KNOWLEDGE, ATTITUDE AND PRACTICES OF NURSING STAFF REGARDING THE BABY FRIENDLY HOSPITAL INITIATIVE IN NON ACCREDITED OBSTETRIC UNITS IN CAPE TOWN

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KEYWORDS:

BFHI: Baby Friendly Hospital Initiative

UNICEF: United Nations Children` s Fund

WHO: World Health Organization

BMS: Breastmilk Substitutes

MOU: Maternity Obstetric Unit

EBF: Exclusive breastfeeding

HIV: Human Immunodeficiency virus

10 steps to successful breastfeeding

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Declaration:

I declare that knowledge, attitude and practices of nursing staff regarding the baby friendly hospital initiative in non accredited obstetric units in cape town is my own work, that it has not been submitted before any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged as complete references.

Lynette Carmen Jacobs November 2008

Signed: 

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Abstract

Background: The Baby Friendly Hospital Initiative (BFHI) is considered one of the most successful international efforts to protect, promote and support breastfeeding. The initiative has proven impact, increasing the likelihood of babies being exclusively breastfed for six months. Official designation as Baby Friendly requires careful assessment completed by a trained external team to confirm that the institution is truly carrying out all Ten Steps of successful breastfeeding and conforming to the International Code of Marketing of Breastmilk Substitutes (BMS).The implementation of these principles are however challenging for facilities as it requires "strategic planning, implementation and maintaining change" within the facilities.

Aim: To assess the factors influencing the implementation of BFHI principles in non accredited MOU` s in the Metropole region of the Western Cape.

Objectives:

- To assess nursing staff knowledge, attitudes and practices regarding BFHI in non accredited MOU`s
- To assess MOU managers knowledge regarding BFHI principles in non accredited MOU`s
- To assess MOU managers attitude towards the implementation of BFHI principles in non accredited MOU`s
- To describe the barriers and constraints to implementation of BFHI principles

Study Type or Design: A cross sectional descriptive study design was used, employing quantitative research methods.

Population and Sample: All MOU unit managers were invited to participant in the study. A random sample of nursing staff working in the units was taken.

Data Collection Process: Individual interviews were conducted with nurses and unit managers using a semi structured questionnaire.

Analysis of results: Data was entered and analyzed in Epi Info. Frequencies and means were determined for the population characteristics e.g. gender, qualifications which will be descriptively reported on. Response frequencies were calculated for the items on the attitude scale and items under the knowledge and practices variables.

Results: The study demonstrated a fair awareness and knowledge of some of the recommended BFHI principles. However only 56.6 % of staff could define rooming – in, less than half 47.2 % of staff could define the components of BFHI and more than half of the respondent (52.8%) could name 3 baby friendly care practices and routines. Eighty nine percent of the nursing staff was able to demonstrate correct positioning of the baby for breastfeeding and 91.1 % could demonstrate the correct attachment of the baby to the breast. Only 8.9 % of the nursing staff was able to adequately demonstrate correct hand milk expressing technique, 35.6 % knew about the correct management of painful nipples and 22.2 % the management of engorgement. An alarming 40 % could adequately describe the safe

preparation of infant formula. The majority of the nurses had positive attitudes toward BFHI principles and practices.

Conclusion & Recommendations: Lack of properly skilled nursing staff is a major obstacle to proper breastfeeding and infant and young child feeding management. The findings of this study have highlighted that there is a need for BFHI training in the non accredited MOU `s in order to respond to the concern and growing need for proper infant and young child feeding practices. Special attention needs to be given to training of the lower level staff especially the enrolled nursing assistant (ENA) and enrolled nurse (EN). Attention must be given to training on the more advance skills such as expressing by hand. Training would increase and improve the knowledge and practices of the nursing staff and also instill a positive attitude amongst the staff, a big step in the right direction.

