The effectiveness and maternal satisfaction of interventions supporting the establishment of breast-feeding for women from disadvantaged groups: a comprehensive systematic review protocol

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Review question/objective

The review question is ‘how effective are and what is the level of maternal satisfaction with interventions supporting breast-feeding establishment for women considered “disadvantaged” due to socio-demographic characteristics?’ Specific quantitative and qualitative objectives are:

1. Describe the interventions available to support the establishment of breast-feeding for women from disadvantaged groups

2. Assess the effectiveness of support interventions for women from disadvantaged groups as determined by the establishment of breast-feeding in the early postnatal period

3. Explore the maternal satisfaction of women from disadvantaged groups in relation to their views and perceptions of the usefulness and acceptability of interventions supporting the establishment of breast-feeding in the early postnatal period

Operational definitions:

Breast-feeding: establishment of breast-feeding will be defined as feeding an infant by breast or predominantly feeding expressed breast milk by gastric feeding tube.

Postnatal period: for this review the early postnatal period will be considered as up to seven days following delivery. This is to coincide with the expected establishment of lactogenesis.

Disadvantaged groups: for the purpose of this review disadvantaged groups will be classified as populations who are at increased risk of health inequalities due to specific socio-demographic characteristics. These are determined as residing in areas of socio-economic deprivation; low income; under 20 years of age; substance dependent or eligible for the special supplementary nutrition program for Women, Infant and Child (WIC) in the United States of America (USA).

Support: any intervention provided to women from disadvantaged groups to facilitate establishment of breast-feeding/lactation and may include but not limited to practical, motivational, informative or educational assistance.
Background

Breast-feeding is considered the optimum method of infant nutrition and there is a considerable body of evidence supporting the health and psychological advantages it confers on both mother and baby. Short term health benefits for the infant include passive immunity, protection against infections and a lower incidence of sudden infant death syndrome. Infants who are not exclusively breast-fed for the first six months of life are more likely to experience gastric, respiratory, ear and urine infections. Where there is a predisposing family history there is an increased incidence of developing atopic disease. Studies on long term outcomes demonstrate that breast-fed babies are less likely to suffer from obesity, high cholesterol or type-2 diabetes in adulthood. For women, the potential outcome of breast-feeding includes reduction in breast and ovarian cancers and a lesser prevalence of post-menopausal osteoporosis. Within a health/social context, an improvement in short and long term morbidity and mortality states reduces the financial burden on health care resources.

Recognition of the impact of exclusive and prolonged breast-feeding on the inherent well-being of populations has resulted in global strategies to increase breast-feeding rates in both developing and developed countries. In 1992, the World Health Organization (WHO) and United Nations International Children's Fund (UNICEF) launched the Baby Friendly Hospital Initiative (BFHI), to promote, protect and support breast-feeding. This program works with health service providers to implement best practice in midwifery care and BFHI accreditation indicates that the facility offers a high level of skill, knowledge and support for breast-feeding.

Since committing to BFHI, breast-feeding initiation in the United Kingdom (UK) has gradually increased but statistics show that there is considerable attrition within the first week following birth. Additionally, some groups demonstrate substantially lower breast-feeding rates compared to national averages. Studies identify women residing in areas of socio-economic deprivation, teenagers, smokers, substance dependent and those with lower educational attainment as less likely to establish lactation. National figures demonstrate an average initiation rate of 81% across all population groups decreasing to 66% of women breast-feeding at days seven to ten following delivery. However, in areas of greatest deprivation, 60% of women initiate breast-feeding but this declines to only 31% within the first post-partum week. These mother and infant dyads also have a greater prevalence of health inequalities due to the effects of an intergenerational cycle of poor nutrition and detrimental lifestyle choices. Subsequently, UK public health initiatives targeting an increase in breast-feeding amongst socio-economically disadvantaged women have become a priority objective.

The National Institute for Health and Clinical Excellence (NICE) recommends that breast-feeding promotions for disadvantaged groups should utilize the best package of support interventions, be informed by the views of the service users and address the diverse needs of the target population. However, within health care literature the 'best package' of breast-feeding interventions remains undetermined and the concept of 'support' has not been clearly defined. Three Cochrane reviews have investigated the effectiveness of various components for the initiation and prolongation of breast-feeding, concluding that the studies evaluated demonstrated inconsistent results or findings originated from single studies only. Renfrew et al. reviewed 'Support for Healthy Breastfeeding Mothers with Healthy Term Babies' comparing different breast-feeding interventions with standard maternity practices. When studies were analyzed together, all forms of extra support, whether educational, motivational or delivered by peers or professionals, had a positive impact on feeding duration. However, the authors were unable to distinguish the effectiveness of individual components.
the most appropriate method of delivery or the most conducive setting from the reported evidence. This review included studies on women from disadvantaged groups but they were not the primary focus. It was recommended that further research concentrating on those mother/infant dyads at risk of health inequalities due to socio-economic disadvantages, should be considered. Additionally, a deficiency across all studies in reporting maternal perceptions and acceptability of the support interventions was identified.

