An evaluation of breastfeeding support activities at St Monica's Midwife Obstetric Unit and an assessment of breastfeeding levels within the first 48 hours after birth.

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DEDICATION

This work is dedicated to all those beautiful breastfed children and to all those mothers who persevere in breastfeeding even when it is sometimes painful and challenging.

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DEFINITION OF TERMS

Exclusive breastfeeding	Exclusive breastfeeding implies that no food or drink is given to infants up to the first six months of age. The infant receives breast milk only, with the exception of vitamins and mineral supplements or medicines
Primigravida	A women during her first pregnancy
Primiparous	A women with her first infant
Rooming-in	Allowing the mother and child to stay together when one or the other is hospitalised during the breastfeeding period. Unrestricted access of the child to the breast is necessary to establish and maintain lactation.
Attachment	Good attachment means that there is more areola above the baby's mouth, the lower lip is turned up and the chin is touching the breast. Effective suckling is a slow, deep suck, sometimes pausing and you may hear swallowing.
Positioning	the correct positioning of the baby to the breast is when the baby's head is straight, facing the mothers breast, with the baby's nose opposite the nipple and the baby's whole body is supported.
Demand Feeding	Unrestricted breastfeeding, where the mother is encouraged to offer the breast whenever her infant shows signs of wanting to suckle.
Expectant Women	A pregnant women. In this study the term expectant women was used to describe all first pregnant women

New mother A mother with infant in this study the term new mother was used to describe all mothers with her first child

EPI INFO

ABSTRACT

The Baby Friendly Hospital Initiative (BFHI) was established to change health care practice, to enable health workers to protect, promote and support breastfeeding. This initiative has been implemented at St Monica's Midwife Obstetric Unit.

However, a study has found that exclusive breastfeeding levels are still very low at St Monica's. Several possible reasons for this has been suggested, namely:

- Social economic factors such as low/poor maternal education and the need to return to employment
- Inadequate breastfeeding promotion programmes.
- Psychosocial factors
- The promotion and availability of formula and free samples

A possible explanation for the low breastfeeding frequency then could be that the breastfeeding promotion programme (BFHI) was inadequate. Given this possibility this study was devised to evaluate the key components of the baby friendly hospital initiative at St Monica's.

An important potential result is that the health workers don't educate and support or do not sufficiently educate and support expectant and new mothers.

Aim

The study examined the training, knowledge and practices of health workers and examined the extent to which health workers advised, educated and prepared expectant women for breastfeeding.

Objectives

- To identify whether all enrolled nursing assistants and midwives are aware of the policy on the importance of breastfeeding
- To identify the nature and duration of training of enrolled nursing assistants and

midwives as a prerequisite for preparing pregnant women for breastfeeding

- To identify the extent to which enrolled nursing assistants and midwives manage to impart education through training expectant and new mothers
- To examine the extent to which expectant and new mothers are aware of and trained in the knowledge and skills necessary for successful breastfeeding
- To identify the nature of support groups available after discharge from the midwife obstetric unit
- To assess the proportion of new mothers who initiate breastfeeding
- To assess the proportion of new mothers who exclusively breastfeed during the first forty-eight hours after birth

Methodology

This was a quantitative descriptive study.

Sample

Data collection

Key findings

This study reveals that all enrolled nursing assistants and midwives are aware of the breastfeeding policies and that most are appropriately trained to prepare expectant and new mothers for breastfeeding.

Preparation given to expectant women on key messages regarding breastfeeding is insufficient. However, there is a high initiation of breastfeeding within the first six hours after birth of the baby.

However, their practice, immediate postnatal care of the mothers and babies seems to have

become routine and does not sufficiently train new mothers in practical skills to manage breastfeeding

The study reveals that the lack of support group structures outside the MOU has implications for sustainable exclusive breastfeeding practices.

There is an alarming increase in the early introduction of other feeds, within 12 hours in this study. It is also clear that new mothers did not have an understanding of the concepts "demand feed" and "exclusive feeding".

Several practical recommendations which would improve the breastfeeding promotion programme were provided

ABBREVIATIONS

BFHI.	Baby Friendly Hospital Initiative
WHO	World Health Organisation
UNICEF	United Nations Children's Emergency Fund
MOU.	Midwife Obstetric Unit
ANC	Antenatal Clinic

1. INTRODUCTION

The introduction is given in two parts. The first part deals with the subject of breastfeeding policy, that is, addressing the various programmes and practices recommended; while the second part provides an introduction to St Monica's Midwife Obstetric Unit (MOU).

1.1 BREASTFEEDING POLICY, PROGRAMMES AND PRACTICES

Studies have shown that the prevalence and duration of breastfeeding has declined in many parts of the world for a variety of reasons. According to reviews carried out by Popkin et al (1983), Forman (1984), Simopoulos & Grave (1984), Kokturk & Zetterstrom (1989), Huffman (1984) and Wilmoth & Elder (1995), social factors are one of the many reasons. These include amongst others the:

- Living environment (whether urban or rural setting)
- Socio-economic status of the individual
- Maternal education
- Women's employment situation
- Commercial pressure
- Knowledge and availability of breast milk substitutes

Socio-cultural factors also determine belief's attitudes and practices. Evidence suggests that one of the determining factors in a woman's decision on how to feed her infant is the perceived or actual attitude of the father. Other members of the family, friends and the support she may have to carry her decision through, also significantly impact upon her decisions regarding breastfeeding, according to the reviews by (Freed, 1991, Fraley and Schanler, 1993)

With the introduction of modern technologies and the adoption of new life styles, the

importance attached to the traditional practice of breastfeeding has been noticeably reduced in many societies. Unwittingly, health services often contribute to this decline, either by failing to support and encourage mothers to breastfeed, or by introducing routines and procedures that will interfere with the normal initiation and establishment of breast feeding (WHO/UNICEF, 1989). Common examples of the latter are separating mothers from their infants at birth, giving infants glucose water by bottle and teat before lactation has been initiated, and routinely encouraging the use of breast milk substitutes (WHO/UNICEF, 1989).

Research suggests that breastfeeding is an ideal way of providing 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. It provides ideal nutrition for infants and contributes to their growth and development, and it reduces the incidence and severity of infectious diseases, thereby lowering infant morbidity and mortality. Breastfeeding contributes to women's health by reducing uterine cancer, and by increasing child spacing between pregnancies. It provides social and economic benefits to the family and the nation, as well as providing women with a sense of satisfaction when successfully carried out (WHO/UNICEF, 1990).

Breastfeeding requires very little investment and has a tremendous payback for families, communities, health care institutions and governments. In poor industrialised countries such as Yugoslavia, approximately 70% of income would potentially be spent on breast milk substitutes for the first six months if breastfeeding were not an option (WABA, 1998). It was also shown that in Yugoslavia, only 30% of infants are breastfed at 4 months. If this could be increased to 70%, it has been calculated that US $449 million could potentially be saved. This might also mean that the 99,000 respiratory infections, 33,000 ear infections, 123 cases of early onset diabetes, 84 cases of childhood cancer and 152 cases of ovarian cancer, currently

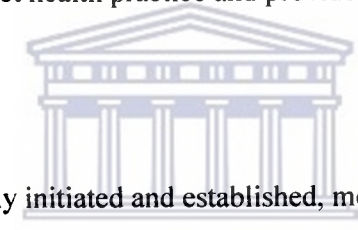
experienced in that country could be averted each year. It would seem then that the cost of artificial feeding is high even in industrialized countries (WABA, 1998).

The economic benefits for those in Third World settings are potentially greater. In South Africa, for example, the amount of formula needed for the first year of life of an infant would be approximately 40kg of formula. If one tin of formula costs R19.89 for 500grams, 40kg would cost R1591.20. At least 3 feeding bottles at a cost of R17.95 would be required, totalling R53.85. Included would be 6 teats at R6.99 each, totalling R13.98. Therefore, the approximate total yearly cost for formula would be R1659.03. In addition, to prepare for the approximately 1500 artificial milk feeds during the first year of life, the cost of fuel, water and time for preparing these feeds needs to be factored in.

The minimum weekly income in South Africa is about R400.00 per week. In many instances, the cost for formula for the one year would be approximately 9% of their income. When the cost of increased illness is considered as well as the cost of loss of wages to the mother, travel to hospital, food for parents and hospital cost, the average cost of artificial feeding for one year could rise to approximately 13% of the minimum wage, a serious dent in the family's economic situation.

One of women's distinctive contributions to society lies in their ability to breastfeed, a contribution undervalued socially and economically. Breast milk and colostrum provides all the nutrients required for the physical and mental development of the infant. More importantly, it provides a natural immunity by supplying anti-infective constituents thereby helping to prevent infections caused by contaminated artificial feeding bottles and teats and reduces the risk of developing obesity and allergies (WABA, 1998).

Reid (1993) commenting from Brazil, states that all women should be enabled and given the choice to practice exclusive breastfeeding, for the initial six months of age. Studies carried out by Entwisle et al (1982) and Baranowski et al (1983) in developed countries, have shown that children who are breastfed exclusively for six months, tend to have overall reduced rates of childhood cancers, including leukaemia. Children are less likely to show symptoms of asthma and dermatitis or suffer gastrointestinal disturbances, or contract middle ear disease and have lowered risk of childhood diabetes. Considering both the morbidity and mortality statistics for most developing countries, exclusive breastfeeding for the first six months is suggested as a low cost, high impact health practice and provides increased assurance of child survival.



For breastfeeding to be successfully initiated and established, mothers need the active support during pregnancy and following the birth, not only of their families and communities, but also more importantly from the entire health system WHO/UNICEF (1989). Ideally, all health workers with whom expectant and new mothers come into contact, will be committed to promoting breastfeeding, and will be able to provide appropriate information, as well as demonstrate a thorough practical knowledge of breastfeeding management. This however, requires that health workers be trained and intervention programmes be implemented, in order to consciously address and combat the factors that have led to a decline in breastfeeding (WHO, 1986).

Reid (1993) in Brazil, states that institutions and programmes providing maternity services and care for the newborn, should review their policies and practices related to breastfeeding. Thereafter, they should develop breastfeeding promoting policy guidelines covering care for

the expectant, new mothers and newborn infants. They should ensure that these guidelines are communicated to all concerned staff and should undertake to evaluate their effectiveness.

While Downie et al (1996), Winikoff (1987) and Lawrence (1982) in the United States of America, reported many successful breastfeeding interventions, it has not been established whether programmes that use simple messages regarding breastfeeding and are associated with increased breastfeeding rates, are sustainable in the long term.

Participants at the World Health Organization (WHO) and the United Nations International Children's Emergency Fund (UNICEF) policymakers meeting, on "breastfeeding in the 1990's" adopted, the Innocenti Declaration on the protection, promotion and support of breastfeeding. A declaration was made that, all women should be enabled to practice exclusive breastfeeding and all infants should be fed exclusively on breast milk, from birth to six months of age. In many countries attainment of this goal requires the reinforcement of a "breast feeding culture". This, in turn, requires commitment and advocacy for social mobilization, utilizing to the full, the prestige and authority of acknowledged leaders of society, in all walks of life (WHO/UNICEF, 1989).

It would seem that society, media and political commitment influence the culture of breastfeeding, as some women make choices about their intentions to breastfeed before they are pregnant, while others make this decision soon after the birth of their babies. These decisions, it would seem, are influenced by various factors which include amongst other things, their educational level (Foreman, 1994).

In developed countries, researchers like Halley et al (1984), Niefert et al (1988), Dix (1991),

and Graffy 1992) suggest that one third to one half of women decide how they will feed their babies before they are pregnant. Their intentions to breastfeed have been found to vary with ethnicity, marital status, educational levels and age (Baranowski et al, 1983, Simopoulas & Grave, 1984 and Lizarraga et al 1992). Prior socialization, which includes how a woman herself was fed as a baby, impacts on women's initial choices (Entwisle, 1982, Doering and Reilly 1982). It seems too, that the attitudes of the male partners, and the pregnant women's perception of their partner's attitudes towards breastfeeding, may influence their decision regarding breastfeeding (Freed, 1993, Fraley and Schanler 1993).

Another crucial decision-making moment is around the time of childbirth. The factors shaping this moment of decision seem to be influenced by the attitudes of female peers, friends, sisters and relatives (Labbok et al, 1988). Male partners also influence the decision to breastfeed (Giugliani et al, 1994).

The decision regarding breastfeeding choices is further impacted upon by the perceived lack of knowledge by health workers and their inability, or unwillingness, to provide breastfeeding support to pregnant women and new mothers (Lawrence, 1982).

In South Africa, the factors shaping women's decisions regarding their breastfeeding choices seems consistent with the studies reported above. In a study conducted by Mostert (1998) in the Western Cape, it was found that as mothers levels of education decreased, associated exclusive breastfeeding practices declined. By implication, it would seem that mothers levels of education impact positively on the practice and duration of exclusive breastfeeding.

The critical role health workers could and should play in protecting, promoting and

supporting breastfeeding cannot be underestimated and should be seen in the context of their broad social commitment. Studies have shown that there are benefits in antenatal education for mothers and an associated increase in breastfeeding if their confidence and skills are developed (Davies-Adetugbo, 1996).

In a joint statement prepared by WHO/UNICEF (1990), on preparing health workers to promote and support breastfeeding, a number of essential messages that should be communicated to all health workers, were stated. These messages form a basis for understanding the relation between health services and the successful initiation and establishment of breastfeeding, and the role that the health facility, and particularly that of the health worker, should play in protecting, promoting and supporting breastfeeding.

WHO and UNICEF established the Baby Friendly Hospital Initiative (BFHI) to encourage health care facilities, particularly maternity wards, to adopt practices that fully protect, promote and support exclusive breastfeeding from birth (WHO/UNICEF, 1990). This initiative consists of ten steps to successful breastfeeding, which may be used to develop a policy to enable institutions to comply with international requirements. (Appendix A)

The "Ten Steps to successful breastfeeding" were initiated to increase awareness of the critical role health services play in protecting and promoting breastfeeding. The initiative equips health workers to provide each woman who enters a health facility, with the knowledge and support needed to make an informed decision regarding breastfeeding practices (WHO/UNICEF, 1989)

The BFHI suggests that it is the responsibility of health staff to conduct educational sessions

with pregnant women and their support members. These sessions should include the benefits of good nutrition, the importance of exclusive breastfeeding, lactation management and the hazards of using bottles, pacifiers and teats. They also need to identify mothers at risk of lactation problems resulting from the use of alcohol, tobacco, excessive amounts of caffeine, and other drugs that may be particularly harmful during pregnancy. Education and training can be done by formal group sessions and the information may be provided through the use of audio, visual or written materials.