CHAPTER 1: INTRODUCTION

Infant and young child feeding are a cornerstone of care for childhood development. Worldwide about 30 % of children under five are stunted as a consequence of poor feeding and repeated infections (WHO, 2003). Even in resource poor settings, improved feeding practices can lead to improved intake of energy and nutrients (WHO, 2003). Improved energy and nutrients lead to a better nutritional status, growth and development and good health as a whole (WHO, 2003). Breastfeeding, especially exclusive breastfeeding is a key child survival strategy in resource poor countries/communities (Jones, Steketee, Black, Bhutta, Morris, Bellagio Child Survival Group, 2003). If every baby was exclusively breastfed from birth to six months old, an estimated 1.3 million additional lives would be saved and millions more enhanced every year (UNICEF, nd).

Exclusive breastfeeding (EBF) is the optimal feeding choice for all healthy infants, including infants of Human Immunodeficiency virus (HIV) infected women from developing countries who choose to breastfeed (WHO, 2006). Exclusive breastfeeding entails that the infant is given no food or drink other than breastmilk, with the exception of prescribed vitamin and mineral drops and medication. There is a wealth of information on the benefits of breastfeeding, especially EBF, for mother and baby (Savage King, 1998; WHO, 2002; WHO, 1989). Some of these are adequate growth, anti – infective properties, reducing infant and child mortality due to common childhood illnesses such as diarrhea or pneumonia, quicker recovery during illness and increased intelligence. While breastfeeding is a natural act, it is also a learned behavior. An extensive body of research has demonstrated that mothers and caregivers require active support for establishing and sustaining appropriate breastfeeding

practices (WHO, 2000; Shah, Rollins, Bland, 2005; WHO, 2002; WHO, 1989). While improved maternity services can help to increase the initiation of exclusive breastfeeding, support throughout the health system (e.g. inter personal counseling, guidance, support groups from prenatal through 2 years post partum at hospitals, primary health care level and in the community. e.g. community or clinic based support groups) is required to help mothers sustain exclusive breastfeeding (WHO, 2002; WHO, 1989).

"The Baby Friendly Hospital Initiative (BFHI) is a global United Nations Children's Fund (UNICEF) and World Health Organization (WHO) sponsored effort to promote breastfeeding by ensuring that all women are provided with sound information regarding their infant feeding choices and that those who elect to breastfeed their infants are given physiologically sound, evidence-based advice and skilled assistance prenatally and as they begin nursing their infants during their postpartum hospital period" (Naylor, 2001: 458). The initiative has proven impact, increasing the likelihood of babies being exclusively breastfed for six months (WHO, 2007).

The initiative is based on ten policy or procedure statements, The Ten Steps, which were accepted in 1990 as the central theme of the Innocenti Declaration (Naylor, 2001; WHO, 2007) and later that year endorsed at the World Summit on Children. In 1992, UNICEF and WHO launched an international campaign to encourage all hospitals with maternity services to accept the Ten Steps as basic maternity and newborn infant care policies and procedures (Naylor, 2001). The ten steps are a series of best practice standards proven to increase

breastfeeding outcomes. The evidence of the effectiveness for each step has been documented (Saadeh and Akre, 1996).

Official designation as Baby Friendly requires careful assessment completed by a trained external team to confirm that the institution is truly carrying out all Ten Steps and conforming to the International Code of Marketing of Breastmilk Substitutes (BMS). The BFHI is considered one of the most successful international efforts ever performed to protect, promote and support breastfeeding. Although it does not ensure that all mothers will aspire or achieve the accepted goal of approximately six months of exclusive breastfeeding, it helps mothers to initiate exclusive nursing, an essential step in the right direction (Naylor, 2001).

1.1 PROBLEM STATEMENT

There are many settings globally where EBF has improved dramatically. Data by Labbok et al (2006) suggest exclusive breastfeeding levels in the developing world have increased by 15 %. The largest improvements were observed in Sub Saharan Africa where exclusive breastfeeding rates nearly doubled from 18 % in 1990 to 38 % in 2000. The BFHI and the International Code for the Marketing of Breast milk substitutes (BMS) started in the 1990's are believed to have contributed to this improvement (Labbok, Wardlaw, Blanc, Clark, Terreri, 2006). In South Africa and in the Western Cape province the exclusive breastfeeding rate is however very low as indicated by the recent South African Demographic and Health Survey (SADHS) of 2003 (Department of Health, 2003).Twelve percent of children, 0 – 3 months and 1.5 % of children 4 to 6 months were exclusively breastfed.

