### Submission no. 475

AUTHORISED: 6/8/07

-8 MAR 2007



Our Ref: 4-41075

MINISTER FOR HEALTH

ATTORNEY GENERAL; ELECTORAL AFFAIRS

FOR WESTERN AUSTRALIA



Hon Alex Somlyay MP Chairman House of Representatives Standing Committee on Health and Ageing Parliament House CANBERRA ACT 2600

Dear Mr Somlyay

Thank you for your letter dated 7 December 2006 concerning the Commonwealth Parliamentary Inquiry (the Inquiry) into the health benefits of breastfeeding.

I welcome the House of Representatives Inquiry into the health benefits of breastfeeding and the initiative to improve the health of the Australian population through support for breastfeeding.

The Western Australian Department of Health is currently reviewing its statewide policy on maternity care. A significant number of submissions and comments made as part of the review's consultation relate to breastfeeding. In summary, comments highlight the importance and benefits of breastfeeding and the need for additional information and education being made available to pregnant women and parents. Many submissions also reflect a community view that differing advice and information is being provided to parents on breastfeeding, and that a more coordinated approach is required. It is also recognised that not everyone was able to breastfeed, and that as a result, appropriate emphasis should be given to baby nutrition.

Attached is a fuller response to the specific points being considered by the Inquiry Committee. Part A has been compiled by the Statewide Policy and Planning Directorate of the Child and Adolescent Health Service, and Part B has been written by the Clinical Midwifery Consultant for Breastfeeding at King Edward Memorial Hospital (KEMH).

Thank you again for contacting my office. Should you with to discuss this matter further, please contact Dawnia Chiu, Principal Policy Officer, on 08 9422 3000 or dawnia.chiu@dpc.wa.gov.au.

Yours sincerely

JIM McGINTY MLA MINISTER FOR HEALTH

30th Floor Allendale Square
77 St George's Terrace Perth WA 6000
Tel: +61 8 9220 5000 Fax: +61 8 9221 2068

ABN: 61313082730

Att:

2 8 FEB 2007

### Submission (Part A) to the Breastfeeding Inquiry of the Standing Committee on Health and Ageing, House of Representatives, Parliament of Australia, by the Child and Adolescent Health Service, WA Department of Health

The Child and Adolescent Health Service, WA Department of Health, welcomes and supports the current parliamentary inquiry into the health benefits of breastfeeding.

Breastfeeding is a fundamental preventive health measure, globally recognised as capable of saving millions of lives and billions of dollars. Its health benefits, and evidence of strategies that effectively support breastfeeding, have been reported extensively in the scientific literature for the last 20 years, with clear guidelines for policy and action established by the World Health Organisation (WHO) and, in Australia, the National Health and Medical Research Council (NHMRC).

The WHO<sup>1</sup> and NHMRC<sup>2</sup> emphasise the unequalled value of breast milk as the sole food for infants and recommend protecting, promoting and supporting exclusive breastfeeding for the first six months of life, and continuing breastfeeding, with appropriate complementary solid foods, for two years (and beyond if mother and infant wish).

**Protection of breastfeeding** means that all women are enabled to make informed decisions about infant feeding, free from the influence of formula or related industry marketing practices, and that their right to breastfeed anytime, anywhere is protected.

**Promotion of breastfeeding** means that health staff, the broader health system and the community are up-to-date on the benefits of breastfeeding and find opportunities to promote it.

Support for breastfeeding means that women receive information and support from all sectors of the community to overcome any barriers to breastfeeding they may experience or perceive<sup>3</sup>. Accurate information on successful breastfeeding techniques needs to be provided to parents well before birth. Continued support in dealing with the day-to-day realities and practicalities of breastfeeding, including early resolution of problems encountered, are crucial to encouraging mothers to continue breastfeeding<sup>2</sup>. Almost all mothers can breastfeed if they are provided with accurate information, and have the support of their families, communities and the health care system<sup>2</sup>.

In 2001, the Australian Health Ministers endorsed *Eat Well Australia 2000-2010*, a national framework for population-based action in public health nutrition for all Australians. All health professionals have a responsibility to promote, protect and support breastfeeding, consistent with established national and international policies and guidelines. Barriers to fully implementing interventions known to be effective need to be urgently addressed for the positive health impact of breastfeeding to be realised. Barriers include limited infrastructure to support a more comprehensive package of measures to promote breastfeeding, the need for consistent, comparable data from systematic monitoring of breastfeeding rates and issues regarding dissemination of effective programs and resources to health professionals<sup>4</sup>.

### Responses to the Terms of Reference

The Committee shall inquire into and report on how the Commonwealth government can take a lead role to improve the health of the Australian population through support for breastfeeding. The Committee shall give particular consideration to:

### a. The extent of the health benefits of breastfeeding

Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants, and has a unique biological and emotional influence on the health of both mother and child... For breastfeeding to be successfully initiated and established, mothers need the active support during pregnancy and following birth, not only of their families and communities, but also of the entire health system<sup>3</sup>.

Overwhelming scientific evidence consistently recognises the positive effects of breastfeeding on the nutritional, physical, psychological and social health of the infant, and the health benefits for the mother. The economic benefits for the family and society are also well recognised. The evidence is summarised in Table 1<sup>4</sup>.

Breast milk is biodynamic (i.e. a living organism) and species specific. Infants grow and develop at a very rapid rate in early life, yet many of the infant's anatomical systems such as digestive, hepatic, neural, renal and immune systems are still immature. Human milk caters for this immaturity. The nutrients contained in breast milk are easily absorbed and exist in bioavailable forms (i.e. can be used by the body). Breast milk also contains growth and other bioactive factors affecting the baby's living tissue, including promoting optimal function of the immature organ and vascular systems<sup>4</sup>.

### Breastfeeding:

- Promotes bonding, with skin-to-skin contact, between mother and infant.
- Protects infants against infection and allergy.
- Promotes infants' cognitive development and visual acuity.
- Protects against obesity: breastfeeding is an important factor in maintaining appropriate growth in infants. Breastfed infants have slightly lower rates of growth at 6 months of age when compared with infants being fed infant formula, and lower rates of obesity later in life.
- Protects against disease later in life. Studies have shown that exclusive breastfeeding has protective effects against some risk factors for cardiovascular disease and type 2 diabetes in later life<sup>2-4</sup>.

