

Breastfeeding - Promoting and Supporting in NSW: Case Studies

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Summary This report presents case studies to illustrate strategies and interventions to support and promote breastfeeding. It is designed to provide guidance to practitioners in achieving health goals in relation to breastfeeding and in implementing NSW Health nutrition, child health and obesity prevention policies. These case studies extend our knowledge about interventions, by providing more detailed descriptions of specific strategies found to be effective in recent systematic reviews, and by illustrating a range of initiatives related to strategies not covered in systematic reviews. Case studies were chosen from three strategy areas: education and support; health service policies and practices; and mass media, advocacy, healthy public policy.

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Promoting and supporting breastfeeding in NSW: Case Studies



The University of Sydney

NSW  **HEALTH**

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State of Food and Nutrition in NSW Series

Promoting and supporting breastfeeding in NSW: case studies

**A NSW Centre for Public Health Nutrition project for NSW Health
prepared by Lesley King, Debra Hector and Karen Webb.**

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List of abbreviations

ABA	Australian Breastfeeding Association
AHS	Area Health Service
BFHI	Baby Friendly Hospital Initiative
CPHN	NSW Centre for Public Health Nutrition
IOTF	International Obesity Task Force
MAIF	Marketing Agreement for Infant Formula
N	Number (in study)
NHMRC	National Medical Research Council
NMAA	Nursing Mothers Association of Australia
NSW	New South Wales
UNICEF	United Nations Children's Fund (previously International Emergency Children's Fund)
RHW	Royal Hospital for Women
USA	United States of America
USPSTF	United States Preventive Services Task Force
WHO	World Health Organisation
WIC	Women, Infants and Children

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Executive summary

This report presents case studies to illustrate strategies and interventions to support and promote breastfeeding, and is the third in a series of reports about breastfeeding prepared by the NSW Centre for Public Health Nutrition. It is designed to provide guidance to practitioners in achieving health goals in relation to breastfeeding and in implementing NSW Health nutrition, child health and obesity prevention policies.

The report reviews our knowledge about factors contributing to breastfeeding, as this is the starting point for identifying and designing interventions. However, the need for further research on underlying factors and interventions is highlighted, as they are likely to provide the strongest basis for designing interventions to meet NSW objectives.

The case studies in this report extend our knowledge about interventions, by providing more detailed descriptions of specific strategies found to be effective in recent systematic reviews, and by illustrating a range of initiatives related to strategies and intervention points not covered in systematic reviews. Specific examples/case studies were chosen from the following three strategy areas: education and support; health service policies and practices; mass media, advocacy, healthy public policy.

The report presents thirty-one case studies, including eight studies conducted with socio-economically disadvantaged groups that illustrate an equity focus. Case studies were selected to present a range of strategies, to be relevant to the NSW context, and where there was some evidence the intervention was effective or promising. To the extent that well evaluated intervention studies are available, they have been featured.

The report recommends that practitioners implement evidence-based practices to promote and support breastfeeding. It is recognised that this involves local planning, and adaptations of strategies to fit different organisational settings. This implementation planning process must consider the extent to which services can be oriented to the social and cultural characteristics of more disadvantaged groups.

However, a comprehensive approach to the promotion and support of breastfeeding may require actions beyond the scope of current evidence. The report considers a number of promising approaches and interventions, discusses the need for further strategy development and evaluation and recommends applied research priorities.

1 Introduction

1.1 The context of this report

Promoting, encouraging and supporting breastfeeding is a primary aim of nutrition and public health programs across Australia (NHMRC 2003). 'The encouragement and support of breastfeeding' is included in the most recent *Dietary Guidelines for Children and Adolescents* (NHMRC 2003) in acknowledgement of the nutritional, health, social and economic benefits breastfeeding provides for the Australian community. The *Infant Feeding Guidelines for Health Workers* (NHMRC 2003) provides recommendations on the main principles to be followed by health workers.

At state level, promoting breastfeeding is one of five public health nutrition priorities indicated in *Eat Well NSW 2003-2007* (NSW Health 2004a) and is also recognised as an important area for action in the *Prevention of Obesity in Children and Young People: NSW Government Action Plan 2003-2007* (NSW Health 2003). The role of breastfeeding in contributing to children's health is highlighted in the NSW child health policy *The Start of Good Health: Improving the Health of Children in NSW* (NSW Health 1999). It is also included in the 'Strong beginnings' focus area of the NSW Health and Equity Statement *In All Fairness: Increasing Equity in Health Across NSW* (2004b).

This report is the third in a series of reports about breastfeeding prepared by the NSW Centre for Public Health Nutrition (CPHN). The first report about breastfeeding produced by the CPHN, *State of Food and Nutrition in NSW series: Report on breastfeeding in NSW 2004* (Hector et al 2004a) described patterns of breastfeeding. This was followed by a report synthesising evidence from reviews, *Overview of recent reviews of interventions to promote and support breastfeeding* (Hector et al 2004b). The latter report also identified gaps in the types of interventions covered by reviews. This third report presents case studies to illustrate strategies and interventions to support and promote breastfeeding.

1.2 The purpose of this report

This report, as well as the *Overview of recent reviews of interventions to promote and support breastfeeding* (referred to as the *Overview* report), are designed to provide guidance to practitioners in achieving health goals in relation to breastfeeding and in implementing NSW Health policies. This report complements the *Overview* report in two ways: first, it provides ideas about how to translate evidence from reviews into actions in the NSW context; and second, it provides ideas on how to address the gaps in existing evidence through innovation and applied research. Thus this report features examples of interventions to promote and support breastfeeding, drawing from studies covered by the systematic reviews, and examples of intervention types not covered by the systematic reviews.

Given the numerous and complex determinants of breastfeeding, and the range of potential strategies excluded from systematic reviews, it can be argued that a comprehensive policy and set of programs should comprise a broader range of interventions than those included in reviews to date. The case studies in this report cover a broad range; many of the examples that specifically address social and environmental factors are provided to stimulate innovation and applied research and development.

All case studies have been selected on the basis of their relevance to the NSW situation, as well as their value in illustrating specific strategies. The report has incorporated an equity approach and includes a significant proportion of case studies that involve more disadvantaged groups.

The report aims to:

- Demonstrate how a framework of determinants and potential intervention points can be used to identify interventions and strategies with the potential to promote and support breastfeeding
- Foster evidence-based practice in the promotion and support of breastfeeding

- Identify options for environmental, social and policy interventions to promote and support breastfeeding
- Illustrate different types of interventions
- Assist practitioners to use information from reviews and intervention studies to guide decisions about policy and programs
- Encourage systematic planning and evaluation and the development of a broad approach to promoting and supporting breastfeeding
- Encourage health services to adopt an equity approach in the planning and implementation of initiatives to promote breastfeeding.

1.3 Target audience

This report is intended for those working to improve breastfeeding practices of the NSW population. This includes maternal and child health staff, teachers of health professionals, lactation consultants, General Practitioners, public health nutritionists, health promotion practitioners, health professional organisations such as the Dietitians Association of Australia and Royal Australian College of General Practitioners, health service decision-makers and workers in non-government organisations, such as the ABA. The information may also be of value to other sectors, including employers, trade unions, and family support services.

2 Formulating options for action

2.1 *Identifying contributing factors and intervention points*

Contributing factors that are potentially amenable to change constitute potential points of intervention (Hector et al 2004b). On this basis, there continues to be a plethora of studies identifying barriers and predictors of breastfeeding.

Self-report surveys with women are the most popular sources of information about barriers. However, one of the difficulties with asking women is that they often give responses that do not seem to reflect the 'real' reasons; and survey responses often appear to be only the "tip of the iceberg", in terms of the difficulties women have with breastfeeding. A stated barrier may mask more complex issues, or issues less easily identified and articulated, or less socially acceptable (Rempel 2000). Furthermore, women are not generally in a position to comment on the effect of social and structural factors, such as marketing of infant formula or health service practices; but rather are more likely to comment on personal factors.

The lack of a systematic approach to identifying and studying contributing factors exacerbates the problem of identifying the full range of predictors and barriers. Because studies focus on different variables and use different methods it is difficult to gauge the relative contribution of each factor, in isolation or in combination with other factors. The CPHN report on monitoring breastfeeding (Hector et al 2004a) proposed a conceptual framework of factors associated with breastfeeding practices, to contribute to more systematic analyses. The categories of factors included in this framework comprise:

- Individual factors related to mothers, including motivation, knowledge, skills and specific aspects of breastfeeding practices
- Social support for breastfeeding, including peer and partner support;
- Health service organisation and practices
- Health and risk status of mothers and infants
- Physical and social aspects of the environment that enable and facilitate breastfeeding, and
- Facets of socio-cultural factors related to the acceptability of and expectations about breastfeeding.

The most commonly reported barrier to continued breastfeeding is 'milk insufficiency' (Cooke et al 2003 in Sydney; Li et al 2003; Binns & Scott 2002; Turner et al 1999; and Essex 1995 in New Zealand). This barrier is cited by mothers from diverse communities and different cultures (eg Shani and Shinwell 2003, for Hebrew speaking Israeli women; Chen & Chi 2003, for Taiwanese women). However, less than 5% of women would be physiologically incapable of producing an adequate milk supply (Binns & Scott 2002; McVeagh 2001; Renfrew 2000). Milk supply depends on the length of time (frequency and duration) the baby suckles, and underlying reasons (such as, too busy with other children; no structural support; postnatal depression; back at work and not expressing; lost motivation due to family problems) can result in less time suckling. It may be that the stated barrier is not the 'real' or underlying reason for mothers stopping breastfeeding; but rather that the underlying barriers mean that insufficient milk supply becomes reality (the self-fulfilling prophecy described by Dykes & Williams 1999). Some of the issues surrounding 'insufficient milk' also relate to maternal confidence or self-efficacy (Kronborg and Vaeth 2004; Blyth et al 2002; McCarter-Spauling and Kearney 2001). Increasing mothers' self-efficacy relates to the complex issues surrounding breastfeeding within the social and cultural norm. Obermeyer and Castle (1996) provided anthropological commentary on the link between the 'insufficient milk syndrome' and the construction of family, gender and motherhood at different historical times and in different parts of the world.

A number of the commonly reported barriers to breastfeeding (eg perceived insufficient milk, return to work, lack of social support) are evident across many groups and cultures. For example, Liamputtong (2002) reports on the barriers among Hmong women (from Laos) in Australia. Reasons given by this group of women were: the need to study English and seek employment, the availability of infant formula, insufficient milk and their concern about the health and well-being of their infants.

Certain sociodemographic groups, for example young mothers, are likely to have different predominant barriers to breastfeeding (eg Brownell et al 2002; Guttman and Zimmerman 2000). In Northern Ireland, reported barriers include restricted freedom, independence associated with family issues, return to work, societal embarrassment, and

perceived social isolation (Stewart-Knox et al 2003). Some of these themes have appeared less often in the literature for Australian women; but that does not mean that they do not exist as barriers within some sub-groups.

Other themes that occur in the recent literature include: lack of clinician support and maternal depressive symptoms (Taveras et al 2003); father's support and preference for feeding method (Kong and Lee 2004; Scott et al 2004); physical problems with attachment and positioning (Taylor et al 2003); lack of support from clinicians (Sarenz 2000). Again, how much these factors are involved in a mother's decision to breastfeed and for how long, is unknown.

More information about underlying reasons for not breastfeeding might be obtained through in-depth analyses of why women do not breastfeed or stop breastfeeding early (Taylor et al 2003; Kong & Lee 2004). Another method is to ask mothers what they perceive to be the reasons why other people give up breastfeeding (called 'community reasons' by McLennan 2001). This is likely to provide reasons other than those revealed through self-report. McLennan (2001) has shown that, in the Dominican Republic, 'mother-driven' reasons for early termination of breastfeeding, such as "fear of loss of figure or of breast shape" and "not wanting to breastfeed" were frequently perceived as community reasons but rarely given as personal reasons. Personal reasons were predominantly 'child-driven', including "the child not wanting the breast", or reasons beyond the mother's control, such as having "insufficient milk".

It is also worth noting that reported barriers tend to focus on reasons for stopping breastfeeding, and do not investigate the specific reasons why women stop exclusive breastfeeding prior to 6 months (and continue with some breastfeeding). Each source of information has particular limitations; and, importantly, any one factor does not necessarily preclude breastfeeding, if there are sufficient factors encouraging breastfeeding.