The Metropole region of the Western Cape Province is a highly populated region consisting of two thirds of the provincial population. The region is divided into 8 health districts and has eleven Maternity Obstetric Units (MOU `s). Since the BFHI was initiated only 3 MOU `s have been designated Baby Friendly sites. (Metro District Health Services annual report, 2005). Momentum in becoming Baby Friendly is very slow in MOU `s in the Metropole region. Continuing efforts are needed to initiate and implement the Baby Friendly Hospital Initiative (BFHI) principles at all MOU `s in this region. The implementation of these principles are however challenging for these facilities as it requires "strategic planning, implementation and maintaining change" within the facilities (Merewood and Phillips, 2001).

The possible factors that may influence the implementation of the BFHI principles may include lack of knowledge of BFHI principles, staff attitudes and perceptions regarding BFHI (e.g. perceived as additional work), resistance to behavior change, lack of communication on BFHI issues, lack of support and motivation from unit managers, lack of BFHI advocacy, heavy workload and/or staff shortage affecting practices and training attendance. These possible factors were identified for the review of the literature and observations as a BFHI assessor. A study evaluating the BFHI in Zambia concluded that in poor practicing facilities attitude of staff was often negative from the highest level, while in successful facilities all members of staff were actively involved (Hambayi, Ketata, Kaluba, Kaite, Siyandi, 1997). We are however not sure which of the potential factors might be influencing implementation of the BFHI in MOU's in the Metropole region of the Western Cape..

CHAPTER 2: LITERATURE REVIEW

This review will look at BFHI and the trends of exclusive breastfeeding globally and nationally. We will then explore the literature for the impact of the initiative on breastfeeding rates, initiation rates, as well as the effect of BFHI training on hospital and maternal practices in different settings. We will then review the effect of BFHI and BFHI training on staff knowledge, attitudes and practices. Lastly, we will review the literature for studies assessing reasons for failure or success in implementation of BFHI.

2.1 Overview of BFHI

The WHO and UNICEF believe that health care practices, particularly those related to the care of mothers and newborn infants, are one of the most promising means of increasing the prevalence and duration of breastfeeding (WHO, 1989). The BFHI is based on the Ten Steps of successful breastfeeding and compliance with the Code of Marketing Breast Milk substitutes (BMS). The ten steps are a series of best practice standards proven to increase breastfeeding outcomes (WHO, 1989). The ten steps involves the following:

1. That every facility providing maternity services and care for newborn infants should have a written breastfeeding policy that is routinely communicated to all health care staff
2. All health care staff should be trained in the skills necessary to implement this policy
3. All pregnant women should be educated about the benefits and management of breastfeeding
4. Help should be offered to mothers to initiate breastfeeding within an hour of birth
5. Mothers must be shown how to breast feed and how to maintain lactation

6. Newborn infants should be given no food or drink other than breast milk, unless medically indicated.
7. Rooming- in (allow mother and baby to remain together 24 hours a day) must be practiced
8. Breastfeeding on demand should be encouraged
9. No artificial teats and pacifiers must be given to breastfeeding infants
10. Breastfeeding support groups must be established and mothers referred to them on discharge from hospital (WHO, 1989).

The Code of Marketing Breast Milk substitutes (BMS) seeks to encourage and protect breastfeeding and to control incorrect marketing practices used to sell products for artificial feeding (IBFAN, 1999). The code applies to all products that are marketed to replace breast milk. These include formula, other milks, infant foods or juice, feeding bottles, dummies and teats. The code prohibits advertising or promotion of BMS in health facilities e.g. posters, pamphlets, no free samples of BMS to mothers, no donations of free or subsidized supplies of BMS to health facilities and no BMS company personnel to contact or advise mothers on BMS (IBFAN, 1999).