Breastfeeding provides some protection against pre-menopausal breast cancer, ovarian cancer and osteoporosis. It also assists in returning the uterus to its pre-pregnancy state and may assist with the return to pre-pregnancy body weight (providing that breastfeeding continues for more than 7 months).

The improved health of breastfed children results in reduced costs to the health system. Breastfeeding has been identified as one of the most cost-effective primary prevention measures available<sup>2-4</sup>.

### Recommendation

• That the Australian Government provides a web-based clearinghouse to improve access to breastfeeding research & evidence based literature.

TABLE 1 Evidence for health advantages of breastfeeding to infants, children, mothers and adults in developed countries<sup>4</sup>

Level of Evidence <sup>1</sup>	Health outcomes for which breastfeeding is protective		
	Infants and Children	Chronic disease in childhood and/or later in life	Mothers
Convincing <sup>2</sup>	Gastrointestinal illnesses Otitis media Respiratory tract infections Neonatal necrotising enterocolitis		Slow maternal recovery from childbirth Reduced period of postpartum infertility Premenopausal breast cancer
Probable <sup>3</sup>	Asthma and allergy Cognitive ability, intelligence Some childhood leukaemias Urinary tract infection Coeliac disease Sudden infant death syndrome	Obesity	Postmenopausal breast cancer Ovarian cancer Rheumatoid arthritis
Possible <sup>4</sup>	Insulin-dependent diabetes mellitus Bacteraemia Meningitis Dental occlusion	Ischaemic heart disease Atherosclerosis Risk factors for:  • Atherosclerosis and heart disease • Type 2 diabetes and metabolic syndrome	Maternal depression Reduced maternal-infant bonding Endometrial cancer Osteoporosis and bone fracture No or slow return to pre-pregnancy weight

### Notes:

- 1. The classification of evidence of the relationship between breastfeeding and health benefits is based on a comprehensive overview of the evidence base (systematic reviews, meta-analyses, reviews, recent single studies).
- 2. Convincing: evidence of the relationship was critically identified in a review and/or shown in meta-analyses to be significant.
- 3. Probable: most studies have found an association, but confirmation is required in more, or better designed, studies.
- 4. Possible: too few methodologically-sound studies.

Source: Allen J, Hector D. Benefits of breastfeeding. NSW Public Health Bulletin 2005; 16(3-4):42-45

## b. Impact of marketing of breast milk substitutes on breastfeeding rates and, in particular, in disadvantaged, Indigenous and remote communities

Australia became a signatory to the WHO International Code of Marketing of Breastmilk Substitutes (WHO Code) in 1981. The aim of the code is to ensure infants' safe and adequate nutrition by protecting and promoting breastfeeding, and ensuring that when it is necessary to use breast milk substitutes, they are properly used with adequate information. The WHO Code seeks to ensure that infant formula is not marketed or distributed in ways that might undermine breastfeeding.

The WHO Code is implemented in the context of Australian laws, in particular the Trade Practices Act. In 1992 Australian manufacturers and importers of infant formula signed the *Marketing in Australia of Infant Formula: Manufacturers and Importers (MAIF) Agreement.* However, several aspects of the WHO Code have not yet been implemented in Australia, including the cessation of free and subsidised supplies of breastmilk substitutes in the health care system, guidelines for the marketing of bottles and teats, and a code of marketing for retailers. The MAIF Agreement's effectiveness – especially in terms of its voluntary participation and modest implementation – needs urgent review and evaluation.

Anecdotally, general health professionals do not know about the WHO Code, what constitutes a breach and how to report a possible breach. Improved promotion of, and access to, the Code is needed.

Another emerging issue is the development of web-based parent information and support forums created by infant formula manufacturers. The impact of these new marketing strategies needs to be reviewed.

We are not aware of any research on the impact of marketing of breast milk substitutes on the breastfeeding rates of Australian Indigenous communities or in remote communities specifically. International experience, however, indicates the potentially dangerous impact of these practices when coupled with low educational standards, poverty and the poor living conditions prevalent in many Australian Indigenous communities. It is therefore considered to be an area requiring preventative action and comprehensive review.

### Recommendations

- That the effectiveness of the MAIF Agreement's implementation and its impact on breastfeeding rates be reviewed.
- That the Australian Government legislate for all infant formula manufacturers and importers to be signatories to the MAIF Agreement.
- That the Australian Government improve promotion and dissemination of information about the MAIF Agreement.
- That the Australian Government support enforcement in relation to breaches of the MAIF Agreement.
- That a system be developed to monitor the sale of infant formula to remote Aboriginal and Torres Strait Islander communities, and monitor breaches of the MAIF Agreement across all sectors.

# c. Potential short and long term impact on the health of Australians of increasing the rate of breastfeeding

It is difficult to accurately assess the potential short and long-term impact on Australians' health in the absence of a national breastfeeding monitoring program. A national monitoring program would document the extent to which breastfeeding practices are consistent with national policy recommendations and determine how these practices are changing. This information could be used to assess health impacts and identify areas of further policy refinement and implementation <sup>5</sup>.

Breastfeeding studies currently available are difficult to compare, given variations in data collection methodology and definitions of breastfeeding. Despite such inconsistencies, a summary of reported breastfeeding rates follows.

In Australia, breastfeeding rates at hospital discharge are quite high, but decrease significantly with about one third of babies being exclusively breastfed at six months. Data collected in the 2001 National Health Survey (NHS) found:

- 83% of mothers breastfeeding at discharge from hospital.
- 54% of mothers continuing to exclusively breastfed at 3 months.
- 32% of mothers exclusively breastfeeding at 6 months<sup>1</sup>.

In Western Australia, breastfeeding initiation rates are also relatively high (93.8%) but decline rapidly to the point that many infants have ceased to be breastfed before the recommended first six months of life. Results from the *Perth Infant Feeding Study Mark II* (PIFS II) indicate that only 45.9% of six-month old infants received any breast milk, and only 12% were being fully breastfeed. By 12 months, only 19.2% of infants were still receiving any breast milk. Breastfeeding initiation has increased in the last ten years, but breastfeeding duration has not<sup>7</sup>.

The NHMRC recommends that Australia should aim to achieve at least:

- 92% of mothers breastfeeding their child at three months of age.
- 80% of mothers breastfeeding their child at six months of age.
- 40% of mothers breastfeeding their child at 12 months of age<sup>2</sup>.