In addition, and built into the BFHI policy, is the assumption that any new staff member joining an institution who is a recipient of the BFHI status, will be trained in lactation management.

1.2 INTRODUCTION TO ST MONICA'S MIDWIFE OBSTETRIC UNIT

St Monica's Maternity Hospital in the Bo-Kaap, Cape Town, was the original site of the study. As a result of restructuring of health services, St Monica's was relocated to its present site in Bonteheuwel, to be nearer to the community it had serves. All the midwives and Enrolled Nursing Assistants were transferred to the new MOU.

The drainage area is Bonteheuwel and Langa with a drainage population of 43,228, women in the child bearing age. The total number of deliveries in the year 2000, were 1400. The Perinatal mortality rate for the area was 33 per 1000; low birth weight rate is 13 percent. Initiation of breastfeeding was very high.

Up until the late 1980's, the new mothers were accommodated at the hospital for up to seven days, or until the umbilical cord was healed. During this time, these new mothers received all the supervision that was required for establishing breastfeeding. If they had been discharged prior to this period, new mothers were further supported through domiciliary care. During 1988, domiciliary care was discontinued as well as the reduction in the days of hospital stay to 3 days. It was observed that during this period many women were experiencing problems with breastfeeding, such as engorged breasts, no milk, and painful nipples. It was for this reason that the "Baby Friendly Hospital Initiative" was implemented and it was hoped that it would successfully address these shortcomings.

St Monica's was a recipient of the "Baby Friendly Hospital" award in June 1994, having changed its hospital policy to be in line with the "Baby Friendly Hospital Initiative". In order for this to occur a breastfeeding committee was established. Thereafter, hospital policies were reviewed and changed in line with the "ten steps to successful breastfeeding". The revised policy required that all staff working in the hospital undergo a minimum of eighteen hours of training in breastfeeding theory and practice. In this instance, approximately eighty percent of the staff of one hundred received a minimum of eighteen hours of training. Within this cohort, some staff members received substantially more hours of training. This training included personal development, advocacy skills training, as well as theory in breastfeeding management. Staff conducted several workshops on breastfeeding to create community awareness. Media support in this regard through articles in newspapers, journals and magazines, was extensive. Baby food manufacturers were not allowed to advertise or to give group discussions to mothers about their products in the hospital, or to provide sponsorship for any purpose in the hospital, and there is no free distribution of samples. During the antenatal period, hospital staff were obliged to provide all pregnant women with information about the advantages of breastfeeding, during the first and subsequent visits. Other activities included:

- Assisting all women to prepare adequately for breastfeeding during the antenatal period by means of slides, video films, demonstrations and group talks.
- Preparing mothers for skin to skin nursing of their babies
- Teaching the concept of unrestricted or demand feeding
- Teaching about myths e.g. "no milk myth"
- Doing physical examination of breasts at all visits to the clinic
- Referring those with any deformities or abnormalities of the breasts

St Monica's Information booklet (1996) (Appendix B)

The benefits of the initiative were acknowledged by staff and were visible in some ways in the hospital. However, before 1998, no evaluation or impact study had been conducted to provide empirical evidence to support the above. Mostert (1998) conducted one of the first evaluation studies (between St. Monica's and another MOU) that measured the impact of the BFHI on exclusive breastfeeding, as well as role the BFHI plays in increasing exclusive breastfeeding of infants at 3 months of age. This was a retrospective cohort study. A comparison of breastfeeding rates with a control institution was done. The results are shown in the table below.

Table A. Summary of Raw Data of Feeding Practices at St Monica's and Mitchell's Plain MOU

Feeding Status	St Monica's		Mitchell's Plain	
Mean and standard deviation of exclusive breastfeeding duration, in months	Mean	Standard deviation	Mean	Standard deviation
	1,98	0,86	1,67	0,87
No. and % of mothers exclusively breastfeeding at 3 months	No.	%	No.	%
	21	32	22	19
No. and % of mothers partially breastfeeding at 3 months	24	37	47	41
No. and % of mothers bottle feeding at 3 months	20	31	46	40

A multivariate analysis of exclusive breastfeeding at three months postpartum was done to determine which characteristics significantly influenced exclusive breastfeeding. Table B presents a summary of the findings.

Table B. The influence of various characteristics on exclusive breastfeeding at 3 months postpartum.

Characteristics	P- Value	Relative Risk
Maternal Age	P=0,86	0,97
Living with Father	P=0,09	2,00
Maternal Employment	P=0,007	0,28
Regular Household income	P=0,33	1,89
Maternal Education, matric level	P=0,01	2,05
Received Education at St Monica's	P=0,72	2,6

It is clear that maternal employment is statistically significantly associated with a dramatic decrease in exclusive breastfeeding.

Although receiving education at St Monica's is associated with a more than twofold increase in exclusive breastfeeding, this association was not statistically significant and may therefore purely be due to chance.

As the staff at the BFHI (at St. Monica's) are specifically trained to help women breastfeed through counselling and workshops, it is important to determine the influence of nurse

intervention alone on exclusive breastfeeding and the impact it plays on other forms of feeding.

While this is a useful comparative study, it did not critically analyse the training conducted by health workers nor assess the health workers knowledge base and implementation strategies adopted.

2. STATEMENT OF THE PROBLEM

Despite the medical benefits of breastfeeding few women breastfeed for an extended period. Even among those who breastfeed, few, it would seem, breastfeed exclusively for the first six months of age. The results of the study by Mostert (1998) indicate that the exclusive breastfeeding rate at three months was only thirty-two percent at St Monica's.

Although preparation for breastfeeding should be given by the health providers to all expectant women and new mothers, it is not known to what degree the intervention is being carried out, how efficiently it is being done and how effective the intervention is. Given the above, the study attempted to provide information on the health workers awareness of the importance of breastfeeding. In addition, the study looked at the training of the health workers, education of expectant women and education and support of new mothers and the new mothers practice of exclusive breastfeeding within the first 48 hours of birth of their infants.

3. PURPOSE

This study will be used to assess health workers activities in order to provide information to improve, change or expand the activities that protect, promote and support breastfeeding. This, it is hoped will guide effective breastfeeding programme development and support sustainable implementation processes.

4. LITERATURE REVIEW

The literature review seeks to determine what studies have been carried out in the field under scrutiny and to provide advice on how to conduct the study. The review is divided into three sections. The first part includes an analysis of the research carried out regarding health workers' knowledge, attitudes and practices. The second section focuses on the training of staff in lactation management as well as the effects of the training on breastfeeding practices. The final section concentrates on reviewing evaluation studies of breastfeeding practices carried out locally and internationally.

A review of the literature suggests that much research has focussed on the benefits of breastfeeding, the effects of breastfeeding promotion on breastfeeding practice and the knowledge, attitudes and practice of health workers. There are fewer studies, which investigated the degree to which programmes that have been put in place to protect, promote and ensure successful breastfeeding are sustained.

4.1 KNOWLEDGE, ATTITUDES AND PRACTICE

Bradley & Meme (1992) in Kenya, suggest that while health workers are by and large supportive of breastfeeding, they generally lack an understanding of lactation management and are sometimes unable and/or unwilling, to act as health promoters. This is primarily due to a lack of knowledge, low motivation, time constraints due to heavy case loads, lack of training and orientation to current practices in breastfeeding, conflicting messages, conflicting practices and a lack of support from various professionals (doctors, nurses and other hospital personnel). A further incapacitating factor seems related to the discrepancy and inappropriateness between policies and the target audience, namely expectant and new

mothers. Related deterrents to breastfeeding are the current hospital practices, such as separating mother and baby, which seems to invalidate positive breastfeeding practices and experiences. For example, in a review of studies done by Renfrew & Lang (1997) on early initiation of breastfeeding and its effect on duration, it was found that "while breastfeeding rates remain high in Southern Africa, the majority of infants in urban and peri-urban areas are not exclusively breastfed. These infants receive formula feeds and additional foods in addition to milk from an early age, (with exclusive breastfeeding at forty percent before six weeks)". These results point to inadequate hospital practices that seem to impact on later feeding practices by women after leaving the hospital. These practices include encouraging rigid breastfeeding intervals in hospitals, separation of mother and baby and the routine provision of prelacteal feeds. (Renfrew & Lang 1997, Renfrew et al, 1999, Renfrew et al, 1994). In addition to the factors stated in the previous sentences, Bruce, Khan & Olsen (1991) in London, suggest that other social factors such as non-attendance at antenatal clinic classes, social class and religious denomination, which are beyond the influence of health workers and hospitals, also seem to influence breastfeeding practices.

While hospital practices may have negative consequences for new mothers, in their study regarding hospital influences on early infant feeding practices, Reiff & Essock-Vitale (1985) in Los Angeles, found that intervention can change practices, even when the mothers' stay in the hospital has been of short duration. They found that increased information, support to mothers, changes in hospital routines (such as skin to skin contact, rooming in, careful control of sedation and the direct modelling of breastfeeding, such as early suckling), demand feeding with no supplements, all promote breastfeeding. In addition, immediate postpartum suckling influenced mothers to breastfeed for longer periods (Salariya et al, 1978 Taylor, Maloni & Brown, 1986 & Righard & Adale 1990).

Notwithstanding the above, a major factor in the perpetuation of myths regarding breastfeeding is related to the lack of knowledge by health care workers and their inability to manage lactation appropriately in hospitals.

The Surgeon General's workshop on breastfeeding and human-lactation (US Department of Health) cited in Videlefsky and Nikodem (1997) suggest that the main barrier is the lack of "professional education regarding lactation management". A study conducted in Kenya between 1982-1989 by Bradley and Meme (1992) indicated that health workers were untrained to co-ordinate hospital routines for supporting of lactation, and concluded that this was associated with the recent decline in breastfeeding. Winikoff, Myers, Laukaran & Stone (1987) in a study carried out in the United States on the dynamics of infant feeding, found that although antenatal counsellors were supportive of breastfeeding, heavy caseloads and the substantial proportion of high-risk patients often meant that there was less time for breastfeeding education.

An audit on 'the support for breastfeeding' conducted by Campbell, Gorman & Wigglesworth (1995) was done in Cupar, Asia. It was found that breastfeeding practices were compromised as a result of practices such as supplementary feeding of breastfed babies, especially during the night. The issuing of complementary gift packs on discharge that advertised baby milk manufacturer products, further compromised breastfeeding. In addition, the lack of breastfeeding supports groups and an ineffective policy on the management of hypoglycaemia added to the decline of breastfeeding. Of significance also was that health workers were not adequately informed on current best practices in breastfeeding. The BFHI assessment tool helped to define policy, measure performance against a set standard, identify quality

specifications for maternity service agreements and it improved support for breastfeeding mothers.

A comparative study on the health services support of breastfeeding, which included both health workers and mothers, conducted by Beeken and Waterson (1992) in England, suggests that a discrepancy existed between the practices of the health workers and the report of the mothers' experiences. The study showed that the health workers did not follow optimum practice guidelines, even though they were in favour of promoting the guidelines. The results showed that although rooming-in was said to occur frequently or very frequently by the health professionals, on the first night 66% of the mothers and babies were separated. Professionals stated that glucose, dextrose and formula were infrequently given, however, of those babies receiving food or fluid other than breast milk, a third had received formula. Professionals stated that water is frequently given, and this is corroborated by the mother's survey: half the breast fed babies had received water. Although professionals stated that mothers were provided opportunity to immediately breastfeed, less than one third of the mothers had done so within half an hour of birth. Despite the evidence that mother-infant separation and additional food for breastfed babies is unfavourable, such practices frequently occurred in the hospitals surveyed.

Fishman, Evans & Jenks (1988) in WHO, (1998:25) in a study that sought to examine breastfeeding promotion practices in California, found that breastfeeding promotion was inappropriate for Indochinese women. The programme messages that breastfeeding "is healthier, saves time, promotes weight loss, and helps mothers to feel closer to their infants" were based on American perceptions and did not necessarily resonate with the lived experiences of Indochinese women. The lived experience of the latter as articulated in focus

group discussions, include a belief in the superiority of formula milk, and concerns regarding their weight and energy after delivery.

What can be gleamed from the above studies are:

- That health workers are in favour of the practice of breastfeeding
- That antenatal breastfeeding interventions do increase the chance of breastfeeding during hospital stay
- That breastfeeding promotion by health workers is inappropriate and inadequate
- That health workers lack understanding of lactation management
- That health workers are unwilling and/or unable to act as breastfeeding promoters
- That peer counsellors are effective as breastfeeding promoters.

4.2 TRAINING AND SUPPORT OF HEALTH WORKERS AND WOMEN

Two main trends emerge in this section. The first relates to the training of health workers and the second focuses on the actual training received by expectant and new mothers.

Studies indicate that a lack of training in lactation management is one of the factors shaping breastfeeding practices. For example, the results of a study by Nikodem, Schelke, Enraght Moony & Hofmeyer (1995) done in South Africa, indicated that most hospitals in the study had a shortage of specialised training in the support of breastfeeding. Valdes, et al (1995) in Chile, support this notion by suggesting that training is an important prerequisite for improving breastfeeding practices. In their study they found that an intensive, well-organized training programme of between 18-24 hours, changed the clinical practices of the participants to enable them to provide effective information to women. Kistin et al (1990) who studied the effects of antenatal education rates on breastfeeding in black low-income women in Illinois, United States of America, also found that having trained health workers conducting antenatal

clinics, resulted in improved breastfeeding rates. Women were randomly assigned to attend antenatal education in a group or individual sessions, while the control group received neither. The group's class attended at least one class discussing myths, problems and benefits of breastfeeding. Women assigned to the individual antenatal counselling spoke to the paediatrician or nurse practitioner, who discussed breastfeeding topics similar to those covered in the classes. Women in the control group received no additional antenatal education. It was found that significantly more mothers in both intervention groups started breastfeeding, compared to the control groups. The chance of breastfeeding during the hospital stay was 4.26 times higher for women who received an intervention compared with controls ($P<0.005$) and 5.16 higher for women who attended classes compared with controls ($P<0.01$).

