

Current Guidelines on Management of Breastfeeding-Related Nipple Injuries – The Evidence

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Introduction

The benefits of breastfeeding to the baby, mother and the community have been well documented. Despite best efforts at local and international level to meet the targeted global Exclusive Breastfeeding (EBF) rate of 70% by 2030, the goal remains out of reach, with only 7% improvement in EBF rates between 2005 and 2018 even in low and middle-income countries where breastfeeding is most prevalent (WHO, 2017; Neves *et al.*, 2021).

According to the last UK-wide infant feeding survey conducted in 2010, although 81% of new mothers initiated breastfeeding, EBF rates at 6 weeks were 24%, 17% and 13% in England, Scotland, and Ireland respectively. EBF rate at 6 months was around 1% with only 34% of babies receiving any breastmilk at 6 months (Rayfield, Oakley and Quigley, 2015; UNICEF, 2017; *UNICEF*, 2022). However, a more recent study found an increase in the proportion of infants receiving breastmilk in Scotland at 6 months from the initial 32% in 2010 to 43% (D’Cruz, 2018).

A key maternal factor associated with early cessation of breastfeeding is breastfeeding-related nipple injuries (BRNI) and complications. 80% of breastfeeding mothers are reported to stop breastfeeding earlier than desired (UNICEF, 2017; *UNICEF*, 2022), with nipple pain and injuries being implicated as one of the most common reasons for discontinuing breastfeeding (Morland-Schultz & Hill, 2005; Dennis, Jackson & Watson, 2014; Bourdillon, McCausland & Jones, 2020). Despite being a vastly researched area, there are inconsistencies in recommended practices to help breastfeeding mothers prevent and manage BRNIs (Buck *et al.*, 2014).

Effective evidence-based management of BRNI is critical in improving global breastfeeding rates, however, references to the source data substantiating many recommendations found in educational materials accessed by breastfeeding mothers in the UK (including from NHS and NICE) are often difficult to identify. This study reviews published data on the management of BRNI and compared findings with recommended practices from some of the UK’s key maternal health organisations.

Methods

This scoping review utilised the 5-stage scoping reiew methodology (Arksey and O’Malley, 2005).

- Stage 1: Identifying the research question.
- Stage 2: Identifying the relevant studies.
- Stage 3: Study selection
- Stage 4: Charting the data.
- Stage 5: Collating, summarising, and reporting results.

Relevant peer reviewed publications on prevention, identification, and treatment of BRNI were collected across 4 global databases using keywords and strings in June 2022. Data from eligible publications were analysed alongside the recommendations in current guidelines from the NHS, NICE, and key breastfeeding support organisations in the UK, allowing the verification of their current recommendations.