Based on a number of studies in Aboriginal communities in Western Australia it has been reported that breastfeeding rates are lower in groups who live closer to urban areas<sup>6</sup>. A study conducted during 2001-02 of 425 Aboriginal mothers residing in the Perth metropolitan area found that breastfeeding initiation rates for urban Aboriginal women were quite high at almost 90%. However, there was a decline to about 59% at 24 weeks, with only 31.5% being exclusively breastfeed at this time. When compared with non-Aboriginal mothers, the Aboriginal breastfeeding rates were higher than the non-Aboriginal average breastfeeding rates, but lower than the highest socioeconomic groups<sup>6</sup>.

### Recommendations

- An identified priority of *Eat Well Australia* is the development of a national food and nutrition information system. As a key part of this broader program, the Australian Government is urged to adopt the recommendations for a national breastfeeding monitoring system<sup>5</sup> and implement a standardised national system for data collection on breastfeeding indicators.
- That the breastfeeding classification used on state Midwives' Notifications systems be standardised nationally according to WHO definitions<sup>5</sup>.

### d. Initiatives to encourage breastfeeding

Several reports including the National Institute of Clinical Studies' *Evidence-practice* gaps report, Volume 2 (2005) and the NHMRC dietary guidelines present overwhelming evidence of the gap between research recommendations and professional health practice regarding breastfeeding support and promotion.

Successful breastfeeding depends on multiple factors related to the mother, infant, and the supportive environment.

### Factors influencing initiation and duration of breastfeeding 9-22:

Maternal characteristics

- Attitude towards infant feeding and intended duration of breastfeeding: initiation and duration of breastfeeding are influenced both by the intention to breastfeed and forming this intention before and in early pregnancy. Educating parents to delay the introduction of solids and other complementary feeds until six months is encouraged.
- Early breastfeeding difficulties: women who experience difficulties in the first 4 weeks are more likely to discontinue before 6 months. Breastfeeding problems in the postpartum period are relatively common, with more than one-third of the PIFS II women reported having one or more problems in the first 4 weeks. The Australian Bureau of Statistics (ABS) 2001 data reported the most common reason for discontinuing breastfeeding of children aged 0-3 years old was 'problems in producing adequate milk'. Resolving breastfeeding problems quickly, with evidence-based information and support, is critical to success.
- **Smoking:** women who smoke during pregnancy are at greater risk of not initiating breastfeeding and are more likely to stop breastfeeding within the first 3 months.
- Obesity: overweight or obese women are 76% more likely to stop breastfeeding before the recommended six months than their healthy weight peers. Researchers have postulated that the excess weight may change maternal hormonal profile or hinder correct attachment, thus making sustained lactation more difficult.
- Age: those older than 30 years are more likely to breastfeed, and to breastfeed for longer periods, than are younger mothers.
- Education level: the higher the educational level achieved by the mother, the more likely she is to choose to breastfeed and the longer the duration of breastfeeding.

Support networks, practices and environments

- **Hospital practices** consistent with the *Baby-Friendly Health Initiative* (BFHI) recommendations, such as 24-hour rooming-in and early infant-to-breast contact, positively influence breastfeeding initiation, duration and exclusivity. Receiving anticipatory guidance while still in hospital on how to prevent and manage common breastfeeding difficulties also supports increased duration.
- Family members' opinions of breastfeeding: women who perceived their partner or own mother to prefer breastfeeding were more likely to continue

breastfeeding for longer. Support from women's partners and own mothers significantly influences breastfeeding initiation and duration.

- **Introduction to pacifiers** in the first 10 weeks of life negatively impacts on breastfeeding, and therefore should be discouraged.
- Returning to work negatively impacts on the duration of breastfeeding.
- Provision of maternity leave and flexible, family-friendly work practices help support breastfeeding women who work outside the home.
- Shortage of public funded lactation consultants: inequitable access to expert lactation advice, particularly in low socio-economic areas where women lack finances to access private lactation service, negatively affects breastfeeding.

The most likely way to achieve breastfeeding goals and targets is to focus attention on those strategies that:

- 1. Influence intended duration.
- 2. Influence the attitudes and beliefs of the mother's support network, particularly partners and their own mothers.
- 3. Shift the emphasis of education from nutritive and immunological benefits of breastfeeding to addressing the day-to-day realities and practicalities of breastfeeding through problem solving and support.
- 4. Promote breastfeeding as the social norm<sup>2</sup>.

### Recommendations

- That the Australian Government support a more comprehensive and sustained package of measures for greater impact on breastfeeding, and fully implement *Eat Well Australia* interventions promoting breastfeeding and improving child nutrition.
- That Medicare rebates be provided for lactation consultant services.
- That parents' access to post-natal lactation problem-solving avenues be improved.
- That paid maternity leave be extended.
- That breastfeeding education be included in continuing education credentials for relevant health professionals, e.g. paediatricians and general practitioners.

### e. The effectiveness of current measures to promote breastfeeding

Evidence suggests that long-term intensive promotion of breastfeeding is most successful, spanning the pre and postnatal period, and involving multiple contacts with a professional breastfeeding promoter or peer counsellor<sup>11, 12, 23</sup>.

A number of well-evaluated, effective programs and policies exist throughout Australia but there is a need for sustained effort and greater awareness and dissemination of effective strategies.

### Evidence-based strategies<sup>23</sup>:

### • Structured education and support programs

Well-conducted educational and support interventions for mothers prior to, and immediately after, childbirth are effective in improving rates of initiation as well as duration of breastfeeding (up to three months).

Postnatal home visits might enhance effectiveness. One-to-one education is best for persuading those women planning to use infant formula to breastfeed instead<sup>19</sup>. Beyond three months, interventions involving parenting groups, face-to-face contacts and home visiting by professional or trained peer counsellors might be effective<sup>2, 12</sup>, particularly in maintaining exclusive breastfeeding<sup>19</sup>. Cultural and language-specific interventions, in conjunction with child health visits, are associated with some increases in breastfeeding duration<sup>19</sup>.

### • Peer support or counselling programs

Professional and peer support have had a significant impact on short-term duration and exclusivity of breastfeeding. Peer support is particularly effective for low income, ethnic minority or disadvantaged groups<sup>11,18</sup>.

### • The Baby Friendly Health Initiative (BFHI) 21

Interventions such as BFHI that target hospital practices, including not using commercial hospital discharge packs containing infant formula (e.g. 'Bounty bags'), are particularly effective in increasing breastfeeding initiation<sup>12, 13</sup>. Supportive health policies such as the *Ten Steps to Successful Breastfeeding*<sup>13</sup>, the foundation of BFHI, are important in fostering consistency and promoting integrated implementation<sup>12</sup>.

