

## Citation

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## Review question

This review aims to investigate the use of behaviour change techniques (BCTs) as part of breastfeeding maintenance intervention approaches. Specifically, this review will:

1. Systematically identify breastfeeding maintenance intervention studies that employ BCTs in their design.
2. Comprehensively describe identified breastfeeding maintenance interventions using established BCT frameworks (i.e the BCT taxonomy and the theoretical domains framework).
3. Critically evaluate the use of BCTs in the design of breastfeeding maintenance interventions.

## Searches [1 change]

Electronic databases: PubMed, MEDLINE, PsycINFO & CINAHL

Other sources: Reference lists of included studies will be searched for potentially relevant records.

Search dates: No specific publication date period will be defined.

Restrictions: Records must be accessible in the English language.

## Types of study to be included

Studies that report on the development, implementation and/or evaluation of breastfeeding maintenance interventions will be considered for inclusion. Interventions must incorporate behaviour change in their design. Studies are not required to report on intervention efficacy or effectiveness to be considered for inclusion. Studies may include pilot studies, randomised controlled trials and non-controlled/randomised trials and protocol papers (if results papers are not yet available). Systematic reviews, meta-analyses, opinion pieces other grey literature will not be included.

## Condition or domain being studied

Maternal and Infant Nutrition. Breastfeeding. Infant Feeding. Behaviour Change.

## Participants/population

Pregnant women, antenatal women, postnatal women, healthcare practitioners working with antenatal and postnatal patient populations.

## Intervention(s), exposure(s)

Interventions designed to support and facilitate breastfeeding maintenance that focus on behaviour change and/or include behaviour change techniques in the intervention design. Interventions may target patient or healthcare staff behaviour change.

## Comparator(s)/control [1 change]

Having a comparator or control condition will not be an inclusion/exclusion criterion for this review. Some identified breastfeeding maintenance intervention studies may have comparator interventions or control conditions (e.g. usual care). However, having a comparator or a control condition is not required for a study

to be considered for inclusion in the review and studies will not be excluded because they do not have a control or comparator.

### Context

It is anticipated that breastfeeding maintenance interventions focusing on behaviour change will be implemented in a variety of hospital and community contexts and may target patients and healthcare practitioner behaviour. As such, context or setting will not be an inclusion/exclusion criterion for study inclusion.

### Main outcome(s) [1 change]

The primary outcome of this systematic review will be a comprehensive understanding of the use of behaviour change techniques within breastfeeding maintenance intervention design and implementation.

### Measures of effect

Produce a synthesised description of existing behaviour change-focused breastfeeding maintenance interventions, including their theoretical underpinning, structure, procedures, and overall behaviour change function.

Establish what behaviour change techniques have and have not been employed in breastfeeding maintenance intervention and consider their possible efficacy and mechanisms of action.

Propose directions for future breastfeeding maintenance research and intervention development.

### Additional outcome(s) [1 change]

An additional outcome for this systematic review will be to identify (where the data are available) whether specific behaviour change techniques or overall intervention functions have been associated with improvements in key breastfeeding maintenance-related outcomes.

### Measures of effect

The full extent of breastfeeding maintenance-related outcomes will not be known until studies have been identified and data extracted, however outcomes may include whether breastfeeding is sustained by mothers and for how long, and mother and infant psychosocial outcomes such as mother-infant attachment, mothers' mood and stress levels, and child emotional and social development.

### Data extraction (selection and coding)

Data extraction from included studies will follow guidance from Li et al. (2022) and will include study methods (design, recruitment and sampling), sample (setting, participant eligibility and characteristics), outcomes (type, measurement approach and timing), summary of key results and conclusions from study authors.