The general view within existing health care literature is that support may encompass practical, informative, emotional, motivational and network/relational elements. 20 Schmied et al. conducted a meta-synthesis on the breast-feeding support interventions which women perceived as supportive.24 Practices judged positively were described as 'authentic' and 'facilitative', whilst unhelpful or detrimental interventions were considered as 'disconnected' and 'reductionist'. Mothers commented that the development of a trusting, continued relationship which was encouraging and affirmative of their ability, was most conducive to breast-feeding prolongation. Interactions which were fragmented, lacking in rapport or where staff were either over-zealous about breast-feeding or offered conflicting advice, negatively influenced a woman’s personal confidence. The type of support directly impacted on the mother’s perception of her self-efficacy to successfully breast-feed and unsupportive actions resulted in a loss of confidence and subsequent feeling of being undermined, confused and guilty. Demirtas reviewed qualitative studies on breast-feeding support for women of all socio-demographic groups, reporting that low-income women needed much more support, confidence-building and reassurance than affluent women.25 It was also noted that these women had less ability to cope with common breast-feeding problems such as nipple pain, latching difficulties and perceived insufficient milk supply. These findings were corroborated by MacGregor and Hughes in their review of breast-feeding experiences of teenagers and low-income mothers.14 The authors reflected that barriers and negative misconceptions of breast-feeding were inherent of the ‘bottle-feeding culture’16 which has developed within many socio-economically deprived communities. Overall, the recommendations of these reviews are that health care professionals must adopt more explicit and cultural specific interventions to overcome these issues.

There has been extensive research conducted on initiation and prolongation of breast-feeding and the strategies adopted to enhance these.26 Yet, considerably fewer studies investigate the establishment of breast feeding in the early post-partum period despite the high attrition rates during this time.27 Furthermore, studies focusing exclusively on the breast-feeding experiences of women considered disadvantaged, and therefore at greatest risk of health inequalities, are under-represented within this body of evidence.28,29 Consequently, there is a lack of clarity on the most appropriate strategies to support breast-feeding establishment during the early postnatal period, particularly interventions which are effective and acceptable to disadvantaged women.2,23 This review aims to identify the best available evidence in this regard.

**Keywords**
breast-feeding; disadvantaged; perceptions; postnatal; support

**Inclusion criteria**

**Types of participants**

The quantitative and qualitative components of this review will consider studies that include disadvantaged women who have elected to breastfeed. Eligible studies are those researching women
who would be considered disadvantaged due to socio-economic-demographic characteristics. These include women who are of low income, from areas of socio-economic deprivation, under 20 years of age, substance dependent or eligible for the special supplementary nutrition program for WIC in the USA. Studies which include disadvantaged groups in their research on the general population of breast-feeding women, but they are not the explicit focus of the study, shall be excluded due to the potential moderating effect on the reported data. Subgroups with low breastfeeding initiation due to ethnic, cultural or specific religious practices, and therefore not representational of other disadvantaged women, shall be excluded.

**Types of intervention(s)/phenomena of interest**

The quantitative components of the review will consider studies that evaluate the effectiveness of professionally led practices designed to support breast-feeding establishment during the early postnatal period for women from disadvantaged groups.

The phenomena of interest for the qualitative component of the review will be the perceptions and experiences of women from disadvantaged groups of professionally led breast-feeding support provision and their expressed level of satisfaction with the intervention.

Breast-feeding support interventions may include or take the form of:

- informative and/or educational
- practical
- motivational.

The intervention may be either a combination of all/some of the support elements or delivered as a single intervention.

The intervention will be professionally led and delivered in an in-hospital setting by one or more of the following:

- midwife
- midwifery support worker
- nurse/neonatal nurse
- breast-feeding support worker
- lactation consultant.

Interventions delivered by peer/lay counselors or requiring continued support/supervision outside the early postnatal period will be excluded.

**Types of outcomes**

This review will consider studies that include the following outcome measures:

1. Effectiveness of the intervention to support the establishment of breast-feeding/lactation within the early postnatal period, as determined as fully fed at the breast or receiving predominantly breast milk by gastric feeding tube.
(2) Level of maternal satisfaction as determined by the views and perceptions of disadvantaged women on the usefulness and acceptability of the intervention to support breast-feeding establishment in the early postnatal period.

**Types of studies**

The quantitative component of the review will consider both experimental and epidemiological study designs including randomized controlled trials, non-randomized controlled trials, quasi-experimental, prospective and retrospective cohort studies, case control studies, case series and analytical and descriptive cross sectional studies for inclusion.

