, Supervision.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.midw.2026.104760.

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