



CENTRE FOR
Community
Child Health

Breastfeeding Promotion

Practice Resource

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Practice Resource: Breastfeeding Promotion

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Overview

Introduction

There is now a large amount of research evidence about the importance of the early years. Many professionals are unsure about how this evidence impacts on the services they provide for families and their professional practice.

The Centre for Community Child Health has therefore developed eleven "*Practice Resources*". Each *Practice Resource* provides professionals with:

- an introduction to the topic
- a summary of the latest research, and
- practical strategies to support their daily work with young children and their families.

These *Practice Resources* will help professionals consider and understand the issues and the range of researched options and strategies available to discuss with parents and carers in addressing their concerns and increasing their confidence. They will also support management to make sensible decisions about the use of resources and directions for services to address important issues for children.

The project to develop these eleven *Practice Resources* has been made possible through funding from the Telstra Foundation.

See Appendix 1 and 2 for more details about the Centre for Community Child Health and the Telstra Foundation respectively.

Why were *Practice Resources* developed?

The *Practice Resources* have been designed to bridge the gap between research and practice. Most professionals do not have the time to sift through and interpret the relevant research that can inform how they work with children and families, nor do they have access or opportunity to attend relevant professional development.

The aim of the *Practice Resources* is to broadly translate the research evidence on a number of important topics into easily understood practical information that can be readily used by a range of professionals, assisting their daily work with young children and their families.

While each resource is written for professionals working with children and families, the information will also be useful to managers of services.

What is the structure of each Practice Resource?

These resources are designed to be easy to use and inform professional practice. The structure of the *Practice Resources* enables access to information at different levels of detail depending on the user's needs.

Each resource has the following structure:

- **Glossary**
Definitions of key terms.
- **Section 1: Introduction**
This includes definitions, how frequently problems occur, information about normal development (where relevant), effects of the problem, and whether the focus should be on promotion, prevention, or early intervention.
- **Section 2: What works?**
This includes a simple summary of the research and outlines what works and therefore the strategies that should be implemented. Whilst this section is brief, strategies are sufficiently detailed and specific for action. To support the professional there is also:
 - **Parent information:** Pointers to existing web based parent information are provided. This information has been reviewed to ensure the messages are consistent with those in the resource.
 - **Key messages:** A single page summary is provided outlining the most important messages for professionals and managers.
- **Section 3: What the research shows**
Annotated summary tables of the research evidence and intervention studies is included, with information provided about the level of evidence, see Appendix 4. Also included are the more detailed key research principles that are fully referenced.
- **References**
All references used to inform the resource are listed.

To make these *Practice Resources* easy for professionals to access and use, references are not included within "Section 1: Introduction" and "Section 2: What Works". In "Section 3: What the research shows" references are included in the text. A full list of the references relevant to each topic can be found separately in the References section.

Overview

What topics are covered?

Promotion

- Breastfeeding
- Literacy

Prevention

- Injury
- Overweight and obesity
- Smoking during pregnancy
- Passive smoking effects on children
- Child and adolescent smoking

Early Intervention

- Language
- Settling and sleep
- Behaviour
- Eating behaviour

How were the topics selected?

A number of criteria were used to select topics. These included:

- The importance of the issue in relation to children's health and development
- Requests from professionals
- Expression of need from communities
- Parental needs and concerns
- Perceived gap between evidence and practice
- Ease of including in daily professional practice
- Lack of information from other sources

See Appendix 3 for more detail about the selection criteria.

Overview

How were the Practice Resources developed?

The content of the resources were drawn from the published research, expert advice, and information about innovative and promising practices. An expert committee oversaw the development of the content, and an expert in the field reviewed the content of each resource.

The format and design of the resources was focus tested and modified accordingly.

Are there limitations to these Practice Resources?

For a number of topics there were limited numbers of well researched interventions and strategies available in the literature. Therefore it is important to note the following:

- Where possible National Health and Medical Research Council principles of assessing evidence were applied to research reviewed. For some topics there was very little evidence of high quality.
- Interventions and strategies included in the resources were based on a combination of research-based principles and expert advice.
- It is highly likely that the evidence for most topics will change over the next few years; suggested strategies may require ongoing review.

Glossary

Breastfeeding duration	The total period of time during which an infant receives any breast milk at all, from initiation (first breastfeeding) until breastfeeding has ceased completely.
Breastfeeding Hospital Initiative (BFHI)	Hospital-based initiative designed by the World Health Organization (WHO) aimed at improving breastfeeding initiation rates by promoting breastfeeding in hospital and providing support for breastfeeding after discharge.
Commercial discharge packs	Information packs containing samples of artificial formula or promotional material for artificial formula given to mothers as they leave hospital after giving birth.
Exclusive breastfeeding	Feeding an infant breast milk only.
Health care worker	Generally a midwife or nurse.
Lactation consultant or specialist	Nurse who consults with breastfeeding mothers, offering practical advice and techniques related to successful breastfeeding.
Long-term duration	Breastfeeding for a period of more than three months.
Discharge packs	A collection of free samples given to mothers as they leave hospital after giving birth which contains items such as breast pads but not free samples of infant formula.
Peer support programs	Methods of support provided by non-health professionals, often mothers who have successfully breastfed and who have received training to work as counsellors with new mothers, usually in a volunteer capacity.
Primiparous women	Women who are pregnant for the first time.
Post-natal clinic	Follow-up clinics for mothers after the birth of the baby.
Short-term duration	A period of less than three months (13 weeks) of exclusive breastfeeding.

Refer to Appendix 5 for a glossary of terms related to research methodology terminology.

Section 1: Introduction

Setting the scene

Focus:	Promotion
Topic inclusion:	Encouraging breastfeeding with pregnant women, those intending to become pregnant and new mothers
Topic exclusion:	Management of breastfeeding problems

Human breast milk provides complete nutrition for healthy physical and intellectual development of infants in the critical first months of life.

Breastfeeding is best because it:

- Is fresh, clean and safe
- Increases resistance to infection and disease
- Lowers the risk of allergy and food intolerance
- Helps with mother-infant bonding
- Helps the uterus return to normal sooner after childbirth

Typical breastfeeding involves:

- Commencement shortly after birth
- Feeding whenever the baby cries or seems hungry
- At least six to eight feeds in 24 hours (may be up to 10-12)
- Night feeding
- Finishing one breast before going on to other

Two important terms are used when discussing breastfeeding. These are:

- *Initiation* (the commencement of breastfeeding shortly after baby's birth), and
- *Duration* (the length of time baby is exclusively fed on breast milk).

Section 1: Introduction

Prevalence of breastfeeding

The National Health and Medical Research Council (NHMRC) recommends that all infants be fed exclusively on breast milk from birth until at least six months of age and that breastfeeding continue with appropriate complementary foods until the infant is at least 12 months of age.