In summary, underlying barriers are those of most interest, as they are most helpful in identifying intervention points that will be most effective in supporting and promoting breastfeeding duration. An understanding of these underlying factors in diverse socioeconomic and cultural groups will provide a stronger basis for planning services or refining and adapting educational and support strategies, in specific settings and with specific target groups. One possible mechanism to help elucidate some of social reasons is to ask mothers to cite 'community reasons' for not breastfeeding.

An understanding of underlying factors can contribute ideas about determinants and intervention points, but is not the only basis for designing interventions. Given that many effective interventions for improving breastfeeding practices do not have a basis in mothers' reported barriers to breastfeeding (such as hospital practices supporting rooming-in), further analyses of the effective components of interventions that are shown to support breastfeeding are likely to be fruitful sources of information about determinants and enabling factors. A theoretical framework (such as that presented in Hector et al 2004b and further developed in Hector et al 2005) that is supplemented (but not supplanted) by both descriptive studies on underlying factors and intervention research, continues to provide the strongest basis for designing interventions (Hawe et al 1990).

2.2 Identifying intervention options

The report *Overview of recent reviews to promote and support breastfeeding* (Hector et al 2004b) adopts a public health planning approach and uses the conceptual framework of factors contributing to breastfeeding (Hector et al 2004a) to identify potential intervention points. Interventions and strategies can be designed to address these intervention points.

Health promotion policy-makers and practitioners frequently describe and classify interventions in terms of the action areas identified in the Ottawa Charter for Health Promotion. Table 1 shows how health promotion action areas might correspond to intervention points.

Table 1: Action areas and corresponding intervention points in promoting breastfeeding

Areas of health promotion action	Intervention point addressed
Developing personal skills (eg education, social support)	Mother's knowledge, attitude, skills Specific aspects of feeding practices
Reorienting health services (eg health services policies, practices; health professional training)	Health services practices Health status of mothers and infants Specific aspects of feeding practices Mothers' knowledge, attitude, skills
Supportive environments (eg mass media, physical facilities)	Socio-cultural, economic, environmental factor Social support
Healthy public policy (eg policy, policy review)	Socio-cultural, economic, environmental factors
Community action (eg advocacy, social support)	Socio-cultural, economic, environmental factors Social support

2.3 Rationale and approach

2.3.1 Using information from reviews to guide policy and programs

The evidence from nine recent systematic reviews (Anderson et al 2003; U.S. Preventive Services Task Force 2003; De Oliveira et al 2001; Sikorski et al 2001; Donnelly et al 2000; Fairbank et al 2000; Green 1999; Tedstone et al 1998; WHO 1998) has been described in detail in the report *Overview of recent reviews of interventions to promote and support breastfeeding*. More recently, a Canadian review (Palda et al 2004) has been published, with findings consistent with those in earlier reviews and reported in the *Overview* report.

The *Overview* report identifies a substantial body of consistent evidence about effective interventions to promote and support breastfeeding. Much of the available research evidence about breastfeeding interventions relates to educational and support strategies designed to promote mothers' personal skills, and health service strategies (including training of health professionals) to implement hospital practices that are conducive to breastfeeding (Table 2). This research evidence provides a sound basis to proceed with programs and practices in these action areas.

Table 2: Strategies covered in systematic reviews

Areas of health promotion action	Strategies covered in systematic reviews
Public policy	Not covered
Supportive environments	Not covered
Community action	Not covered
Development of personal skills	Education of mothers Support for mothers
Reorientation of health services	Hospital practices – eg early skin-to-skin contact, commercial discharge packs Health professional training

Source: Hector et al 2004b

Whilst systematic reviews and reports such as the *Overview of recent reviews of interventions to promote and support breastfeeding* provide a compelling basis for action, there are limitations in translating the evidence from such reviews into action. Some of these limitations are discussed in sections 5.1 and 5.2 of the *Overview* report. One limitation is that reviews do not generally provide adequate detail about interventions to guide policymakers or practitioners seeking to formulate local actions to promote or support breastfeeding. Reviews span many different studies and interventions; they do not provide specific information about each intervention. Also, they encompass heterogeneity of methods and interventions, and focus on common patterns of breastfeeding. The process of formulating specific recommendations for practice requires an integration of the evidence with considerations related to the specific practice setting.

2.3.2 Types of interventions not covered by systematic reviews

As discussed in the *Overview* report, none of the systematic reviews provide evidence of effective strategies related to public policy, supportive environments or community action (see Table 2). Further investigation has also shown that most published reports on interventions addressing social and environmental factors comprise descriptive studies and/or are often unevaluated. Thus, for these intervention types, there is insufficient evidence of effective practices. Nevertheless, public health theories and models support the relevance of environmental and socio-cultural factors as contributing factors to individual health behaviours. For example, in relation to breastfeeding,

qualitative and quantitative research with mothers repeatedly finds that lack of breastfeeding facilities in workplaces and public and commercial settings are perceived as barriers to breastfeeding.

Thus, this report has drawn from a broader body of information, including theory, in order to provide illustrations of promising approaches to promote and support breastfeeding that warrant further development and evaluation. Promising practices and interventions are those that have the potential to effectively address the issue of concern, although they may be relatively untested (University of Kansas, Community Toolbox). A number of case studies are thus included to illustrate promising ideas, to guide practitioners in developing innovative interventions and to encourage them to undertake evaluation studies to address neglected areas.

2.4 A strategic, two-pronged approach

Theory, logic and experience from other public health areas indicate that interventions are enhanced and sustained by supportive changes in policy, and social and environmental factors. A multifaceted portfolio of interventions that includes broader enabling actions to change social and environmental factors, in addition to specific interventions, is most consistent with health promotion theory, the *Ottawa Charter for Health Promotion* and the *National Public Health Partnership Planning Framework* (National Public Health Partnership, 2000).

This approach is also consistent with a broad definition of 'evidence based public health', such as is being adopted in health promotion generally and applied to the prevention of obesity (Rychetnik et al 2004).

Certainly, most current examples of health policies, such as the *National Breastfeeding Strategy*, the *Global Strategy for Infant and Young Child Feeding* (WHO 2003) and the *U.S. Health and Human Services Department Blueprint* (2001), adopt a broad set of recommended interventions, incorporating interventions where evidence of effectiveness is currently limited or lacking. Similarly, the recent *Dietary Guidelines for Children and Adolescents in Australia* and the *Infant Feeding Guidelines for Health Workers* (NHMRC 2003) promote a comprehensive approach to breastfeeding

promotion. They recommend a combination of media and provision of physical facilities in public places (for which the systematic reviews provide no evidence), as well as education and support for mothers and fathers, and health service practices and professional training.

The report also recommends a systematic implementation planning approach be adopted. Translating the evidence into practice in specific situations usually involves developing specific protocols that provide practical guidance on implementation in the specified setting.

A two-pronged approach is recommended with the following objectives:

- implement specific interventions on the basis of the available, sound evidence in research studies,
- build the evidence base through applied research and development in the action areas where evidence is lacking.

This document selects and provides brief reports on examples and case studies, in order to provide specific information about the full range of potential interventions that can be used to guide and assist practitioners and policy makers in relation to both 'action prongs' in relation to breastfeeding promotion and support.

2.5 Selection of case studies/examples

Specific examples/case studies were chosen from the following three strategy areas:

- 1 Education and support
- 2 Health service policies and practices
- 3 Mass media, Advocacy, and Healthy public policy.

The examples were selected according to the following criteria:

- The need to provide examples from a range of intervention options, including those aimed at socio-economically disadvantaged groups
- Relevance to the NSW implementation context.

Table 3: List of case studies by strategy

Education and support	Mass media, advocacy, healthy public policy
1 Prenatal education (Duffy 1997)	18 Social marketing (Social Marketing Institute 2003) ¹ .
2 Prenatal education (Rossiter 1994). ¹	19 Social marketing (Romeo et al 2002)
3 Education through written materials (Vnuk 1997)	20 Mass media (Friel et al 1989)
4 Peer support (Morrow et al 1999)	21 Mass media (Sylvestor & Wade 2002)
5 Peer support (Schafer 1998) ¹	22 Physical environments (McIntyre et al 1999)
6 Professional support (Gagnon 1997)	23 Physical environments (Webb et al 2001)
7 Professional support (Jones & West 1985) ¹	24 Workplace policies and practices (Dodgson et al 2004)
8 Professional support (Serafino & Donovan 1992) ¹	25 Workplace policies and practices (McIntyre et al 2002)
9 Education and social support (Sciacca et al 1995) ¹	26 Workplace policies and practices (Ortiz et al 2004)
10 Professional and peer support (Kruske et al 2004)	27 Workplace policies and practices (US Department Health & Human Services 2001)
11 Professional and peer support (Northern Sydney AHS 2002)	28 Advocacy (Central Coast AHS Department of Nutrition 2002)
12 Multi-strategic (Rodriguez-Garcia et al 1989)	29 Public policy and advocacy (Opie & Simmer 2004)
Health service policies and practices	30 Policy resources (Commonwealth Department of Health & Family Services 1998) ¹ .
13 Professional training (Khoury et al 2002)	31 Policy resources (Commonwealth Department of Health & Family Services 1997) ¹
14 Professional training (Rea et al 1999)	
15 Professional training (Taddei et al 2000)	
16 Hospital policies and practices (Gau 2004)	
17 Hospital policies and practices (Heads 2004)	

¹ Case study has an equity focus

Also, preference was given to case studies where:

- A meaningful description of the intervention was provided
- There was some evidence the intervention was effective or promising. To the extent that well evaluated intervention studies are available, they have been featured
- There was written documentation that could be accessed.

As many examples as possible were chosen from systematic reviews – however, such studies are contained almost exclusively within the area of education and support (except for two case studies encompassing professional training). Eight of the case studies have been conducted with socio-economically disadvantaged groups, and thus illustrate an equity focus.

A number of the systematic reviews provide additional detail and commentary about specific studies; and the full wealth of information available from these sources cannot be repeated in this document. Readers are encouraged to read summaries and commentaries provided by the reviews, as they provide highly valuable information across 176 intervention studies. Summaries of systematic reviews are provided in Appendix A of the *Overview* report.

This document has adopted a positive bias, by selecting examples that have been shown to be effective as far as possible. However, there are a number of intervention studies covered by reviews where the intervention did not result in improved breastfeeding practices (for example, postpartum positioning and attachment, Henderson et al 2001). This does not mean necessarily that a particular approach or intervention could not be effective in some

situations. Often the study methods have weaknesses, such as small sample size or poor controls, and the intervention may have been poorly implemented and/or documented. Also, while the systematic reviews showed clearly that education strategies, for example, are effective, this does not mean that *all* educational interventions are effective in improving breastfeeding practices.

There are a number of intervention studies covered by systematic reviews that were documented as being effective but where the original study could not be located, and are thus not included in this report.

3 Case Studies

This section provides a brief description of the different types of strategies, refers to available evidence and introduces the case studies, before presenting case study summaries.

3.1 Education and support

Table 4 presents a summary of review findings on the effects of education and support strategies (Hector et al 2004b).

Educational strategies

Education refers to the provision of information through a variety of media, personal, written or electronic means. Fairbank et al (2000) defines health education interventions as those that 'provide factual or technical information about breastfeeding to a specific target

group in a hospital or community setting'. Similarly, Higginson (2001) describes health education as 'initiatives seeking to improve mothers' knowledge, understanding and expectations about breastfeeding, providing factual information in the form of leaflets or educational sessions'.

Educational strategies vary according to content, format (formal/informal), timing (in relation to birth), setting and provider. Settings include clinics, primary health care units, the community and the home.

Support strategies

Support, like education, can be formal or informal, can be provided by professionals or peers, and be provided at different times, pre and postnatal.