Yamauchi and Yamanouchi (1990) in Japan support the above, by stating that difficulties related to breastfeeding are not biologically or physiologically rooted and can be corrected by adequate education and training of the mother and nurses, and by changes in hospital practices related to breastfeeding.

In describing antenatal breastfeeding workshops on the actual training received by expectant and new mothers, Jamieson (1994) and Long (1995) in the United Kingdom, both found that at least 20% more mothers in the workgroup than in the control group, still breastfed at eight to twelve weeks. Another study conducted by Pugin et al (1996) used a quasi-experimental design on 330 (control) and 422 (intervention) women in Chile, to assess the impact of six interventions. These interventions were:

- Training of health workers in breastfeeding
- Implementing activities at antenatal clinic

- Implementing activities at the hospital
- Creating an outpatient lactation clinic
- Offering the Lactational Amenorrhea Method as the initial form of family planning

In addition a sixth intervention was included where, 59 of the 422 women were introduced to antenatal group education on the skills required to maintain breastfeeding past the neonatal period. This study examined whether providing antenatal breastfeeding skills via group education increases the effectiveness of a comprehensive breastfeeding promotion programme. The results demonstrated a significant increase in exclusive breastfeeding at six months (thirty two percent in control group and sixty seven percent in intervention group).

In addition they found that the intervention group who received extra antenatal education had significantly higher exclusive breastfeeding rate at six months than the group who did not (eighty versus sixty five percent) respectively. ($p<0.0026$). The conclusion reached was that "antenatal breastfeeding skills group education is an additive, significant and important component of breastfeeding support, especially among women with no breastfeeding experience" (Pugin, et al, 1990). The researchers concluded that antenatal education along with hands-on practical skills training, significantly and positively impact on breastfeeding support and practices.

Guldan, et al (1995) in a study concerning the breastfeeding practices in Chengdu, China, found that participants' beliefs and attitudes towards breastfeeding were key determining factors. In addition, they found that lack of support from their family members, myths regarding breastfeeding and places of employment, seriously affected whether or not

participants' breastfed. While most mothers believed in the nutritional value of breast milk for the first four-six months, only half of the 363 participating mothers breastfed for at least a month. This, in part, was the result of the hospital practices and the information and/or training received.

Regarding "supporting mothers", several studies namely, Prasad & Costello (1995) in India, Davis-Adetugbo (1996) in Nigeria, Beekman & Waterson (1992) in the United Kingdom, Valdes, et al (1995) in Chile, have alluded to the success of programmes through the use of peer counsellors or health promoters. These studies suggest that counsellors need not necessarily be an integral part of the formal health sector. Success seems to be greatest when there is collaboration between these peer counsellors and health professionals.

4.3 ASSESSMENT OF BREASTFEEDING PROGRAMMES

One of the important processes of programme implementation is to evaluate the extent to which a programme has achieved its stated objectives. Evaluations also assist in the review of policy and development of materials and methods that will compare different approaches. Another advantage of evaluations is that they ensure ethical practice, by evaluating the methods used, thereby ensuring the protection and respect of the rights of those involved in the programme. Evaluations can ensure optimal use of resources as well as assess the place of health promotion within overall efforts to achieve health gain. Notwithstanding the above benefits, few evaluations have been carried out on breastfeeding intervention programmes and fewer still on BFHI intervention programmes.

In one of the few evaluations of the BFHI programme conducted by Ibhanesebhor and Muogbo (1995) in Benin-City, Nigeria, the results concluded that "although BFHI education

had been promoted in the region, the message had not been convincing to the majority of the mothers". In a follow-up study done by Eregie (1996) in Nigeria, on the impact of the BFHI, it was found that exclusive breastfeeding rates were disturbingly low compared with reports from other countries. After the first year of designation, the hospital showed an exclusive breastfeeding rate of twenty nine percent of infants at six months and twenty seven percent three years after the implementation of the BFHI programme. The conclusion reached was that the BFHI intervention programme had not been effective and that there was, in essence, no impact on exclusive breastfeeding at six months.

5. AIM

An evaluation of the breastfeeding support activities for expectant and new mothers by health workers and an assessment of breastfeeding levels within the first 48 hours after birth at St Monica's.

6. SPECIFIC OBJECTIVES

- To identify whether all enrolled nursing assistants and midwives are aware of the policy on the importance of breastfeeding
- To identify the nature and duration of training of enrolled nursing assistants and midwives as a prerequisite for preparing pregnant women for breastfeeding
- To identify the extent to which enrolled nursing assistants and midwives manage to impart education through training expectant and new mothers
- To examine the extent to which expectant and new mothers are aware of and trained in the knowledge and skills necessary for successful breastfeeding
- To identify the nature of support groups available after discharge from the Midwife Obstetric Unit
- To assess the proportion of new mothers who initiate breastfeeding
- To assess the proportion of new mothers who exclusively breastfeed during the first forty-eight hours after birth

7. METHODOLOGY

7.1 STUDY DESIGN

This was a quantitative descriptive study. This design was chosen for two reasons. Firstly, it is a practical and efficient design to measure responses to devised questions (Katzenellenbogen et al, 1997). Secondly, a number of studies on 'training health workers' used surveys and/or experimental or quasi-experimental designs (Altobelli, 1991, Westphal et al, 1995, Popkin et al, 1985).

7.2 SITE

St Monica's midwife Obstetric Unit in the suburb of Bonteheuwel, in Cape Town, South Africa.

7.3 STUDY POPULATION

The study population consisted of three categories of participants drawn from St Monica's Midwife Obstetric Unit. The first group consisted of health workers (enrolled nursing assistants and midwives), the second group included expectant mothers and the final category included new mothers. Details of each category are outlined below.

7.3.1 Health Workers

The health workers included only nursing staff (enrolled nursing assistants and midwives). While the broad definition of health workers includes doctors, dieticians, dentists, nutritionists, nutrition advisors, health advisors and counsellors, none of these categories of health workers were employed at the new site, after the hospital was changed to an MOU. An additional reason why only nursing staff were selected, was because they were the key staff expected to implement the breast feeding promotion programme (BFHI), as they were the

category of health workers at the MOU, that most often came into contact with expectant and new mothers.

7.3.2 Expectant Women

Only primigravidas were included in the population as they had no previous experience of breastfeeding and never had an opportunity to breastfeed before. In addition, only those primigravida who had at least 2 prior antenatal visits at the present MOU were included, in order to ensure that they had a reasonable opportunity to have received breastfeeding education. Primigravida with complicated pregnancies, as well as those who were to have a planned caesarean section, were excluded from the sample. They were excluded because the chances of them getting antenatal breastfeeding education, was decreased due to the presence of their complication.

7.3.3 New Mothers

Only primiparous new mothers were included in the population, as they had no previous experience of breastfeeding and never had an opportunity to breastfeed before. Only women who had a normal delivery, normal babies and had delivered at the MOU were included in the population. Current breastfeeding practices and intentions to breastfeed were not criteria for selection. Women whose babies were ill, who were ill themselves or who had had caesarean sections or any other intervention that would interfere with breastfeeding, were not eligible for selection.

7.4 SAMPLE SIZE

7.4.1 Health Workers

The sample size comprised the total population of 14 midwives and 9 enrolled nursing assistants.

7.4.2 Expectant Women

The sample size for the study was determined by using the average annual number of deliveries, which, at that time, averaged 1400. It was decided to use a "best guess" fairly large sample size of at least ten percent (10%) of the annual total. This gave a sample size of 140.

7.4.3 New Mothers

As with the expectant women the sample size for the study was determined by using a "best guess" fairly large sample size of at least ten percent of the annual number of deliveries. This again gave a sample size of 140.

7.5 SAMPLING PROCEDURES

7.5.1 Health Workers

All staff at the new MOU, namely, midwives and enrolled nursing assistants, were interviewed individually in a quiet room at the MOU.

7.5.2 Expectant Women

Expectant Women who came to the MOU during the selected time period (May to July 2001) and who met the inclusion criteria, were selected and approached to be included in the study. Only those who were willing to participate and gave verbal consent were interviewed. After five weeks the target number was reached.

7.5.3 New Mothers

The normal practice at the new MOU, is that postnatal patients remain at the facility for up to six hours after the birth of the baby, unless there is a complication related to either the mother or baby. After discharge, mothers return to the MOU for postnatal care, for up to seven days. After their visit to the postnatal room, new mothers were approached and informed about the study. Only those who were willing to participate and gave verbal consent were interviewed. After eight weeks the target number was reached.

7.6 DATA COLLECTION TOOLS

Two methods of data collection were used in this study. They were interviews using a structured closed questionnaire and observations of demonstrations using a checklist.

7.6.1 Development of the questionnaires

Modified questionnaires were developed using the instruments developed by WHO and UNICEF in the Baby Friendly Hospital Initiative. The questions were closed so as to obtain categorical answers that could be compared amongst the participants. The questions did not lead, pre-empt or steer the respondent to certain answers. A separate questionnaire was developed for each of the three groups, namely health workers, expectant women and new mothers. Below are the details of each questionnaire.

Questionnaire for health workers

The questionnaire focused mainly on whether they were aware of and communicated the breastfeeding policy; whether they had sufficient knowledge and skills; whether they recommended feeding schedules to women; whether they showed women how to position and attach their babies to their breasts and whether they referred women to support groups. See appendix C1 for details.

Questionnaire for expectant women

This questionnaire focused mainly on whether expectant women were aware of the benefits of breastfeeding; whether health workers had imparted knowledge on breastfeeding to the women and whether basic breastfeeding skills were discussed with the women. See appendix C2 for details.

Questionnaire for new mothers

This questionnaire was used to interview new mothers and focused on their breastfeeding practices and skills as well as whether they had been supported to initiate breastfeeding immediately after the birth of their infants; and whether there had been continuous breastfeeding support after leaving the labour ward. See appendix C3 for details.

7.6.2 Development of the checklist

A standard checklist to measure the adequacy of breastfeeding technique was developed, using the best practice guidelines from a WHO and UNICEF document. It was used for assessing both the health workers and the new mothers skills (Appendix G). The checklist of breastfeeding techniques included the following: demonstration of positioning; demonstration of attachment; and demonstration of manual expression of breast milk (Appendix G)

The health workers assessments required them to describe how they would demonstrate basic breastfeeding techniques, to the new mothers. Health workers were expected to explain what instructions they gave to new mothers regarding, positioning and attachment of the neonate and manual expressing of breastmilk.. This was possible, as the researcher herself is a trained lactation manager and could therefore apply the practical skills acquired during supervisory experience in the field, to assess the adequacy of their answers. Assessment of the new mothers was done by direct observation of them breastfeeding.

7.7 DATA COLLECTION PROCEDURES

Two procedures were used, namely structured interviews and observations.

7.7.1 Interviews

All three groups of participants (health workers, antenatal and postnatal mothers) were interviewed using a structured interview schedule that included mainly closed questions.

7.7.2 Observations

A structured observation schedule was used to rate new mothers breastfeeding skills and then to classify them as correct and incorrect. Only the new mothers were observed and assessed on the practical application of key procedures in lactation management. Mothers were not expected to respond to details raised in the checklist. However, they were expected to demonstrate the ability to position and attach the infant to the breast and demonstrate how they would express milk from their breasts in a manner that would prevent problems, such as painful nipples. The observations of new mothers were conducted in the labour and postnatal wards, as well as during the postnatal visits to the Midwife Obstetric Unit.

7.8 VALIDITY

Face validity of the questionnaire was assumed, given that it was based on a WHO expert panel questionnaire, and it was modified to suit the objectives of this study with the help of local experts. Face validity was however partially compromised, in that an almost universal variable, namely age, was not included in the questionnaire.

7.9 RELIABILITY

As this study is a mini-thesis, a lack of resources and time prevented the testing of reliability.

7.10 GENERALISABILITY

It is likely that the results are generalisable to other urban MOU'S who have similar socio-economic and cultural circumstances.

7.11 PILOTING

The initial questionnaire was piloted using 5 nurses and 5 patients at the Bonteheuwel Child Welfare Clinic. The purpose of doing the pilot was to establish appropriateness and acceptability of the questionnaires. The idea for this was to enable the posing of questions that respondents would understand and be in a position to answer. A few necessary adjustments to the questionnaires were made to improve the questionnaire before the main study was conducted.

7.12 DATA ANALYSIS PROCESS

The first process once the data was collected, included the creation of three data sheets for the respective questionnaires and the two forms of observation schedules. The responses from each questionnaire and observation schedule were numbered and recorded on the respective data sheets. Thereafter the data was analysed through the use of the EPI INFO statistical package. The analysis of data was done using frequencies that are presented as simple as well as complex tables in the summary.

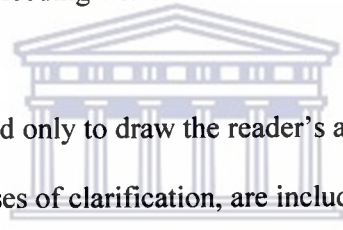
7.13 ETHICAL ISSUES

Three key elements were considered with regard to ethics and confidentiality, namely informed consent, right to privacy and protection from harm. Participants had the right to refuse to participate and could withdraw from the interview at any stage. Regarding informed consent, verbal consent was obtained from the expectant and new mothers for the interviews and observation. Confidentiality and the right to privacy were ensured by not identifying participants on the forms by name. Each respondent was allocated a number. Interviews were conducted in private, or at least where no one else could overhear. Refusal to participate did not influence the management of any of the patients/clients. All the enrolled nursing assistants and midwives were approached and the purpose of the study was explained. Invitation to participate in the study was made. There was no coercion to participate.