2.2 Trends in BFHI

The process of becoming Baby Friendly creates an institution devoted to providing the best support for new mothers and babies. Over the last 15 years since the initiative began, more than 20,000 hospitals in 152 countries have been designated as Baby Friendly (WHO, 2007). East Asia / Pacific regions lead with 53 %, China claims to have 55 % of maternity centers

declared Baby Friendly and the Philippines no less than 79 %. At the lower spectrum are the Eastern and Central European countries and industrialized countries have only 10 % (Hofvander, 2005). In South Africa by June 2008, there were 232 health facilities certified as Baby Friendly. The distribution per province is indicated in the table below.

Table 1.1: Number of BFHI Accredited Facilities by Province, South Africa

Province	Number of Baby Friendly Facilities
KwaZulu Natal Province	49
Eastern Cape Province	40
Limpopo Province	38
Mpumalanga Province	29
Free State Province	20
Gauteng Province	20
Western Cape Province	16
North West Province	11
Northern Cape Province	9
Total for South Africa	232

(Department of Health, BFHI databases, June 2008)

During 2006 26 facilities in South Africa received BFHI status. In the Western Cape Province from 2003 to 2006 the province has designated 3 facilities per year as Baby Friendly. (Department of Health, 2006). To date (June 2008) there are 16 facilities with baby friendly status in the Metropole region of which 3 are MOU `s and 13 are hospitals (2 private and 11 provincial), with maternity services) (Department of Health, 2008).

2.3 Trends in exclusive breastfeeding

The WHO has reviewed the evidence on breastfeeding duration and has renewed its promotion of exclusive breastfeeding to 6 months of age as the best start in life for all infants (Binns and Scott, 2003; WHO 2002). Breastfeeding rates are no longer declining and have increased during the last decade. However more than half of all infants are still not exclusively breastfed for the first months of life (UNICEF, nd).

A recent study by Labbok et al (2006) investigated the trends and differentials in exclusive breastfeeding patterns in developing countries in the 1990`s. Data suggest exclusive breastfeeding levels in the developing world have increased by 15 % overall. The BFHI and the International Code for the Marketing of Breast milk substitutes (BMS) started in the 1990's are believed to have contributed to this improvement. Exclusive breastfeeding amongst infants younger than 4 months increased by 7 % (46 % to 53 %) and amongst infants younger than 6 months by 5% (34 % to 39 %). The largest improvements were observed in Sub Saharan Africa where exclusive breastfeeding rates nearly doubled from 18 % in 1990 to 38 % in 2000. The rates in the Middle East and North Africa region also increased from 29 % to 34 %. These two regions still, however, remain amongst the lowest of the regions analyzed. South and East Asia regions have the highest exclusive breastfeeding rates in the world, averaging between half to two thirds of infants being exclusively breastfed. In the developing countries the highest increase in exclusive breastfeeding occurred in the early months of life. A 22 % increase was observed among the 0 – 1 month age group, a 14 % in the 2 – 3 month age group while the rates in the 4 – 5 month age group remained the same (Labbok et al., 2006).

Despite the programmatic enthusiasm for the BFHI in South Africa, this has failed to translate into increased rates of exclusive breastfeeding. The recent documented South African Demographic and Health Survey (SADHS) of 2003 indicated high rates of breastfeeding initiation (up to 80 %), with 12 % of children 0 – 3 months exclusively breastfed (2 % increase from 1998 SADHS) and 1.5 % of children 4 to 6 months were exclusively breastfed (0.3 % increase from 1998 SADHS) (Department of Health, 2003). The study also showed that 20.1 % of infants were not breastfed at all, 28.5 % of infants were bottle fed with nipples and that 6 % of infants less than 4 months and 27 % of infants 4 to 6 months were given semi solid food. A study conducted in rural KwaZulu Natal (Bland et al., 2002) found that despite the implementation of the BFHI in the district, 46 % of infants received non breast milk fluids or feeds within 48 hours of birth, 10 % of infants were exclusively breastfed for 6 weeks and 6 % for 16 weeks. This data indicates that the prevalence of exclusive breastfeeding in South Africa is very low and that mixed feeding rather than exclusive breastfeeding is the norm (Bland et al., 2002).