The recommended goal in Australia is that at least 90 per cent of mothers initiate breastfeeding and that 80 per cent breastfeed until their infant reaches six months of age. According to the 1995 National Nutrition Survey, only 18.6 per cent of Australian infants are breastfed exclusively at six months of age despite an initiation rate in maternity hospitals of 81.8 per cent. More recent statistics available from the New South Wales Child Health Survey indicate that 58.2 per cent of infants are breastfed exclusively at three months, 24.6 per cent exclusively at four months, and a total of 50 per cent infants were breastfed at some point to some degree.

Surveys from the Australian Breastfeeding Association and the Australian National Health Surveys have identified factors that influence a woman's decision to breastfeed:

- Concern for the infant's health,
- Family members' opinions of breastfeeding,
- Convenience,
- Community attitudes, and
- The mother's age and education.

Factors that impact significantly on the duration of breastfeeding include a lack of knowledge of technique and returning to work.

The recommended goal in Australia is that at least 90 per cent of mothers initiate breastfeeding and that 80 per cent breastfeed until their infant reaches six months of age.

Section 1: Introduction

Impact of breastfeeding

There are many benefits of breastfeeding for child and mother, both immediate and long term.

For children, breastfeeding has been linked to:

- The provision of all nutrients necessary for adequate physical and mental development
- A degree of protection against some common childhood infections such as gastroenteritis, otitis media, urinary tract infection, juvenile onset of insulin-diabetes and respiratory infections
- Decreased risk of sudden infant death syndrome
- Improved brain development when compared with formula-fed infants

For mothers, breastfeeding has been linked to:

- Decreased blood loss after birth
- Hastening of the rate at which the uterus reduces in size after birth
- More rapid rate of reduction of body fat gained during pregnancy
- Positive emotional and psychological effects
- Reduced risk of developing ovarian and pre-menopausal breast cancer

In addition, breastfeeding is a more cost-effective option for feeding an infant.

There are many benefits of breastfeeding for both child and mother.

Section 2: What works?

Introduction

Many strategies for increasing the rates of breastfeeding have been trialled. Four strategies which have early support for their success are:

- Structured education programs
- Education programs with support
- Peer support or counselling programs
- Baby Friendly Hospital Initiatives

The distribution of written material has been ineffective in increasing breastfeeding rates, and the distribution of commercial discharge packages, that is information packs containing samples of artificial formula or promotional material for artificial formula given to mothers as they leave hospital after giving birth, has increased the likelihood of formula being used over breast milk.

Structured education programs and combined education and support programs have the strongest support for their effectiveness at this stage. The Baby Friendly Hospital Initiative (BFHI), which involves provision of ongoing advice by a primary care practitioner, has also been shown to lead to increased breastfeeding rates for women.

Breastfeeding strategies differ in their focus in that some are focused exclusively on breastfeeding initiation, some focus on duration only, and others focus on both initiation and duration. A description of each of the research-based breastfeeding approaches, along with a note about its particular focus, follows.

Structured education programs and combined education and support programs have the strongest support for their effectiveness at this stage.

Section 2: What works?

Understanding strategies to promote breastfeeding

Structured education programs

Structured education programs are also commonly referred to as antenatal classes and are typically attended in the third trimester of pregnancy.

The specific topics covered in the classes vary across programs; however, two topics common to most classes are effective positions for breastfeeding and problems or issues associated with breastfeeding, for example, sore breasts, mastitis, feeding in public, and combining work and breastfeeding.

Antenatal classes typically use a workshop format and combine lectures with practical demonstrations of breastfeeding techniques.

It is also common for programs to allocate time for question-and-answer sessions and general group discussion.

Only one of the antenatal classes included in the research-based review had a distinct focus on maternal wellbeing (where issues regarding the effect of breastfeeding on the mother's self-image and ability to cope after the baby was born were closely considered). Typical antenatal programs focus mainly on the practicalities of breastfeeding and only briefly address issues regarding a mother's wellbeing.

At the conclusion of most antenatal classes mothers are provided with information booklets reinforcing the key messages from the sessions as well as information about where they can find further information on breastfeeding.

Structured education programs typically focus primarily on the initiation of breastfeeding.

Section 2: What works?

Education programs with support

Programs that offer both education and support deliver information from structured education programs in one-on-one sessions with a new mother, either while she is still in hospital or when she first goes home, and follow up with support through telephone calls and home visits.

Programs run for two to three months after birth and focus on initiation and continuation of breastfeeding for as long as possible.

Telephone calls and home visits occur at regular intervals over the period in which the program runs, and mothers can contact a counsellor at any time with specific questions or concerns.

Programs have a strong emphasis on problem solving and address such issues as nipple soreness, unsettled babies and frequent feeds.

The education component of the program is more intensive than that provided in a structured education program because tuition occurs on a one-to-one basis, mothers spend more time with a breastfeeding expert than in an antenatal class and general as well as specific problems are addressed.

The education and support programs provide more support for the new mother's wellbeing by offering someone to talk to regularly about their breastfeeding who will encourage them to continue. Also, in some programs the counsellors specifically focus on the mother's emotional wellbeing as well as issues relating to breastfeeding.

Education and support programs focus on increasing rates of both breastfeeding initiation and duration.

Section 2: What works?

Peer support or counselling programs

Peer support or counselling involves pairing volunteers with first-hand breastfeeding experience with new mothers in order to offer breastfeeding support in the first few weeks after birth.

The types of support provided are varied; for example, educational support relating to breastfeeding practices is provided, emotional support is given, and feedback is provided on ways to make breastfeeding easier and more relaxed.

The program is based on the premise that practical support from a woman with direct breastfeeding experience is a particularly effective way of increasing the likelihood that women will breastfeed for longer and be more satisfied with the process.

Peer support or counselling programs are specifically focused on increasing the duration of breastfeeding.

Peer support or counselling relies on selecting volunteers with not only previous breastfeeding experience but also a positive attitude to breastfeeding. They also need to be trained to provide support and appropriate referrals.

To increase the likelihood that an effective supportive relationship develops between the volunteer and new mother, the two are matched according to characteristics such as age, socioeconomic status and cultural background.

The Baby Friendly Hospital Initiative (BFHI)

The BFHI is the work of the World Health Organisation (WHO) and UNICEF and has been implemented in numerous hospitals in countries throughout the world.

The Baby Friendly Hospital Initiative is based on ten steps that are implemented in the maternity ward of a hospital. The ten steps are as follows:

1. Have a written breastfeeding policy that is routinely communicated to all health care staff.
2. Train all health care staff in the skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding within half an hour of birth.

Section 2: What works?

5. Show mothers how to breastfeed and how to maintain lactation even if they are separated from their infants.
6. Give newborn infants no food or drink other than breast milk unless medically indicated.
7. Practise rooming in – allow mothers and infants to remain together 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or dummies to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from hospital.

The women included in the BFHI trial also received ongoing care and support from primary health care practitioners such as nurses, physicians and midwives for the first 12 months after the birth of their baby.