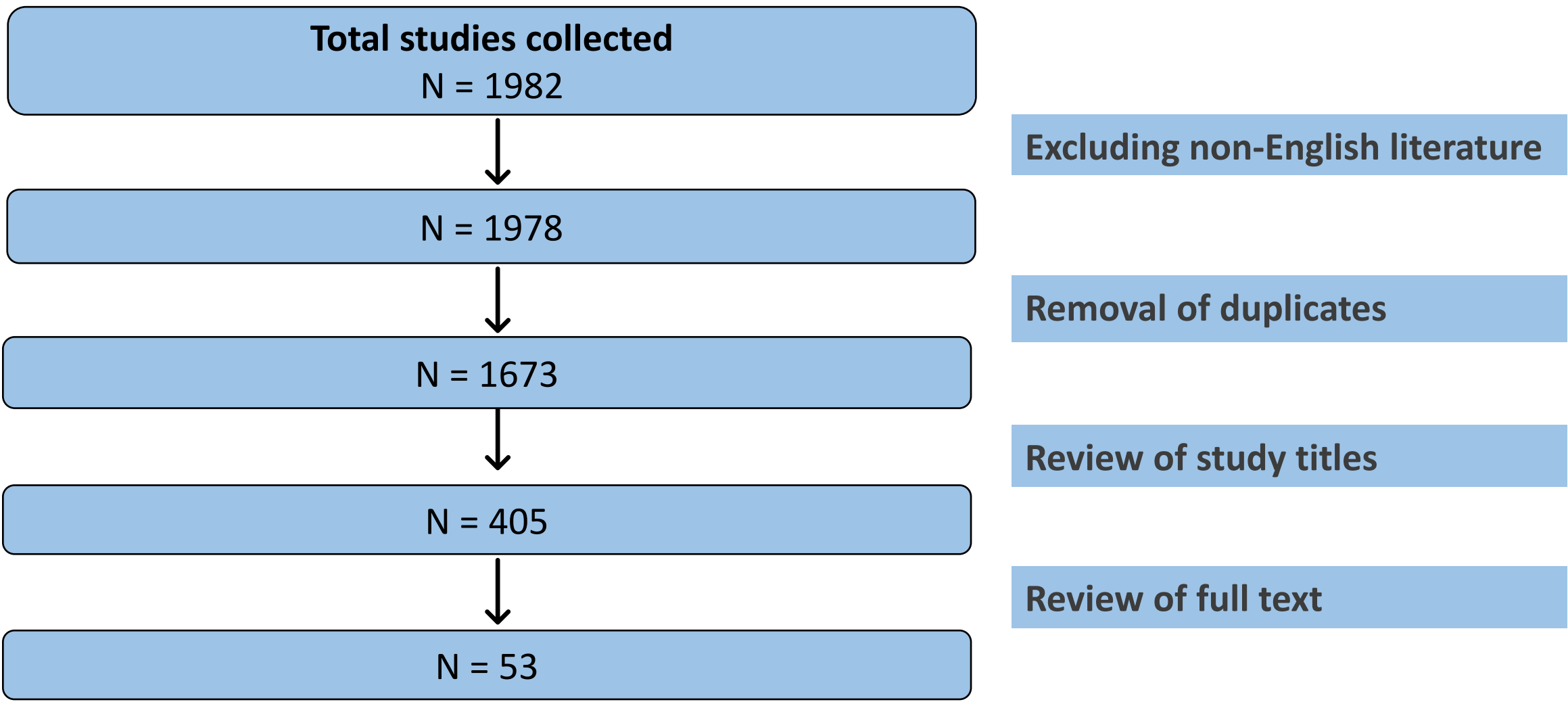


Figure 1. Flowchart showing number of studies included at each stage of review

Results

Fifty-three studies meeting the inclusion criteria were included in the study. The study findings reveal that there has been a significant increase in the number of studies on management of breastfeeding-related nipple complications between 2011 and 2020. During this time, over 70% of publications focused on treatment alone, majority of which focused on nipple soreness.