Information about all included interventions will also be extracted including information about design (structure, length, theory), implementation (timing, delivery format, facilitators, integrity) and any controls (Li et al., 2022). Specific behaviour change techniques, used within included interventions, will be identified, extracted and catalogued according to the definitions and hierarchy of the BCT Taxonomy (Michie et al., 2013). The overall functional behaviour change elements of included interventions will be identified and extracted according to the domains and definitions of the Theoretical Domains Framework (Cane et al. 2012).

Double data extraction will be conducted to minimise reviewer bias and error (Li et al., 2022).

### Risk of bias (quality) assessment

The Joanna Briggs Institute (JBI) critical appraisal tools (Tufanaru et al., 2020) will be used to conduct quality assessment of included articles. The JBI tools were chosen because we anticipate variability in study design within included studies (e.g. quasi-experimental, RCTs, cohort). Studies will not be excluded on the basis of quality.

### Strategy for data synthesis

This review will adopt a narrative synthesis approach, following the guidance of Popay et al. (2006) and Ryan et al. (2013):

#### 1. Developing a theory of how the intervention works, why and for whom:

Extracted information about intervention design and implementation, as well as information about behaviour change techniques/theory and key outcomes will be synthesised to develop a comprehensive understanding of how the interventions work, why and for whom. We will describe all identified interventions using a matrix containing specific BCTs used (Michie et al., 2013) in the intervention and overall functional domains (Cane et al., 2012). See appendix 2 for example.

#### 2. Developing a preliminary synthesis of the findings of included studies:

A preliminary summary of study features and findings will be conducted for each included study. Initial synthesis will include grouping studies according to common aspects, such as design, methodology and outcomes.

#### 3. Exploring relationships in the data within and between studies:

Heterogeneity both within and between studies will be examined in terms of variability in outcomes, study design, population and setting. We will also examine variability in breastfeeding maintenance intervention design, implementation, and BCT use. Where possible, we will consider how detailed aspects of the interventions might impact on key study outcomes.

#### 4. Assessing the robustness of the synthesis:

This will be considered both in terms of the amount and quality of the evidence identified and our methodological approach to synthesise this evidence. We will follow the systematic review reporting standards detailed in the PRISMA statement (Moher et al., 2009).

### Analysis of subgroups or subsets

Specific subgroup analysis will be dependent on the included study characteristics and/or results. We anticipate potential subgroup analysis could include interventions targeting mothers'/patients' behaviour compared with interventions targeting healthcare professionals' behaviour or according to different intervention functions.

### Contact details for further information

Calum McHale  
Calum.mchale2@nhslothian.scot.nhs.uk

### Organisational affiliation of the review

NHS Lothian

### Review team members and their organisational affiliations

Dr Calum McHale. NHS Lothian  
Dr Joanne Cecil. University of St Andrews  
Dr Line Caes. University of Stirling

### Collaborators

Tracy McGillivray. NHS Lothian

### Type and method of review

Intervention, Methodology, Narrative synthesis, Systematic review

### Anticipated or actual start date

05 September 2022

### Anticipated completion date

25 March 2024

### Funding sources/sponsors

This review will be conducted as part of a Qualification in Health Psychology (Stage 2) being undertaken by Calum McHale, whose post is funded by NHS Lothian and NHS Education for Scotland (NES).

### Conflicts of interest

### Language

English

### Country

Scotland

### Stage of review

Review Ongoing

### Subject index terms status

Subject indexing assigned by CRD

### Subject index terms

Behavior Therapy; Breast Feeding; Female; Humans

### Date of registration in PROSPERO

02 September 2022

### Date of first submission

29 August 2022

### Stage of review at time of this submission

The review has not started

Stage	Started	Completed
Preliminary searches	No	No
Piloting of the study selection process	No	No
Formal screening of search results against eligibility criteria	No	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

*The record owner confirms that the information they have supplied for this submission is accurate and complete and they understand that deliberate provision of inaccurate information or omission of data may be construed as scientific misconduct.*

*The record owner confirms that they will update the status of the review when it is completed and will add publication details in due course.*

### Versions

02 September 2022