The BFHI is a program designed to increase both breastfeeding initiation and duration but is likely to have an influence on initiation only.

Section 2: What works?

What you can do

The success of promotional and educational efforts to encourage women to breastfeed leads to the strong recommendation that health professionals promote breastfeeding to pregnant women and women intending to become pregnant. Several methods of promotion that can be used in individual sessions with women are outlined below.

Educational messages to pass on to pregnant women

- The NHMRC recommends exclusive breastfeeding during the first six months of an infant's life, with continued breastfeeding with appropriate complementary food until the infant is at least twelve months of age.
- There is evidence that there are benefits for both the mother and infant if the infant is breastfed within the first few hours of birth, and that this encourages ongoing breastfeeding.
- There is also evidence to suggest that mothers who decide to breastfeed before pregnancy or birth are more likely to initiate and continue with breastfeeding once the baby is born. Therefore it is recommended that women are informed of the benefits of breastfeeding as early as possible.

Supportive practices to use with pregnant women

- Professionals can show support to the pregnant woman by providing her with the opportunity to discuss her views on breastfeeding and any potential barriers she might foresee. This information can provide useful guidance to the professional on the best and most respectful way to proceed with a discussion about breastfeeding and help identify those who are reluctant or ambivalent, rather than women just agreeing regardless of their lack of enthusiasm.
- Professional support has been linked to greater rates of breastfeeding and using breastfeeding exclusively.
- Women should be encouraged to discuss the benefits of breastfeeding with the baby's father to raise awareness of what is involved and the support he can provide.
- Support and approval from peers and other family members besides the baby's father have also been linked with greater breastfeeding rates. Professionals can work to raise a woman's awareness of the importance of breastfeeding and initiate a discussion about who in addition to the father, eg, other family members, might provide support once the baby is born.
- It is especially helpful to identify someone from whom practical advice will be sought once breastfeeding has begun.

Section 2: What works?

Referrals to structured education classes and Baby Friendly Hospitals

Women should be encouraged to attend antenatal classes to learn about effective breastfeeding techniques, the importance of feeding on demand and overcoming common barriers to continued breastfeeding.

Where possible, women should be referred to classes known to have a focus on feeding on demand, optimal breastfeeding positioning and problem solving and that emphasise and encourage the development of strong social support networks. A list of such classes in Australia can be found at the following link of the Australian Breastfeeding Association:

www.breastfeeding.asn.au/products/happen.html

Women can also be referred on to Baby Friendly Hospitals, which can be located at the following link:

www.bfhi.org.au/text/bfhi_hospitals.html

Some women will choose not to breastfeed and the professional should support this decision, perhaps asking some questions as well about her confidence generally about infant feeding.

For further recommendations on clinical best practice with regard to breastfeeding advice, see the following link for the National Medical Health Research Council's "Infant feeding guidelines":

www.health.gov.au/nhmrc/publications/synopses/dietsyn.htm

Breast feeding promotional material to use in a clinic or facility can be found at the following site:

www.bfhi.org.au/text/bfhi_merchandise.html

Section 2: What works?

Information for parents

Parents can be directed to the following sources for helpful information on breastfeeding:

- Frequently Asked Questions, Australian Breastfeeding Association:
www.breastfeeding.asn.au/bfinfo/faq.html
- Breastfeeding information for parents and parents-to-be, La Leche League International
www.la lecheleague.org/bfinfo.html
- Information for parents, BFHI USA
www.babyfriendlyusa.org/eng/05.html
- The Raising Children website is a one-stop resource for parenting information with all the basics on raising children 0-8 years, quality-assured by Australian experts, and supported by the Australian Government.
www.raisingchildren.net.au

Section 2: What works?

Key Messages for Professionals

The NHMRC recommends that all infants be fed exclusively on breast milk until they are at least six months old. It also recommends breastfeeding with appropriate complementary foods until at least the age of 12 months. Currently only 18.6% of Australian infants are breastfed exclusively at six months despite an initiation rate in maternity hospitals of 81.8%.

Breastfeeding is best for infants for many reasons: it is fresh, clean and safe; increases resistance to infection and disease; lessens the risk of allergy and food intolerance; helps with bonding; and helps the mother's uterus return to normal sooner after childbirth.

The initiation of breastfeeding is influenced by factors such as concern for a baby's health, family members' opinions of breastfeeding, convenience, community attitudes, and a mother's age and education. Important barriers to continuing to breastfeed include a lack of knowledge of technique and returning to work.

Research-based strategies for promoting breastfeeding

Promotional efforts to encourage women to breastfeed have had considerable success. Health professionals are recommended to promote breastfeeding to pregnant women and women intending to become pregnant. This can be achieved in the following ways:

- Encourage women to think about the benefits of breastfeeding as early as possible.
- Promote exclusive breastfeeding during the first six months of a baby's life and continued breastfeeding with appropriate complementary foods for at least 12 months.
- Encourage women to initiate breastfeeding within the first half hour after birth where possible.
- Show support to pregnant women by providing them with the opportunity to discuss their views or concerns.
- Encourage women to try to get as much practical support from others (including the baby's father and her friends and family) in her plans to breastfeed.
- Refer pregnant women to antenatal classes known to have a focus on feeding on demand, optimal breastfeeding positioning and problem solving and an emphasis on encouraging the development of strong social support networks.

Professionals should be aware of the following findings:

- Written material alone cannot be relied upon to encourage women to breastfeed.
- It is *not* recommended that practitioners distribute commercial material promoting infant formula, as this is likely to decrease the likelihood that women will breastfeed.

Section 2: What works?

Key Messages for Managers

The National Health and Medical Research Council recommends that all infants be fed exclusively on breast milk until they are at least six months of age. It also recommends breastfeeding with appropriate complementary foods until at least the age of 12 months.

Breastfeeding is best for infants for many reasons: it is fresh, clean and safe; increases an infant's resistance to infection and disease; lessens the risk of allergy and food intolerance; helps with bonding and helps a woman's uterus return to normal sooner after childbirth.

Initiation of breastfeeding is influenced by such factors as concern for the baby's health, family members' opinions of breastfeeding, convenience, community attitudes and the mother's age and education. Important barriers to continuing to breastfeed include a lack of knowledge of technique and returning to work.

Currently only 18.6 per cent of Australian babies are being breastfed exclusively at six months despite an initiation rate in maternity hospitals of 81.8 per cent.

It is important to have policies and protocols regarding breastfeeding for staff so consistent advice is given.

Research-based strategies for promoting breastfeeding

Many approaches for promoting breastfeeding during pregnancy or in the first days, weeks and months after birth have been trialled, and preliminary support exists for a limited number of strategies.

The following information may assist managers of services who want to promote breastfeeding:

- Written material alone cannot be relied upon to encourage women to breastfeed.
- It is *not* recommended that commercial material promoting infant formula be distributed, as this is likely to decrease the likelihood that women will breastfeed.
- Structured antenatal programs have been found to be effective in increasing breastfeeding *initiation*. Key topics in these programs are optimal breastfeeding positioning and overcoming common barriers to breastfeeding (for example, mastitis, feeding in public and combining breastfeeding and work).