The BFHI aims to eliminate hospital practices that might interfere with the successful initiation and promotion of breastfeeding. Hospitals that are not supportive of breastfeeding have lower initiation rates. The *Ten Steps to Successful Breastfeeding* were developed by the WHO and UNICEF to strengthen maternity practices and support breastfeeding. Maternity hospitals are advised to adopt these steps and support the BFHI<sup>1</sup>.

#### Recommendation

• That the Australian Government strongly support and promote the Baby Friendly Health Initiative.

# f. Impact of breastfeeding on the long-term sustainability of Australia's health system

The diseases for which there is convincing evidence of breastfeeding's protective effect are among the major health problems in Australia and contribute significantly to the health burden. Preventing the illnesses noted in Table 1 can reduce this burden.

Research into breastfeeding's costs and benefits is currently limited. Most economic analyses of breastfeeding have focused on a small number of infant illnesses and thus considerably underestimate the total benefits<sup>4</sup>.

### Recommendations

• That the Australian Government support research into the economic benefits of breastfeeding, including its impact on overweight and obesity and chronic disease.

### RELEVANT POLICIES

### Western Australian

- Eat Well Be Active WA: a strategic framework for public health nutrition and physical activity 2004-2010. Nutrition and Physical Activity Branch, Department of Health, 2004.
- State Health Advisory Committee on Family Friendly Initiatives. Available from: http://www.health.wa.gov.au/familyfriendly/welcome/index.cfm
- OP1371/01 Breastfeeding and Work Policy, 2001. Available from: http://intranet.health.wa.gov.au/circulars/circular.cfm?Circ ID=7284
- Breastfeeding and the Workplace: policy statement and flowchart (applicable to Royal St Division only). Health Workforce and Reform Division, WA Department of Health, 2000. Available from: <a href="http://intranet.health.wa.gov.au/policies/docs/HR">http://intranet.health.wa.gov.au/policies/docs/HR</a> BreastFeeding.pdf

#### **National**

- Dietary Guidelines for Children and Adolescents in Australia incorporating the Infant Feeding Guidelines for Health Workers. National Health and Medical Research Council (NHMRC), 2003. Available from: <a href="http://www.nhmrc.gov.au/publications/files/n34.pdf">http://www.nhmrc.gov.au/publications/files/n34.pdf</a>
- Healthy Weight 2008: Australia's Future. The national agenda for children and young people and their families. Australian Health Ministers' National Obesity Taskforce, 2003. Available from:
   <a href="http://www.healthyactive.gov.au/docs/healthy-weight08.pdf">http://www.healthyactive.gov.au/docs/healthy-weight08.pdf</a>
- Eat Well Australia: an agenda for action for public health nutrition 2000 2010. National Public Health Partnership, 2001. Available from: http://www.dhs.vic.gov.au/nphp/workprog/signal/nutstrat.htm
- National Aboriginal and Torres Strait Islander nutrition strategy and action plan 2000 2010. National Public Health Partnership, 2001. http://www.dhs.vic.gov.au/nphp/workprog/signal/nutstrat.htm
- National Breastfeeding Strategy. Department of Health and Family Services, 2001.
- Marketing in Australia of Infant Formula (MAIF) Agreement, 1992. Available from: <a href="http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-publith-strateg-foodpolicy-apmaif.htm">http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-publith-strateg-foodpolicy-apmaif.htm</a>
- National Clinical Guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn. Available from: http://www.health.nsw.gov.au/pubs/2006/pdf/ncg\_druguse.pdf

### International

- Global Strategy on infant and young child feeding. World Health Organisation (WHO), 2003. Available from: http://www.who.int/nutrition/publications/gs\_infant\_feeding\_text\_eng.pdf
- The optimal duration of exclusive breastfeeding: a systematic review. WHO, 2001. Available from:
  - http://www.who.int/nutrition/publications/optimal\_duration\_of\_exc\_bfeeding\_review\_eng.pdf
- International Code of Marketing of Breast-milk Substitutes. WHO, 1981. Available from: <a href="http://www.who.int/nutrition/publications/code\_english.pdf">http://www.who.int/nutrition/publications/code\_english.pdf</a>
- Complementary feeding: Report of the Global Consultation, and Summary of Guiding Principles for complementary feeding of the breastfed child. WHO, 2002. Available from: <a href="http://www.who.int/nutrition/publications/Complementary\_Feeding.pdf">http://www.who.int/nutrition/publications/Complementary\_Feeding.pdf</a>
- Evidence for the Ten Steps of Successful Breastfeeding. WHO, 1998. Available from: <a href="http://www.who.int/child-adolescent-health/New\_Publications/NUTRITION/WHO\_CHD\_98.9.pdf">http://www.who.int/child-adolescent-health/New\_Publications/NUTRITION/WHO\_CHD\_98.9.pdf</a>