8. RESULTS

The results are presented in the following categories:

- Respondents profile
- Health workers awareness of the policy
- Training knowledge and skills of health workers
- Practices of health workers on education and training of expectant and new mothers
- Expectant and new mothers training in knowledge and practical skills by health workers
- Referral of new mothers to support groups, initiation of breastfeeding
- New mothers exclusively breastfeeding within 48 hours of the birth of their babies.



Some comments, which are intended only to draw the reader's attention to particularly important findings or are for purposes of clarification, are included in the results section. Even though a major focus of the study relates to health workers knowledge and practice, the general results concentrate on expectant and new mother answers. This is because it is they who provide some illumination of the link between the knowledge and practices of the health workers and the support to new mothers', for sustained breastfeeding practice.

8.1 RESPONDENTS PROFILE

Nursing staff

Table 1 indicates the participants' length of employment at St Monica's. An interesting result in this profile pertains to the fact that no health workers fell within the >5 years and <10years category, with the ensuing result that there are 2 distinct groups of health workers namely, the very experienced (≥10years) and the less experienced (≤5years).

Table 1: Length of nursing staff's employment at St Monica's (N=23)

Years	% Enrolled Nursing Assistants (N=9)	% Midwives (N=14)	% Of All Health Workers
≤ 5	33	36	35
> 5 and <10	0	0	0
≥ 10	67	64	65
Total	100	100	100

Expectant Women

Table 2 indicates the profile of the expectant women grouped by weeks of gestation. A total of 157 of the expectant women were interviewed.

Table 2: Profile of gestational age of expectant women (N=157)

Weeks of Gestation	Percentage
≥20-≤25	22
≥26-≤30	25
≥31-≤35	6
≥36-≤40	47
Total	100

New mothers

Table 3 indicates the age of the babies (in hours) of the new mothers in the study. A total of 142 new mothers were selected and interviewed. The oldest baby was 48 hours old.

Table 3: Profile of age of babies in hours (N=142)

Age in hours	Frequency	Percentage
≤12	49	35
≥13-≤24	11	8
≥25-≤36	26	18
≥ 37-≤48	56	39
Total	142	100

8.2 HEALTH WORKERS AWARENESS OF THE IMPORTANCE OF BREASTFEEDING

All the enrolled nursing assistants and midwives were aware of the institutional policy promoting breastfeeding.

8.3. KNOWLEDGE TRAINING OF HEALTH WORKERS

8.3.1 Duration of knowledge training

Table 4 indicates the responses by health workers to questions on hours of training received on lactation management. The questions posed were in 3 categories. The results show that no one had received less than 5 hours of training.

Table 4. Duration of Training given to health workers on breastfeeding issues

Hours of training	% Enrolled Nurses N=9	% Midwives N=14
< 5	0	0
≥5 - <15hours	33	35
≥ 15 hours	67	65
TOTAL	100	100

8.3.2 Knowledge of health workers

Table 5 indicates the correct responses by health workers to questions on specific content areas that are fundamental to lactation management and are key elements in their training.

Table 5: Health workers knowledge of key breastfeeding issues

Knowledge categories	% Enrolled Nurses N=9	% Midwives N=14	Total % of Health workers N=23
Knowledge of causes of breast engorgement	67	93	83
Knowledge of the cause of insufficient milk	88	80	83
Knowledge of the cause of painful nipples	77	93	87

8.3.3 Complex tables on the results of training versus health workers responses

8.3.3.1 Health workers hours of knowledge training versus years of experience

Table 6 indicates that there is a clear association between hours of training and years of experience. Those health workers who had received more that 15 hours of training were the more likely to have had more than five years of experience.

Table 6: Hours of knowledge training versus years of experience of the health workers

Category of health worker		ENA % (N=9)			Midwives % (N=14)			Total % (N=23)		
Years of experience		% < 5 years N= 2	% ≥5 years N=7	% All enrolled nurses N=9	% < 5 years N=3	% ≥5 years N=11	% All midwives N=14	% < 5 years N=5	% ≥5 years N=18	% All nurses N=23
HOURS OF TRAINING	<15 hours	100	14	33	100	18	36	100	17	35
	≥15 hours	0	86	67	0	82	64	0	83	65

8.3.3.2 Knowledge of health workers versus the hours of training

Table 7 indicates the results of a deeper look at responses regarding acquired knowledge and the duration of training received by enrolled nurses and midwives.

Knowledge for the whole group was above 80% for all three questions. Except for "knowledge of engorged breasts" by midwives, those health workers with more training consistently had greater knowledge than those health workers with less training. Interestingly, regarding the causes of insufficient milk, the enrolled nursing assistants obtained a higher correct percentage than the midwives.

Table 7: Percentage of Health Workers providing correct answers to basic knowledge questions on breastfeeding versus the duration of training received (N=23)

Category of staff		ENA % (N=9)			Midwives % (N=14)			% Total of all Health workers (N+23)		
Hours of Training		< 15 hours N=3	≥15 hours N=6	Total N=9	< 15 hours N=5	≥15 hours N=9	Total N=14	< 15 hours N=8	≥15 hours N=15	Total N=23
Questions on breastfeeding	Knowledge on cause of Engorged breasts	67	67	67	100	89	93	88	80	83
	Knowledge on the cause of insufficient milk	67	100	89	60	89	76	63	93	83
	Knowledge on the cause of painful nipples	67	83	78	80	100	93	75	93	87

8.3.3.3 Health workers years of experience versus their responses to questions providing correct answers to basic questions on breastfeeding

Table 8 shows the result of the health workers years of experience versus their responses to questions on basic knowledge about breastfeeding. It was found that those with more than 5 years of experience had more than the required norm of knowledge.

Table 8: Health workers years of experience versus their correct responses to basic knowledge questions on breastfeeding

Categories of health worker		**% Enrolled Nurses N=9**			**% Midwives N=14**			**Total % of Health workers N=23**		
Year of experience		<5 N=3	%≥5 N=6	Total N=9	<5 N=4	%≥5 N=10	Total N=14	<5 N=7	%≥5 N=16	Total N=23
Knowledge categories	Knowledge of causes of breast engorgement	33	83	67	100	90	93	71	87	83
	Knowledge of the cause of insufficient milk	67	100	88	50	90	80	57	94	83
	Knowledge of the cause of painful nipples	67	83	77	75	100	93	71	94	87

8.4 PRACTICAL SKILLS TRAINING OF HEALTH WORKERS

8.4.1 Duration of practical skills training

Table 9 indicates the responses by health workers to questions on the amount of hours of lactation management, practical skills training they had received.

Table 6. Duration of the practical skills training of all the health workers

Practical training	%Enrolled Nurse N=9	% Professional Nurse N=14	Total Workers N=23
<3 hours	56	50	52
≥3 hours	44	50	48
TOTAL	100	100	100

8.4.2 Responses regarding practical skills

Table 10 indicates the correct responses by health workers to questions on practical skills that are fundamental to lactation management and are key elements in their training.

Table 10: Responses to questions on proficiency in practical skills by Enrolled Nursing Assistants and Midwives

Type of Practical Skill	% ENA N=9	% Midwives N=14	% Health workers N=23
Positioning	44	64	57
Attachment	78	79	78
Expressing of milk	67	64	65

The health workers practical skills abilities are notably poorer than their knowledge levels. This is particularly so with regard to ENA's ability to correctly position the neonate.

8.4.3 Complex tables on the results of training versus health workers responses

8.4.3.1 Health workers years of experience versus the hours of practical skills training

Table 11 indicates the results of a deeper look at responses regarding years of experience and the duration of practical skills training received by enrolled nurses and midwives. All those with less than five years of experience received less than three hours of skills training.

Table 11: Practical Skills Training of all Health Workers versus their years of experience (N=23)

Category of health worker		% ENA (N=9)			% Midwives (N=14)			% Total (N=23)		
Years of experience		<5years N=3	≥5years N=6	Total N=9	<5years N=4	≥ 5years N=10	Total N=14	<5years N=7	≥5years N=16	Total N=23
% of health workers trained	< 3 hours	100	33	56	100	30	50	100	31	52
	≥3 hours	0	67	44	0	50	50	0	69	48

8.4.3.2 Health workers hours of practical skills training versus their responses to questions regarding practical skills

Table 12 indicates the results of the correct responses to practical skill application by health workers. As was evident in the knowledge component, the level of practical skill demonstration shows no association to hours of training.

Table 12: Correct response to questions on the knowledge of practical skills application by Health Workers versus their hours of training received (N=23)

Category of staff		**Enrolled Nursing Assistant (N=9) % of correct response**			**Midwives (N=14) % of correct response**			**TOTAL % Health workers trained (N=23)**		
Hours of skills training		<3Hours N= 5	≥3hours N= 4	Total N=9	<3Hours N = 7	≥3hours N= 7	Total N= 14	<3 hours N=12	≥3 hours N=11	Total N=23
Category of skills	Positioning	40	50	44	57	71	64	50	64	57
	Attachment	80	75	78	100	57	79	92	64	78
	Expressing of milk	80	50	67	57	71	64	67	64	65

8.4.3.3 Health workers years of experience versus their responses to questions regarding practical skills

Table 13 indicates the results of the correct responses to practical skill application by health workers versus their years of experience.

Table 13: Correct response to questions on the knowledge of practical skills application by Health Workers versus their years of experience (N=23)

Category of staff		Enrolled Nursing Assistant (N=9) % of correct response			Midwives (N=14) % of correct response			TOTAL % Health workers trained (N=23)		
Years of experience		<5 years N= 3	≥5years N= 6	Total N=9	<5years N = 5	≥ 5 years N= 9	Total N= 14	<5 years N=8	≥ 5 years N=15	Total N=23
Category of skills	Positioning	33	83	56	40	78	64	38	80	65
	Attachment	67	67	67	80	78	79	75	87	83
	Expressing of milk	67	50	56	40	89	71	50	73	65

8.5 PRACTICES OF HEALTH WORKERS REGARDING THE EDUCATION AND SUPPORT OF EXPECTANT AND NEW MOTHERS

8.5.1 Communication of the importance of breastfeeding to antenatal women by all health workers

Table 14 shows the result of a look at the practice of health workers communication of the importance of breastfeeding to expectant women. The enrolled nurses seemed to be more consistent in doing this.

Table 14: Communication of the importance of breastfeeding to antenatal women by all Health Workers (enrolled and midwives) (N=23)

Position	% Enrolled Nursing Assistants (N=9)	% Midwives (N=14)	% of all Health Workers N= 23)
NO	11	50	35
YES	89	50	65
Total	100	100	100

8.5.2 Type of feeding schedule recommended to new mothers

Table 15 indicates the response of the health workers regarding the recommendation of a feeding schedule to new mothers. All the midwives responded that they suggested demand feeding, while almost all the enrolled nurses suggested the same to new mothers.

Table 15: Percentage and the category of health workers and the feeding schedule recommended to New Mothers

Feeding Recommendations	% of Enrolled Nurses (N=9)	% of Midwives (N=14)	% of all Health Workers (N=23)
Scheduled	11	0	4
Demand	89	100	96
Total	100	100	100

8.6 EDUCATION AND SUPPORT RECEIVED BY EXPECTANT AND NEW MOTHERS

8.6.1 Knowledge of benefits of breastfeeding by expectant women

Table 16 indicates the results obtained from expectant women regarding their knowledge of the benefits of breastfeeding. One hundred and fifty-seven expectant mothers responded to questions regarding the benefits of breastfeeding. As Table 14 below indicates, the overall group (87%) seemed to know and understand that breastfeeding has some benefit. Most (80%) of those who knew of a benefit, reported the "nutritional value" as a key benefit of breastfeeding

Table16: Expectant Women's' knowledge of benefits of Breastfeeding

Knowledge	Response	Percentage %
Knowledge of the benefits of breastfeeding	None	13
	Knew of one benefit or more benefits	53
	Knew of two or more benefits	34
Knowledge of the types of benefits of breastfeeding	Psychological (Bonding)	10
	Nutrition/Health/Growth	80
	Economical (Cheaper)	11
	Protective	16

8.6.2 Education of expectant women on breastfeeding

Table 17 shows the expectant women's responses regarding training they had received. The data showed that the vast majority of expectant mothers had not received any training on all the important aspects of breastfeeding.

While only two percent of the expectant women reported having received education regarding breastfeeding, strangely three percent indicated that they had been told about demand feeding and ensuring enough milk. This discrepancy is probably due to a small percent having forgotten that they had been told about breastfeeding. Or it could be due to anxiety that if they state that they had been informed about breastfeeding, then they may be asked specific questions about breastfeeding, which they might not be able to answer.

Table 17: Percentage of Expectant Women who reported that education on breastfeeding was given by health workers (N=157)

Training of Expectant Mothers during the antenatal care	Percentage
Have been educated about any aspect of breastfeeding (Breast is best, breastfeed for 6 months)	2
Have been educated about rooming-in	2
Have been educated on how to assure enough milk	3

Have been educated about positioning and attachment	1
Have been educated about demand feeding	3
Have been educated about cup feeding	2

8.6.3 New mothers responses regarding health workers education on the timing of breastfeeding intervals

Table 18 indicates the new mothers responses to the question regarding education given by health workers. In examining the responses from the new mothers regarding feeding schedules, as indicated in Table 16 below, only 38% state that they had been told to feed on demand or whenever the baby cries, with the vast majority suggesting that they had received no information in this regard.

Table 18: Percentage of New Mothers responses regarding health workers education on the scheduling of Breastfeeding intervals (N=142)

Timing of Breastfeeding	Percentage
Told to feed on demand	38
Told to feed on schedule	1
Not informed about frequency of feeding	61

8.6.4. Practical skills demonstration of the new mothers

Table 19 shows the results regarding the skills and practice of the New Mothers. Of concern was the low number (17%) of new mothers who could demonstrate expressing milk.

Table 19. Practical skills demonstration of the New Mothers

Type of practical skill	Percentage %
Positioning	53
Attachment	39
Expressing	17

Table 20 below shows the new mothers responses to questions regarding the practice of skin-to-skin contact between mothers and babies after the birth of their babies. The results in Table 18 show that virtually all of the new mothers were therefore exposed to skin-to-skin practice within the first 15minutes of delivery.