Table 4: Summary of effects of educational and support strategies from systematic reviews

- Education alone is effective in increasing rates of breastfeeding initiation and short-term (2 -3 months) duration.
- The isolated use of written materials is ineffective in improving breastfeeding practices (and may actually be detrimental).
- Educational content should incorporate: benefits of breastfeeding, principles of lactation, myths, common problems and solutions, and skills training.
- While a variety of educational formats are effective, the optimal format varies across studies. It seems likely that one-to-one educational programs and/or small group programmes are most effective, the latter in an informal environment.
- While education at different times is effective, the optimal timing varies between studies. It seems likely that sessions spanning both periods (prenatal and postnatal) will be most effective – and that sessions covering either time periods alone are also effective.
- Postnatal home visits and/or individual sessions are probably necessary components of any breastfeeding education programme.
- Two meta-analyses showed that support in general increases the duration of breastfeeding and one of these meta-analyses showed that that the effect of support was even greater on the duration of exclusive breastfeeding than any breastfeeding.
- Support appears to be particularly effective in settings where there are high rates of breastfeeding initiation.
- Telephone support alone has been shown to be ineffective. Support must include face-to-face contact.
- As is the case for education, the effectiveness of support is enhanced by home visits.
- Peer support is likely to increase rates of breastfeeding initiation (among women who intend to breastfeed) and to increase the duration of exclusive breastfeeding.
- Peer support is particularly effective at improving breastfeeding practices among socioeconomically disadvantaged women.
- Factors leading to peer counsellors success appear to be their similarity to mothers, their proximity and availability to advise on problems and answer questions, and frequent contact.
- Postnatal support alone (ie without prenatal support) appears to be sufficient to increase breastfeeding duration.
- A combination of face-to-face education and peer counselling appear to be a particularly effective combination of strategies.

Support is generally understood as including guidance and encouragement. The content of support is relatively poorly described, but can include instrumental actions, such as physical assistance with housework, referral advice and emotional support, by encouragement or sharing experiences, for example. Where provided on an individual basis, it can be personalised to individual needs. Fairbank et al (2000) define peer support interventions as 'those provided by people who have increased their knowledge as a result of dedicated training, outside a professional capacity'.

Case studies

The two case studies on prenatal education illustrate the use of a single strategy – a prenatal education session focussed on breastfeeding skills (positioning and attachment, Duffy 1997) and a more elaborate program – a culturally specific (Vietnamese women in Sydney) prenatal education program (Rossiter 1994). Both interventions were conducted in a group situation.

While written materials used alone have not been found to be effective, they are commonly used in conjunction with more active education and support strategies.

The analysis of breastfeeding print material reported by Vnuk (1997) illustrates a useful method for checking the appropriateness (eg content, style) of print material.

Two examples illustrate peer support interventions: Morrow (1999) and Schafer (1998). In both examples the peer support is provided on a 'one-on-one' basis, through home

visits, or, in the Schafer study, at alternative locations if preferred. Also in both studies, the peer counsellors were trained to provide specific educational content to mothers, and equipped with educational aids.

All three case studies of professional support involved home visits by a lactation nurse. The duration of support varied, from 10 days postpartum (Gagnon 1997), to 2 weeks (Jones & West 1985) and 2 months (Serafino & Donovan 1992). In one case (Gagnon 1997), the postnatal home support visits occurred in the context of an early discharge arrangement, and were compared to standard hospital stay.

Two case studies that involve a mix of professional and peer support are drawn from current NSW programs (Kruske et al 2004; Northern Sydney AHS, 2002).

The interventions reported by Rodriguez-Garcia et al (1989) and Sciacca et al (1995) each explicitly combine education and support strategies. One involves prenatal and postnatal education by trained volunteers, supported by promotional materials (Rodriguez et al 1989); whilst the Caring Connection program (Sciacca et al 1995) included an incentive program to bolster participation.

Case studies 2 (Rossiter 1994), 5 (Schafer 1998), 7 (Jones & West 1985), 8 (Serafino & Donovan 1992), and 9 (Sciacca et al 1995) have been conducted with socio-economically disadvantaged groups, and illustrate strategies that can be successfully implemented to reach and influence these groups.

1. Prenatal education – Positive effects of an antenatal group teaching session on postnatal nipple pain, nipple trauma and breast feeding rates (Duffy 1997)

Focus: Education

Location: Western Australia

Target group: Women recruited from a public hospital (majority were low income)

Intervention

Women were randomly assigned to intervention and control groups (N=75 per group). The intervention comprised a group teaching session conducted by a lactation consultant to women in their third trimester of pregnancy. The session specifically taught correct position and attachment of the baby on the breast. The control group received the 'usual antenatal education'.

Evaluation

A higher proportion of women in the intervention group (92%), were breastfeeding at 6 weeks, compared to those in the control group (29%). The intervention group was also shown to be better able to attach the baby on the breast, and had significantly less nipple pain and trauma.

Comments

Reviewed by de Oliveira, and USPSTF.

While this study produced good results from a single, simple strategy within education, it is important to note that the reviews found that education should also include myths surrounding breastfeeding (unrealistic expectations), common breastfeeding problems and solutions to those problems. The overview findings also indicate that antenatal education is more effective in combination with postnatal education and support.

Reference: Duffy E, Percival P, Kershaw E. (1997) Positive effects of an antenatal group teaching session on postnatal nipple pain, nipple trauma and breast feeding rates. *Midwifery* 13, 189-196.

2. Prenatal education – The effect of a culture-specific education program to promote breastfeeding among Vietnamese women in Sydney (Rossiter 1994)

Focus:	Education and social support
Location:	Sydney, Australia
Target group:	Vietnamese women

Intervention

Participants were recruited from prenatal clinics. The intervention (N=108) comprised a Vietnamese language and culture-specific prenatal education program, using video presentation (25 minutes) and 3 small group discussion sessions of 2-hour duration. The small group sessions were conducted as an enhancement/extension of prenatal visits. The education sessions provided information on the benefits of breastfeeding and addressed women's concerns and misconceptions. Sessions were conducted by Vietnamese parenthood educators, with the assistance of a Vietnamese health interpreter. The control group (N=86) was provided with breastfeeding and childbirth pamphlets.

Evaluation

Information on knowledge and attitudes was collected from pre- and post-intervention questionnaires, and breastfeeding information was collected from personal visits at 1 and 4 weeks, and 6 months, postpartum.

Breastfeeding rates were significantly higher in the intervention group at birth and at 4 weeks, but not at 6

months. At birth, breastfeeding rates were 70% in the intervention group and 38% in the control; at 4 weeks, the rates were 50% vs. 26% respectively; and at 6 months, 26% and 16% respectively.

Increased knowledge, more positive attitudes and intention to breastfeed were also found to be higher in the intervention group, compared to the control group.

Comments

Included in 3 systematic reviews (de Oliveira, USPSTF, Tedstone et al – rated moderate). A well planned intervention that showed significant impact on the breastfeeding knowledge, attitudes and practices of the target group. Note that the review findings indicate that antenatal education is more effective in combination with postnatal education and support.

Reference: Rossiter J. (1994) The effect of a culture-specific education program to promote breastfeeding among Vietnamese women in Sydney. *Journal of Nursing Studies* 31(4), 369-379

3. Education through written materials – An analysis of breastfeeding print educational material (Vnuk, 1997)

Focus:	Written educational resources
Location:	Adelaide, Australia
Target group:	Postnatal women

Intervention

Not applicable

Evaluation

Print materials distributed to postnatal women in 12 hospitals were assessed for readability, scientific accuracy, and presence of any negative messages. A total of 48 print resources were analysed.

The findings were that the information used by the hospitals was mostly accurate, but there were some negative messages. On average, the reading level was higher than that of the general population, and often there was a failure to use illustrations to explain the text.

Comments

While written materials used alone have *not* been found to be effective, they are commonly used in conjunction with more active education and support strategies. This case study illustrates a method for checking the appropriateness (eg content, style) of print material.

Reference: Vnuk A. (1997) An analysis of breastfeeding print educational material. *Breastfeeding Review* 5(2), 29-35.

4. Peer support – Efficacy of home-based peer counselling to promote exclusive breastfeeding: a randomised control trial (Morrow et al 1999)

Focus: Peer counselling (home visits)/Training of peer counsellors

Location: Mexico City (peri-urban area), Mexico

Target group: Mothers from this peri-urban area

Intervention

Participants were pregnant women, randomly allocated to control or intervention groups on a (geographic) cluster basis (to reduce contamination of influences). In the optimal intervention group (A, N=44), pregnant women/mothers received 6 home visits from peer counsellors, with visits occurring mid and late pregnancy, in the first week after birth, and 2, 4 and 8 weeks postpartum. Another intervention group (B, N=52) received 3 home visits, in late pregnancy, the first week and 2 weeks postpartum. Peer counsellors also were permitted to respond to occasional requests for additional support initiated by mothers in this intervention group.

The peer counsellors did not necessarily have breastfeeding experience, but were trained and supervised by La Leche League of Mexico and the project leader, with training comprising 1 week of classes, 2 months experience in lactation clinics and mothers support groups, and 1 day of demonstration and observation of experts. The peer counsellors also had 6 months experience (in a different neighbourhood) before their engagement in the study. The educational approaches were developed from prior ethnographic research, and the program developed a set of visual aids for use by the peer counsellors.

The home visits/counselling during pregnancy covered the benefits of exclusive breastfeeding, lactation processes, positioning and latching on, typical problems and solutions, and preparation for birth. Postnatal visits focussed on establishing a pattern of breastfeeding, addressing mothers' concerns, and providing information and social support.

The control group (N=34) mothers who had lactation problems were referred to their own physicians.

Evaluation

Data on breastfeeding practices were collected by independent interview at 3 months post-partum. The primary outcome was exclusive breastfeeding. (N=130 total, Intervention A = 44, Intervention B = 52 and Control = 34.)

(a) Exclusive breastfeeding

Intervention groups showed higher rates of exclusive breastfeeding: 80%, 62% and 24% at 2 weeks and 67%, 50% and 12% at 3 months, in the intensive intervention group (6 visits), moderate intervention group (3 visits) and control group, respectively.

(b) Duration of any breastfeeding

There were significantly more mothers in the intervention groups breastfeeding (any) at 3 and 6 months, compared to the control (95% vs. 85% and 87% vs. 67% respectively).

Comments

Reviewed by USPSTF and de Oliveira. This is an important study as it effectively increased both exclusive breastfeeding and duration of breastfeeding. The intervention illustrates a highly intensive form of peer counselling – high level of training and a substantial number of home visits. Note that implementation of this type of intervention requires a highly integrated approach to prenatal, hospital and postnatal care.

Reference: Morrow A, Guerrero M, Shut J, Calva J, Lutter C, Bravo J. et al (1999) Efficacy of home-based peer counselling to promote exclusive breastfeeding: a randomised control trial. *The Lancet* 353 (9160): 1226-1231

5. Peer support – Volunteer peer counsellors increase breastfeeding duration among rural low-income women (Schafer 1998)

Focus: Education and peer support

Location: Iowa, USA

Target group: Rural low-income women, Women, Infants & Children (WIC) program participants

Intervention

The intervention involved one-on-one peer support to mothers (in intervention counties), conducted by trained volunteers, through home visits or at alternative locations. Peer support contacts occurred both before and following birth. The volunteers presented short lessons on nutrition and breastfeeding, answered questions and concerns, made referrals as required, and provided information and moral support. They were also available for phone contact.

Ninety-four volunteers received 9 hours of training, and were supplied with educational resources (flip chart, nutrition lessons, pamphlets).

Women in the control group (N=20) were from clinics in 6 counties that had received no significant breastfeeding promotion programs in the last 3 years.

Evaluation

The study measured pre- and post-breastfeeding rates.

In the intervention group (N=75), 82% of the women initiated breastfeeding, compared to 31% in the control group. Mean duration of breastfeeding was 5.7 weeks in the intervention group compared to 2.5 weeks in the control group. At 12 weeks, 43% of the women in the intervention group were breastfeeding, compared to 0% of the control group.

Comments

Review sources are USPSTF and Fairbank et al. This intervention resulted in substantial differences in breastfeeding duration. It illustrates a less intensive and educationally-oriented form of peer support (compare case study 4).

Reference: Schafer E. (1998) Volunteer peer counsellors increase breastfeeding duration among rural low-income women. *Birth* 25: 101-106.

6. Professional support – A randomised trial of a program of early postpartum discharge with nurse visitation (Gagnon 1997)

Focus:	Professional support
Location:	Canada
Target group:	Pregnant women attending prenatal clinics at a University hospital

Intervention

The study was a randomised trial of an intervention comprising early discharge and home visits, and a control group (N=177) with standard hospital stay and follow-up.

The intervention group (N=183) was discharged from hospital 6-36 hours after birth. They received nurse telephone support within 48 hours and 10 days postpartum, and 1 prenatal home visit (34 to 38 weeks) and home visits at 3 and 5 days postpartum.

The control group was in hospital 48 to 72 hours postpartum, and received standard follow-up (not specified).