2.4 BFHI and Breastfeeding Rates

Much has been published on the direct and immediate impact of hospitals becoming Baby Friendly. The PROBIT study, a randomized trial conducted in the Republic of Belarus, involved 31 maternity hospitals and polyclinics. Sites were randomly assigned to receive an experimental intervention modeled on the BFHI or a control intervention of continuing the usual infant feeding practices and policies. Infants from the intervention sites were significantly more likely than the controls infants to be breastfed to any degree at 12 months and were more likely to be exclusively breastfed at 3 months and 6 months (Kramer,

Chalmers, Hodnett, Sevkovskaya, Dzihovich, Shapiro, 2001). Similar results were found in a study in Brazil. Patients exposed to BFHI were breastfed significantly longer than those born before BFHI implementation. The median duration of exclusive breastfeeding was 2 months for children born after BFHI and 1 month for children born before BFHI (Braun, Giugliani, Soares, Guigliani, de Oliveira, Danelon, 2003). A study in Italy (Cattaneo and Buzzett, 2001) documented the impressive outcome of the Baby Friendly training programmes in eight hospitals. High rates of exclusive breastfeeding were achieved after training. Exclusive breastfeeding rates at discharge significantly increased after training from 41 % to 77% in one group and from 23 % to 73% in the other group. The rates of full (exclusive plus predominant) breastfeeding also significantly increased at 3 months (37 % - 50% in group 1, 40 % - 59 % in group 2) and any breastfeeding at 6 months (43 % - 62 % in group 1, 41 % - 61 % in group 2).

In the United States (US) a study (Phillip et al., 2001) was conducted to determine the impact of BFHI on breastfeeding initiation in a Boston hospital setting. Breastfeeding initiation rates were evaluated before, during and after BFHI was implemented. The evaluation was done within one year after BFHI implementation. Breastfeeding initiation rates increased from 58.0 % (1995) to 77.5 % in 1998 to 86.5 % in 1999. Infants exclusively breastfed increased from 5.5 % (1995) to 28.5 % (1998) to 33.5 % in 1999. The study showed that full implementation of BFHI and the ten steps is an effective strategy to increase EBF rates and breastfeeding initiation rates in US hospital settings. A follow up study in 2003 (Phillips, Malone, Cimo, Merewood, 2003) in the same setting was conducted to establish if BFHI status would sustain elevated breastfeeding initiation rates beyond the years of designation. Breastfeeding rates in 1999 were compared with rates in 2000 and 2001. Breastfeeding initiation rates remained at

high levels 87 % (1999), 82 % (2000) and 87 % (2001). Infants receiving more breastfeeding than formula were also sustained 73 % (1999), 67 % (2000) and 67 % (2001). Infants who were breastfed exclusively across the 4 years did not differ significantly, 34 % (1999), 26 % (2000), and 25 % (2001). Limitations identified in this study were that the research assistant who reviewed the medical records was not blind to the study hypothesis and no measure of accuracy of nurse recordings of feeding.

The Dulon study (2003) looked at the impact of the BFHI principles across a whole hospital system in a high income country, Germany. Hospitals that had not achieved BFHI accreditation were recruited for the study. The study showed full breastfeeding rates of between 10 and 16 % at 6 month of age. According to WHO full breastfeeding comprises exclusive (only breastmilk, no other liquids or solids except vitamin and mineral supplements or medicine) and predominant breastfeeding (breast milk and water – based drinks including tea and fruit juice). In this study the breastfeeding promotion index was used to examine long term breastfeeding success with respect to the degree of hospital promotion, determined as a breastfeeding promotion index of fulfillment of the ten steps. The study also showed delivering in a hospital with a low breastfeeding promotion index (fulfillment of less than five steps and the risk of short term breastfeeding less than 4 months) was associated with increased risk of short term breastfeeding (Odds Ratio 1.24, 95 % CI 0.99-1.55). Higher breastfeeding promotion index was significantly associated with full breastfeeding at 4 and 6 months (Dulon, Kersting, Bender, 2003).