### REFERENCES

- 1. World Health Organisation. Global Strategy on infant and young child feeding [online] 2003 [cited 2006 April 20]. Available from URL: http://www.who.int/nutrition/publications/gs\_infant\_feeding\_text\_eng.pdf
- 2. National Health & Medical Research Council. Dietary guidelines for children and adolescents in Australia incorporating the Infant feeding guidelines for health workers [online] 2003 [cited 2006 April 20]. Available from URL: <a href="http://www.nhmrc.gov.au/publications/files/n34.pdf">http://www.nhmrc.gov.au/publications/files/n34.pdf</a>
- 3. Joint WHO/UNICEF Statement. Protecting, promoting and supporting breastfeeding: the special role of maternity services. Geneva: World Health Organisation; 1989.
- 4. Allen J, Hector D. Benefits of breastfeeding. NSW Public Health Bulletin [online] 2005 [cited 2006 April 20]; 16(3-4):42-46. Available from URL: <a href="http://www.health.nsw.gov.au/public-health/phb/HTML2005/marchapril05html/contentsjmarchapril05.html">http://www.health.nsw.gov.au/public-health/phb/HTML2005/marchapril05html/contentsjmarchapril05.html</a>
- 5. Webb K, Marks GC, Lund-Adams M, Rutishauser IHE, Abraham B. Towards a national system for monitoring breastfeeding in Australia: recommendations for population indicators, definitions and next steps. Canberra: National Food and Nutrition Monitoring and Surveillance Project, Commonwealth Department of Health and Aged Care; 2001.
- 6. Binns C et al. Factors associated with the initiation of breast-feeding by Aboriginal mothers in Perth. Public Health Nutr 2004;7: 857–861.
- 7. Scott JA, Binns CW, Oddy WH, Graham KI. Predictors of breastfeeding duration: evidence from a cohort study. Pediatrics [serial online] 2006 [cited 2006 Sept 18] 117(4):e646-655. Available from: URL: <a href="http://www.pediatrics.org/cgi/content/full/117/4/e646">http://www.pediatrics.org/cgi/content/full/117/4/e646</a>
- 8. National Institute of Clinical Studies. Evidence-practice gaps report, volume 2. Melbourne: NICS; 2005: 6-9.
- 9. Australian Bureau of Statistics. Breastfeeding in Australia, 2001. Catalogue no. 4810.0.55.001 [online] 2003 [cited 2006 15 June]. Available from URL: <a href="http://abs.gov.au">http://abs.gov.au</a>
- 10. Hector D, King L, Webb K, Heywood P. Factors affecting breastfeeding practices applying a conceptual framework. NSW Public Health Bulletin [online] 2005 [cited 2006 April 20]; 16(3-4):52-55. Available from URL: <a href="http://www.health.nsw.gov.au/public-health/phb/HTML2005/marchapril05html/contentsjmarchapril05.html">http://www.health.nsw.gov.au/public-health/phb/HTML2005/marchapril05html/contentsjmarchapril05.html</a>
- 11. Hector D, King L. Interventions to encourage and support breastfeeding. NSW Public Health Bulletin [online] 2005 [cited 2006 April 20]; 16(3-4):56-61. Available from URL: <a href="http://www.health.nsw.gov.au/public-health/phb/HTML2005/marchapril05html/contentsjmarchapril05.html">http://www.health.nsw.gov.au/public-health/phb/HTML2005/marchapril05html/contentsjmarchapril05.html</a>
- 12. Hector D, King L, Webb K. Overview of recent reviews of interventions to promote and support breastfeeding., Sydney: NSW Centre for Public Health Nutrition; 2004.
- 13. WHO: World Health Organization. Ten steps to successful breastfeeding, WHO [online] 2004 [cited 2006 April 20]. Available from URL: http://www.euro.who.int/nutrition/Infant/20020730\_1.

- 14. Scott J, Binns C. Factors associated with the initiation and duration of breastfeeding. Aust J Nut Diet 1998;55:51–61.
- 15. Scott JA et al. Factors associated with the duration of breastfeeding amongst women in Perth, Australia. Acta Paediatr 1999;88:416–421.
- 16. Scott JA et al. Factors associated with breastfeeding at discharge and duration of breastfeeding. J Paediatr Child Health 2001;37: 254–261.
- 17. Li L et al. Factors associated with the initiation and duration of breastfeeding by Chinese mothers in Perth, Western Australia. J Hum Lact 2004;20: 188–195.
- 18. Scott JA, Binns C, Aroni RA. The influence of reported paternal attitudes on the decision to breast-feed. J Paediatr Child Health 1997;33: 305–307.
- 19. Tedstone A et al. Effectiveness of interventions to promote healthy feeding of infants under one year of age. London: Health Education Authority; 1998.
- 20. Sikorski J et al. Support for breastfeeding mothers. Cochrane Database Syst Rev, (1): CD001141; 2002.
- 21. World Health Organization (WHO). Baby Friendly Hospital Initiative (BFHI), WHO Regional Office for Europe [online] 2004 [cited 2006 April 20]. Available from URL: <a href="http://www.euro.who.int/nutrition/Infant/20020730">http://www.euro.who.int/nutrition/Infant/20020730</a> 2
- 22. Oddy WH, Jianghong L, Landsborough L, Kendall GE, Henderson S, Downie J. The association of maternal overweight and obesity with breastfeeding duration. J Pediatrics 2006;149(2): 185-191.
- 23. Centre for Community Child Health. Practice resource: breastfeeding promotion [online] 2006 [cited 2006 September 228]. Available from URL: http://www.rch.org.au/emplibrary/ccch/PR Bfeed all.pdf
- 24. King Edward Memorial Hospital Clinical Guidelines Section B: Obstetric and Midwifery Care, Section 8 Newborn Feeding, December 2005. Available from URL: <a href="http://wchs.health.wa.gov.au/development/manuals/sectionb/index.htm#8">http://wchs.health.wa.gov.au/development/manuals/sectionb/index.htm#8</a>
- 25. Brodribb W, editor. Breastfeeding management 3<sup>rd</sup> ed. East Malvern: Australian Breastfeeding Association; 2004.

Submission (Part B) to the Breastfeeding Inquiry of the Standing Committee on Health and Ageing, House of Representatives, Parliament of Australia, by the Clinical Midwifery Consultant for Breastfeeding at King Edward Memorial Hospital (KEMH), WA Department of Health

a. Extent of the health benefits of breastfeeding, c. The potential short and long term impact on the health of Australians of increasing the rate of breastfeeding, and f. The impact of breastfeeding on the long term sustainability of Australia's health system.

There is enough evidence to support a breastfeeding as a health promotion priority.

The health benefits of breastfeeding have been reported extensively in the scientific literature for more than two decades, including by the World Health Organisation and the National Health and Medical Research Council. A wealth of evidence has been generated over the past 10 years to support the benefits of breastfeeding a child exclusively until six months of age. Roughly 2,000 papers on breastfeeding and human milk have been listed on the international database Medline since the year 2000 (McVeigh P. 2002).

"Nutrition is essential to the health and development of infants and children. Breastfeeding is superior to infant formula feeding because, in addition to its nutritional advantages, breast milk protects against infections through specific and non-specific immune factors and has long term consequences for metabolism and disease later in life. Human milk enhances the immature immune system of the neonate and strengthens its defence mechanisms against infective and other foreign agents. Following termination of breastfeeding there is a prolonged protection against infection depending on the duration of breastfeeding. Breast milk contains specific bio-active factors that promote growth and maturation of the baby's immune system and infant formula does not have these properties." (Oddy 2002).

There is increasing evidence that among term and pre-term infants, breastfeeding is associated with significantly lower blood pressure levels in childhood. There is also evidence suggesting a lower risk of developing obesity, which might be directly linked to duration of breastfeeding. Current evidence indicates adverse effects on cardiovascular disease risk factors from the use of formula. The risk for several chronic child and adolescent diseases has also been associated with artificial infant feeding and short-term breastfeeding (Darnton – Hill I, Nishida C, James WPT 2004).