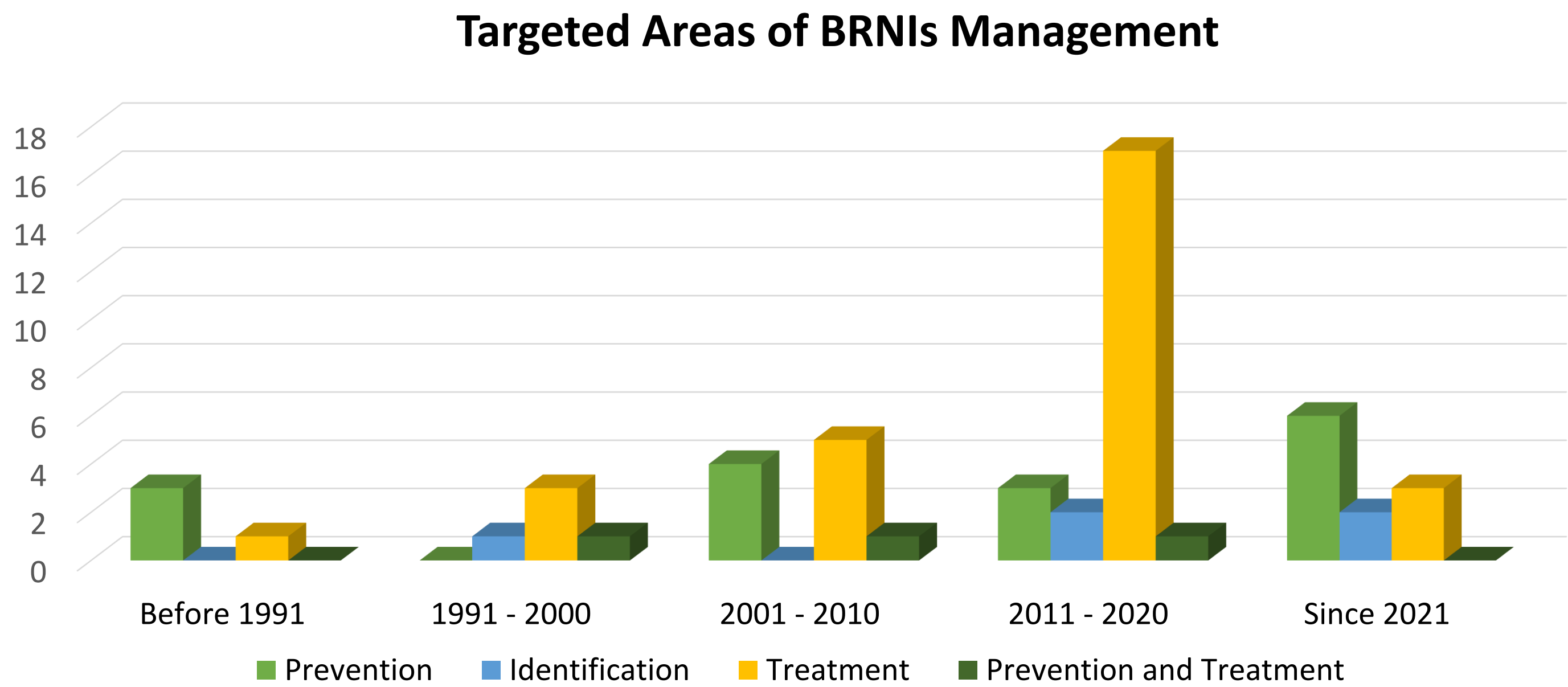


Figure 2. Focused aspects of management of breastfeeding-related nipple injuries

The type of studies varied significantly from clinical trials to practice audits. Thirty-two of the fifty-three studies were clinical trials, 4 studies were systemic reviews, while the remaining 17 studies were a coalition of other study types including audits, cross sectional interviews, Delphi studies and longitudinal descriptive studies. All the enrolled clinical trial studies were found to have been conducted outside of the UK. The study also found that though nearly all recommendations on managing BRNI in the UK are evidence-based, the proofs behind some recommendations have been contradicted by findings from more recent studies.