Two studies assessed the impact of BFHI adoption on hospital feeding practices. A cross sectional comparative study in Calcutta, India showed positive impact on the initiation of breastfeeding practices after the adoption of BFHI. Breastfeeding initiation within 30 minutes increased from 1.5 % in 1994 (before BFHI) to 14.3 % in 1995 (after BFHI). Incidence of prelacteal feeds decreased from 100 % to 33.3 % and the incidence of supplemental feeds decreased from 46 % to 19.6 %. Fifty four percent of mothers reported that they were encouraged to exclusively breastfeed by hospital staff, primarily doctors (Dasguptqa, Bhattacharya, Das, Chowdhury, Saha, 1997). A study by Ojofeitimi (2000) assessed the impact of BFHI on breastfeeding practices in urban and rural centers in Nigeria. Sixty one percent of mothers that initiated within 30 minutes were from designated BFHI centers (declared by the country BFHI assessors team as a accredited centers, through formal assessment) and 39 % were from non BFHI centers. The study showed a significant increase in EBF from 3 % to 61 % as well as a significant relationship between practice of EBF and designation of BFHI centers ($p = 0.0001$) (Ojofeitimi, Esimai, Owolabi, Oluwabusi, Olaobaju, Olanuga, 2000).

2.5 Effect of BFHI training on Hospital and Maternal Practices

A study by Valdes (1995) assessed the effect of professional practice of staff in Chile after a 3 day course in breastfeeding. A pre and post training assessment indicated an increase in knowledge in all areas. A questionnaire was sent to participants 2 years after the course. 69 % reported changes in clinical practice, 86 % recommended exclusive breastfeeding for 6 months, 6 % recommended less than 6 months EBF, and 8% recommended more than 6 months EBF. The questionnaire approach used in this study did not allow for exploring

attitudes and reasons why the recommended practices were not implemented. Bias resulted from the fact that respondents knew that the questionnaire was sent out by the group that did the training. The researchers could have opted for an analytical study comparing practices of the exposed group to the non exposed group. Interviews and observation of practices could have been conducted, and the research could have been carried out by trained field workers that were not in any way affiliated to the training. The study indicated that an 18 to 24 hour course can change clinical practice (Valdes, Pugin, Labbok, Perez, Catalan, Aravena, Adler, 1995). The study by Cattaneo and Buzzett (2001) showed that after BFHI training in eight hospitals in Italy, their compliance to the 10 steps of successful breastfeeding improved from an average of 2.4 steps to 7.7 steps.

A study in the North East of Brazil evaluated the impact of BFHI training on breastfeeding practices of mothers in maternity wards and during the first 6 months of life (Coutinho, Lima, Ashworth, Lira, 2005). Comparison with a previous cohort study, showed an increase in exclusive breastfeeding prevalence from 21 % in 1998 to 70 % in 2001. The study however found that the high rates achieved in hospital are very short lived. Within 10 days, only 30 % of infants were exclusively breastfed and at 1 month the proportion was 15 %. Training promoted partial change to some practices related to breastfeeding, having a positive effect on total and exclusive breastfeeding at the maternity wards. A study by Vittoz (2004) showed that a 3 day breastfeeding training program for maternity ward professionals can be followed by a significant but moderate increase in the median duration of any breastfeeding (Vittoz, Labarere, Castell, Durand, Pons, 2004). In India, a study undertaken to determine the impact of training on the management of pediatric morbidity, knowledge of health workers on

diseases, and their management improved after training, but reached a plateau at a 50% score (Anand, Patro, Paul, Kapoor, 2004). The authors concluded that increased emphasis needs to be placed on training and supervision.

2.6 Knowledge, attitudes and practices regarding BFHI practices

A study by Owoaje (2002) assessed the effect of BFHI training on knowledge, attitudes and support practices of nurses with regards to exclusive breastfeeding. A higher proportion of BFHI trained nurses reported correct support practices for the initiation and establishment of exclusive breastfeeding among mothers. The overall knowledge score of the BFHI trained nurses was significantly higher than that of the untrained. Nurses who had participated in BFHI training were significantly more knowledgeable about aspects of exclusive breastfeeding and they had more positive attitudes, and were more likely to employ correct practices for the promotion of exclusive breastfeeding (Owoaja, Oyemade, Kolude, 2002). Cattaneo and Buzzett (2001), also showed that knowledge score increased in two (2)groups after BFHI training was conducted (from 0.41 to 0.72 in group 1 and 0.53 to 0.75 in group 2). Valdes et al (1995) also indicated an increase in knowledge of staff after a 3 day breastfeeding course. Worldwide a high level of breastfeeding knowledge has been found to be associated with more consistent and positive professional practices (OlaOlorun and Lawoyin, 2006; Valdes, 1995; Vittoz et al., 2004). These studies add to the body of evidence that BFHI trainings are associated with an increase in staff knowledge.