In questioning whether it matters - in a developed country like Australia - if a term infant is breastfed or not, Patricia McVeigh (2002) selected the three most common health problems for Australian children: infection, obesity and asthma. McVeigh then assessed recent large studies to show breastfeeding to six months of age gives increased prevention against these conditions, in which even small changes in prevalence or disease severity would have a major impact on the nation's health.

# b. Evaluation of the impact of marketing of breast milk substitutes on breastfeeding rates and, in particular, in disadvantaged, Indigenous and remote communities.

In disadvantaged, Indigenous and remote communities, formula feeding presents a very real health hazard, even in the mixing of the substance. Formula provides no immunity to diarrhoeal diseases as breast milk does, and has long-term consequences for metabolism, cognitive development and disease occurrence later in life. Artificially fed infants demonstrate different neurodevelopmental and cognitive outcomes (Walker M 2006).

Worldwide literature consistently makes reference to disadvantaged communities using breast milk substitutes more than the general population. WA studies also demonstrate these lower rates of breastfeeding compared with the general population (Binns and Gilchrist, 2004; KEMH, 2001).

# d. Initiatives to encourage breast feeding and e. Examine the effectiveness of current measures to promote breastfeeding

Availability of breastfeeding statistics is essential to any program that is designed to increase breastfeeding rates. In WA, as in most states, breastfeeding statistics are not routinely collected. Information can be gained from either the National Health Survey or other studies conducted from time to time.

In the National Health Survey of 1995:

- 87% of babies were fully breastfeeding on discharge from hospital.
- 62.85% were still fully breastfeeding at three months.
- 21.95% still fully breastfeeding at six months.
- 50.65% were having some breastfeeding at six months.

Most research on breastfeeding in WA originates from the Women's and Infants Research Foundation, the Curtin School of Public Health and the Institute of Child Health Research. All new mothers in the former North Metropolitan Area Health Service were contacted to establish details of feeding methods and breastfeeding duration for six months from July 2006 on. These figures have not yet been published.

As there is a national database for immunisation, breastfeeding data could be collected at the same time.

The Perth Infant Feeding Studies of 1992 and 2002 (Binns et al) have provided detailed information to assist in the development of infant feeding guidelines in Australia. Both the studies were undertaken in two public hospitals in Perth. The sample is slightly biased towards lower socio-economic groups. Details of project findings have been published in numerous journals and a report to the Department of Health and Ageing in 2005. The Infant Feeding Study II has shown an increase in breastfeeding initiation rates in the two Perth hospitals, anecdotally attributed to the establishment of the KEMH Breastfeeding Centre in 1998 and its regular education

messages targeting health professionals. There is however currently no data on breastfeeding rates as a whole for Perth or WA.

Women have identified over-worked staff, lack of skills in assisting with attachment difficulties, inconsistent advice, noise and embarrassment as concerns about breastfeeding during their initial hospital stay. Most mothers do not anticipate problems with breastfeeding and health professionals might inadvertently contribute to perception by focusing on the benefits of breastfeeding rather than the practicalities and problems that can be encountered in the early weeks (Vogel & Mitchell 1998).

Worldwide initiatives have been established to promote breastfeeding and curb indiscriminate use of infant formula.

### Baby Friendly Health Initiative

The Baby Friendly Health Initiative (BFHI), aimed at promoting implementation of the *Innocenti Declaration* (1990), was developed jointly by WHO & UNICEF and launched in 1991. The Declaration stated that it was the right of every woman to breastfeed her baby and the right of every baby to receive nothing but breast milk until four to six months of age (in April 2002 this was changed to six months of age). It is an international project that aims to give every baby the best start in life by creating a health care environment where breastfeeding is the norm, and practices known to promote the health and wellbeing of all babies and mothers are followed.

The BFHI's Ten Steps to Successful Breastfeeding is the global standard by which hospitals are assessed and accredited. A 'Baby Friendly' hospital is one where mothers' informed choice of feeding is supported, respected and encouraged (www.bfhi.org.au).

The BFHI has been adopted by over 70 countries, including Australia (in 1994). However, Australian health professionals have been slow to accept the Initiative, perhaps demonstrating a complacency about breastfeeding that needs to be addressed: there are still only 48 accredited hospitals in Australia and only two of those are in Western Australia (KEMH and Joondalup Health Campus).

Since KEMH began working towards Baby Friendly accreditation in 2000 (the hospital was accredited in August 2004), the number of women exclusively breastfeeding from birth has risen significantly from 58.6% to 71% in 2006. There has also been a reduction in the use of formula for babies <37 weeks gestation during their hospital stay from 25% to 13%. Additionally, there has been a rapid growth in the use of breast pumps to maintain lactation when women have breastfeeding difficulties.

A Belarussian study involving 17,000 healthy mother/infant pairs intending to breastfeed showed that in centres randomly assigned to follow the *Ten Steps to Successful Breastfeeding* there were increases in exclusive and continued breastfeeding. The infants from the intervention group were much more likely to be exclusively breastfed to six months and breastfed to one year. The intervention group also showed a significant reduction in the risk of one or more gastrointestinal tract infections (9.1% vs 13.2% adjusted) and of atopic eczema (3.3% vs 6.3% adjusted).

This randomised controlled trial illustrated the positive effect of adopting the *Ten Steps*: if all Australian health professionals in contact with mothers and babies did so, breastfeeding duration rates would most probably increase.

The Australian Council for Health Standards could make BFHI accreditation a compulsory criterion. Whilst representatives of the medical profession support breastfeeding initiatives, and there is a growing body of medical practitioners willing and able to advise on breastfeeding problems, many simply do not have the interest or the knowledge to do so.

The Breastfeeding Centre at KEMH in WA provides a service to women who have given birth at KEMH. The expert team of Lactation Consultants working at the Breastfeeding Centre can have difficulty finding a doctor in the hospital to prescribe the proven recommended treatment when a prescription or referral is requested. Women who have given birth elsewhere often wish to attend the Breastfeeding Centre, because they have nowhere to turn when having problems breastfeeding. These issues will no doubt be addressed by the recently established WA Breastfeeding Taskforce and Women's Health Network.