Section 2: What works?

- Education programs with support have been found to be effective in increasing both breastfeeding *initiation* and *duration*. These programs convey similar messages to a structured antenatal program but do so in a one-on-one session with additional support offered through phone calls and home visits.
- Education programs with support and structured antenatal classes differ predominantly in terms of their level of intensity and the level of commitment required from those offering the programs.
- There are a number of small ways that breastfeeding can be promoted. These are outlined on the following site: www.babyfriendlyusa.org/eng/06.html

Implementation of the Baby Friendly Hospital Initiative is highly recommended for managers of birthing centres. If a less costly approach is necessary, the principles of this initiative can be adopted. The following link outlines the ten principles of the BFHI and the process hospitals need to go through to receive Baby Friendly accreditation: www.bfhi.org.au/

Section 3: What the research shows

Summary of the evidence

At this stage, there are no interventions for increasing breastfeeding rates that can be recommended strongly. However, there is a *fair level of support* for at least two interventions for promoting breastfeeding, and *promising support* for another two interventions. Furthermore, there is strong support for which interventions are *not* helpful in promoting breastfeeding.

Intervention focus	Recommended intervention	Effectiveness
Initiation	Structured education programs – antenatal classes on breastfeeding that focus on information, practical skills and problem solving techniques	✓✓ ✓✓
Initiation and duration	Education programs with support – programs providing education and support (by telephone or in person)	✓✓ ✓✓
Duration	Peer support or counselling program – home visits by volunteer peer counsellors who have breastfed their own infants successfully and received training for this program	✓✓
Duration	Baby Friendly Hospital Initiative – with ongoing advice provided by a primary health care provider	✓✓
Initiation and duration	Written material – fact sheets or pamphlets on breastfeeding and its benefits, distributed in antenatal classes or maternity hospitals	🔒🔒🔒
Initiation and duration	Commercial discharge packages – free samples of infant formula or promotional material for infant formula, given to new mothers as they leave hospital	🔒🔒🔒

Guide to recommendation of effectiveness category

Level of evidence	Effectiveness	Key
Strong to good evidence	Beneficial	✓✓ ✓✓ ✓✓
	Not beneficial	🔒🔒🔒
Fair level of evidence	May be beneficial	✓✓ ✓✓
	May not be beneficial	🔒🔒
Requires more studies	May be beneficial (promising)	✓✓
	May not be beneficial (not likely)	🔒
	Unknown benefits	?

Section 3: What the research shows

Refer to Appendix 5 for a glossary of terms related to research methodology terminology.

Key research findings

About promotion of breastfeeding

- **Concern for the baby's health is a major motivating factor for breastfeeding.**

In a survey conducted by the Australian Breastfeeding Association (ABA), women who breastfed were mainly motivated by the perceived health benefits for the baby and a belief that breast milk is the optimal food for a baby¹.

- **Family influence and convenience are also motivating factors.**

In the ABA survey, women who breastfed were also partially motivated by family influence and partially by breastfeeding being a convenient option.

- **Community attitudes, lack of knowledge and returning to work are important barriers to continuing to breastfeed.**

One fifth of ABA respondents nominated negative and ill-informed community attitudes as the single greatest barrier to continuing to breastfeed. Having insufficient knowledge about breastfeeding and the difficulty of returning to work and continuing to breastfeed successfully were reported as additional barriers.

- **The mother's age influences breastfeeding duration.**

A national survey conducted in 2001 by National Health Surveys revealed that more children of older mothers were being breastfed. When infants were six months old, the percentage of children being breastfed was 38 per cent if the mother's age was between 18 and 29 years, and 54 per cent if mothers were over 30 years old. When infants were one year old, the percentage of children being breastfed was 14 per cent if mothers were 18-29 years and 28 per cent if mothers were over 30².

- **Socioeconomic status and the mother's education also affect breastfeeding initiation and duration.**

Riva et al. (1999)³ surveyed a large group of mothers within a month of delivery and over the first year of their child's life. Breastfeeding initiation was linked to higher social class while breastfeeding duration was linked with higher levels of mother's education.

Section 3: What the research shows

Interventions for promoting breastfeeding

Target group

- Pregnant women
- Mothers of newborns
- Women who may or may intend to breast feed
- Many women from low socio-economic backgrounds

Key findings

At this stage, no interventions have had a sufficient number of trials to support their effectiveness in promoting breastfeeding and therefore none can be recommended highly. There is however a *fair level* of support for at least two interventions and *promising support* for another two:

- *Structured education programs* are supported by three control trials that indicate their effectiveness in improving breastfeeding initiation. Breastfeeding rates for controls were 22-45 per cent, while rates for those in the education program were 45-92 per cent. More studies are required to confirm the effectiveness of these programs and to follow up their impact over a longer time.
- *Education programs with support* are supported by two control trials demonstrating their effect on breastfeeding *initiation* and *short-term duration* (six to nine weeks). While another study failed to show a significant difference between those receiving this intervention and a control group, there was a trend for a longer *duration* of breastfeeding (four months) in the intervention group. In addition the introduction of solids was significantly delayed in this group. More studies are required to confirm the effectiveness of these programs and to follow up on their impact at six months (the recommended duration).
- *Peer support or counselling programs* are supported by one large Canadian study, which demonstrated that a peer support program can increase exclusive breastfeeding rates three months after birth. Many more randomised control trials are required before the effectiveness of peer support programs can be established conclusively.
- *The Baby Friendly Hospital Initiative with primary health care provider advice* has been evaluated in one very large Canadian study. Targeting a Russian population, the evaluation focused on 31 maternity units and clinics. Infants born in these sites were significantly more likely to be

Section 3: What the research shows

breastfed exclusively at three and six months, to be breastfed to some extent at 12 months and to have a reduced risk of one or more gastrointestinal tract infections and of atopic eczema. These findings are very encouraging, although further randomised control trials are needed to establish if findings can be generalised.

- There is strong support indicating that *written material* and the distribution of *commercial discharge packs* are *not helpful* in promoting breastfeeding.

Overall, further research of high quality is required in the area of breastfeeding promotion. Such research needs to establish which program features work best, for example if one-on-one programs are more effective than group programs, if antenatal classes are better than postnatal support and to compare the effectiveness of different categories of facilitators, such as lactation consultants and peer volunteers.