Evaluation

After adjusting for differences in intention to breastfeed, the intervention group was 1.25 times more likely to be

breastfeeding at 1 month (not statistically significant). The raw figures were 55% in the intervention group versus 39% in the control group, breastfeeding at 1 month.

Comments

Reviewed by de Oliveira. This study indicates the potential for postnatal support in the context of early discharge to have an impact on breastfeeding. This type of intervention would require a highly integrated approach to prenatal, hospital and postnatal care.

Reference: Gagnon AJ, Edgar L, Kramer MS, Parageorgiou A, Waghorn K, Klein MC. (1997) A randomised trial of a program of early postpartum discharge with nurse visitation. *American Journal of Obstetrics & Gynaecology* 176(1): 205-211.

7. Professional support – Lactation nurse increases duration of breast feeding (Jones & West 1985)

Focus:	Professional support
Location:	Wales
Target group:	New mothers attending a district general hospital

Intervention

The study was a randomised trial of the effects on breastfeeding duration of an intervention group receiving support from a lactation nurse, and a control group. Women were assigned to groups according using time sampling, with a 2-week cycle of allocations to intervention and control groups (N= 678 total).

The intervention group received contacts from the lactation nurse in hospital and at home during the first two weeks postpartum. The lactation nurse's role was to assist mothers with breast attachment and provide advice and encouragement.

The control group did not receive any service from a lactation nurse (who was not present at the hospital at the time these women were in hospital).

Evaluation

Significantly more mothers in the intervention group were breastfeeding at 4 weeks – 84% compared to 72%; and at 6 months – 38% compared to 28%. Analysis by social class showed that the most striking differences in the proportion breastfeeding at 4 weeks was found in more disadvantaged mothers.

Comments

Reviewed in 5 reviews. The intervention was effective with a specific disadvantaged group. It illustrates a form of support that can be implemented by professionals with limited time.

Reference: Jones DA, West RR. (1985) Lactation nurse increases duration of breast feeding. *Archives of Disease in Childhood* 60: 772- 774.

8. Professional support – Effectiveness of professional breastfeeding home support (Serafino & Donovan 1992)

Focus:	Professional support
Location:	Massachusetts, USA
Target group:	Lower socio-economic women

Intervention

The study was a randomised trial of an intervention group receiving home visits and a comparison group (N=52 total).

The women in the intervention group received 7 home breastfeeding support visits by the researcher over a period of 2 months postpartum. These women also had phone access to the professional support person/researcher.

Both groups received the standard clinic and in-hospital breastfeeding teaching and were given breastfeeding instruction in hospital by the researcher.

Women in the comparison group did not receive home visits and had access to the clinic nutritionist for questions.

Evaluation

At 2 months, breastfeeding rates were 61.5% in the intervention group and 34.5% in the comparison group (statistically significant). At 6 months, 48% of the intervention group were still breastfeeding (no data available for follow-up of control women).

Comments

Reviewed in USPSTF and de Oliveira . The study illustrates a relatively intensive version of professional support and home visiting, with more disadvantaged women.

Reference: Serafino-Cross P, Donovan P. (1992) Effectiveness of professional breastfeeding home support *Journal of Nutrition Education* 24:117-122.

9. Education and social support – Influences on breastfeeding by lower-income women: an incentive-based, partner-supported educational program (Sciacca et al 1995)

Focus:	Education (including partners) and social support
Location:	Arizona, USA
Target group:	WIC clients (low income mothers); primiparous mothers.

Intervention

A control group (n=29) received routine WIC breastfeeding education, which includes prenatal education, access to a peer support program, access to hire breast pumps and breastfeeding group classes.

The prenatal component (both intervention and control) comprised an expectant couple breastfeeding class, which provided information, addressed concerns and fears, and included a gift bag, including a breast pump.

The intervention (n=28) included a prenatal childbirth education series (5 sessions), with incentives for completion of each program component by women and partners – in the form of equipment for babies and /or gifts for parents – diapers, lotion, baby powder, haircut, stuffed animals, football tickets, car wash, etc. Incentives were also given to mothers who were breastfeeding at certain stages. Women in the intervention group also received postnatal peer support by an individual volunteer counsellor.

Evaluation

The proportion of women exclusively breastfeeding at 2 and 6 weeks and 3 months was significantly higher in the intervention group than the control group (82% vs. 34%, 50% vs. 24%, 42% vs. 17% respectively). The proportion of women exclusively formula feeding was higher in the control group at each point.

Comments

Reviewed in 4 reviews. This case study indicates the effectiveness of combined education and support on exclusive breastfeeding. Note that no specific information is provided on extent of partner involvement. The incentive component of the intervention may not be applicable in other contexts, such as in the NSW environment.

Reference: Sciacca J, Phipps B, Dube D, Ratliff M. (1995) Influences on breastfeeding by lower-income women: an incentive-based, partner-supported educational program. *Journal of the American Dietetic Association* 95(3): 323.

10. Professional and peer support -The Early Bird Program: Supporting new parents through open groups (Kruske et al 2004)

Focus:	Postnatal education and support
Location:	Southern Sydney, Australia
Target group:	New mothers

Intervention

The intervention involved an 8-week support group offered to families of infants aged 0-8 weeks. The groups were convened by a professional facilitator and a co-facilitator, who provided a child health and development assessments at the beginning and end of each session. The facilitators fostered informal discussions, as well as ensuring that key information was covered over the 8-week period.

Evaluation

Data was collected from women attending the Early Bird program on 2 or more occasions (n = 20) and from a comparison group who had received conventional care (and had chosen not to attend the groups). At 8 weeks, the breastfeeding rate was 75% (compared to 50% of

the comparison mothers). Qualitative research with group participants found that they valued a range of features, including professional advice and encouragement, emotional support, sharing experiences and difficulties and social contact.

Comments

As an evaluation study it is limited, as the mothers were not randomly assigned to groups. However, this intervention is consistent with evidence from research studies and indicates the feasibility of local implementation.

Reference: Kruske S, Schmied V, Sutton I, O'Hare J. (2004) The Early Bird Program: Supporting new parents through open groups. *Journal of Perinatal Education* 13(3):31-38.

11. Professional and peer support – Northern Sydney AHS Early Parenting Program (Northern Sydney AHS, 2002)

Focus:	Postnatal education and support
Location:	Hornsby Local Government Area, Sydney, Australia
Target group:	New mothers

Intervention

The intervention comprised a universal postnatal home visiting arrangement in combination with a support group and/or early childhood health visits. Parents were contacted and visited at home by the early Childhood Health Services. The home visit provided clinical assessment and advice, and encouraged women to attend the Early Parenthood Support group and/or individual consultations at the Early Childhood Health Centre. Any babies assessed as at risk were given more home visits.

The Early Parenthood Support groups were held weekly, and available to parents and babies up to 8 weeks postnatal. The groups were facilitated by a professional (Early Childhood Nurse), and also encouraged peer support.

Evaluation

95% of eligible families (N=105) received a home visit within 2 weeks postnatal; and 11% of these received more

than 1 home visit. All respondents reported the home visit as convenient and satisfactory.

A random sample of those attending the groups completed evaluations of the groups. At 8 weeks, 88% were fully breastfeeding.

Comments

As an evaluation study it is limited, as the mothers were not randomly assigned to groups. However, this intervention is consistent with evidence from research studies and indicates the feasibility of local implementation. Following the evaluation results, the health service sustained the implementation of the intervention for new parents, and extended the group program for parents up to 10 weeks postnatally.

Reference: Northern Sydney AHS (2002) Early Parenting Program. Unpublished report.

12. Multistrategic – A community based approach to the promotion of breastfeeding in Mexico (Rodriguez-Garcia et al 1989)

Focus: Multi-strategy (training, community education, research, mass media)

Location: Mexico

Target group: Low income women

Intervention

1. Training – course curriculum and training materials were developed for use in a training program for supervisors. This partly covered train-the-trainer, so that supervisors could train others using the training guide that was developed.
2. Recruitment and training of breastfeeding promoters (peer support). The breastfeeding promoters were community women and mothers, trained to teach breastfeeding on a volunteer basis.
3. Social marketing and resources – flyers, pamphlets, posters, educational flip chart and booklet were developed and used in community education sessions. Resources were all focus tested with the target group.
4. Contacts with mothers comprised: a prenatal contact instructing women on breastfeeding; home visits by supervisor or promoter, or both, conducted twice per month following birth; and mothers' consultancy access to the supervisor in response to any problems.

The 3 intervention groups (N= 585) comprised (i) individual teaching and counselling by a trained promoter (ii) group teaching by a trained supervisor and (iii) combined individual and group sessions. The intervention was carefully supervised, monitored and documented.

Evaluation

Data were collected from interviews conducted with women pre/post intervention, and monthly for 6 months after the intervention.

At birth, breastfeeding initiation was 88.8% for the intervention group, compared to 56% control (note prior to study, rates of breastfeeding in mothers at these sites were 74.9% and 65.9%). At 1 month, the rates were 70.5% as compared to 63.3%.

Later results indicate that intervention models using peer support ('promoters') were the most successful (no data provided).

Comments

Reviewed by Fairbank et al and Green. This case study illustrates a sophisticated intervention with a well-structured peer support component. It would have been particularly instructive if data on the effectiveness of the different components had been available.

Reference: Rodriguez-Garcia R, Aumack K, Ramos A. (1989) A community-based approach to the promotion of breastfeeding in Mexico. *JOGNW* 431 – 438.

3.2 Health Service Policies and Practices

There are a number of known, highly effective health service practices – rooming-in, early skin-to-skin contact, not using commercial discharge packs, and not using pacifiers and teats (note that these are components of the Baby Friendly Hospital Initiative). Other documented health service policies and practices focus on health professional training.

Health professional training is a standard method for developing professionals' skills, knowledge and attitudes and for ensuring that endorsed policies and practices are adopted

and implemented. Health professional education and training in relation to breastfeeding can occur through on-the-job training sessions and written manuals, as well as at earlier career stages, through qualifying courses. Health professional training is relevant for general and specialist nurses, obstetricians, paediatricians, and general practitioners. Advanced training is also provided for specialist nurses.

Table 5 presents summary points on findings of systematic reviews on the effects of health policies and practices, including health professional training.

Table 5: Summary of the evidence relating to health professional training from systematic reviews

- | | |
|---|--|
| <ul style="list-style-type: none"> • Explicit health service policies that outline appropriate health service practices are beneficial. • Specific in-hospital practices that support breastfeeding include: early skin-to-skin contact between the baby and mother, rooming-in, not giving commercial hospital discharge packs, not using supplemental feeds, not using artificial teats and pacifiers. • There is limited evidence of the effectiveness of training in-hospital health professionals on improved | <p>breastfeeding practices, although a Cochrane review indicated that WHO/UNICEF training courses increased the likelihood of prolonged exclusive breastfeeding by 30%.</p> <ul style="list-style-type: none"> • Training of hospital staff is likely to enhance the effectiveness of in-hospital practices. • The combination of policy, in-hospital practices and professional training is effective in improving breastfeeding practices. |
|---|--|

Case studies

Three case studies on professional training (Khoury et al 2002; Rea et al 1999; Westphal et al 1995) illustrate relatively comprehensive approaches to in-service education sessions.

One case study provides an overview of the extent of implementation of hospital policies and practices in Taiwan

(Gau 2004). This is followed by a more detailed descriptive account of the local implementation of the WHO/UNICEF Baby Friendly Hospital Initiative (BFHI) (1992) and the BFHI accreditation of the Royal Hospital for Women (Heads 2004).

13. Professional training – Improving breastfeeding knowledge, attitudes and practices of WIC clinic staff (Khoury et al 2002)

Focus: Professional training
 Location: Mississippi, USA
 Target group: WIC clinic staff

Intervention

WIC is a U.S. federal program designed to provide nutrition education and referrals for health and social services to economically disadvantaged women who are pregnant or caring for children under 5 years. It has been operating since 1972; and is implemented in all U.S. states. Since 1989, a proportion of WIC funding has been allocated for the promotion and support of breastfeeding.

The intervention involved changes in clinic environments and staff training. The improvements in the physical environment of WIC clinics included providing private nursing areas and displaying posters and images of breastfeeding.