The Rotary Prem Milk Bank, established thanks to a mammoth effort by Professor Peter Hartmann and his Breastfeeding Research team, backed by the Rotary Club and Women's and Infant Research Foundation, could be expanded (as in Scandinavian countries) to reduce the use of formulas.

The majority of women state they wish to try to breast feed, and many recent journal articles and publications for health professionals illustrate the effectiveness of professional and peer support for women establishing breastfeeding.

The current promotion of breastfeeding is reaching those in most need, i.e. younger, less educated women of lower socio-economic status. Their perception is that they will be forced to breastfeed in hospital, but will stop as soon as they can.

Given that the average hospital stay for a normal birth is from one to three days and for a caesarean section five days, mothers and babies are often home before the onset of lactation, let alone the establishment of breastfeeding. In many hospitals in Australia, almost 30 - 50% of breastfeeding infants receive formula at some time during their hospital stay. This leads to a shortened duration of breastfeeding (Binns and Scott 2002).

It is important that all health professionals in contact with mothers and babies are aware of the implications of often socially acceptable practices, such as giving the baby a bottle of formula so the mother can have a good sleep, which are detrimental to the establishment of breastfeeding.

Conflicting or inconsistent advice on the management of breastfeeding from health professionals is a persistent problem and source of discontent for women, and has been linked to the early cessation of breastfeeding (Simmons 2002). There is a higher input from health professionals in the first six weeks of a child's life than at any other

time, so it is vital that they fully understand the initiation process for breastfeeding and that they can support the woman appropriately in her desire to breastfeed.

The *Perth Infant Feeding Study* II (Binns 2002) showed that 83% of women experienced problems with breastfeeding in the first week and 29% of breastfeeding mothers still had problems two weeks after discharge. The most common reason given for stopping breastfeeding before two weeks was that their baby was unsettled. Anxiety over sufficiency of the milk was the most serious problem, in that it often resulted in cessation of breastfeeding, especially in the early stages. Given this information, it is vital that the Child Health Nurse be able to support the mother appropriately at this time.

A study by Hyde (1994) highlighted the need for improved training. Out of 200 community health professionals, 17% were in favour of complementary feeding, 30% believed formula to be just as good as breast milk and 80% advised starting solids before 15 weeks. West & Topping (2000) suggested that health worker's own varying experiences influenced their practice. They cite Parker's (1994) finding that midwives were largely unaware of research findings because they did not read the appropriate journals. She claimed they neither understood research nor how to apply its findings, preferring to base their practice on their attitudes. These findings were reiterated in more recent work by Downie et al (2002) in WA.

The ability to provide accurate, consistent information and effective support, underpinned by effective communication skills requires a high level of knowledge, skill and appropriate attitudes (Stein et al 2000). There is often a fear of making the woman feel guilty about formula feeding, which leads to the false reassurance that the mother is doing the best thing.

When women are experiencing breastfeeding problems a great deal of time, patience and individualised support is necessary to overcome the difficulty (Hauck et al). Women have expressed concern that standardised advice is not always appropriate and does not help to overcome the long and complex problems.

One of the main reasons for developing the *Infant Feeding Guidelines for Health Workers in Australia* (NHMRC 2003) was the recognition that the correct management of breastfeeding problems was vital in maximising breastfeeding duration.

The challenge of addressing the attitude of some unsupportive health professionals cannot be overlooked. If breastfeeding is to be seen as the norm, Newman (1999) encourages health professionals to become part of the solution, not part of the problem.

Knowing when to refer women to other sources of support when the difficulties are beyond the scope of an individual health professional is an essential skill. Inappropriate advice will result in no improvement or even deterioration, with negative consequences. If breastfeeding is to be truly promoted by health professionals, they must not underestimate the importance of proper advice and management and ongoing support to ensure that problems do not lead to cessation of breastfeeding (Binns and Scott 2002).

28/02/2007 20

Downie et al (2002) acknowledge the need for ongoing specifically targeted education for Child Health Nurses and midwives. Although participants in a Lactation Adviser program "improved their knowledge and maintained this improvement over a six month time frame, they appear not to have the advanced level of lactation knowledge required to promote breastfeeding effectively in practice" (p57).

Breastfeeding difficulties, while common, are not necessarily inevitable and with proper education and management can often be prevented or successfully managed. There may be a chain of events after birth that negatively influences the establishment of breastfeeding. Advice and support in the early weeks is crucial to the success of breastfeeding when difficulties are encountered. It is important that the community is aware of what establishment of breastfeeding involves. Resignation to failure is not what women want to hear when they have a desire to breastfeed (Hauck et al 2002).

The mother should be supported and encouraged to find the cause of breastfeeding problems, so as to rectify it before the cascade of problems begin. Generalised statements such as "he/she will settle down" are not helpful. If a baby is feeding poorly in the first week and the Child Health Nurse suggests to simply come back in a week's time, by then the milk production will have fallen to less than the baby needs to thrive, she may have developed blocked ducts and mastitis, the baby may have become weaker and even more sleepy, and the woman may have turned to formula feeding by then.

The findings of Downie et al's study in WA suggest that there is a need for reinforcement of educational objectives in repeated sessions and that this may be one way to ensure health professionals have sufficient and appropriate lactation knowledge. The recommendations were that all health professionals should regularly update their knowledge and improve their attitudes and confidence in breastfeeding management.

In addition to the BFHI Ten Steps, the Australian Breastfeeding Association's 7 Point Plan for the Protection, Promotion and Support of Breastfeeding in Community Health Services:

- 1. Have a written Breastfeeding Policy that is routinely communicated to all health care staff and volunteers.
- 2. Train all health care staff in skills necessary to implement the breastfeeding policy.
- 3. Inform pregnant women and their families about the benefits and management of breastfeeding.
- 4. Support mothers to establish and maintain exclusive breastfeeding to six months.
- 5. Encourage sustained breastfeeding beyond six months with appropriate introduction of complementary solid foods.
- 6. Provide a welcoming atmosphere for breastfeeding families.
- 7. Promote collaboration between health care staff and volunteers, breastfeeding support groups and the local community.

Twenty five years ago Norway had a breastfeeding initiation rate of less than 25%: it now consistently reports that 92% of women are breastfeeding to three months, 80%

to six months and 40% to one year. It was the embracing of the BFHI ten steps movement by that turned these figures around, combined with an increase in length of maternity leave allowance.