Table 20: Percentage of New Mothers exposed to and the time lapse prior to exposure to skin-to-skin contact with baby (N=142)

Time Elapsed	Percentage %
>0-< 15 minutes	94
≤15-< 60 minutes	4
≥ 60 Minutes	1
Don't Know	1
Total	100

Table 21 indicates the percentage of new mothers who were able to practice skin-to-skin contact, as well as the duration of the contact. The duration of the skin-to-skin experience by new mothers was usually exceptionally short, with most participants having had less than 15 minutes to engage in this important activity.

Table 21: Percentage of New Mothers and duration of skin-to-skin contact with baby amongst the new mothers' (N=142)

Duration	Percentage %
<15 minutes	80
≥15 <1 hour	4
≥1 hour	16
Total	100

Most participants (76%) indicated that they had been provided with assistance while they engaged in skin-to-skin contact with their babies.

All participating new mothers in this study reported that they had not been separated from their babies even when moved from the labour to the post-natal ward.

Table 22 indicates the result of the new mother's responses regarding the waiting duration, prior to assistance with breastfeeding by the health workers. In total 79% of the cohort of new mothers received help in initiating breastfeeding before discharge.

Table 22: Percentage of New Mothers and the duration prior to assistance with breastfeeding from the health workers

Duration	Percentage %
≤ 30 minutes	54
> 30 minutes	25
≥ 180 minutes	1
Cannot remember	20

8.7 INITIATION OF BREASTFEEDING

All new mothers, in this study, initiated breastfeeding within the first six hours after birth. This is a very positive result.

8.8. NEW MOTHERS EXCLUSIVELY BREASTFEEDING WITHIN 48 HOURS

Table 23 indicates the percentage of new mothers exclusively breastfeeding at different neonate ages in hours, during the first 48 hours after birth. The results in Table 21 indicate, that although within the first twelve hours 96% had exclusively breastfed, between 36 – 48 hours an extremely low percentage (43%) were exclusively breastfeeding.

Table 23: Exclusive breastfeeding by primiparous women interviewed at different time periods (maximum 48 hours)

Exclusive breastfeeding	% Non exclusive breastfeeding / Age in Hours				
	0-12 (N=49)	**13-24 (N=11)**	**25-36 (N=26)**	**36-48 (N=56)**	**Total % (N=142)**
Yes	96%	91%	58%	43%	68%

8.9 BREASTFEEDING DIFFICULTIES EXPERIENCED BY NEW MOTHER

Table 24 indicates the areas in which new mothers had experienced difficulty with breastfeeding. The table below (Table 20) shows one or more areas in which mothers experienced breastfeeding difficulty between visits to the MOU.

Table 24: Breastfeeding difficulties experienced by new mother (N=142)

Breastfeeding difficulty	Percentage
No milk	59
Painful nipples	29
Engorged breasts	6

8.10 REFERRAL OF NEW MOTHERS TO SUPPORT GROUPS

One hundred and thirty-nine (98%) of the 142 new mothers were told to report to the MOU for breastfeeding support, if they required it, after they were discharged from the MOU. There was no established support group outside of the Midwife Obstetric Unit.

8.11 GENERAL SUPPORT TO NEW MOTHERS ONCE DISCHARGED

Interestingly, when asked from whom new mothers generally sought advice concerning breastfeeding problems, 57% of them suggested midwives while 43% suggested their own mothers.

9. DISCUSSION OF RESULTS

The complex relationship between policy and implementation, training and practice, and knowledge and practice is acknowledged. Indeed, the BFHI was established as an attempt to bridge the gap between knowledge and practice, in order to ensure that breastfeeding practices become more firmly entrenched in health worker practices, and in the broader social community. This study sought to understand what knowledge health workers had and whether this, in some way, led to a sustained change in their health practices through continued education of expectant and new mothers. The study further sought to understand whether this increased education of expectant and new mothers resulted in improved levels and longer duration of exclusive breastfeeding within the first 48 hours.

After an initial explanation of the dichotomous profile of the health workers, the results are grouped into nine topics and discussed. The first topic relates to the health workers awareness of the breastfeeding policy. The second topic refers to the interrelationship between training, knowledge and the years of experience of health workers. The third topic discusses the duration of training, years of experience and the proficiency in practical skills of all the health workers. The fourth topic deals with the discrepancy between health worker knowledge and the preparation for breastfeeding of expectant women. The fifth topic relates to the conduciveness of the participation and environment breastfeeding. The sixth topic is concerned with the basic skills of the new mothers. The seventh topic highlights the interrelationship of support given to new mothers in the first 7 days after delivery and their breastfeeding experiences. The eighth topic highlights the interrelationship of postnatal support and sustained breastfeeding practice. The final topic relates to the possible routinization of the health workers' practice.

9.1 PROFILE OF THE HEALTH WORKERS

Two distinct groups of health workers were interviewed. The difference between them was based on their years of experience. The results indicate that 30% of the health workers had less than 5 years of experience, while the remaining 70% had more than 10 years of experience. These health workers were also part of the historical development of the policy and would have been active when the policy was implemented and when new mothers stayed longer in the facility. Previously new mothers stayed a minimum of three days. Those with less than 5 years of experience entered into an institution where the policy was already implemented and where it was expected of new mothers to stay in hospital for only six hours after delivery. These differences probably account for health workers with more experience being more familiar with the policy, as they would have been instrumental in implementing the breastfeeding policy when it was first introduced.

9.2 THE HEALTH WORKERS' AWARENESS OF THE POLICY ON BREASTFEEDING

Firstly, awareness of the breastfeeding policy by all health workers is one of the essential requirements for implementing appropriate breastfeeding practices within facilities. As was expected, this study showed that all the health workers at St Monica's MOU, were aware of the breastfeeding policy. That health workers valued the importance of breastfeeding was confirmed as almost all the health workers recommend demand feeding, as the appropriate feeding schedule for all healthy infants.

On the communication of the policy, the results indicate that 65% of the health workers

reported that they spoke about this policy to expectant women. Discussion of the policy was important, especially since the support required to breastfeed adequately would be compromised after the delivery as a result of the short duration of stay in the hospital. Expectant women say they were not educated on breastfeeding.

9.3 INTERRELATIONSHIP BETWEEN DURATION OF TRAINING, KNOWLEDGE AND YEARS OF EXPERIENCE OF HEALTH WORKERS

The second topic of the results indicates a clear interrelationship between duration of training, knowledge and the years of experience of health workers. Primarily this topic indicates the association between the years of employment (and by implication, experience), level of knowledge and duration of training of health workers.

Simple basic questions on the knowledge of breastfeeding were posed and it was expected that 100% of the health workers would have responded correctly, since training was one of the key features of this initiative. It was found that the knowledge level of the total health workers was an average of 80%. This was lower than expected and was a disappointing result, given that the minimum duration of training was 18 hours. However 80% result in basic knowledge acquisition on breastfeeding management, was deemed adequate by the BFHI, WHO/UNICEF (1992).

There have been no formal studies done on the optimum length of training. However, a training course of at least 18 hours duration seems the minimum training required. In Chile, Valdes 1995 reported that knowledge and practices of health workers improved as a result of

the 3-day breastfeeding course. Two years after the course, results of a study showed that sixty nine percent of those trained reported changes in clinical practice.

Rea and Venancio, (1998) Brazil, looked at the effectiveness of a training course using indicators to measure knowledge, clinical and counselling skills, and reported that there was a significant increase 3 months after the course. This was particularly noticeable in counselling skills, non-verbal communication and building confidence. There have been no studies that looked at the content of knowledge.

Irrespective of all the above information, the health workers were in the position to educate expectant women and new mothers on appropriate breastfeeding practices. That length of training and conversely, years of experience were related to increased knowledge is likely. The results show that there was a difference in the knowledge of those midwives who had more experience and greater training compared to those who had less training and less than 5 years of experience. Those who have less than 5 years of experience also had less than 15 hours of training. Those with less training also had less knowledge of basic breastfeeding.

That training requires a longer time period and experience and that it requires more than 18 hours of training is unlikely. It was found that the health workers who had less than 5 years of experience had some knowledge on the basic questions regarding breastfeeding.

What is clear is that the training programme had deteriorated. The results also suggest that training of new recruits is sub-optimal, as it was found that 100% percent of the health workers who had less than 5 years of experience had less than 15 hours of training.

9.4 INTERRELATIONSHIP BETWEEN DURATION OF TRAINING, YEARS OF EXPERIENCE AND THE PROFICIENCY IN PRACTICAL SKILLS OF ALL THE HEALTH WORKERS

Three 3 basic skills were identified as key to breastfeeding support. Health workers were asked to describe the key points required to acquire these breastfeeding skills.

It was expected that all the health workers who had received the skill's training and who had more that 5 years of experience, would be proficient in these skills. The competency of skills was less than adequate for all the health workers. Duration of training and years of experience did not influence the proficiency in skills for supporting breastfeeding. Those with an length of training did not have an increased proficiency in the skills. Conversely, those with more years of experience did show an increase in proficiency in the skills to support and promote breastfeeding.

The consequence of health workers not having adequate practical skills was that they were not in a position to impart correct breastfeeding skills to new mothers. This result suggests that the health workers may have been imparting incorrect skills to the new mothers.

That the quality of the skills training needs to be improved is evident from the results above. A study by Valdes et al (1995) on the effects of a 3-day course, that included skills training in an active participation workshop for 318 participants. A study two years later found that of the 100 respondents, there was a 28% increase in teaching breastfeeding skill's to expectant women. However only 25,5% reported that they observed mothers to assess their breastfeeding skills. There have been no reported studies on whether skills' training of health workers actually results in improved breastfeeding levels and decreased breastfeeding

complications.

9.5 DISCREPANCY BETWEEN HEALTH WORKER KNOWLEDGE AND SUPPORT FOR BREASTFEEDING EXPECTANT WOMEN.

Pugin et al (1996) reported that education of expectant women on breastfeeding, which should include "skills-training reinforcement", is an important aspect when preparing women for breastfeeding. The results indicate that there was very little, in fact close to zero, education of the expectant women by the health workers.

Prasad and Costello (1995) reported that despite health workers positive response to training, imparting of the new knowledge to expectant and new mothers was not sustained. The concern was that the breakdown of communication occurred as early as even as six months after the training. It was found that only one third of the new mothers received breastfeeding advice and many of these mothers were following traditional practices. The dramatic decline in early breastfeeding practice happened to those who had not received any breastfeeding education. This suggests that other factors did not play a part in the changes that were evident.

There is a disparity between health workers assumed communication and the expectant women's responses. It is unlikely that health workers did not value breastfeeding as the results show that more than half said they communicated the policy, so proving their belief in the policy as part of the care for all expectant women.

That the expectant women believe in the value of breastfeeding is evident in that the majority

knew that breastfeeding had a nutritional benefit. Their knowledge on the value of breastfeeding was adequate; hence they required motivation to improve acceptance, confirmation on how best to breastfeed and reinforcement of value of breastfeeding. This was of particular importance since these women had no previous children and breastfeeding was a new task for them, but they did not receive the requisite skills training.

It is difficult to believe the midwives report. The positive comment from the health workers may be primarily due to the fact that health workers felt they should, as they know they ought to offer this, therefore they say they actually do it. Hence they confirm their belief in the importance and value of breastfeeding.

The discrepancy in health workers reports regarding routine education of the expectant mothers and that of the expectant mothers' may have been due to health workers reporting what they thought they should be doing and not what was the actual practice. The expectant mother's poor response may have been due to their lack of confidence in their own knowledge regarding breastfeeding topics. It may indeed be likely that health workers had mentioned briefly some of the topics. However, what may have been lacking is that these topics had not been repeated and no confirmation of the expectant women's understanding the topics was discussed. It may have been that the expectant women did not understand *why* these topics were relevant and this did not ensure their "buy-in".

That insufficient time may have contributed to poor education seems unlikely as all the expectant women interviewed had ≥3 visits to the clinic and it was unlikely to have been that health workers were anticipating a opportunity at a later stage, as 47% of the expectant women were near delivery.

Potential reasons for poor education of expectant women may be due to the practice of no link in the care of expectant women and the preparation for breastfeeding and the birth of infants and hence the practice of breastfeeding.

9.5 PROVISION OF A CONDUCIVE ENVIRONMENT FOR THE NEW MOTHERS

In implementing the BFHI principles, a key policy strategy of the health service is to provide a supportive environment for early bonding between mother and baby. This includes encouraging the practice of skin-to-skin contact, rooming in, not allowing separation of mother and baby and the practice of demand feeding. During the initial period (between the time of birth till discharge) support from health workers in initiating breastfeeding is critical.

On examining "providing a conducive environment" for new mothers for the initiation of breastfeeding, the results indicate that, by and large, new mothers were supported appropriately to initiate exclusive breastfeeding. However it was not sufficient to ensure sustained exclusive breastfeeding.

The reason these aspects were important to breastfeeding and the role these aspects played in the assurance of more sustainable breastfeeding practices seemed to have been left unattended, thus minimising the possibility of mothers continuing any of the practices once they left the MOU.

It would seem that this was done without these women fully understanding the significance or implication for sustained breastfeeding practices once they left the MOU. Therefore more was required to ensure exclusive breastfeeding.

9.6 BASIC SKILLS OF THE NEW MOTHERS.

Regarding the training of new mothers, the results showed an inadequate impartment of basic skills to them. For example, it was found that only 53% of the new mothers were proficient with the skill of positioning the baby for breastfeeding. Only 39% of the new mothers were able to correctly attach their babies to the breast.

What was of particular concern was that only 17% of the new mothers were able to correctly express milk from their breasts. The very low proficiency in this skill was alarming as the new mothers were discharged as early as 6 hours after birth, and which means that breastfeeding could not yet have been fully established.

Although all the women had received some support with the initiation of breastfeeding, it is uncertain whether they were shown clearly enough, or whether they were shown frequently enough, to enable them to be proficient in breastfeeding.

The reason for health workers not providing sufficient support may be due to the fact that there had been a change in the duration of stay in the facility, from 3 days to 6 hours. The 6 hours during which the new mother is in the facility may be insufficient to provide adequate supervision of breastfeeding practices before discharge. This is of significance since these

new mothers have probably also not have been adequately prepared for breastfeeding during the antenatal clinic attendance and therefore they required additional support during the first seven days after the birth of their infants.