The intervention staff training was based on a systematic needs assessment, and conducted as train the trainer sessions for 8 lactation consultants, who then trained clinic staff. There were three levels of training:

- 1.5 hour training for all staff, including administrative and clinical staff; covering benefits and barriers to breastfeeding, positive practices and outcomes.
- Training for health professionals, including physicians, nurses, and nutritionists. This was a 3-hour course, providing in-depth information about breastfeeding counselling, support in the early days, and support through problems.
- The third level gave 3 hours of training on special situations, skills training on breastfeeding devices and methods for storage.

Evaluation

The study looked at the impact of the intervention on breastfeeding knowledge, attitudes, and practices of staff; with pre-post comparisons of 13 intervention (volunteered to participate) and 13-matched control clinics (N= 397 pretest; 277 post-test).

The study found improved knowledge in members of the intervention group, compared to the control group. They also had more positive attitudes to breastfeeding, and confidence in promoting breastfeeding.

Since this evaluation, the Mississippi WIC program has used the program to train over 1000 clinic staff; and an evaluation found increases in breastfeeding rates across this state.

Comments

This study illustrates a comprehensive and systematic approach to training, and the impact of training on knowledge and attitudes of clinic staff. There was some indication that this translates to increased breastfeeding rates.

Reference: Khoury AJ, Hinton AH, Mitra AK, Carothers C, Foretich C. (2002) Improving breastfeeding knowledge, attitudes and practices of WIC clinic staff. *Public Health Reports* 117: 453-462.

14. Professional training – Counselling on breastfeeding: assessing knowledge and skills (Rea et al 1999)

Focus: Professional training
 Location: Brazil
 Target group: Health workers (in a maternity hospital)

Intervention

The intervention was 'Breastfeeding counselling: a training course' developed by WHO/UNICEF as a 40-hour in-service program. This course includes training on specific counselling skills, with four 2-hour practical sessions where participants work with mothers and infants, and practice 6 defined listening and learning skills and 6 skills for building confidence and giving support. The course also includes the practice of clinical skills, such as attachment, expression of breastmilk.

The training material consists of a Director's guide, slides, flipchart; a Participants' manual, with summaries of each session, copies of all checklists and forms, reference materials, and a video on clinical management of breastfeeding.

Evaluation

The study was an RCT of the impact of the course on the knowledge, skills and attitudes of mid-level health workers in a maternity hospital. Process evaluation was used to monitor the implementation of the training. Skills and attitudes were measured through observation of clinical consultations.

The control group was not exposed to the course.

The monitoring showed that the trainers implemented the program as planned.

The intervention group had statistically significantly increased knowledge at the end of the training, as well as improved clinical management and counselling skills. When assessed 3 months later, participants' skills and knowledge had only decreased by a small amount.

Comments

Review source is WHO. This study illustrates a comprehensive and systematic approach to training. However, there is a lack of information on the association between training and breastfeeding rates.

Reference: Rea MF, Venancio SI, Martines JC, Savage F (1999) Counselling on breastfeeding: assessing knowledge and skills *Bulletin of the World Health Organisation* 77(6):492-498.

15. Professional training – Breastfeeding training for health professionals and resultant changes in breastfeeding duration (Taddei et al 2000)

Focus:	Professional training
Location:	Brazil
Target Group:	Hospital professionals

Intervention

The Wellstart-Santos Lactation Center professional training courses conducted at a specialist training centre since 1990 in Sao Paulo were the subject of evaluation. The 3-week long courses are conducted for hospital obstetricians, pediatricians and nurses. In the evaluation study, the course was offered to 1 of 2 matched pairs from a total of 16 hospitals.

Evaluation

Designed to assess the impact of the course on the implementation of routines to enhance breastfeeding in 8 institutions, as well as impact on breastfeeding practices. Changes in participants' knowledge and attitudes were assessed using pre and post-test questions. The main outcome variables were breastfeeding duration and exclusive breastfeeding, measured pre- and post- intervention, during home visits one and six months postpartum.

Following the training program, there was increased duration of exclusive and full breastfeeding at intervention hospitals, but not at control hospitals. These changes were found to be directly linked with changes in the hospitals' practices at intervention hospitals.

Comments

Reviewed by Fairbank and WHO. This work presents a rigorous evaluation study of the impact of professional training and particular hospital on breastfeeding rates. This is an important contribution to the evidence base, and highly convincing.

Reference: Taddei J, Westphal M, Venancio S, Bogus C, Souza S (2000) Breastfeeding training for health professionals and resultant changes for breastfeeding duration. *San Paulo Medical Journal* 118(6): 185-91.

Westphal M., Taddei J, Venancio S, Bogus C. (1995) Breastfeeding training for health professionals and resultant institutional changes. *Bull WHO* 73:461-8.

16. Hospital policy and practice – Evaluation of a lactation intervention program to encourage breastfeeding: A longitudinal study (Gau 2004)

Focus:	Hospital policy and practice
Location:	Taiwan
Target group:	Mothers from 12 hospitals

Intervention

This intervention involved implementation of the Baby Friendly Hospital Initiative in seven hospitals over a 3-year period. A panel assessed the extent to which the Ten Steps to Successful Breastfeeding were implemented in each hospital. Qualifying hospitals were then included in the study.

Evaluation

Exclusive and any breastfeeding rates were significantly higher for mothers in the BFHI hospitals at 2 weeks, 1 and

2 months, compared to rates in mothers from other hospitals (total number of mothers = 4614).

Comments

This is an important study. Given the significance of the results, it is disappointing that the authors did not provide data on actual breastfeeding rates for intervention and control mothers.

Reference: Gau M. (2004) Evaluation of a lactation intervention program to encourage breastfeeding: A longitudinal study. *Int J Nurs Stud* 41(4):425-35.

17. Hospital policy and practice – Baby Friendly Hospital Initiative (BFHI) Accreditation of the Royal Hospital for Women (Heads, 2004)

Focus:	Hospital policy and practice
Location:	Sydney, Australia
Target group:	Health professionals, mothers and infants

Intervention

The Royal Hospital for Women (RHW) was the first tertiary referral teaching hospital in NSW to achieve Baby-Friendly status in 1999 and is due for its second 3 yearly reaccreditation in 2005. (In Australia there are 45 hospital/facilities BFHI accredited; in NSW three). At RHW, achieving Baby Friendly status and its maintenance was linked to maintaining a breastfeeding culture and regular monitoring of current practices and outcomes. The principles of BFHI were directly linked to the hospital's mission statement "Providing care in partnership with women".

Achieving Baby-Friendly involved a commitment from administrators and all levels of staff. The process for becoming BFHI was considered in the planning and layout of the new postnatal wards, so that there is provision for rooming-in and breastfeeding pictures from many cultures adorn the walls in all areas. There are specific protocols for enabling earliest possible contact between mother and baby following caesarean sections.

New staff are informed of the policies and practices that are expected and routine. Staff training is multi-pronged, through ongoing on-the-job education, regular in-services from hospital staff and twice-yearly, free South East Health Breastfeeding Updates. There is financial support for external education from the RHW's Nursing & Midwifery Education Fund. There is ongoing education offered to RHW's childbirth health educators; and specific provision for women with previous problems to be referred to a Lactation Consultant in the antenatal period. There is twice yearly monitoring by random sampling of:

- Post birth uninterrupted skin-to-skin contact and time of first feed
- Dummy use
- Formula supplementation of breastfeeding babies and assessment of the stated medical reasons.

- Maternal consent for formula supplementation and dummy use
- Early assistance for mothers of pre term babies with expression of breast milk.

In relation to the BFHI's 10th step, "Foster the development of breastfeeding support groups and refer mothers to them on discharge from the hospital", the RHW has a small unit where women can be seen post-discharge for complex breastfeeding issues. It is open 5 days a week and staffed by a Clinical Nurse Specialist who is an International Board Certified Lactation Consultant (IBCLC). Women are booked for a 3-hour stay in the early postnatal weeks where breastfeeding issues can be addressed and resolved.

Evaluation

The written report from the BFHI Assessors in 2002: "All mothers interviewed were also very articulate and confident in their breastfeeding knowledge. A number of women commented that they were surprised that they had not received any conflicting advice, as their friends had warned them that this may happen" .

Breastfeeding Support Unit – Results of a 2002 Incidence sample of 50 women found 72% of women were breastfeeding at 6 months.

Comments

This case illustrates the feasibility of implementing BFHI in the NSW context, through a whole organisational approach. Data on the effectiveness of the Breastfeeding Support Unit is particularly strong. Considering that these women were the complex breastfeeding referrals in the first place, the findings indicate that such a service is an effective model of postnatal care for increasing breastfeeding maintenance rates.

Reference: Heads J. (2004) The Baby-Friendly Hospital Initiative. A case study from NSW. *NSW Public Health Bulletin* 16 (3-4): 63-66

Heads J, Miles C. A Cool Place in a Hot Spot: A BFHI tertiary referral hospital's answer to the 10th Step. *Conference Handbook: Milk, Mammals and Marsupials: An International Perspective. 2003 Conference of the International Lactation Consultants Association.* (Abstract) pp185-189

3.3 Mass Media, Advocacy, and Healthy Public Policy

This section considers interventions seeking to influence social attitudes and knowledge, using mass media and social marketing strategies; as well as describing interventions seeking to improve the physical environment for breastfeeding, specifically in workplaces and public places. It also includes examples of healthy public policy and policy resources.

There are many social and attitudinal barriers in relation to the acceptability of breastfeeding in our society. Mass media, social marketing and advocacy strategies, commonly used to influence social attitudes, are highly relevant to attempts to change social factors.

Physical environments also contribute to a supportive environment for breastfeeding. Mothers uncomfortable with breastfeeding in public need access to suitable facilities away from home so that they can breastfeed their infants whenever required. Essentially, physical facilities for breastfeeding need to be accessible, private and comfortable. Relevant public locations include shopping centres, restaurants and businesses.

Given the high proportion of women in the workforce and who seek to return to the workforce after birth, workplaces are an important setting for interventions to encourage and assist the initiation, continuation and exclusivity of breastfeeding. Return to work is frequently cited as a reason for early termination of breastfeeding (eg Li et al 2003; Stewart-Knox et al 2003; Arora et al 2000).

Workplace policies and practices can facilitate mothers' continuation of breastfeeding. However, these policies and practices are not widespread. Thus, in the absence of legislation, the focus of many interventions is to persuade and encourage employers to introduce supportive changes, through social marketing campaigns targeting employers, for example. Pregnant women employed in a workplace that has facilitative practices and policies may be more likely to initiate

breastfeeding and plan to breastfeed for longer.

Strategies employed to influence the physical and social environments, including social marketing, communication and mass media, advocacy and research. These are discussed below.

Mass media

There has been considerable attention drawn to the potential of mass media campaigns as a strategy to develop public knowledge and positive cultural norms and expectations regarding breastfeeding (Chapman & Lupton 1994; Henderson et al. 2000). Higginson (2001) identifies media campaigns as 'strategies seeking to challenge or influence social norms, promote positive images of breastfeeding and provide motivational messages using television, press and posters'. A particular advantage of mass media is the potential to reach a wide audience (Stickney & Webb 1995; Fairbank et al. 2000; Stockley 2000). Media campaigns are likely to have most direct impact on attitudes and perceptions towards breastfeeding.

The potential for mass media promotional strategies has been contrasted to routine representations of breastfeeding in mass media. For example, in the UK, Higginson (2001) notes that the mass media (in particular television) rarely presents positive information on breastfeeding, associate bottle-feeding with 'ordinary families', and rarely mention health risks of formula milk and the benefits of breastfeeding.

Media campaigns vary greatly, with some involving one or more of the following elements: radio, billboards, t-shirts, slide shows, press and TV.

Advocacy

Advocacy is a potential strategy to influence social and physical environments in ways that support breastfeeding.

Advocacy is generally used to support or complement other strategies, and is often linked to promotion of healthy public policy. Advocacy can instigate and support policy in local government, health service policy and program implementation, the development of workplace policies and facilities, to inform the development of mass media and promotional messages, or be part of social commentary, linked to media analysis.

Community action and advocacy can be used to overcome major structural barriers to public health goals, and can be directed to address government policies and regulations, government health priorities and industry marketing practices. Specific interest groups, such as the Australian Breastfeeding Association, can often be key agents of community action and advocacy.

There are few descriptions of advocacy strategies to promote the acceptability and image of breastfeeding.

Healthy public policy

The importance of policy in terms of effecting practices supportive of breastfeeding has been indicated above in relation to health services. A key issue in relation to public policy concerns the mechanisms by which policies influence practices, and the strategies required to ensure that policies do impact on practices. Active dissemination and implementation systems are required if policy is to affect practice. Policy itself is essentially an enabling action – it provides a framework, endorsement or impetus for more direct action.