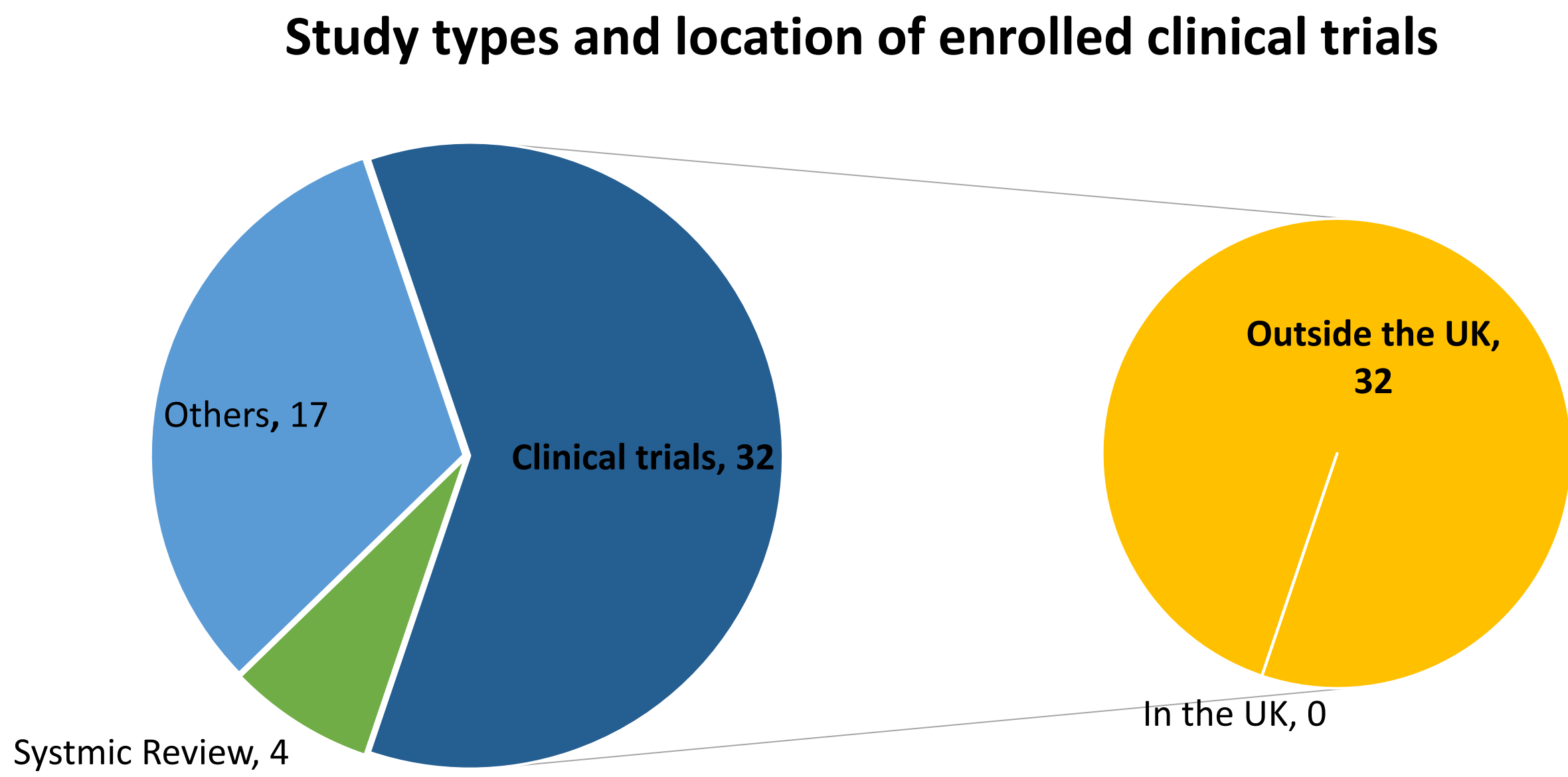


Figure 3. Study types and location