9.7 THE INTERRELATIONSHIP OF SUPPORT GIVEN BY HEALTH WORKERS, DURING THE FIRST 7 DAYS AFTER DELIVERY AND THE NEW MOTHERS BREASTFEEDING EXPERIENCES.

Given that the breastfeeding skills of the new mothers were inadequate it was important that they be provided with further support after discharge. A key element in supporting breastfeeding practices after discharge is the establishment of support groups to which mothers can be referred.

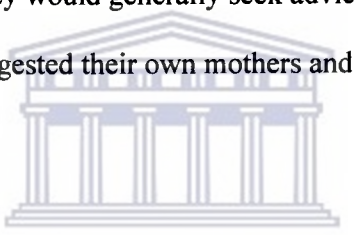
The study reveals that no support groups outside the MOU had been established and that any referrals were back to the MOU. While this referral back to the Midwife Obstetric Unit was critical in the early post-natal period, this practice was not sufficient, as it was only provided on alternate days until the baby was seven days old. Thereafter, there was no provision made for further support to the new mothers. Her next contact with health workers would be at 6 weeks after the birth of the baby.

The results indicate that the new mothers had experienced difficulty with breastfeeding within 36 hours after discharge. Firstly, 59% of the new mothers had identified their concern as having "no milk" or insufficient milk", 29% had painful nipples and 6% had experienced engorged breasts. However, during the postnatal care observations of these new mothers,

there was little, if any, attention paid to breastfeeding management of problems that had been identified and there was no plan for the continuity of care, as there was no note made of this finding.

The assumption is that this gives the mothers the impression that these problems they were experiencing were part of acceptable breastfeeding practice and that there was no management required to prevent or to manage the problems

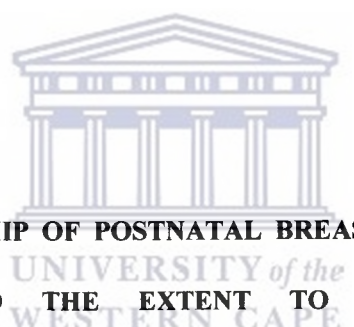
Secondly, the new mothers seemed to introduce other feeding very soon after discharge. Finally, when asked from whom they would generally seek advice, 47% of the new mothers suggested midwives while 43% suggested their own mothers and 10% other community members.



The practice of return visits to the MOU for care of the mother and the baby are generally only possible to sustain for seven days unless there are postnatal complications with the mother or baby. For breastfeeding support these visits cannot therefor be encouraged as a sustainable way forward for a variety of reasons.

The fact that new mothers' continue to have faith in the health workers as a source for support in spite of the problems they are experiencing, is surprising. This is an important finding in the study and may explain the dilemma that new mothers have regarding the status of their breasts during the breastfeeding experience. This may lead to them accepting painful nipples, engorged breasts and insufficient milk as a normal physiological occurrence that cannot be prevented. The difficulties experienced from engorged breasts and insufficient milk may lead them to introducing complementary feeds to the baby.

This finding has important consequences for the future success of such interventions as the BFHI and supports the need to seriously consider establishing support groups within the community that new mothers can immediately be referred to after discharge. Since 53% of the group suggested support from members other than health workers, it would seem that these support groups should consist of members of the community who seem to be trusted (like other mothers). This practice would facilitate the establishment of a cohort of community members who would act as important message bearers and may contribute to change breastfeeding practices that would extend beyond institutions.



9.8 THE INTERRELATIONSHIP OF POSTNATAL BREASTFEEDING SUPPORT TO NEW MOTHERS AND THE EXTENT TO WHICH EXCLUSIVELY BREASTFEEDING IS SUSTAINED DURING THE FIRST 48 HOURS.

An important element of breastfeeding practice is demand and exclusive breastfeeding. This implies that new mothers should be provided with information and support to establish these practices during the post-natal period of contact. All the new mothers were interviewed soon after birth, with the latest interview done 48 hours after birth.

The results showed that only 43% were still exclusively breastfeeding after the first 36 hours. This result is disappointing since the expectation was that, given the short period of time between the birth and the interviews, almost all these mothers would still be exclusively breastfeeding.

More significantly, exclusive breastfeeding of infants rapidly eroded within hours after discharge from the MOU. It appears that the mother's ability to continue to breastfeed once she leaves the MOU is compromised. This is probably due to a lack of knowledge, as well as a lack of communication by health workers on the benefits and importance of breastfeeding and a lack of practical skills demonstrations. While all the midwives and enrolled nurses responded that they had suggested demand feeding, only 38% of the new mothers stated that they had been told to feed on demand or whenever the baby cried. The vast majority suggested that they had received no information in this regard. New mothers demonstrated poor levels of practical skill in all categories that were observed.

It was established, during observations, that the assessment of the mother and baby during the postnatal care session did not include an assessment of breastfeeding. Mothers' breasts were often full or even engorged but no intervention was offered and no follow-up was arranged to manage this problem. Postnatal care requires among other things a discussion with the mother regarding progress with breastfeeding and the preparation of a care plan if any problems are identified. What was also of interest was that the health workers did not habitually record any of the data that was collected. The consequence of this was that there was no information available to health workers and supervisors regarding the frequency of breastfeeding or the time and frequency of complications.

There is a connection between the promotion of breastfeeding and the time before other foods are introduced. In a study conducted by Pugin, et al (1996) in Chile, positive results were reported primarily due to the concentrated training of antenatal women. Prasad & Costello (1995) also report in a study conducted in Pakistan that showed that simple health messages provided to antenatal women led to prolonged exclusive breastfeeding practices. It would

seem that the most critical factor, as Pugin, et al (1996) suggests, is in providing intensive training for expectant mothers, especially for those who have not had any breastfeeding experience. This element was lacking in the institution participating in the survey and may have accounted for mothers resorting to introducing other feeds, so early in the life of the newborn.

While a change in breastfeeding practices seems common even at institutions that have been recipients of the BFHI status award, in this study it is the very early stage at which this is done that is of concern. A study of the BFHI by Eregie (1998) in Nigeria, found that the introduction of other feeds occurred within the first month and not within the first few days, as the results of this study revealed.

9.9 ROUTINISED NATURE OF PRACTICAL TRAINING OFFERED TO NEW MOTHERS.

The assumption that the health workers' practices seems routinized, is evidenced in the manner in which new mothers are supported from the time of delivery, until and during their stay in the post-natal ward. During this period, all essential elements required to promote the BFHI principles, such as skin-to-skin contact and no separation of mother and baby, are adhered to very satisfactorily. The deep level of routinization, that is, with staff merely going through the processes and new mothers complying without an understanding of the significance and value of the practices in which they are participating, is evidenced by the latter's change in breastfeeding practice almost immediately after discharge.

After discharge, at least 57 % of the new mothers' had already introduced other feeds within

48 hours (which was the maximum time of the interview), of the birth of the newborn. This suggested that they did not have sufficient information, nor did they understand the importance of breastfeeding practices promoted at the health facility.

Implicit in this routinization is the assumption by the health workers that the policy is being successfully implemented because they had done what they were supposed to do at the most crucial time after delivery. This study revealed that while the health workers are aware of the policy and have the appropriate knowledge, they fail to provide initial information to expectant mothers in preparation for breastfeeding. This may be that the health workers believe that the routine breastfeeding promotion practices they engage in straight after delivery is sufficient to ensure exclusive breastfeeding.

Furthermore, an exacerbating factor to the poor exclusive breastfeeding results, is the current belief of the health workers that the practice of supporting and promoting breastfeeding is adequate and therefore is never tested. Information on the frequency of exclusive breastfeeding is not routinely collected. Hence the health workers continue with their routine procedures, unaware that the current practice is not sufficient to ensure high levels of exclusive breastfeeding.

It would seem therefore that the reasons for poor breastfeeding practices within this group of new mothers might be influenced by the routinized manner in which the health workers '*model*' practices. In addition expectant and new mothers were not provided with information that would convince these women, that the practices modeled were indeed beneficial.

One of the reasons for enrolled nurses and midwives having routinized their practices may have to do with their lack of understanding of the implications of their practices. This is

deduced from the evidence that although the new mothers had reported that they had introduced fluids, this information had not been used to revise the practice of the health workers. There is also no attempt at continuous assessment and adapting services to the current needs of the expectant and new mothers.

Routinization may also have resulted due to the length of time health workers had been involved in the implementation of this initiative (seven years). It is clear from this study that BFHI policy has become common practice in this institution and has had positive benefits for breastfeeding by new mothers while they were in the MOU. The health workers then arrive at the incorrect assumption that these benefits would continue after discharge. This false assumption then implicitly confirms the value of, and sustains the routinised practices in an unchanging manner. This observation seems consistent with what Bradley & Meme (1992) found in a study of changes in health worker knowledge, attitudes and practices in Kenya. They found that institutional practices changed drastically between 1982 and 1989 with virtually all hospitals demonstrating routinized adherence to the principles of BFHI. It would seem therefore, that changing institutional practices, while challenging, is possible as Bradley and Meme and this study suggest, but the test lies in ensuring that these practices contribute directly to a change in the breastfeeding practices of new mothers

It would seem, too, that the routinization of practice has contributed to health workers providing support without considering the contextual realities of the expectant and new mothers. When asked about the benefits of breastfeeding, 80% of the expectant mothers' responses highlighted the nutritional and developmental value of breastfeeding only, without reflecting on the economic and protective values. For this group of expectant mothers from socially and economically deprived environments, such benefits (economic and protective)

should have been highlighted. It would seem that because health workers performed their tasks in a routine manner, they did not see the need to tailor information to meet the needs of particular communities, let alone provide information to suit the needs of the individual expectant and new mother.

10. LIMITATIONS OF THE STUDY

- The study was to one sample in the Western Cape. The results can therefore only be generalizable within a limited range, namely to other maternity units which have a similar set-up to the one under scrutiny and which are located in communities with similar socio-economic and cultural circumstances.
- The interviews were conducted in English while the common languages spoken by the cohort of expectant and new mothers were mainly Afrikaans and Xhosa. While some interpretations were necessary, for the most part English was used. This may have compromised the level of responses.
- The study depended on recall for some of the information.
- The possibility that the new mothers had prior knowledge or independent knowledge on the value of breastfeeding.
- The attitudes and beliefs of the new and expectant mothers' regarding the breastfeeding myths within the community were not included in this study.
- My position as a programme manager for maternal and neonatal health, may have led to enrolled nurses and midwives giving answers that they assumed I wanted to hear.
- The ages of the participants in the study are unknown. This may have been a limitation if most of the women in the study were either very young or very old or if the ages were disproportionately distributed.
- Socio-economic information was not included. Having this information may have provided the context for a deeper analysis of the data. However, since most of the expectant and new mothers were from the surrounding area, close to the MOU, it was likely that their socio-economic status was relatively homogenous.

11. CONCLUSION

This study reveals that all enrolled nursing assistants and midwives are aware of the breastfeeding policies and that most are appropriately trained to prepare expectant and new mothers for breastfeeding.

The hours of training provided to health workers were insufficient, especially for those with less experience.

What is evident in the study is the grossly insufficient preparation expectant women for breastfeeding.

There is a high initiation of breastfeeding within the first six hours after birth of the baby.

Support for breastfeeding is built into the routine immediate postnatal care of the mothers and babies. However, their practice, of immediate postnatal care of the mothers and babies seems to have become routinized.

Most new mothers do not have adequate skills to breastfeed successfully.

Many new mothers experience breastfeeding difficulties soon after discharge, which probably contributes to the introduction of other fluids. These difficulties are engorged breasts, painful nipples and not enough milk.

There is an alarming increase in the introduction of other feeds. This occurred within hours

after delivery.

It is also clear that new mothers did not have an understanding of the concepts "demand feed" and "exclusive feeding".

The study reveals that the lack of support group structures outside the MOU has implications for sustainable exclusive breastfeeding practices.

There is no continuous assessment and planning of breastfeeding care, based on the current need of the expectant and new mothers.

The enrolled nurses and midwives are seen as the key support people for breastfeeding. This is evidenced by the practice of referring the mothers back to the MOU for support.

There is evidence that the new mothers are willing to receive support from an experienced lay person, regarding breastfeeding.

Attempts to engage with the significant role players regarding women and child care, in the community, seems to be negligible, evidenced by the poor referral to other support groups.

Given all of the above one must conclude that the BFHI at St Monica's is ineffective in improving the rates of exclusive breastfeeding.

12. RECOMMENDATIONS

It is recommended that:

- Intervention at the antenatal phase of pregnancy is established. It is essential that key messages, which should include "demand feeding" and "exclusive feeding", be emphasised during the antenatal care of expectant mothers.

- It is recommended that health workers be adequately trained to be proficient in skills that will support women to breastfeed even if they are separated from their infants.

- Continuous training of the health workers, in both knowledge and practical skills, is essential.

- Health workers should be trained and supported to enable them to effectively communicate with expectant and new mothers.

- Support groups outside of the existing Midwife Obstetric Unit's are established. These groups should include trusted members from the communities in which these women reside.

- The routinised practices in caring for new mothers are necessary but not sufficient, these must be changed to better fit the needs of the new mothers.

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APPENDIX A

TEN STEPS TO SUCCESSFUL BREASTFEEDING

1. Have a written 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 he benefits and management of breastfeeding.
4. Help mother's initiate breastfeeding within a half-hour of birth.
5. Show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants.
6. Give newborn infants no food or drink other than breast milk, unless medically indicated.
7. Practice rooming-in allowing mothers and infants to remain together for 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or pacifiers to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

(WHO & UNICEF, 1992)

APPENDIX B

ST MONICA'S MATERNITY HOSPITAL: INFORMATION BROCHURE

Convention of the Rights of the Child

"To ensure that all segments of society, in particular parents and children are informed, have access to education and are supported in the use of basic knowledge of child health and nutrition, (and) the advantages of breastfeeding ..."