Public policy that may improve breastfeeding practices can be identified for professional organisations, workplaces, local government and non-government and advocacy organisations. The content of policy and processes for developing policy and policy implementation issues are very variable and contextually dependent. Policy resources may form significant components of a policy implementation process. Program review can also be seen as a subset of an informal or preliminary approach to policy.

Relevant social policies relate to women's employment arrangements, childcare, paid maternity leave and workplace facilities for breastfeeding. Local government policy may be most relevant to creating supportive environments and providing physical facilities.

Within workplaces, appropriate changes are likely to involve a mix of organisational policy (related to maternity leave provisions, flexible employment practices and, once back at work, breaks for breastfeeding), as well as provision of physical facilities (such as private rooms, access to refrigeration).

Case studies

Two case studies illustrate social marketing campaigns that include qualitative research, development of messages and public communication of those messages to pregnant women (Social Marketing Institute 2003) and to the general public (Romeo et al 2002).

Two case studies that focus on mass media were targeted at young women – one was primarily directed to high school age girls (Friel et al 1989) and the other focused on women 19-35 years (Sylvester & Wade 2002).

Two case studies promote the provision of physical facilities in public places, using advocacy strategies (McIntyre et al 2002; Webb et al 2001). The study by McIntyre is an audit of physical facilities in shopping centres using the ABA checklist, and occurs in the context of the more general advocacy by the ABA for the development of appropriate physical facilities. As well as a checklist for facilities, they provide other resources and advice to support and encourage the development of suitable physical facilities. Three of the case studies on workplace policies and practices also use advocacy in combination with other strategies (US Department of Health and Human Services 2001; McIntyre et al 2002; Ortiz et al 2004).

The *Central Coast Breastfeeding-Friendly Recognition Scheme* case study provides an example of advocacy and incentive strategies to create supportive environments for breastfeeding.

A case study is provided which details current healthy public policy that limits the promotion and marketing of infant formula in Australia (Opie & Simmer 2004).

Due to their value and significance in addressing the specific issues related to promoting breastfeeding in Aboriginal and Torres Strait Islander communities, two documents are featured as examples of policy resources – *Best practice by community-based Aboriginal and Torres Strait Islander health service providers in promoting and supporting breastfeeding and appropriate infant nutrition*; and *Audit of current training in breastfeeding and infant nutrition for Aboriginal health workers and other health professionals providing health care to Aboriginal and Torres Strait women* – each was produced as part of the National Breastfeeding Project.

18. Social marketing – Success stories National WIC Breastfeeding Promotion Project Best Start (Social Marketing Institute, 2003)

Focus: Social marketing campaign

Location: Iowa, USA

Target group: Low-income mothers; secondarily, support people and general community.

Intervention

WIC is a U.S. federal program designed to provide nutrition education and referrals for health and social services to economically disadvantaged women who are pregnant or caring for children under 5 years. It has been operating since 1972; and is implemented in all states. Since 1989, a proportion of WIC funding has been allocated for the promotion and support of breastfeeding.

Best Start was conducted in 10 states. Target group(s) for the Iowa campaign comprised pregnant Anglo, African and Hispanic American women, enrolled as WIC participants or met low-income eligibility criteria; Individuals with influence on this primary target group (mothers, fathers, health providers); and the general public. The social marketing intervention involved:

1. Formative research on primary and secondary target audiences, including perceptions, factors influencing intention to breastfeed, sources of information
2. Pre-intervention survey of WIC participants
3. Development of program materials, using the slogan 'loving support makes breastfeeding work'. Testing of campaign messages. The campaign 'repositioned the traditional health benefits of breastfeeding to emphasise bonding from birth'. The media adopted a congratulatory tone. The peer counselling was used to help mothers work through individual constraints. Resources included 3 bilingual TV ads, 3 radio ads, outdoor billboards, 9 bilingual posters, 9 bilingual pamphlets, information and resource guides, WIC staff kits

4. Placement and promotion strategy, including media, advocacy, professional training, direct marketing and advertising, peer counsellor programs.

The duration was 3 years.

Evaluation

Comparisons of breastfeeding rates of participants were made in one state (Iowa). The comparisons were made before the campaign, 6 months into the campaign and one year after the campaign. The evaluation instruments comprised a mail survey of WIC participants immediately before the campaign and 4 months after; plus the Ross Six Months Infant Feeding Survey. No details on sample size provided.

Breastfeeding rates in hospital increased from 57.8% to 65% one year after the campaign. Breastfeeding rates at 6 months increased from 20.4% to 32% one year after the campaign.

Comments

This report describes the application of principles for best practice in program design and effective implementation. While illustrating a promising approach, the use of multiple strategies and the limited information on evaluation measures in this case study makes it difficult to draw conclusions on the effectiveness of any single component.

Reference: Social Marketing Institute. 'Success stories National WIC Breastfeeding Promotion Project' www.social-marketing.org/success/cs-nationalwic.html [Accessed 21/10/2003]

19. Social marketing – Breaking down the barriers. Attitudes to breastfeeding among young women in Tasmania (Romeo et al 2002)

Focus:	Social marketing and mass media
Location:	Tasmania, Australia
Target group:	Young women; general public

Intervention

1. Focus groups with 121 young women (who had not experienced a pregnancy) of their attitudes about breastfeeding.
2. Media /social marketing campaign based on key themes emerging from focus groups. The campaign comprised a 30 sec TV ad, bus posters, posters and stickers targeting the general public and attitudes to breastfeeding. The ad shows a man sitting on a toilet eating his lunch and the words 'you wouldn't eat here, so why should a baby?'

Evaluation

The study involved post-campaign attitude/awareness survey (as well as formative qualitative research).

The qualitative research identified a number of themes, including the women's perception that breastfeeding in public required courage, and that 'its ok but I wouldn't do it'.

Four weeks after the campaign an evaluation found a high degree of awareness of the campaign, a high level of understanding of the message and high level of appeal for the campaign message.

Comments

This was an original and bold campaign, which succeeded in achieving high levels of awareness. While the impact of this agenda-setting on community attitudes and later, on women's behaviours, is unknown it is a promising approach.

Reference: Romeo R, Kennedy L, Williams J, Orpin P (2002). Breaking down the barriers' project. Attitudes to breastfeeding among young women in Tasmania. *Abstract from Dietitians Association of Australia 20th National Conference.*

20. Mass media – The effect of a promotion campaign on attitudes of adolescents towards breastfeeding (Friel et al 1989)

Focus:	Mass media
Location:	Newfoundland, Canada
Target group:	High school girls

Intervention

TV commercial about breastfeeding was aired on 2 local TV stations, with advertisements and articles on 3 local newspapers. The TV ad was 15 sec, five times per week per station. The campaign was conducted over 5 weeks.

Evaluation

The study involved pre- and post- campaign survey of knowledge and attitudes of high school females aged 15 to 19 years. Note that at pre-test subjects were informed of the planned survey and the planned post-campaign survey; however, to control for any effects of this advice, the post-test included an additional 190 students who had not taken the pre-test.

The post-test survey found an increase in mean knowledge scores; this was not related to whether respondents reported seeing the TV commercial or advertisement. Attitude scores increased in the post-test; this was affected by whether respondents had seen the

TV commercial. The change in attitudes score was relatively small, although statistically significant.

More of the respondents had seen the TV commercial (373/463) than the newspaper ad (67/463). The attitude scores were higher (more supportive of breastfeeding) of girls who had seen someone breastfeed at some stage.

Comments

Review sources were Higginson and Fairbank et al. This case study shows that mass media can have a small, immediate effect on girls' knowledge and attitudes about breastfeeding. It is not known whether this effect is sustained, or subsequently influences intention to breastfeed in pregnancy or breastfeeding practices.

Reference: Friel J, Hudson N, Banboub S, Ross A. (1989) The effect of a promotion campaign on attitudes of adolescent females towards breastfeeding. *Canadian Journal of Health* 80: 195 –199.

21. Mass media – “Breastmilk. The world’s best baby food” (Health Education Board of Scotland (Sylvester & Wade 2002))

Focus:	Mass media advertising campaign
Location:	Scotland
Target group:	Mothers and potential mothers

Intervention

On the basis of qualitative research, the advertising campaign was designed to:

- Focus on women aged 19-35 years, not on partners and grandparents.
- Focus on benefits, for mothers as well as babies. The benefits selected for focus were very specific (babies’ stomach upset, ear and chest infections; childhood diabetes; mothers’ ovarian cancer, premenopausal breast cancer).
- NOT raise the issue of public breastfeeding, as this was judged to be counter-productive for women who were unsure, or hadn’t made up their mind.

The campaign also used additional campaign resources: a credit card size foldout leaflet, to reinforce messages and provide links to further help; and a colourful consumer magazine.

Evaluation

Communication tracking survey, measuring awareness of the campaign and core messages. Two waves of surveys were conducted – March-May 2001, and September-November 2001.

The evaluation report indicated spontaneous awareness of some of the specific benefits mentioned in the ad (up to about 25-30% of whole population sample). In 2002, 89% of pregnant women and mothers had seen the TV ad; 26% of mothers said it influenced their decision to breast or bottle feed (45% more likely to breastfeed; 53% realised the benefits). 74% of professionals had seen the ad. Respondents expressed a strong belief that the approach was effective (that is, it does seem to increase confidence) and the view that there was a need to encourage a culture of change broadly.

Public and professionals commented positively on the ad; and professionals believed they had an influence on women and other people likely to influence women.

Comments

The campaign had positive results on the outcomes of improved knowledge, awareness and attitudes to breastfeeding. While it is more difficult to extrapolate and interpret the impact of increased awareness on breastfeeding practices, the case study offers a promising approach.

Reference: Sylvester J, Wade C. (2002) *Review of HEBS breastfeeding resources and activity 1995-2002*. Edinburgh: Health Education Board for Scotland.

22. Physical environments – Audit of baby change rooms in shopping centres (McIntyre 1999)

Focus:	Physical facilities in public places
Location:	Adelaide, Australia
Target group:	(indirectly) breastfeeding mothers

Intervention

An audit of breastfeeding facilities was conducted in 27 major shopping centres in Adelaide. In those with facilities, the rooms were assessed using 'Nursing Mothers Association of Australia (NMAA) Baby care room criteria'. There was also a reliability check of the assessment process conducted by an independent assessor.

Evaluation

Of the 27 shopping centres, 52% had no facilities. The remaining 13 centres had 16 facilities and these were audited. Of these, 8 (43%) met all 8 NMAA criteria, and 68% met 6 or more criteria. Three facilities had no signage or name and were located in the women's toilets.

Comments

This paper illustrates how the checklist (criteria) can be used as an assessment tool. As each of the criteria is examined in detail, the report provides a useful guide to others conducting audits. However, the paper does not address a number of questions that are of interest. For example: is the checklist audit a useful exercise to support advocacy, or to improve the number or quality of facilities? Is the checklist a useful tool for guiding planning and building of facilities? What is an effective program or strategy for increasing applications of the checklist in public places? Thus, this is a promising approach that could be developed further.

Reference: McIntyre E, Turnbull D, Hiller J. (1999) Suitability of breastfeeding facilities outside the home: an audit of baby change rooms in shopping centres. *Breastfeeding Review* 7(1): 17-20.

23. Physical environments – Penrith Food Project (Webb et al 2001)

Focus:	Physical environments
Location:	Sydney, Australia
Target group:	Local government and women

Intervention

Breastfeeding was one of four areas of strategic intent covered by the Penrith Food Project. This project was conducted as a partnership between Penrith City Council, Nepean Hospital and the University of Sydney.

The specific focus of the project's work on breastfeeding was to identify and reduce barriers that impact on the duration of breastfeeding. The specific strategies included were: qualitative research, advocacy and communication.

Evaluation

Two initiatives/areas of change were reported as project achievements:

- Council's Parenting Facilities Policy requiring all new or refurbished public buildings over 1000 sq m to include a parenting room.
- Baby care room brochure, showing the location of baby care rooms in Penrith and distributed to all women birthing at Nepean Hospital.

Comments

This case study illustrates a systematic, multi-strategic approach, which includes a public policy component that was linked to information dissemination. This combination is essential, as the passive provision of facilities itself does not ensure women are aware of or use them.