Details of selected intervention strategies

Structured education program: Antenatal classes for low-income African-American women⁴

- At least one group session of 50-80 minutes duration or one-on-one sessions of 15-30 minutes duration
- Women were less than 24 weeks pregnant
- Sessions run by midwives
- Content:
 - Lactation
 - Breastfeeding myths
 - Breastfeeding benefits
 - Common problems and strategies to overcome them
 - Demonstration by other parents
 - Discussion

Education program with support: Home support for women of low socio-economic status⁵

- One-on-one
- First two months after birth
- Typically five to eight home visits, each 30-60 minutes long
- Telephone support as well
- Run by breastfeeding counsellor

Section 3: What the research shows

- Content:
 - Management of engorgement
 - Feeding frequency
 - Confidence and relaxation
 - Stool patterns
 - Expression and storage of breast milk
 - Growth spurts
 - Supplementation with formula

Peer support or counselling program: Peer support for new breastfeeding mothers⁶

- One-on-one
- 12-week period after birth
- Peer volunteer contacted mother by telephone 48 hours after birth and then as often as requested by the mother over a 12-week period
- Peer volunteer provided information, emotional support and feedback
- Peer volunteers:
 - At least six months previous breastfeeding experience
 - Positive attitude to breastfeeding
 - Received a 2.5 hour orientation session
 - Equipped with handbook that included referral information
 - Peer volunteers 'matched' to new mothers (by for example age, socioeconomic status and cultural background)

Primary health care provider advice: 'Well' clinics for healthy mothers intending to breastfeed⁷

- Mother and child attended clinic
- Seen at 1,2, 3, 6, 9 and 12 months by a paediatrician
- Staff received 18 hours of lactation management training
- All midwives, nurses, physicians and paediatricians providing care in antenatal and postnatal clinics trained over 12-16 months
- Issues targeted:
 - Maintaining lactation
 - Promoting exclusive breastfeeding
 - Prolonging breastfeeding
 - Resolving common problems

Section 3: What the research shows

- Clinics were part of the Baby Friendly Hospital Initiative (BFHI) so mothers also had:
 - Help to initiate breastfeeding within a half hour of giving birth
 - Rooming in: the mother and infant remained together 24 hours a day
 - Encouragement to breastfeed on demand
 - No encouragement to give their infants dummies
 - Referrals to support groups after discharge from hospital

Research on the Baby Friendly Hospital Initiative

The intervention with the most research conducted on it to date (with one randomised control trial) is a program that incorporated the Baby Friendly Hospital Initiative (BFHI). This initiative is the work of the World Health Organisation (WHO) and UNICEF. The key points from the research on which this initiative is based follow:

- **It is best to focus efforts to improve breastfeeding duration on women who have made the decision prenatally to breastfeed.**

Numerous studies have found that the mother's decision to breastfeed is usually made prenatally or even before becoming pregnant. Reports of correspondence between prenatal intentions and feeding choice range from 77 to 97 per cent⁸.

- **Helping with breastfeeding technique and teaching mothers to feed on demand are likely to be instrumental to the success of the BFHI.**

The conclusion from four systematic reviews of empirical research into breastfeeding interventions was that the duration and exclusivity of breastfeeding are increased by help with positioning and other aspects of breastfeeding technique and demand feeding⁷.

- **Postnatal support is also likely to play a key role in the success of the BFHI.**

Four systematic reviews also concluded that postnatal support is important in increasing breastfeeding duration and exclusivity.

Section 3: What the research shows

- **A prolonged postpartum hospital stay may add to the effectiveness of the BFHI.**

All participants in the large Canadian study referred to above remained in hospital for six to seven days after giving birth. This far exceeds what is common in most western societies and may have helped in establishing good breastfeeding practices and instilling maternal confidence early on⁷.

For managers of birthing facilities, the following site provides information regarding the ten steps of the BFHI and how to become accredited as a Baby Friendly Hospital

www.bfhi.org.au/text/bfhi_assesment.html - package

For practitioners, training packages on the BFHI as well as up-to-date information on key breastfeeding messages will soon be available to purchase from the following site:

www.babyfriendly.org.uk/teaching_packs.asp

Section 3: What the research shows

Annotated summary of intervention studies

Following is:

- A summary of the intervention studies that were used to inform this resource
- An annotated summary of structured education programs
- An annotated summary of education programs with support
- An annotated summary of written material
- An annotated summary of peer support or counselling programs
- An annotated summary of primary health care provider advice

Summary of intervention studies

Focus of study	Target group	Authors
Structured education programs	Low-income pregnant women ⁹	Hill, 1987 (United States)
	African-American low-income women ⁴	Kistin et al., 1990 (United States)
	Primiparous women intending to breastfeed ¹⁰	Redman et al., 1995 (Australia)
	Primiparous women below 36 weeks gestation ¹¹	Duffy et al., 1997 (Australia)
	Primiparous women post delivery ¹²	Pugh et al., 1998 (United States)
Education program with support	Women who had breastfed at least once before (65 per cent African-American) ¹³	Frank et al., 1987 (United States)
	Pregnant women at risk for having low-birth-weight infants ¹⁴	Oakley and Rajan, 1990 (United Kingdom)
	Primiparous women intending to breastfeed first time or previously unsuccessful women ⁵	Serafino-Cross and Donovan, 1992 (United States)

Practice resource:

BREASTFEEDING PROMOTION

Section 3: What the research shows

Focus of study	Target group	Authors
Education program with support <i>continued</i>	Low-income pregnant women ¹⁵	Brent et al., 1995 (United States)
	Primiparous women intending to breastfeed ¹⁰	Redman et al., 1995 (United Kingdom)
	Primiparous women post delivery ¹²	Pugh et al., 1998 (United States)
Written material	Primiparous post-partum women breastfeeding on enrolment ¹⁶	Curro, 1997
	Low-income pregnant women ⁹	Hill, 1987
	Primiparous women intending to breastfeed ¹⁰	Redman, 1995
	Women who had breastfed at least one child (65 per cent African-American) ¹³	Frank, 1987
Peer support or counselling programs	Primiparous post-partum women breastfeeding on enrolment ⁶	Dennis et al., 2002
Baby Friendly Hospital Initiative with primary health care provider advice	Post-partum women intending to breastfeed ⁷	Kramer et al., 2001
Distribution of commercial packages	Post-partum women who initiated breastfeeding in hospital or immediately on discharge ¹⁷	Donnelly et al., 2004 (systematic review [9 studies])

Practice resource:

BREASTFEEDING PROMOTION

Annotated summary of structured education programs

Study	Participant selection	Intervention details	Results	Comments
Hill, P.D.,1987 (United States) ⁹	Intervention group = 31 Control group=33 University antenatal clinic for low-income women Completed initial breastfeeding knowledge questionnaire and contacted six weeks post-partum	Intervention: attended a 40-minute lecture and slide session with a 5-10 minute question-and-answer session after presentation Were given a pamphlet on breastfeeding with information reinforcing the lecture and its contents Control: received standard care	There was a significant (p<0.001) difference in knowledge before and after the intervention. The intervention Initiation of breastfeeding: More of the intervention group initiated breastfeeding than the intervention group (45 per cent versus 61 per cent p<0.05)	Women were paid \$5 for participation Mean education level: 11.8 years Statistically significant relationship between years of schooling and decision to breastfeed
Kistin, N., Benton, D. and Rao, S. 1990 (United States) ⁴	Control group = 56 Intervention group 1 =38 Intervention group 2 = 36	Intervention 1: At least one 50-80 minute group sessions on lactation, breastfeeding myths, benefits and solving problems and discussion and demonstration of breastfeeding by other parents Intervention 2: At least one one-on-one sessions, 15-30 minutes, before 30 weeks gestation, on similar topics to Intervention 1 Control: Standard care	Breastfeeding rates in hospital: Control: 13 of 56 (22 per cent) Intervention 1: 17 of 38 (45 per cent) Intervention 2: 18 of 36 (50 per cent) Both interventions 1 and 2 had higher breastfeeding rates (73 per cent and 97 per cent respectively) than controls (p<0.05).	29 withdrawals There was a favourable trend for individual versus group and both group and individual education versus standard care.