Adopted by the United Nations 20 November 1989
Came into legal force September 1990

Declaration of the World Summit on Children

"There is no cause which merits a higher priority than the protection and development of children, on whom the survival, stability and advancement of all nations - and, indeed, of human civilization - depends"

Adopted by heads of state/governments on 30 September 1990

INFORMATION BROCHURE

OF

ST. MONICA'S MATERNITY HOSPITAL

First Edition : **30.06.91**
Compiled by : **Miss D.Carolusen & Matrons of St. Monica's**

Revised : **Miss N.E.Msutwana**
17.12.93

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December 1993

TEN STEPS TO SUCCESSFUL BREAST-FEEDING

Every facility providing maternity services and care for newborn infants should:

1. Have a written breast-feeding policy that is routinely communicated to all health care staff.

Train all health care staff in skills necessary to implement this policy.

3. Inform all pregnant women about the benefits and management of breast-feeding.

4. Help mothers initiate breast-feeding within a half-hour of birth.

5. Show mothers how to breast-feed, and how to maintain lactation even if they should be separated from their infants.

6. Given 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 breast-feeding on demand.

9. Give no artificial teats or pacifiers (also called dummies or soothers) to breast-feeding infants.

10. **Foster the establishment of breast-feeding support groups and refer mothers to them on discharge from the hospital or clinic.**

OUR COMMON GOAL

Innocent Declaration
on the Protection, Promotion and Support of Breastfeeding

"As a global goal for optimal maternal and child health and nutrition, all women should be enabled to practice exclusive breastfeeding and all infants should be fed exclusively on breastmilk from birth to 4 - 6 months of age. Thereafter children should continue to be breastfed, while receiving appropriate and adequate complementary foods, for up to two years of age or beyond."

Developed and adopted by 32 governments and
10 UN agencies on 1 August 1990

The advantages of breastfeeding are numerous

Breast milk is the best possible food for your baby. Breast fed babies are healthier because breast milk protects the baby against certain infections.
It is both money saving and time saving because you do not have to spend money buying expensive artificial milk formulas, bottles and teats or spend time preparing feeds and sterilising bottles and teats.
Breastfeeding will also bond your baby closer with you. It will really help if you could start preparing yourself mentally and physically now during your pregnancy. The nursing staff will

gladly answer all your questions, give information and talks on breastfeeding and support you the best they can.
Study the policies given to you on breastfeeding.
After the birth of your baby you can immediately put baby to the breast for a few minutes. This will help your breasts produce milk sooner.
During your hospital stay, you will receive all the necessary guidance and assistance from the staff to help establish breastfeeding successfully.
After your discharge, feel free to contact us should you have any problems.

BREASTFEEDING POLICY - DURING THE ANTE-NATAL PERIOD

1. Inform all pregnant women about the advantages and benefits of breastfeeding.
2. Assist all pregnant women to prepare adequately for breastfeeding during the antenatal period.
3. Do a physical examination of all pregnant womens breasts and nipples at first clinic visit and all subsequent visits.
4. Record findings in patients personal record/file.
5. Refer any deformities / abnormalities eg. abnormal secretions, pain, swelling, etc. for treatment.
6. All women with flat or inverted nipples or a history of breast surgery should be referred for specialised counselling by a lactation consultant or breastfeeding counsellor.
7. Mothers with flat or inverted nipples to see breastfeeding counsellor.
8. Teach all women about the importance of daily general personal hygiene including the breasts.
9. Advise mothers not to use soap on the nipples because of its drying effect.
10. Advise mothers to wear a correct size cotton brassier for adequate support.

The brassier should be well fitting and never be too tight.

11. Advise mothers to obtain at least two cotton feeding brassiers for after the birth of the baby.
12. Educate mothers about the importance of a well balance diet.

BREASTFEEDING POLICY - AFTER BIRTH AND POSTNATAL

1. Allow mother to hold her baby immediately after the birth and assist her in breastfeeding within half an hour after birth, while still in the labour unit with the help of the delivery assistants.
2. Explain the relevance and importance of colostrum.
3. Help the mother suckle her baby even after a caesarian section as anaesthetics do not affect breast milk as soon as she "comes round" after anaesthetic.
4. Allow mothers and infants to remain together for 24 hours a day from birth (rooming-in), even low birth weight babies as long as room can be heated up adequately and minimal thoroughfare.
5. Show mothers how to breastfeed and how to maintain lactation even if they should be separated from their infants.
6. Give new born infant no milk feeds or water other than breast milk, unless indicated for medical reasons, that is no bottle are necessary!
7. Wake the mothers for night feeds when the baby demands it.
8. If baby will not take the breast, express colostrum and spoon or syringe feed it to the baby, 5-10 ml every three hours.
9. Do not give or encourage the use of artificial teats or dummies to infants.

Do not encourage the use of nipple shields either.

10. Ensure that the whole nipple is in the mouth (areolar area) and not just the end of the nipple. (Sore nipples result from incorrect fixing or pulling the baby away from the breast while still sucking strongly).
11. Do not limit sucking time on the breast.
12. Comfortable alternative positioning of mother and baby in order to ensure successful feeding to be demonstrated and video to be shown.
13. Do not test weigh (not recommended at all!)
14. Do not massage a patient's breasts.
Use the breast pump only to open the ducts on the first day for a few minutes.
Full or engorged breasts can be relieved by applying heat to the breasts, feeding the baby and covering the breast with a few cold cabbage leaves until the next feed.
15. Please consult a breastfeeding committee member or counsellor to any queries and refer mother to breastfeeding support groups or clinics on discharge from hospital.
16. On discharge give information regarding "no milk" myth.
17. Those who have a potential problem may be referred to our peer counsellors in the district for further support, or may consult staff at St. Monica's for advice.

* Breastfeeding policies and the Ten Steps to successful breastfeeding are available in other languages i.e. Xhosa and Afrikaans. They will be given to you on request.

YOU ARE COMING INTO OUR CARE .....

..... and if you have not been in a hospital before, many things may seem strange or difficult to understand. We want you to be happy during your stay here, so, if you are troubled by anything at all, tell one of the midwives or sisters.

If you have any special worries or problems before you come in, please discuss these with the hospital staff when you attend clinic.

ADMISSION

You may be given a definite date and time for admission from the clinic. If however you start in labour, ring the hospital (tel: 237-237-) and ask for the Birthing Unit. Please have your hospital registration number with you. (it is written on the top hand corner of your booking paper).

You may find the following checklist of things to bring with you useful .....

3 Nightdresses
1 Sanitary Belt or Sani-pads
2 Brassiers
Breast Pads
Slippers
Dressing Gown
Cotton wool (small)
Paper tissues
Tooth-paste and brush
Soap and 3 flannels
Hairbrush and comb
2 bath towels
Napkin pins
Disposable nappies for baby
Set of baby clothes

The ambulance service will no longer be in operation for maternity cases except in emergencies. Kindly ask the driver of car or taxi bringing you in not to park the car by the front entrance or driveway to keep this area clear for the emergency vehicles.

Your husband or partner is welcome to be with you during labour and delivery on the understanding that he leaves the room temporarily if asked to do so.

CLOTHING AND PERSONAL LAUNDRY

You are requested to make your own arrangements for the laundering of your personal clothing because only very limited facilities are available on the wards.

MEDICINES

These will be supplied as needed during your stay in hospital. However, if you are taking any medicines please bring them with you so that the Midwife/Doctor may see them.

MONEY AND VALUABLES

You will have a bedside locker for your personal possessions but we suggest that you do not bring any valuables or money other than a small amount for newspapers, periodicals and other articles you wish to buy. (The hospital cannot accept responsibility for loss of any personal property). If you find it necessary to bring valuables you should ask Sister to arrange for the safe custody of them. Do not forget to collect them before you leave!

ENQUIRIES

It would be helpful if you could ask friends and relatives not to telephone the hospital as information will only be given to your husband, partner or next of kin. Visitors are requested to phone at the callbox (tel: 249-831)

VISITING THE WARDS

Visiting hours: 15:00 - 16:00
19:00 - 20:00

Visitors are requested to contact Ward Sister or Nurses at the Sister's Office.

Not more than two visitors may be at the bedside at any one time. Your own children may visit but they must be accompanied and controlled by an adult.

Other children may not visit the wards. Prams and pushchairs should not be taken into the wards.

Please ask family and friends to refrain from visiting if they have any infection as this could have a serious affect on you or your baby. It is your duty to tell your family and friends about this so that they do not cause problems for the hospital.

VISITING THE NEONATAL (SPECIAL CARE BABY) UNIT

Premature and babies needing special care are nursed in this unit. Parents are welcome to visit at any time. The baby's brothers and sisters or grandparents may also like to visit, please have a word with the Sister on duty to arrange a suitable time.

SMOKING

Smoking is actively discouraged in this hospital. Not only is it injurious to health but it is the greatest cause of fire in hospitals. If, as a patient, you feel that you cannot refrain from smoking, you are asked to consider the health and wishes of others in this matter and only smoke in the room set aside for that purpose.

Visitors are not allowed to smoke on the premises.

FIRE HAZARDS

We are very aware of fire hazards and would ask you and your visitors to comply with our restriction on smoking.

MEAL TIMES

08H00 - Continental Breakfast
10H15 - Mid morning drink
12H00 - Lunch
15H15 - Tea
18H15 - Supper
22H00 - Evening drink

Please inform Sister of any food or drink you are not able to have. A Moslem kitchen is in operation.

POSTS AND GIFTS

Post will be delivered to the ward daily. In order to avoid delay, please ask your friends and relatives to put your name and the number of the ward clearly on all correspondence. For example:

Mrs Jean Smith (not your husband's forename)
Ward Number .....
St. Monica's Maternity Hospital
Lion Street
CAPE TOWN
8001

RADIO AND TELEVISION

In the main ward a television set has been installed. Health Education videos are shown daily. In the wards are the speakers of a music centre. The ante-natal patients each have a handset incorporating a "nurse call-button". For the comfort of other patients we would ask you not to bring in portable radios.

CLERGY

If you wish, Sister will ask one of the three Hospital Chaplains (Anglican, Roman Catholic and Free Church) to visit you, but you are free to arrange your own local Minister to come if you prefer.

A service is held in the Chapel at 09H30 each Sunday. Communion is served to all persons who are confirmed irrespective to which denomination they belong. Communion is also served every Thursday at 09H30.

CAR PARK - visitors (evenings after 16H30 only)

Please ask your visitors not to park their car in front of the entrance as these must be kept clear for emergencies.

THE ROLE OF THE TEACHING HOSPITAL

St. Monica's is a teaching hospital and your treatment and care are most important to use. The Doctors and Midwife teachers have two other important duties, to train midwives and to extend the field of nursing knowledge. That is why students attend to you and your baby in the nursing ward and labour ward and help with your treatment.

The Consultants and Midwife teachers may also arrange clinical teaching in your ward from time to time. If you are involved in these teaching rounds we hope that you will feel able to give us your co-operation. You may, of course, decline in which case you should let either Sister or Doctor know.

HOSPITAL STAFF

A Midwifery Sister is in charge of the nursing care of patients in her ward. You may also meet Student Midwives, Student Nurses, Nursing Assistants and Ward Clerks during your stay. Your medical care is directed by a Consultant who has other doctors to help him.

A Social worker is part of the medical team. Please inform Sister if you need care while you are here. The Doctor or Sister will be ready to discuss your treatment and progress with you. If you are not clear about anything do not hesitate to ask.

If you are to have an operation the nature and extent of it will be explained by the Doctor or Sister and you will be asked to sign a consent form. In the case of patients under the age of sixteen years and unmarried the consent of their parent or guardian is necessary.

GIFTS TO THE HOSPITAL

Members or Staff are not allowed to accept gifts of money but if you do wish to make a donation of any kind please send it to the Secretary, care of this hospital stating whether you would like it used for patient or staff amenities or for equipment.

SUGGESTIONS

We try to maintain a hight standard of service a you can help us to do so by giving us your full co-operation.

COMPLAINTS

If you feel that you have cause for complaint regarding the service provided by the hospital, please raise the matter with the Ward Sister. If you feel unable to do this or if you still feel dissatisfied, you should approach the Matron and the matter will be investigated. If after investigation by the Matron, you feel that the matter has not been resolved satisfactory you may appeal to the Medical Superintendent.

DISCHARGE

Patients are nursed for 3 days or until mother and baby are well. However you may be required to stay longer if this is necessary for your health or that of your baby.

You will receive on discharge:

1. A baby information card called the preschool Health Card which you have to take with you everytime you attend the Community Welfare Clinic.

Dr. Singer has a clinic on Monday afternoon from 14H00 - 16H00.
Appointments are essential.
Kindly call the hospital No. 237-237 and ask for the Sister in the Nursery to make your appointment.

ST. MONICA'S MATERNITY HOSPITAL IS A FRIENDLY HOSPITAL WITH A LOT OF LOVE AND TENDER CARE.

YOU ARE MOST WELCOME AT ANY TIME.

International Code of Marketing of Breastmilk Substitutes
(and subsequent WHA resolutions on infant feeding)

"Affirming the right of every child and every pregnant and lactating woman to be adequately nourished ... " and "conscious that breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants."

"... (breastmilk substitutes) should not be marketed or distributed in ways that may interfere with the protection and promotion of breastfeeding ...."
Adopted by World Health Assembly 21 May 1981

2. You will be given details of any further clinic appointments necessary at ante-natal clinic or on discharge from hospital.

When discharged home from hospital you will be given a "Discharge Letter" which is to be taken to your local clinic for the Community Midwife to continue caring for you and baby. A health visitor will continue with the care of your baby subsequently.

REGISTRATION OF BIRTHS

You will be required to register your own baby - which can be done at your local magistrates office or the Registration office.

CHANGE OF ADDRESS OR CIRCUMSTANCES

Please notify the Hospital Staff in the event of any change of address or circumstance affecting your confinement or for any reason you need to cancel your booking. Please ensure that a phone number for direct contact is on your folder.

APPOINTMENTS

If you cannot keep your appointment please telephone for an alternative date. Please bring your Appointment Document and Medical Aid Scheme Card No. as soon as possible after booking - which relates to your confinement on each visit, including admission.