Note that more recent projects where local breastfeeding coalitions have sought to liaise with local government and advocate for the adoption of local policies and facilities to support breastfeeding have been conducted in Auburn and Baulkham Hills areas of Sydney, Australia.

Although there is no information on impacts on breastfeeding rates, these are promising initiatives that warrant further study.

Reference: Webb K, Hawe P, Noort M. (2001) Collaborative intersectoral approaches to nutrition in a community on the urban fringe. *Health Education & Behaviour* 28 (3): 306-319.

24. Workplace policies and practices – Workplace breastfeeding support for hospital employees (Dodgson et al 2004)

Focus:	Workplace policies and practices
Location:	Hong Kong
Target group:	Women hospital employees

Intervention

Evaluation of hospital workplace practices, such as space for using a breast pump, policies covering breaks for expressing milk, existence of a workplace committee.

Evaluation

A cross-sectional survey of 19 hospitals was conducted to describe the extent to which they incorporated workplace features for employees that support breastfeeding. The findings showed limited extent of breastfeeding support: Policies covering breaks (11%); space for using

a breast pump (75%); private space (25%). Hospitals with a committee addressing this issue had more supportive environments.

Comments

This study demonstrates a systematic approach to assessing the workplace provision and support for breastfeeding. The method could be applicable to NSW.

Reference: Dodgson JE, Chee YO, Yap TS (2004) Workplace breastfeeding support for hospital employees. *Journal of Advanced Nursing* 47(1): 91-100.

25. Workplace policies and practices – Balancing breastfeeding and paid employment: a project targeting employers, women and workplaces (McIntyre et al 2002)

Focus:	Workplace policies and practices
Location:	Australia
Target group:	Workplace managers

Intervention

A kit that supports balancing paid work and breastfeeding was developed by the Commonwealth Department of Health. All information was based on previous work and focus group tested. The kit included a poster and booklet, with information for employees in multiple community languages. The booklet included information for employers, noted benefits of women combining breastfeeding and paid work, included suggestions for actions by workplaces and case studies. The suggested actions included providing facilities and policy (with a sample policy). Over 50,000 kits were distributed; it is also available through a website (www.health.gov.au/pubhlth/strateg/brfeed/).

Evaluation

Self report questionnaire emailed/faxed to 808 businesses one month following distribution of the kit.

Response rate of 12.8%, with 70% of those rating the information kit as excellent, and over half anticipating that it would be useful and provided sufficient information

Comments

While the kit represents substantial investment by the Commonwealth Department of Health, the evaluation study is relatively limited and provides no guidance on the actual responses or changes/uptake in practices.

Reference: McIntyre E, Pisaniello, Gun R, Sanders C, Frith D. (2002) Balancing breastfeeding and paid employment: a project targeting employers, women and workplaces. *Health Promotion International* 17(3), 215 – 221.

26. Workplace policies and practices – Duration of breast milk expression among working mothers enrolled in an employer-sponsored lactation program (Ortiz et al 2004)

Focus: Workplaces policies and practices

Location: USA

Target group: Working mothers

Intervention

Employer sponsored lactation programs in 5 corporations, which involved a class on the benefits of breastfeeding; services of a certified lactation consultant and a private room in the workplace with equipment for pumping.

Evaluation

Based on retrospective reviews of lactation records of 462 women, the study found 97.5% initiated breastfeeding, and 58% breastfed for at least 6 months. Of those who returned to work following birth, 79% attempted pumping milk and 98% were successful, and expressed milk at work for a mean of 6.3 months (range 2 weeks-21 months; median 3.9 months). Most of the women who pumped milk at work were working full time (84%).

Comments

This case study presents a sound, promising intervention. The evaluation findings indicate that the intervention is feasible and satisfactory, although methodological flaws prevent any strong conclusions on effectiveness.

The intervention provides a promising basis for further intervention studies.

Reference: Ortiz J, McGilligan K, Kelly P. (2004) Duration of breast milk expression among working mothers enrolled in an employer-sponsored lactation program. *Paediatric Nursing* 30(2): 111-119.

27. Workplace policies and practices – Aetna Inc. Corporate Lactation Program (US Department of Health and Human Services 2001)

Focus:	Workplace policy and practices
Location:	USA
Target group:	Women employees

Intervention

In their workplace program Aetna Inc. provides:

- breastfeeding education to pregnant employees
- access to breastfeeding consultant prior to and following birth, and following return to work
- on return to work, access to a breast pump in a private room at the worksite
- availability of flextime and job sharing
- promotion to employees through email communication and website information.

Evaluation

Respondents to a staff survey reported a very positive impact; 59% of respondents breastfed for 6 months or more.

Comments

While the information on this intervention and its impact is limited, it is indicative of the types of provisions that can be made in a workplace. It illustrates that this type of approach is feasible, and thus provides a starting point for further interventions and evaluation studies.

Reference: US Department of Health and Human Services. (2001). American Association of Health Plans and Office of Women's Health.

28. Advocacy – Central Coast breastfeeding friendly recognition scheme (Central Coast AHS Department of Nutrition, 2002)

Focus:	Advocacy to businesses to create supportive environments
Location:	Central Coast, Australia
Target group:	Local businesses

Intervention

The context for this specific initiative involved the establishment of a Central Coast breastfeeding coalition, and qualitative research with mothers.

The Breastfeeding Friendly Businesses Recognition Scheme involved recruiting businesses as 'breastfeeding friendly', where they were prepared to support breastfeeding and display a promotional sticker. The stickers and resource kits were distributed through personal visits to businesses. As well, the campaign included distribution of posters and leaflets, newspaper ads and editorial, community announcements on local radio and articles in some newsletters. At the same time, health professionals were briefed on the campaign.

Evaluation

Evaluation of the recognition scheme was conducted by telephone survey of businesses. The telephone survey showed that businesses were generally supportive, and

73% of establishments that had been sent the kit were displaying the sticker. Only 4 phone calls were received in response to the newspaper advertisement.

Comments

The impact of having businesses displaying stickers in terms of women's perceptions of a supportive environment, and their breastfeeding behaviours in public places, is unknown. Note that distribution of the stickers (annually) is labour-intensive.

This Central Coast project was based on earlier work in the NSW Blue Mountains (Stickney & Webb 1995). Tasmania picked up on this work, linked in with the Australian Breastfeeding Association, and produced the national sticker campaign.

Reference: Central Coast AHS Coast Department of Nutrition (2002) *Breastfeeding friendly recognition scheme*. Unpublished report.

29. Public policy and advocacy –International code for the marketing of breastmilk substitutes (Opie & Simmer 2004)

Focus:	Public policy and advocacy
Location:	Australia
Target group:	Industry

Intervention

There has been considerable effort in the last few decades to ensure that there are appropriate industry and retail codes and practices that do not undermine breastfeeding.

In Australia this has involved endorsement of the WHO Code “*International Code of Marketing of Breast Milk Substitutes*” (1981); followed by voluntary agreement signed by infant formula manufacturers in Australia setting out responsibilities of manufacturers and importers in relation to the WHO Code (1983, 1996), and now authorised under the Trade Practices Act 1974. An Advisory Panel on the Marketing in Australia of Infant Formula (APMAIF) including industry, health and consumer representatives was established to report annually to the public and government on compliance with the ‘*Marketing in Australia of Infant Formula Manufacturers and Importers (MAIF)*’ Agreement.

Health workers have specific responsibilities under this code, including notification of breaches, and not supplying formula in health care settings, unless necessary.

Evaluation

Essentially the implementation of the policy is monitored through an annual reporting mechanism.

Comments

While it is not possible to directly evaluate the impact of this policy on breastfeeding practices, this is an important example of healthy public policy.

Reference: Opie G. & SimmerK. (2004) The International Code of Marketing of Breastmilk Substitutes *J. Paediatr. Child Health* 40:348-349.

Details of the code can be found at the following website: www.ibfan.org/english/resource/who/fullcode.html#7

- Articles 6 and 7 refer to Health Care Systems and Health workers respectively.
- Article 7.1

‘Health workers should encourage and protect breastfeeding; and those who are concerned in particular with maternal and infant nutrition should make themselves familiar with their responsibilities under this code, including the information specified in Article 4.2’

30. Policy resource – Best practice by community-based Aboriginal and Torres Strait Islander health service providers in promoting and supporting breastfeeding and appropriate infant nutrition (Commonwealth Department of Health and Family Services 1998)

Focus:	Policy resource /program review
Location:	Australia
Target group:	Service providers and indigenous communities

Description

This report was prepared as part of the national initiative 'Health throughout life: Maternal Health – Increasing rates of breastfeeding in Australia'. The report is based on the work of a review team, commissioned to identify and review current interventions, identify examples of best practice and provide recommendations on suitable, effective interventions for use by community-based Aboriginal and Torres Strait Islander health service providers. The document provides guidelines for practitioners to consider in developing new projects.

The review involved a systematic, extensive and in-depth analysis, based on documents, submissions and interviews of service providers. Topics covered community development, health promotion, information and counselling and support strategies, in relation to varying aspects of breastfeeding. The report provides summary information on 46 projects and detailed descriptions of 13 projects. The report notes a number of weaknesses and uses these to provide recommendations for better practice. For example:

- The lack of sustainability of best practice projects was a major weakness. This was directly related to short-term funding support.
- A one-to-one counselling system for breastfeeding Indigenous women should be established. However, the use of unrelated, young, volunteer peers may not be appropriate, and the recommended approach should build on the knowledge and skills of older family and community women.
- There was strong support and good examples of staff education, to develop health workers' skills in the management and/or referral of breastfeeding problems. However, this tended to be one-off and unsustainable. It also suffers as Aboriginal health workers may apply these skills infrequently, and thus become de-skilled. It was suggested that health worker specialisation may be

required; and/or ongoing staff development arrangements.

- Workplace policies and practices to support breastfeeding should be described and promoted in Indigenous settings. Community employment and development programs would be a good place to start.

Specific NSW case studies documented include: Early childhood health service in Broken Hill; Djuligalban-Durri Aboriginal Medical Service, Kempsey (where an increase in any breastfeeding rates from 29.8% at 6 weeks in 1993-4 to 43.6% in 1995-6, were determined); and, Thalikool Aboriginal Outreach program (North Coast NSW).

Comments

This report provides a wealth of information about ideas that have been developed and tested, but unfortunately, rarely sustained. It is a valuable resource for guiding new efforts, and hopefully ensuring sustained services and supports for breastfeeding. However, there is no information on the extent to which this report has been disseminated, or used to inform subsequent action.

Also, the types of resources indicated in this review are rarely actively disseminated nor part of an implementation program. This creates risks that they are not appropriately accessed or used to influence practice. Of course, program review is only part of an intervention; and the associated processes, documents and resources do not necessarily affect practices, priorities or program design.

Reference: Commonwealth Department of Health and Family Services (1998) *Review of current interventions and identification of best practice currently used by community-based Aboriginal and Torres Strait Islander health service providers in promoting and supporting breastfeeding and appropriate infant nutrition.*

31. Policy resources – Audit of current training in breastfeeding and infant nutrition for Aboriginal health workers and other health professionals providing health care to Aboriginal and Torres Strait women (Commonwealth Department of Health and Family Services 1997)

Focus:	Policy resource/program review – health professional training
Location:	Australia
Target group:	Health professionals providing health care to Aboriginal and Torres Strait women

This report was prepared as part of the national initiative ‘Health throughout life: Maternal Health – Increasing rates of breastfeeding in Australia’. The report is based on the work of a review team, commissioned to conduct an audit and review. The audit examines current training initiatives at certificate, diploma, and degree levels, as well as short courses, on the job training, health literacy and community education for Aboriginal people. It also looks at training for other health professionals, and training in relation to specialist professional groups (lactation consultants, nutritionists etc).

The report recommends an in-service approach to training of Aboriginal health workers in maternal and child health, with particular emphasis on breastfeeding and infant nutrition. The unit or training module should be accredited and allow for its inclusion as an elective in existing training courses. Note that the audit found only one short course for Aboriginal health workers, run by a consortium with James

Cook University, Royal Australian College Obstetricians and Gynaecologists, Kimberley Aboriginal Medical Service Council, and with a placement at King George V Hospital Sydney.

Comments

This document provides sound ideas and material to guide further work. Unfortunately, there is no information on the extent to which this document has been disseminated, or used to influence or guide further actions. It is critical to recognise that program review and resources do not necessarily affect practices, priorities or program design.