Practice resource:

BREASTFEEDING PROMOTION

Study	Participant selection	Intervention details	Results	Comments
Redman S., Watkins J., Evans L. and Lloyd D.,1995 (Australia) ¹⁰	Control group = 85 Intervention group = 81 Women who registered more than 20 weeks before delivery and who intended to breastfeed	Intervention: one three-hour education session given between 24 and 28 weeks gestation by a lactation specialist Topics included: <ul style="list-style-type: none"> • advantages of breastfeeding • physical and psychological preparation for breastfeeding • anatomy and physiology of lactation • management of breastfeeding following birth • advice about problems with breastfeeding • breastfeeding in special circumstances (for example after a Caesarean section) • methods of determining if the baby is receiving enough milk • practical advice -- for example, correct breastfeeding positions • demonstration of lactation aids such as a breast pump • 5-minute video on the role of the Nursing Mothers' Association of Australia <p>Discussion group at 6-8 weeks post-partum for mothers, babies and support persons – participants encouraged to bring partners, mother or friend to the sessions</p> <p>Topics:</p> <ul style="list-style-type: none"> • sexuality and family planning • working outside the home • breastfeeding an older baby • introducing solids <p>Control – usual care</p>	Breastfeeding rates at six weeks Control group = 68 of 83 (82 per cent) Intervention group = 64 of 81 (79 per cent) No significant differences between the groups in breastfeeding duration. Post-study analysis of reasons given by mothers in a questionnaire for ceasing breastfeeding revealed a significant association between stopping breastfeeding and the following: <ul style="list-style-type: none"> • the baby having a bottle feed while still in hospital • smoking during the breastfeeding period • use of a combined oral contraceptive pill following baby's birth • introducing solid food before 4 months of age. <p>The presence of any or all of these factors meant that the mother was more likely to cease breastfeeding within four months after delivery.</p>	The interventions used in this study were based on behavioural principles which included modelling, social support and concrete, specific instruction. (Meichenbaum and Cameron, 1982. Cognitive behaviour therapy. In Wilson G.T. and Franks, C.M. (eds) Contemporary Behaviour Therapy: <i>Conceptual and Empirical Foundations</i> . Guilford Press, New York.)

Practice resource:

BREASTFEEDING PROMOTION

Study	Participant selection	Intervention details	Results	Comments
Duffy, E.P., Percival, P. and Kershaw, E., 1997 (Australia) ¹¹	Control group = 35 Intervention group = 35 Primiparous women less than 36 weeks gestation age attending public hospital maternity ward	Intervention: attended 1-hour class given by a lactation consultant involving techniques for positioning and baby attaching for breastfeeding. Dolls given to each participant to simulate the baby and for practical use Control: standard care	Breastfeeding rates Control = 10 of 35 (29 per cent) Intervention = 32 of 35 (92 per cent) p< 0.05	Women who participated in the educational session had significantly higher LATCH scores [see below for explanation] by fourth day after delivery than the control group, indicating they were better at attaching and positioning their babies LATCH scores (Latch on, Audible swallow, Type of nipple, Comfort and Help) were used to measure position and attachment of baby on breast. A score of 0 to 2 was given at each feed with a maximum score of 10 possible at the end of the day.

Practice resource:

BREASTFEEDING PROMOTION

Study	Participant selection	Intervention details	Results	Comments
Pugh L.C. and Milligan, R.A., 1998 (USA) ¹²	Control group = 30 Intervention group = 50 Primiparous women within 24 hours of normal delivery at term attending a community hospital	Intervention: visit from community health nurse three to four days after delivery to observe and teach breastfeeding technique. Visits focused on: <ul style="list-style-type: none"> discussion of diet and exercise sleep and rest needs building mother's self-esteem support and comfort measures, including positioning to enhance breastfeeding Visit 2: non-nursing assistance 12 days post delivery for two hours: <ul style="list-style-type: none"> flexible nursing support offered to include non-nursing tasks such as help with dishes or laundry or child care Control: standard care	Breastfeeding rates: Control group = 8 of 30 (27 per cent) Intervention group = 15 of 30 (50 per cent) Data not normally distributed and result not significant	Further analyses from the Modified Fatigue Symptom Checklist (MFSC) given to all mothers on Days 1, 7, 14 and in Week 6 found that younger women and those with higher depression scores at 14 days post delivery were more likely to stop breastfeeding.

Practice resource:

BREASTFEEDING PROMOTION

Annotated summary of education program with support

Study	Participant selection	Intervention details	Results	Comments
<p>Frank, D.A., Wirtz, S.J., Sorenson, J.R. and Heeren, T., 1987 (USA)¹³</p>	<p>Group 1=83 (Routine breastfeeding counselling and commercial discharge pack) Group 2 = 84 (Routine breastfeeding counselling and research discharge pack) Group 3 =77 (Research breastfeeding counselling and commercial discharge pack) Group 4 =79 (Research breastfeeding counselling and research discharge pack)</p> <p>Women who had previously breastfed at least once in a city hospital maternity ward</p>	<p>Education: a 20-40 minute individual counselling session at hospital</p> <p>Support: eight phone calls following discharge home on days 5, 7, 14, 21, 28 and weeks 6, 8, 12 and 24 hour pager availability</p> <p>Control: routine breastfeeding counselling</p>	<p>Breastfeeding rates at 4 months</p> <p>Control group = 90 of 160 (56 per cent)</p> <p>Intervention = 103 of 163 (63 per cent)</p> <p>Not significant although there were significant differences at 2 months</p>	<p>65 per cent of target population were low-income African-American women and a relatively high proportion had previously breastfed successfully.</p> <p>This study also looked at effects of commercial discharge packs on duration of breastfeeding (refer to section on education-written materials).</p>

Practice resource:

BREASTFEEDING PROMOTION

Study	Participant selection	Intervention details	Results	Comments
Oakley, A. and Rajan, L., 1990 (United Kingdom) ¹⁴	Control group = 254 Intervention group = 255 Pregnant women at risk for having a low-birth-weight infant Antenatal clinics at 4 hospitals	Support: standard care plus minimum of 3 antenatal home visits and 2 telephone contacts or brief home visits between these times by midwife to provide social support Control group: standard care	Breastfeeding rates Control = 89 of 226 (39 per cent) Intervention = 105 of 230 (46 per cent)	All women had a history of at least one previous low-birth-weight baby (less than 2500grams) and less than 24 weeks gestation
Serafino-Cross, P. and Donovan P., 1992 (USA) ⁵	Control group = 26 Intervention group = 26 All women were lower socio-economic status Four hospital-based antenatal clinics	Support: 30-60 minute home visits and telephone support in first two months, by breastfeeding counsellor in first 2 months after birth. Average 5-8 visits plus telephone support. Topics discussed included breastfeeding frequency, complications and management, baby stool patterns, growth and storage of breast milk. Control: standard care including additional in-hospital breastfeeding instruction by researcher	Breastfeeding rates at two months Control = 9 of 26 (35 per cent) Intervention = 16 of 26 (62 per cent) p<0.01	Women included were English speaking and of low socio-economic status and had indicated a desire to breastfeed for at least two months or had previously been unsuccessful and stopped breastfeeding within the first month.

Practice resource:

BREASTFEEDING PROMOTION

Study	Participant selection	Intervention details	Results	Comments
Redman, S., Watkins, J., Evans, L. and Lloyd, D., 1995 (Australia) ¹⁰	<p>Control group = 85 Intervention group = 81</p> <p>Women who registered more than 20 weeks before delivery and who intended to breastfeed</p> <p>Part of a multifaceted intervention covering ante- and postnatal period. This segment was delivered from day of birth until 4 months after delivery.</p>	<p>Support: 34-minute visit in hospital by a breastfeeding consultant</p> <p>Home visits at request if mother was having problems such as nipple soreness, unsettled baby, frequent feeds and needing emotional support</p> <p>Telephone calls by breastfeeding consultant at two to three weeks to discuss problems with breastfeeding and possible solutions and encouragement to continue breastfeeding</p> <p>At three months continuation of breastfeeding encouraged and suggestion given to delay introducing solids until four months. Further calls on request</p>	<p>Breastfeeding rates at four months</p> <p>Control = 45 of 77 (58 per cent)</p> <p>Intervention = 42 of 75 (56 per cent)</p> <p>(no significant difference)</p>	<p>This was the third component of this multi-faceted intervention. Refer to: Structured educational programs and Written materials for details of other components.</p> <p>Given that motivation to breastfeed was high, study authors suggest that other factors besides motivation are important in determining persistence of women to breastfeed.</p> <p>Refer to Results section of this study under Intervention strategies: Structured educational programs for further details.</p>

Practice resource:

BREASTFEEDING PROMOTION

Annotated summary of written material

Study	Participant selection	Intervention details	Results	Comments
Curro, V., Lanni, R., Scipione, F., and Grimaldi, P. 1997 (Italy) ¹⁶	Control group =97 Intervention group =103 Primiparous women already exclusively breastfeeding attending first postnatal visit at university outpatient clinic	Written material: booklet containing information and practical instructions for breastfeeding plus standard counselling (see below) Control = 10 minutes verbal counselling session on breast feeding by researcher	Breastfeeding rates Control = 50 of 97 (52 per cent) Intervention = 61 of 103 (59 per cent)	
Hill, P.D.,1987 (USA) ⁹	Control group = 33 Intervention group = 31 University antenatal clinic for low-income women. Completed initial breastfeeding knowledge questionnaire and contacted six weeks post-partum	Written material: pamphlet reinforcing information from slide presentation Control: standard care	Knowledge: Although there were significant difference between pre and post test knowledge results for those who received the intervention (see below), there was no difference in knowledge at post test between control and intervention (nor for breastfeeding duration) Pre-test: 22.35 ± 4.93 Post-test: 29.19 ± 2.70 p <0.001	

Practice resource:

BREASTFEEDING PROMOTION

Study	Participant selection	Intervention details	Results	Comments
Redman S., Watkins J., Evans L. and Lloyd, D., 1995 (Australia) ¹⁰	Control group = 85 Intervention group = 81 Women who registered more than 20 weeks before delivery and who intended to breastfeed. Intervention given between 24-28 weeks gestation	Written material: 1. Package given during Initial visit contained: <ul style="list-style-type: none"> • glossary of breastfeeding terms • list services available • common questions and answers about breastfeeding • Nursing Mothers' Association handouts and wall planner 2. Hospital package given after giving birth contained: <ul style="list-style-type: none"> • Information on breastfeeding and expressing milk and questions common to all new mothers with answers 3. Post-natal pack given six to eight weeks after giving birth contained: <ul style="list-style-type: none"> • Information about breastfeeding an older baby and introducing solids 	Breastfeeding rates Control = 68 of 83 (82 per cent) Intervention = 64 of 81 (79 per cent) No significant difference	

Practice resource:

BREASTFEEDING PROMOTION

Study	Participant selection	Intervention details	Results	Comments
Frank, D.A., Wirtz, S.J., Sorenson, J.R. and Heeren, T. 1987 (USA) ¹³	<p>Group 1=83 (Routine breastfeeding counselling and commercial discharge pack)</p> <p>Group 2 = 84 (Routine breastfeeding counselling and research discharge pack)</p> <p>Group 3 =77 (Research breastfeeding counselling and commercial discharge pack)</p> <p>Group 4 =79 (Research breastfeeding counselling and research discharge pack)</p> <p>Women who had previously breastfed at least once in city hospital maternity ward</p>	<p>Written material: Research discharge packs (no formula provided) given to women in the hospital after the birth containing breast pads and educational pamphlets advocating breastfeeding</p> <p>No advertising of infant formula</p> <p>Control: commercial discharge pack containing bottles, sterile water, teats, several pamphlets with information on health education and product promotion by three companies making artificial formula</p>	<p>Breastfeeding rates at four months (for any breastfeeding):</p> <p>Control = 92 of 167 (55 per cent)</p> <p>Intervention = 101 of 156 (65 per cent)</p> <p>Significant difference (p =.038)</p>	<p>All four groups of women received breastfeeding counselling as well as either a research or commercial pack. Result reflects trend of written materials together with counselling being more effective than written materials alone.</p> <p>Maternity hospital actively promoted a breastfeeding policy.</p>

Practice resource:

BREASTFEEDING PROMOTION

Annotated summary of peer support or counselling programs

Study	Participant selection	Intervention details	Results	Comments
Dennis, C.L., Hodnett, E., Gallop, R. and Chalmers, B. 2002 (Canada) ⁶	Control group = 126 Intervention group = 132 First-time mothers of infants more than 37 weeks gestation in a maternity hospital	Peer support: conventional care and a peer support volunteer who contacted the mother by telephone 48 hours after birth and as often as required by the mother over a 12-week period Control: conventional in-hospital and community post-partum support services including a breastfeeding clinic and a telephone support line	Rates for any breastfeeding at three months Control group = 88 of 132 (66.9 per cent) Intervention group = 100 of 124 (81.1 per cent) p = 0.01 Exclusive breastfeeding at three months Control group = 50 of 124 (40.3 per cent) Intervention group = 75 of 132 (56.8 per cent) p = 0.01 Odds ratio: Any breastfeeding at 3 months: 2.5, p<0.001 This suggests that mothers who received the intervention were 2.5 times more likely to continue breastfeeding than those receiving standard care.	Peer telephone support included information, feedback and emotional assistance from peer volunteer mothers with experiential knowledge of successful breastfeeding. The peer mothers had received training before working in their local community. The quality rather than quantity of peer support contact appeared to be an important factor.