BABY CLINICS - for paediatrician

We offer this service to mothers who have had babies at St. Monica's.

APPENDIX C1

QUESTIONNAIRE FOR HEALTH WORKERS

Study No. _____

1. When did you join the staff at the maternity services? _____

2. What is your position here in the maternity service?

   1. Midwife 2. Nurse 3. Student 4. ENA

3. Is there a breastfeeding policy in the facility? YES / NO

4. Has the policy been communicated to you? YES/ NO

5. Has the policy been communicated to the patients? YES/NO

6. Have you received training on breastfeeding and lactation management?
   If YES: Go to # 7 If NO: Go to # 8

7. How many hours of training did you receive _____?

8. How many hours of supervised clinical experience did you receive?
   _____

9. Do you give mothers' recommendations on how often or how long they should feed their babies? YES / NO

10. What do you tell them? _____
    _____

11. Should breastfeeding babies ever be given feeds using bottles with artificial teats or nipples? YES / NO

12. Should breastfeeding babies be allowed to suck on pacifiers (dummies) while in hospital? YES / NO

13. Does the hospital have a system of follow up support for breastfeeding mothers after they are discharged? YES / NO

14. Are there any breastfeeding support groups in the local area?
    If YES go to # 15 If NO go to # 18

15. What breastfeeding support groups are there? _____
    _____

16. Are mothers referred to them?
1. Almost always 2. Sometimes 3. Never 4. Don't know

17. How are the mothers referred to them? (Read list below)
1. Through materials (lists)
2. Through counselling
3. Other (please describe):_____
_____

18. Do you show or teach mothers how to position and attach their infants for breastfeeding? YES / NO

19. Could you please demonstrate?

1. DECLINED TO DEMONSTRATE

2. POSITIONING 2.1 Correct 2.2 Incorrect

3. ATTACHMENT 3.1 Correct 3.2 Incorrect

20. Do you show mothers how to express their milk, by hand in case they are separated from their infants? YES / NO

21. Please describe the technique for expressing milk manually which you teach mothers:

1. Didn't want to describe 2. Adequate description 3. Inadequate description

22. What are the major causes of painful nipples?_____

1. Correct 2. Partially correct 3. Incorrect

23. Does prelacteal feeding interfere with breastfeeding? YES / NO

24. What is the most common cause of insufficient milk?_____
1. Correct 2. Partially correct 3. Incorrect

25. What is the most common cause of engorgement?_____
1. Correct 2. Partially correct 3. Incorrect

26. How is breast engorgement managed in the facility? _____
1. Correct 2. Partially correct 3. Incorrect

Thank you for your information

APPENDIX C2

QUESTIONNAIRE FOR ANTENATAL WOMEN

Study No. _____

Number of week's gestation: _____ weeks.

Number of antenatal visits _____

1. Are you aware of the breastfeeding policy? YES / NO

2. During your antenatal care, has anyone discussed a policy for breastfeeding with you? YES / NO

3. Can you tell me at least two of the benefits of breastfeeding? YES / NO
What are they?

   1. Mother listed two 2. Mother listed one 3. Mother listed none

4. Did staff member talk about any other topics regarding breastfeeding or about how to breastfeed? YES / NO

5. Did she discuss any of the following topics?
   1. Importance of rooming-in YES / NO
   2. Importance of feeding on demand YES / NO
   3. How to assure enough milk YES / NO
   4. Positioning and attachment of the baby YES / NO

6. Did anyone give you a group talk about how to feed babies on infant feeding? YES / NO

7. Have you been attended to by the same staff in the clinic? YES /NO

8. Have they spoken to you about breastfeeding at each visit? YES / NO

9. Has the information you have been given been consistent? YES /NO

10. Have you been shown how to cup feed? YES / NO

11. Will you cup feed your baby if you are not able to breastfeed YES / NO

12. What are the problems with cup feeding? _____

13 Who is the best person to give you advice on breastfeeding? _____

Thank you for the information

APPENDIX C3

QUESTIONNAIRE POSTNATAL MOTHERS

Study No. _____

1. When was your baby born? Date: _____
   How many hours ago? _____

2. Since your baby was born has she /he breastfed? YES / NO

3. Are you going to continue to breastfeed? YES / NO

4. How long after delivery were you given your baby to hold for skin-to-skin contact?
   > 0 < 15 minutes
   >15 < 60 minutes
   > 60 minutes
   >Don't know

5. How long were you able to hold the baby that first time?
   < 15 minutes
   > 15 < 1 hour
   >1 hour

6. Were you offered help by the birth attendant / staff to initiate breastfeeding?
   1. YES 2. NO 3. DON'T REMEMBER

7. Have any nursing staff offered you any help with breastfeeding since? YES / NO

8. How long after delivery was this help offered?
   a. About 0-30minutes b. 30- 60 minutes c. 1-2 hour's d. 2-6 hours d. more

9. Have you been shown how to position your baby to the breast? YES/ NO

10. Have you been shown how the baby is to be attached to the breast? YES / NO

11. Could you demonstrate for me how to position and attach your own baby for breast feeding?

Positioning		Attachment	
10.1 Correct	10.2 Incorrect	11.1 Correct	11.2 Incorrect

12. Have you been shown by the hospital staff how to express your breast milk, or been given any information on how to express your breast milk and advised you where you can get help? YES / NO

13. Demonstrate how to manually express milk from your breast

Demonstration done well YES / NO

14. Has your baby stayed with you in your room / ward / bed at all while you have been in hospital? YES / NO

15. How long, if at all, was your baby separated from you before you started staying in the same room together? 1. About _____ hours 2. Not separated at all

16. Have any limits been given for how long you are to breastfeed? YES / NO

17. How often have you been told that you should breastfeed your baby?
1. Whenever the baby seems hungry
2. Every hour
3. Every 1-2 hours
4. Every 3-4 hours
5. Other (describe)_____

18. Have you been told anything about breastfeeding if your baby sleeps too long or your breasts become overfull? YES / NO

19. What have you been told?
1. Wake the baby and try to breastfeed
2. Let the baby sleep as long as he / she wants to
3. Other (describe)_____

20. Since your baby was born, has she received anything else to drink? YES/ NO

21. If yes, what was the baby given
1. Water
2. Juice
3. Vitamins
4. Infant formula

22. Has your baby sucked on a pacifier or dummy as far as you know? YES/ NO

23. Has the hospital provided you with any follow-up help after you leave the hospital?
1. YES 2. NO 3. DON'T KNOW

24. What type of follow up help was offered?_____

25. If your family cannot help you to solve infant feeding problems, were you given any advice about how to contact a support group to help you with breastfeeding questions of infant feeding after you leave the hospital? YES / NO

26. Who was recommended? _____

27. Have you had any problems with breastfeeding since the birth of your baby? YES/NO
EXPLAIN_____

28. Were they in the position to help you with your problem? YES/NO

29. What kind of help do you think you will need to support you, if you continue to breastfeed? _____

30. Does the community support you to continue to breastfeed? _____

Thank you for the information

APPENDIX D

Significant steps that influence breastfeeding

Step 1: Have a written breastfeeding policy that is routinely communicated to all health care staff

- Availability of a policy regarding breastfeeding, so that all staff who take care of mothers and babies can refer to it.
- Do the enrolled nursing assistants and midwives adhere to the policy by usually communicating the policy to women?

Step 2: Train all health care staff in the skills necessary to implement this policy

- This should be a minimum of 18 hours training, which includes:
  - 3 hours of practical skills training, i.e. positioning babies for breastfeeding, attachment to the breast, how to manually express milk
  - the benefits of breastfeeding
  - the importance of rooming-in
  - the importance of demand feeding
  - the causes of breast engorgement, painful nipples and in-sufficient milk
  - ways of maintaining enough milk

Step 3: Inform all pregnant women about the benefits of breastfeeding

- nutritional, bonding, protective and benefits to mother.
- women should be taught the causes of breast engorgement, painful nipples and in-sufficient milk
- staff should communicate the following topics:
  - Importance of rooming-in, skin-to-skin and no separation
  - Importance of demand feeding
  - How to assure enough milk
  - Correct positioning, attachment and expression of milk from breast

Step 10: Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic

APPENDIX E

CONTEXT OF ANTENATAL AND POSTNATAL TRAINING OF WOMEN FOR BREASTFEEDING IN THIS STUDY

The BFHI assessment requires that staff promote to ante- and post-natal women. Ideally training of expectant mothers should include relevant information so as to enable them to make informed choices once their babies are born.

To achieve this, health workers are required to provide relevant information and training to pregnant women prior to the birth of their babies. This training should incorporate the importance of exclusive feeding for the first 6 months, the benefits of breastfeeding and basic breastfeeding management. Discussions regarding lactation management should include information on rooming-in, importance of demand feeding, how to ensure enough milk, and how to position and attach baby to the breast.

Regarding new mothers, staff should promote an early start of breastfeeding within the first half-hour of birth. During this initial period, staff should support women to have skin-to-skin contact with their infants. Staff should promote 24-hour rooming-in, demand feeding, no bottles and teats, no pre-lacteal feeds as well as help mothers to position and attach babies to their breasts while continually building mothers' confidence. Training should include ways of maintaining lactation even while separated from their babies, as well as how to manage minor breastfeeding problems (engorgement, cracked and painful nipples, etc).

(WHO & UNICEF, 1992)

APPENDIX F

TRAINING OF HEALTH WORKERS IN LACTATION MANAGEMENT

The BFHI assessment requires that in any institution eligible for the award, at least 80% of its staff should confirm as having received the prescribed training, (a minimum of 18 hours of training, and this should include 3 hours practical skills training). At the end of this training staff should be able to correctly answer 4 of the 5 questions on lactation management. If any of the staff have been in the maternity ward for less than 6 months, they should at least have been orientated on the ten steps as prescribed.

More specifically the training should include:

- Breastfeeding and child survival
- how milk gets from breast to baby
- promoting breastfeeding through pregnancy and birth
- getting breastfeeding started
- evaluating a breastfeed
- early problems with breastfeeding
- low milk production
- babies who need special attention
- later breast problems, such as engorgement, painful nipples and insufficient milk
- expressing and feeding breast milk
- on going support for breastfeeding women.

(WHO & UNICEF, 1992)

APPENDIX G

EXPECTED RESPONSES FROM QUESTIONNAIRES

Benefits of Breastfeeding

At least two of the benefits from the following list

1. bonding,
2. nutritional benefits to baby,
3. health benefits to the mother and
4. protective qualities, against illness, including the role of colostrum.
5. Economical benefits

Rooming-in, skin to skin contact and no separation of mother and baby

The BFHI assessment requires that staff promote early start of breastfeeding. To achieve this it is required that women are supported to practice on rooming-in. This means no separation of mother and baby. Women are to be informed that this will support her to feed her baby on demand and that they practised "skin to skin" contact with their babies at birth. This requires that the naked baby is placed on the mother's body or close to her in bed, the babies face on the mother's breast, the mothers hand on the baby's body.

THE RECOMMENDATION OF A FEEDING SCHEDULE TO THE WOMEN

The Baby Friendly Hospital Initiative requires that health workers inform women about demand feeding at every contact during antenatal, labour and postnatal period. This should include that both the baby and the mother should demand feed. If the baby sleep's too long, the mother is to wake the baby up for a feed. If the baby fusses, it should be offered a

feed. If the mother's breasts feel full she should use this as a signal to wake the baby up for a feed.

THE MAINTENANCE OF LACTATION EVEN IF MOTHERS ARE SEPARATED FROM THEIR INFANTS

Mothers are to be informed about exclusive feeding for the first six months of infant's life. Mother to be informed about the process of milk production, i.e. demand and supply. Showing the women how to manually express milk from the breast as well as how to cup feed the baby in order to maintain lactation even if she was separated from her infant. Mothers are to be told that bottles and teats are contra-indicated in breastfeeding.

ASSESSMENT OF TRAINING: CONTEXT IN THIS STUDY

To assess theoretical knowledge of the staff, the questions on (1) How to assure enough milk focussed on the causes of breastfeeding problems such as engorged breasts, painful nipples and the cause of insufficient milk, and whether demand feeding was promoted and supported through the practice of exclusive breastfeeding and rooming in.

The cause of breast engorgement

The common cause of engorgement is not enough effective breastfeeding in the first few days.

The cause of insufficient milk

The common cause of insufficient milk is not enough effective breastfeeding.

Cause of painful nipples

The cause of painful nipples is poor attachment, baby not sucking enough of breast into mouth.

PRACTICAL SKILLS TRAINING

On positioning and attachment the key points were the following. The staff was expected to demonstrate positioning and attachment of one baby to mother's breast as well as mention the following. "**Baby's body turned to mother**, close, in alignment, **babies mouth wide open**, lips flanged, chin touching breast, **more areola below nipple in mouth**, cheeks not drawn in, rhythmic burst-pause **suckling and swallowing".**

The staff member's answer was regarded as correct if she indicated at least the highlighted points above.

Demonstrating of the practical procedure of positioning

Demonstrating of positioning and attachment are required if the women are supported to continue to breastfeed. Women were expected to comply with the following guideline for correct positioning and attachment. The baby's body turned to mother, close, in alignment, babies mouth wide open, lips flanged, chin touching breast, more areola below nipple in mouth, cheeks not drawn in, rhythmic burst-pause suckling and swallowing.

Demonstrating of the practical procedure of attachment

Women were considered correctly attached their babies to their breasts if they ensured that the baby mouth was wide open, most of the areola was in the mouth.

For breastfeeding to be promoted, women have to be informed and taught the practical skills required supporting breastfeeding. Staff are expected to inform women on the practice during their antenatal care, in preparation for the birth of their baby. The interview on the demonstration of practical skills to women by staff did not expect demonstration to every woman. However, of the women that will be interviewed, at least 80% should indicate that they have been shown the practical skills.

Expressing of milk

On the manual expressing of milk, new mothers were expected to demonstrate, while staff were to give the following responses to the technique of expressing of milk. Key points were, thumb on areola, fingers opposite, press inwards, fingers do not slide on skin, repeat press-

release for several minutes, stimulate milk ejection reflex, rotate around nipple to compress sinuses.

(WHO & UNICEF, 1992)