Reference: Commonwealth Department of Health and Family Services (1997) *Audit of current training in breastfeeding and infant nutrition for Aboriginal health workers and other health professionals providing health care to Aboriginal and Torres Strait women*.

4 Discussion of issues for implementation planning

4.1 Implementation of evidence-based practice

Evidence from systematic reviews provides the basis for identifying policies, interventions and practices that can improve breastfeeding practices in accordance with health and dietary recommendations. A checklist of service components, based on the findings from systematic reviews as presented in Tables 3, 4 and 5 can be derived from the synthesis of reviews to guide the development of services and practices in NSW. These policies, interventions and practices have been illustrated by presenting selected case studies considered by these reviews.

This report seeks to present the evidence in formats that assist existing services in implementing evidence-based practices. In some cases, this may involve services adopting new practices and strategies.

The process of implementing new initiatives involves incorporating new strategies and practices into existing organisational systems and structures. There is rarely a complete 'off-the shelf' solution; and often health services need to re-engineer local work practices, in order to introduce evidence-based practice. This requires thoughtful planning and understanding of local cultural and organisational factors. Tested interventions often need to be adapted, in order to ensure their relevance and fit to different cultural target groups and organisational contexts. Adaptations may also need to take account of different levels of resources and skills in the implementation setting. Successful adoption and adaptation requires replicating the essence of an effective intervention, but adapting implementation details, to ensure local commitment, adequate resources and good management (King et al 1996; Homer et al 2001).

Adaptations and refinements to interventions can also be based on new or local information regarding determinants and factors contributing to the breastfeeding patterns in a specific population or social context. For example, in situations where there are higher rates of caesarean births, it becomes more important to ensure that hospital practices foster breastfeeding for these women. A recent article has recommended that the BFHI expand its scope, to encompass practices to support breastfeeding for preterm and sick babies (Chalmers 2004). Similarly, as part of the

implementation of BFHI, a hospital in Perth introduced a finger feeding method for correcting the suck technique of preterm infants, whilst they were being cared for in a special nursery. This was found to increase breastfeeding rates of preterm infants at discharge (Oddy & Glenn 2003).

Thus, the process of implementing evidence-based practice involves review of current services and programs, and adaptation of existing programs to incorporate effective practices into new organisational settings.

It also involves developing and applying strategies based on general principles for successful program implementation, particularly ensuring strong leadership for changes, good management, participation by stakeholders, coordination and adequate capacity, in terms of appropriately skilled workforce and financial resources (Webb & Marks 1997; Homer et al 2001).

An implementation model refers to a structured format for providing a range of services; and is usually designed to fit particular organisational and social contexts. Implementation models based on Australian and NSW organisational arrangements can be defined and promulgated, to assist the implementation of evidence-based practice (Homer et al 2001). For example, the WHO /UNICEF BFHI accreditation system is an implementation framework that can be used as the basis for review and service development processes. Integrated early childhood intervention programs, such as Families First or other universal home visiting programs for new mothers, is an example of an implementation model for providing postnatal education and support. Such early childhood home visiting intervention programs are designed to enhance the overall health and social functioning of families, and seek to improve breastfeeding, increase support, promote social and cognitive development, reduce child abuse, and other outcomes. In NSW they are guided by 'Guidelines for Health Home Visiting' (NSW Health).

It is important that effective strategies reach those groups with poorer rates of breastfeeding – younger, less educated and more socio-economically disadvantaged women. These groups also tend to have a higher incidence of pre-term and low birthweight babies. Evidence is accumulating of the particularly beneficial health effects of breastfeeding in

these infants (eg neurological development). Targeting these groups with a culturally-specific approach has potentially large follow-on benefits to the health system and the community at large.

4.2 Applied research on promising approaches

A number of case studies describe promising strategies and interventions for addressing social and environmental factors related to breastfeeding. They offer ideas, practical experience, parallel evidence and perspectives from community members that can contribute to practice in NSW. However, the limited evaluation in the studies aimed at social and environmental factors in relation to breastfeeding outcomes and specific intervention practices means that it is not possible to identify interventions that have a sufficient level of evidence to guide practice with any certainty. This situation suggests the importance of developing evaluation studies and applied research, to systematically investigate the potential for interventions addressing social and environmental factors to improve breastfeeding practices.

There are also a number of gaps in knowledge that apply across a number of types of interventions, or that relate to contributing factors that have not been addressed in intervention studies – such as effective ways of influencing fathers' attitudes and knowledge about breastfeeding; or ways of incorporating grandmothers into education and support efforts.

As a way of systematically considering new strategy ideas, it is possible to assess the level of promise of particular interventions, as a basis for further development. The 'promise table' has been developed as a tool that categorises potential interventions according to the certainty of their effects as well as their estimated population impact. Thus, interventions with little evidence may be considered as promising or having some promise, where there is the potential for substantial population impact and health gain. Table 6 depicts the "Promise table".

Table 6 The modified process for weighing up potential gains and risks, in a portfolio planning approach

↑ Increasing returns on health gains	Very high gain - low uncertainty*	High gain moderate uncertainty Very promising	High gain - high uncertainty Promising
	Moderate gain - low uncertainty	Moderate gain - moderate uncertainty Promising	Moderate gain - high uncertainty Some promise
	Low gain - low uncertainty	Low gain - moderate uncertainty Limited promise	Low gain high uncertainty Least promise
		→ Increasing uncertainty of risk	

* Note the first column is not described as promising, as there is a low level of uncertainty (that is, the gains are known)

Adapted from Gill, King & Caterson (2005).

In the following sections we apply the 'promise table' to the gap areas – those not included in systematic reviews – to indicate the degree of promise that these intervention types have in the NSW context.

4.2.1 Media, social marketing and communication campaigns could be considered 'very promising', as they have high potential reach and gain (in terms of attitude change), and moderate uncertainty. This assessment incorporates parallel evidence, which shows media campaigns in the case of other public health issues such as tobacco control and sun protection, for example, as being highly effective in influencing public attitudes. This assessment is based on the assumption that public attitudes have a significant influence on decisions regarding intention to breastfeed, and duration of breastfeeding. A communication strategy is a most promising approach, with parallel evidence from many sources, with the actual effectiveness of any specific campaign is dependent on its implementation and level of reach.

4.2.2 Workplace programs provide a 'promising' area for intervention research, as they offer moderate gain (high proportions of mothers return to work and return to work is frequently cited by mothers as a reason for stopping breastfeeding), with moderate uncertainty. Studies that investigate effective workplace policy development and

implementation, as well as the impact of such approaches, would contribute greatly to the evidence base. Furthermore, there is scope for studies that evaluate best practice approaches to active dissemination, as this is more likely to foster widespread uptake of actions by employer groups.

4.2.3 Development and promotion of public breastfeeding facilities offers small gain. The likelihood of achieving such gain probably depends on the quality of the intervention (e.g. whether there is promotion in conjunction with facilities) and so the approach is considered to have moderate uncertainty, or overall 'limited promise'. This type of intervention is likely to be of interest to organisations with 'family-friendly' policies. The ABA currently provides specifications on the requirements for physical facilities. However, there is no information regarding the impact of providing such facilities, the extent of awareness of these facility guidelines amongst key groups, such as local government, or their assessment of the value of these guidelines. As with clinical service guidelines or preventive practice guidelines, it is likely that specific programs are required to promote awareness and adoption /utilisation of such guidelines. Further, there may be additional actions that are required to put the facility guidelines into practice, such as appropriate signage and promoting the availability of facilities to mothers in a local area.

There is scope for program development and applied

research in this area: evaluating user groups' awareness of responses to the guidelines; developing and testing a process for promoting utilisation of the guidelines, and the importance of policy as a component of implementation; a community study examining the impact of facilities, and associated actions such as communication strategies to increase parents' awareness and use of the facilities, and signage; monitoring parents' attitudes, perceptions and responses to the facilities, and utilisation; and an evaluated study promoting the guidelines and associated requirements to key user groups, such as councils.

4.2.4 Education of fathers could be considered as a breastfeeding intervention with 'some promise' because it offers a moderate gain with high uncertainty. This assessment is consistent with parallel evidence from parent education and other evidence which suggests that fathers influence their partners' attitudes. This type of intervention may be of interest because of its feasibility. For example, as little as one session of an antenatal education program focused on fathers' needs and issues could be sufficient to improve fathers' attitudes and knowledge.

Overall, intervention ideas need to be developed to increase information about the determinants of breastfeeding, based on theoretical models, descriptive studies and intervention studies newly appearing in the literature.

5. Conclusions and recommendations

5.1 Implementation of evidence-based practice

The following recommendations include a range of evidence-based practices.

Recommendation 5.1.1 – Policy

(As presented in the Overview report) It is recommended that NSW Health develop a breastfeeding policy that endorses the importance of breastfeeding and that supports Area Health Services in adopting evidence-based practice.

Recommendation 5.1.2 – Implementation models

It is recommended that NSW Health develop and promulgate good practice implementation models for promoting and supporting breastfeeding, with reference to existing structures and practices in NSW health services.

Recommendation 5.1.3 – Review and Service development

It is recommended that Area Health Services review their services and practices in relation to the promotion and support of breastfeeding, and pursue systematic evidence-based service development. That is, they should seek to ensure that services are consistent with the current evidence base, that they comprehensively cover practices found to be effective, and that the services have optimal reach and population impact.

Service reviews should consider the extent to which breastfeeding services and practices provided by health services for community members encompass:

- Prenatal breastfeeding education (including preparation for potential problems)
- Rooming-in
- Early skin-to-skin contact (including caesarean and preterm births)
- No commercial discharge packs
- Practical education and skills training (technique) in hospital
- Postnatal education and professional support as soon

as possible following discharge (during the first weeks and preferably involving home visits)

- Community based postnatal support services, such as mothers groups, providing ongoing support for mothers for up to 3 months
- Links, collaboration, assistance and/or referral to peer support networks and groups.

Recommendation 5.1.4 – Apply an equity focus to service review and development

As part of review and service development processes, Area Health Services should consider the extent to which services are accessible to all population subgroups, and are oriented and sensitive to the social and cultural characteristics of young and socio-economically disadvantaged mothers, as well as Aboriginal and Torres Strait Islander women and selected ethnic groups. The 'Four steps towards equity' tool, developed by South East Sydney AHS, provides a useful guide for such processes (Health Promotion Service, South East Health 2003).

In some cases, the evidence of interventions to promote and support breastfeeding identifies that specific strategies have been found to be particularly effective for more disadvantaged groups. Where there is no specific evidence, generic principles to promote equity can be applied (NHMRC 2003).

Recommendation 5.1.5 – Enabling processes

Area Health Services should implement a set of enabling policies and practices to ensure that there is consistency of information and continuity in effective practices, including:

- Coordination between prenatal, hospital and postnatal services, and with General practitioners, Aboriginal health services, specialist groups such as Karitane and Tresillian, and community groups, such as ABA
- Local /area health service procedures and clinical guidelines for promoting and supporting breastfeeding
- Ongoing professional education for a number of professional groups
- Consultation with professional groups, service providers and target groups, as part of the service development process

- Deployment of trained staff allocated to providing services at prenatal, birth and postnatal stages

* Specialists (eg lactation consultants) to provide expert consultancy to other staff.

Recommendation 5.1.6 – Best practice implementation processes

It is recommended that health services and project groups incorporate best practice implementation planning processes, as part of service development and innovation initiatives. In particular, this involves consultation with implementation stakeholders, qualitative research with key target groups, and an investment in applied research and evaluation, as part of innovative projects. Specific suggestions include:

- Form a local breastfeeding coalition
- Review data on breastfeeding practices in the area and interpolate from state data, as required
- Ensure service coordination, from a consumer perspective
- Ensure that services are implemented as sustainable initiatives, rather than as one-off projects.

5.2 Innovation and applied research on promising approaches

There are a number of promising approaches and interventions that require further development and evaluation.

Recommendation 5.2.1– Communication campaign

It is recommended that government and non-government agencies work together to design and conduct a multifaceted communication strategy promoting breastfeeding. A multifaceted communication strategy would involve a number of campaign waves or stages, addressing various target groups, including young women and their partners, and the general public. Different groups require different messages.

Recommendation 5.2.2 – Applied research on promising approaches

It is recommended that health services and research groups test and evaluate promising approaches. It is essential that such interventions be thoroughly evaluated, to contribute to a broader base of evidence.

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