The qualitative component of the review will consider studies that focus on qualitative data including, but not limited to, designs such as phenomenology, grounded theory, ethnography, action research and feminist research.

**Search strategy**

The search strategy aims to find both published and unpublished studies, in the English language only and published from 1992 to March 2013. The commencement date of 1992 was chosen as in this year WHO/UNICEF launched the Baby Friendly Hospital Initiative recommending practices to globally increase breast-feeding rates. A three-step search strategy will be utilized in this review. An initial limited search of MEDLINE and CINAHL will be undertaken followed by analysis of the text words contained in the title and abstract, and of the index terms used to describe articles. A second search using all identified keywords and index terms will then be undertaken across all included databases. Thirdly, the reference list of all identified reports and articles will be searched for additional studies.

The databases to be searched include: AMED, ASSIA, CINAHL, Campbell Collaboration, Cochrane Library, EMBASE, EThOS, Internurse, Intermid, Maternity and Infant Care, Midirs, MEDLINE, SAGE and Web of Science/Knowledge.

Initial keywords for the search will be:

breastfeeding OR breast-feeding OR lactation

AND

support OR intervention

AND

disadvantaged
deprivation

low-income OR 'Women Infant and Child (WIC)'
teenager OR adolescent

substance dependent OR substance misuse OR 'Neonatal Abstinence Syndrome'
Assessment of methodological quality

Quantitative papers selected for retrieval will be assessed by two independent reviewers for methodological validity prior to inclusion in the review using standardized critical appraisal instruments from the Joanna Briggs Institute Meta-Analysis of Statistics Assessment and Review Instrument (JBI-MAStARI) (Appendix I). Any disagreements that arise between the reviewers will be resolved through discussion, or with a third reviewer.

Qualitative papers selected for retrieval will be assessed by two independent reviewers for methodological validity prior to inclusion in the review using standardized critical appraisal instruments from the Joanna Briggs Institute Qualitative Assessment and Review Instrument (JBI-QARI) (Appendix I). Any disagreements that arise between the reviewers will be resolved through discussion, or with a third reviewer.

Data collection

Quantitative data will be extracted from papers included in the review using the standardized data extraction tool from JBI-MAStARI (Appendix II). The data extracted will include specific details about the interventions, populations, study methods and outcomes of significance to the review question and specific objectives.

Qualitative data will be extracted from papers included in the review using the standardized data extraction tool from JBI-QARI (Appendix II). The data extracted will include specific details about the interventions, populations, study methods and outcomes of significance to the review question and specific objectives.

Data synthesis

Quantitative papers will, where possible be pooled in statistical meta-analysis using JBI-MAStARI. All results will be subject to double data entry. Effect sizes expressed as odds ratio (for categorical data) and weighted mean differences (for continuous data) and their 95% confidence intervals will be calculated for analysis. Heterogeneity will be assessed statistically using the standard Chi-square and also explored using subgroup analyses based on the different quantitative study designs included in this review. Where statistical pooling is not possible the findings will be presented in narrative form including tables and figures to aid in data presentation where appropriate.

Qualitative research findings will, where possible be pooled using JBI-QARI. This will involve the aggregation or synthesis of findings to generate a set of statements that represent that aggregation, through assembling the findings (Level 1 findings) rated according to their quality, and categorizing these findings on the basis of similarity in meaning (Level 2 findings). These categories are then subjected to a meta-synthesis in order to produce a single comprehensive set of synthesized findings (Level 3 findings) that can be used as a basis for evidence-based practice. Where textual pooling is not possible the findings will be presented in narrative form.

Conflicts of interest

No conflict of interest noted.
References


16 Dungy CI, McInnes RJ, Tappin DM, Wallis AB. and Oprescu F. Infant feeding attitudes and knowledge among socio-economically disadvantaged women in Glasgow. Maternal and Child Health


19 Burns E, Schmied V, Fenwick J. and Sheehan A. Liquid gold from the milk bar; constructions of breast milk and breastfeeding women in the language and practices of midwives. Social science and medicine 2012; 75(10): 1737-1745.


doi: 10.11124/jbisrir-2013-931
Appendix I: Appraisal instruments
QARI appraisal instrument

JBI QARI Critical Appraisal Checklist for Interpretive & Critical Research

Reviewer __________________________ Date __________________________
Author __________________________ Year ______ Record Number ______

1. Is there congruity between the stated philosophical perspective and the research methodology? □ □ □ □
2. Is there congruity between the research methodology and the research question or objectives? □ □ □ □
3. Is there congruity between the research methodology and the methods used to collect data? □ □ □ □
4. Is there congruity between the research methodology and the interpretation of results? □ □ □ □
5. Is there a statement locating the researcher culturally or theoretically? □ □ □ □
6. Is the influence of the researcher on the research, and vice-versa, addressed? □ □ □ □
7. Are participants, and their voices, adequately represented? □ □ □ □
8. Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body? □ □ □ □
9. Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data? □ □ □ □