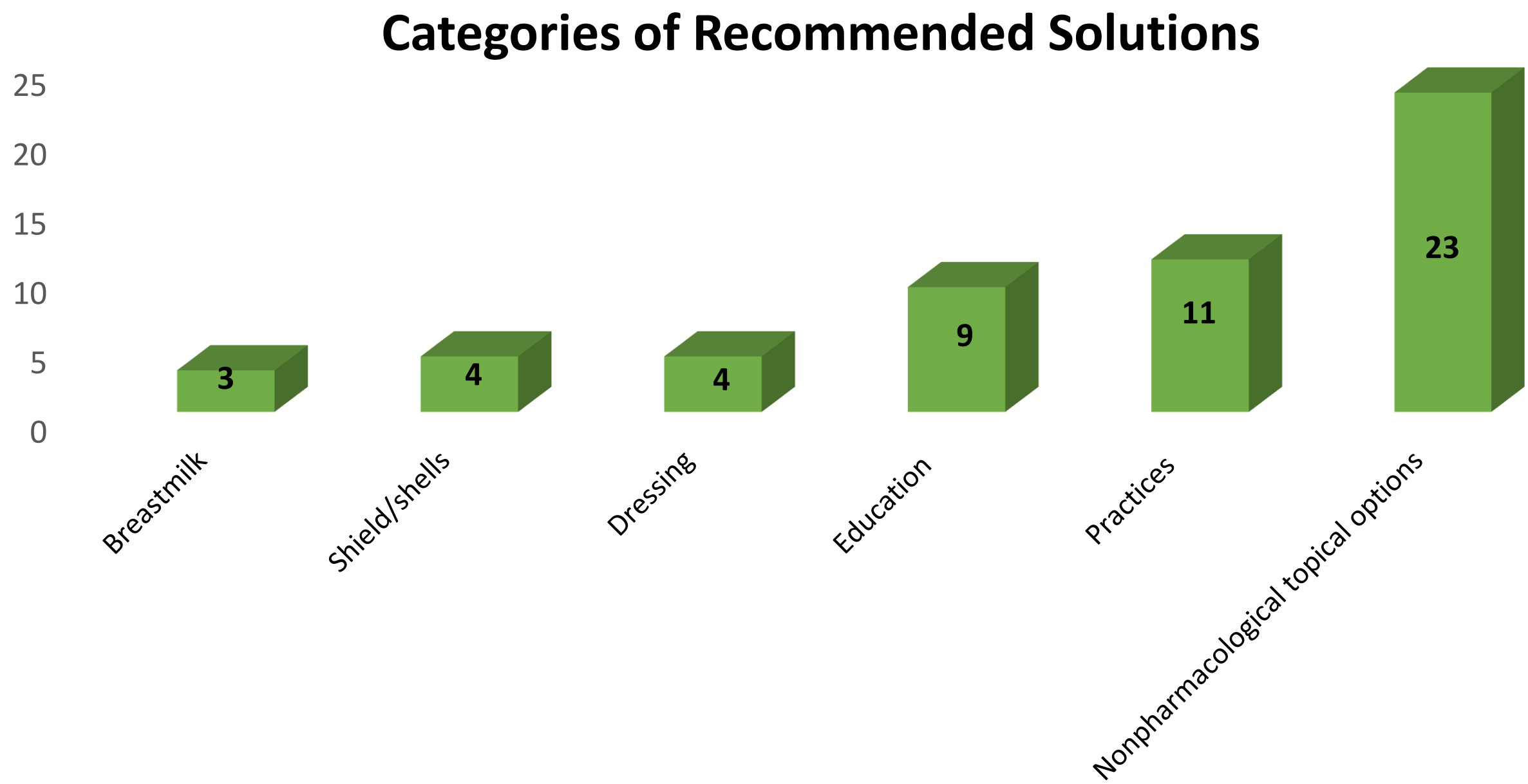
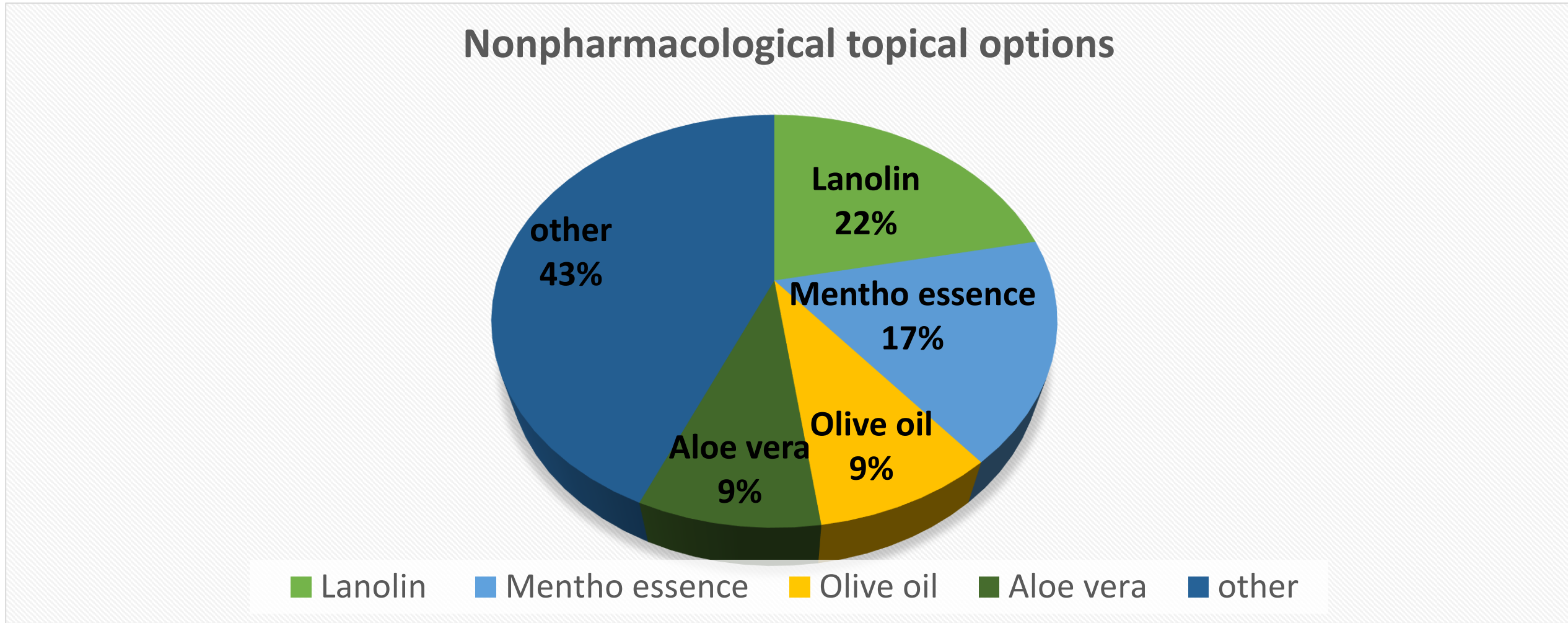