In Australia, some employers have started to agree to pay maternity leave and as we already have an initiation rate of more than 84% of all women a target of 50% exclusive breastfeeding should be attainable in the next couple of years. Binns (2002) states: "Within a decade a target of 80% of infants to be fully breastfed for around six months should be set and the appropriate parental education and community support initiated. The release of the revised NHMRC Guidelines later this year will provide a focus for renewed efforts in promoting breastfeeding".

### Recommendations

- Recognition of Breastfeeding Medicine as a specific discipline at university level.
- Establishing an Academy of Breastfeeding Medicine, which could provide direction for the medical profession.
- Community Breastfeeding Centres run by a Lactation Consultant.
- Electric breast pump hire at cost price.
- Establishment of Peer Support programs.
- Establishment of a larger state Human Milk Bank, available for any baby unable to have their mother's milk for medical reasons.

### References to support the benefits of BFHI

Binns C et al, 2002 Perth Infant Feeding Studies School of Public Health, Curtin University, Perth WA

Binns C. & Scott J. 2002 "Breastfeeding: Reasons for starting, reasons for stopping and problems along the way" Breastfeeding Review vol 10(2) 2002.

**Binns C.** 2002 'Food Views' Food Chain no9 August 2002 Department of Health W.A. Nutrition and Physical Activity Program H.P.8156.

**Downie J. Rakic V. Juliffe D. 2002** "Enhancing the ability of nurses and midwives to promote breastfeeding: A longitudinal study" Birth Issues vol 11 no 2/3 2002.

Hauck Y., Langton D., & Coyle K., 2002 "The Path of Determination: Exploring the lived experience of breastfeeding difficulties" Breastfeeding Review 10 (2) 2002.

Kramer M., Chalmers B., & Hodnett E. 2002 "The Promotion of Breastfeeding Intervention Trial (PROBIT) A randomised trial in the republic of Belarus" JAMA 285:413-420.

**McVeigh P. 2002** "Is Breastfeeding best practice?" Medical Journal of Australia vol 177 .5 Aug .2002p.128-129.

**Newman J. 1999** "Health Professionals and Breastfeeding: why do they have so much trouble understanding?" International Journal of Childbirth Education 14(2) 5-7.

Oddy W. 2002 "Breastfeeding Protects against Illness and Infection in infants and children: a review of the evidence" Breastfeeding Review vol9 no.2 .2001.

**Simmons V. 2002** "Exploring inconsistent breastfeeding advice (1) British Journal of Midwifery 10 (5).

**Vogel A. & Mitchell E. 1998** "The establishment and duration of breastfeeding: Part 1 Hospital Influences & Part 2 Community Influences" Breastfeeding Review 6 (1) 5-9&11-16.

Walker M 2006 Breastfeeding Management by the Clinician-using the evidence p. 1-36 Jones &Bartlett

West J. &Topping A. 2000 "Breastfeeding policies : are they used in practice?" British Journal of Midwifery 8 (1) 36-40.

### References for the need to support women in the community

Binns C. &Gilchrist D. 2004 Factors associated with the initiation of breastfeeding by Aboriginal mothers in Perth Public Health Nutr 7: 857-861

**KEMH** 2001 What Happens to Adolescent Mothers

**Downie J.& Juliff D. 2000** "The nature of breastfeeding :implications for community health nursing." Neonatal, Paediatric and Child Health Nursing vol 3 no.1feb 2000.

**McVeagh P. 2002** "Is breastfeeding best practice?" Medical Journal of Australia vol 177 5<sup>th</sup> August 2002.

WHO 2001 "Expert Consultation on the optimal duration of exclusive breastfeeding: conclusions and recommendations: What is the optimal duration of excusive breastfeeding?" Notes for the press, published in Curtin Nutrition Newsletter June 2001.

HDWA 2001 "Public Health Action in Breastfeeding- Draft" HDWA April 2001.

Wright A. Bauer M. Naylor A. Sutcliffe E. and Clark L. 1998 "Increasing Breastfeeding Rates to Reduce Infant Illness at the Community level" Paediatrics vol 101 no 5 May 1998.

Hauck Y. Langton D. & Coyle K. 2002 "The path of determination: Exploring the lived experience of breastfeeding difficulties" Breastfeeding Review vol 10 no. 2 .2002.

Deacon C. 2001 "Are we just bottling out?" Nursing Times vol 97 no.19 May 2001.

Geortz S. McCamman, & Westdahl 2001 "Breastfeeding Promotion – Top Tips for motivating Women to Breastfeed their infants" Association of Women's Health, Obstetric & Neonatal Nurses: (AWHONN)Lifelines Feb/March 2001.

MIDIRS 1999 "Breastfeeding or bottle feeding: Helping women to choose" Leaflet 7: Informed choice for professionals MIDIRS June 1999 reprinted 2002.

**Gerrard A 2001** "Breastfeeding in Norway: Where did they go right?" British Journal of Midwifery May 2001 vol 9 no 5.

**Johnson T. Brennan R. & Davis-Flynn- Tymkow C. 1999** "A home Visit Program for Breastfeeding Education and Support" JOGNN vol 28 no. 5 1999.

**Porteous R. Kaufman K. & Rush J. 2000** "The Effect of Individualised Professional Support on Duration of Breastfeeding: A Randomised Controlled Trial" Journal of Human Lactation 16 (4) 2000.

Adams C. Berger R. Conning P. Cruikshank L. &Dore K. 2001 "JOGNN 2001 vol 30 no.4 p.392-399.

Tomm P & Nelson A. 1997 "A Breastfeeding Drop in Centre Survey Evaluation" Journal of Human Lactation 13 (4) 1997.

Vari P. Camburn J. Henly S. 2000 Professionally Mediated Support and Early Breastfeeding Success" Journal of Perinatal Education vol 9 no.1 2000.

**Humphreys A. Thompson N. & Miner K. 1998** "Intention to Breastfeed in Low-Income Pregnant Women: The Role of Social Support and Previous Experience" Birth 25: 3 Sept 1998.

Russell B. Avilles M. Brion L. 1999 "Relationship between Perinatal Counselling and Incidence of Breastfeeding in an Inner- City Population" Journal of Perinatology 1999. 19 (7) 501-504.

**Gill S. 2001** "The Little Things: Perceptions of Breastfeeding Support" JOGNN 2001 vol 30 no. 4.

**Pugh L. Milligan R. Brown L. 2001** "The Breastfeeding Support Team for Low Income, Predominantly - Minority Women: a Pilot Intervention Study" Health Care for Women International 22: 501-515 2001.