Overall appraisal: □ Include □ Exclude □ Seek further info. □

Comments (including reason for exclusion)
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

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MAStARI appraisal instruments

JBI Critical Appraisal Checklist for Randomised Control / Pseudo-randomised Trial

Reviewer __________________________ Date __________________________
Author __________________________ Year __________ Record Number ______

1. Was the assignment to treatment groups truly random? ☐ ☐ ☐ ☐
2. Were participants blinded to treatment allocation? ☐ ☐ ☐ ☐
3. Was allocation to treatment groups concealed from the allocator? ☐ ☐ ☐ ☐
4. Were the outcomes of people who withdrew described and included in the analysis? ☐ ☐ ☐ ☐
5. Were those assessing outcomes blind to the treatment allocation? ☐ ☐ ☐ ☐
6. Were the control and treatment groups comparable at entry? ☐ ☐ ☐ ☐
7. Were groups treated identically other than for the named interventions ☐ ☐ ☐ ☐
8. Were outcomes measured in the same way for all groups? ☐ ☐ ☐ ☐
9. Were outcomes measured in a reliable way? ☐ ☐ ☐ ☐
10. Was appropriate statistical analysis used? ☐ ☐ ☐ ☐

Overall appraisal: Include ☐ Exclude ☐ Seek further info. ☐

Comments (including reason for exclusion)
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JBI Critical Appraisal Checklist for Descriptive / Case Series

Reviewer: ____________________________ Date: ____________________________
Author: ____________________________ Year: __________ Record Number: _______

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<tr>
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<td>Were the criteria for inclusion in the sample clearly defined?</td>
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<td>3.</td>
<td>Were confounding factors identified and strategies to deal with them stated?</td>
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<td>Were outcomes assessed using objective criteria?</td>
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<td>If comparisons are being made, was there sufficient description of the groups?</td>
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<td>Was follow up carried out over a sufficient time period?</td>
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<td>Were the outcomes of people who withdrew described and included in the analysis?</td>
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<td>8.</td>
<td>Were outcomes measured in a reliable way?</td>
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<td>9.</td>
<td>Was appropriate statistical analysis used?</td>
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Overall appraisal: Include □ Exclude □ Seek further info □

Comments (Including reason for exclusion):
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________________________________________________________________________
# JBI Critical Appraisal Checklist for Comparable Cohort/Case Control

Reviewer: ______________  Date: ______________

Author: ______________  Year: ______________  Record Number: ______________

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<td>Is sample representative of patients in the population as a whole?</td>
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<td>2.</td>
<td>Are the patients at a similar point in the course of their condition/illness?</td>
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<td>Has bias been minimised in relation to selection of cases and of controls?</td>
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<td>Are outcomes assessed using objective criteria?</td>
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<td>6.</td>
<td>Was follow up carried out over a sufficient time period?</td>
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<td>Were the outcomes of people who withdrew described and included in the analysis?</td>
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<td>8.</td>
<td>Were outcomes measured in a reliable way?</td>
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<td>Was appropriate statistical analysis used?</td>
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Overall appraisal:  Include ☐  Exclude ☐  Seek further info. ☐

Comments (including reason for exclusion)


Appendix II: Data extraction instruments
QARI data extraction instrument

JBI QARI Data Extraction Form for Interpretive & Critical Research

Reviewer .......................... Date ........................................

Author .......................... Year ........................................

Journal .......................... Record Number ..........................

Study Description
Methodology

Method

Phenomena of interest

Setting

Geographical

Cultural

Participants

Data analysis

Authors Conclusions

Comments

Complete             Yes □                   No □
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Extraction of findings complete  Yes ☐  No ☐
MAStARI data extraction instrument

**JBI Data Extraction Form for Experimental / Observational Studies**

Reviewer: ___________________________ Date: _________________________

Author: ______________________________ Year: _______________________

Journal: _____________________________ Record Number: ___________

**Study Method**

- RCT □
- Quasi-RCT □
- Longitudinal □
- Retrospective □
- Observational □
- Other □

**Participants**

- Setting: ____________________________________________
- Population: __________________________________________

**Sample size**

- Group A: ____________________ Group B: ____________________

**Interventions**

- Intervention A: ________________________________________
- Intervention B: ________________________________________

**Authors Conclusions:**

- __________________________________________
- __________________________________________
- __________________________________________

**Reviewers Conclusions:**

- __________________________________________
- __________________________________________
- __________________________________________

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Page62
Study results

Dichotomous data

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