Figure 4. Categories of recommended solutions.

The recommended solutions identified from the studies were broadly categorised into education, practices, dressings, breast shield/shells, breastmilk, and nonpharmacological topical ointment. Over 40% of all recommended solutions fall within the nonpharmacological topical ointment group. Items in this category include lanolin, peppermint essence, olive oil, aloe vera, copper, zinc and sucralfate compounds, ziziphus jujuba fruit lotion, organic balm, purslane cream, silver cap, collagenase cream, honey, vernix caseosa and guaiazulene 0.05% cream. Lanolin and menthol essence were the two most recommended nonpharmacological topical options accounting for 22% and 17% respectively.



Conclusions

The study found that current recommended practices to manage BRNIs in the UK are mostly evidence-based and data driven. However, the growing interest in the area has lead to high output of relevant comprehensive data, creating a widening gap between available evidence and recommended practices.

Recommendations

To help objectively review and maximise the benefits of proposed recommended practices in the UK, we offer the following recommendations.

- That more clinical trials on breastfeeding potential solutions be funded and conducted here in the UK. This will offer first-hand view to the study design and data analysis and review relevant policies on first-hand applicable study findings.
- That the breastfeeding journey be always considered in its entirety and that different effective evidence-based approaches may be applicable at different stages/phases of the journey.
- That key stakeholders continue to objectively review recommended practices against new and comprehensive evidence, ensuring active participation of relevant healthcare professionals.