Practice resource:

BREASTFEEDING PROMOTION

Annotated summary of primary health care provider advice

Study	Participant selection	Intervention details	Results	Comments
Kramer M., Chalmers, B., Hodnett, E et al., 2001 (Canada) ⁷	Control group = 15 sites; 8,181 pairs Intervention group = 16 sites; 8,865 pairs Multi-centre cluster randomisation of maternity hospitals and their corresponding post-natal “well” clinics Healthy mothers intending to breastfeed	BFHI 10 steps and advice: Mother-child pair seen at “well” child clinic by paediatrician at 1, 2, 3, 6, 9 and 12 months. Given support modelled on 10-step Baby Friendly Hospital Initiative with Step 10 including postnatal visits to clinic. Management included methods to maintain lactation, promote exclusive breastfeeding and resolve common problems.	Exclusive breastfeeding at three months: Control group = 6.4 per cent Intervention group = 43.3 per cent p < .001 Exclusive breastfeeding at six months: Control group = 0.6 per cent Intervention group = 7.9 per cent p = .01 Breastfeeding to some degree at 12 months: Control group = 11.4 per cent Intervention group = 19.7 per cent (significant)	Usual length of stay in maternity hospital six to seven days, which may have assisted establishment of successful breastfeeding techniques. “Well” clinics are similar to Maternal and Child Health Centres in Australia.

Practice resource:

BREASTFEEDING PROMOTION

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Appendix 1

Centre for Community Child Health

The Centre for Community Child Health's mission is to improve the health and wellbeing of all children.

At the forefront of Australian research into early childhood development and behaviour, the Centre has a particular interest in children's mental health; obesity; language, learning and literacy; hearing; and the development of quality early childhood services.

The Centre is committed to disseminating its research findings to inform public policy, service delivery, clinical care and professional practice.

Professor Frank Oberklaid, an internationally renowned researcher, author, lecturer and consultant, leads a team of over 90 staff from a range of disciplines including paediatrics, psychology, education, early childhood, public health and communications.

Located at The Royal Children's Hospital, Melbourne, the Centre is a key research centre of the Murdoch Childrens Research Institute and an academic centre of the University of Melbourne.

Further information about the Centre for Community Child Health can be found at www.rch.org.au/ccch

Appendix 2

Telstra Foundation

In 2002, as part of its strong tradition of community involvement, Telstra established the Telstra Foundation, a program devoted to enriching the lives of Australian children and young people and the communities in which they live.

The Telstra Foundation supports projects that develop innovative solutions and new approaches to issues affecting children and young people aged 18 years and under, are based on sound research, and develop practical applications of new knowledge and have an emphasis on early intervention.

The Telstra Foundation has two main programs, with the *Community Development Fund* providing the funding for the practice resource. The Community Development Fund provides grants to charitable organisations for projects that have wide impact and intervene early to address causal factors affecting the health, well-being and life chances of Australia's children and young people.

Further information about the Telstra Foundation can be found at:

<http://202.12.135.148/dir148/tfweb.nsf/webdocs/home~home?opendocument>

Appendix 3

Criteria for selecting topics

There were a number of criteria used for selecting the topic for each practice resource. These included:

- *Importance of the issue in relation to children's health and development*
There are a number of issues that are very prevalent and impact both on the immediate health and development of the child as well as the impact over the life course.
- *Provider need*
Through various forums providers have requested easier access to research based information that will assist directly in their daily interactions with children and families.
- *Community need*
Around Australia there is increasing community activity focusing on early childhood. A number of these communities have begun to articulate the desire to support families more effectively through providing services that engage in family centred practice and use research based strategies to address issues that concern parents.
- *Parent need and concern*
National consultations have highlighted the issues that parents want more information about. In addition, Australian research has shown that there are a small number of issues that cause parents the most concern about their children.
- *Perceived gap between evidence and practice*
There are a number of areas of practice which in general do not reflect research evidence in spite of sound evidence from that research.
- *Can be readily incorporated into routine practice*
The primary aim of each resource is to assist professionals in their interactions with children and families. Priority was given to issues about which strategies could be relatively easily incorporated into practice.
- *No duplicating of effort*
Consideration was given to whether issues had been addressed elsewhere in similar ways for the same audience.

Appendix 4

NHMRC Guidelines for Levels of Evidence

- | | |
|-------|--|
| I | Evidence obtained from a systematic review of all relevant randomised controlled trials. |
| II | Evidence obtained from at least one properly designed randomised controlled trial. |
| III-1 | Evidence obtained from well-designed pseudo-randomised controlled trials (alternate allocation of some other method). |
| III-2 | Evidence obtained from comparative studies with concurrent controls and allocation not randomised (cohort studies), case-control studies, or interrupted time series with a control group. |
| III-3 | Evidence obtained from comparative studies with historical control, two or more single-arm studies, or interrupted time series without a parallel control group. |
| IV | Evidence obtained from case series, either post-test or pre-test and post-test. |

Appendix 5

Glossary of Terms – Research Methodology

Note: Wherever possible these definitions are taken from the *Glossary of Terms in the Cochrane Collaboration, Version 4.2.5, updated May 2005*.

Case-control study	A study that compares people with a disease or outcome of interest (cases) with people from the same population without that disease or outcome (controls), and which seeks to find associations between the outcome and exposure to particular risk factors
Cochrane Review	Systematic summaries of evidence of the effects of health care interventions, intended to help people make practical decisions. For a review to be called a Cochrane Review it must be in the Cochrane Database of Systematic Reviews or the Cochrane Review Methodology Database. These are administered by the Cochrane Collaboration, an international organisation that aims to help people make well-informed decisions about health care.
Control	A participant in a randomised controlled trial who is in a group that acts as a comparator for the experimental intervention(s); alternatively, a participant in a case-control study who is in a group that does not have the disease or outcome of interest.
Control trials	Studies in which participants are assigned to an intervention or control group using specific criteria.
Effectiveness	The extent to which a specific intervention, when used under ordinary circumstances, does what it is intended to do.
Evidence	Up-to-date, accurate information about the effects of interventions.
Randomised controlled trial (RCT)	An experiment in which two or more interventions are compared by being randomly (like tossing a coin) allocated to participants.