A randomized cross sectional study in Keffi local government, Nigeria was conducted to assess knowledge, attitudes and practices (KAP) of health workers toward BFHI (Okolo and

Ogbonna, 2002). The staff interviewed had no BFHI training. The study found a lack of awareness of some major recommended BFHI practices that promote and sustain breastfeeding. Twenty one percent of staff were aware of the need for initiating breastfeeding within 30 minutes, 36.8 % were aware of breastfeeding support groups. Only 5.22 % could demonstrate correct positioning and attachment, while 19.2 % of staff believed that babies less than six months of age should be given water (Okolo and Ogbonna, 2002). This study is very similar to the proposed study of assessing KAP of BFHI practices within a developing country like South Africa.

A recent study in rural Kwa Zulu Natal, South Africa (Shah, Rollins, Bland, Child Health Group, 2005) was undertaken to assess breastfeeding knowledge amongst health workers in an area of high HIV prevalence. Ninety three percent (93%) of doctors knew that breastfeeding should be initiated within 30 minutes of delivery, 71 % recommended water, and 50 % recommended solids to breastfed infants under six months of age. Only 44 % of staff nurses and 56 % of professional nurses new that breastfeeding should be on demand. This study revealed large gaps in the knowledge about breastfeeding practices in those who care for women and infants in this area.

In addition to breastfeeding knowledge and attitude, several studies suggest that the personal and professional breastfeeding training experience of professionals with breastfeeding, significantly influences their professional behavior (Tennant, Wallace, Law, 2006; Hellings and Howe, 2000; Patton, Beanan, Csar, Lewinski, 1996).

2.7 Factors affecting failure/success in implementation of BFHI

No direct studies could be located as at the time of this study relating to BFHI program failures, difficulties, constraints or successes in South Africa. A study by Hambayi et al. (1997) evaluated the BFHI in Zambia. They concluded that in poor practicing facilities attitude of staff was often negative from the highest level. In successful facilities, all members of staff were actively involved, while in poor practicing facilities, a selective few were identified as the owners of the program, who were seen to be responsible for training, and to implement change (Hambayi et al., 1997).

A recent study by Davies (2008) documented the implementation of 6 newly developed nursing best practice guidelines. One of the guidelines was breastfeeding. Participants (clinical resource nurses) perceived facilitating and barriers to these guidelines were assessed through qualitative interviews. Key facilitators of breastfeeding included education sessions, nurses paid time for attending education sessions while key barriers were workload and limited availability of nurses, staff resistance, lack of management support and lack of communication between hospital and public health. The study suggested that managerial leadership is an important element for guideline implementation in nursing (Davies, Edwards, Ploeg, Virani, 2008). Another recent study conducted in Australia by Reddin (2007) investigated early experiences of midwifery graduates and the BFHI 10 steps to successful breastfeeding. This study highlighted experiences such as heavy workload and time pressure and additionally found that established clinical practices of experienced midwives undermine their commitment to the BFHI 10 steps. Outdated practices by senior midwives and passive resistance to the BFHI 10 steps were common place in these institutions. The study suggested that most of the

senior midwives will comply with BFHI if time and workload allows, however it is just another stress when the pressure is on. Participants of this study (midwifery graduates) were dismayed by the attitude of many experienced midwives who felt that BFHI implementation was just a chore to get over and done with (Reddin, Pincombe, Darbyshire, 2007).

A New Zealand study explored the barriers encountered through implementing the first two steps of the BFHI, developing BFHI policy and communicating this to staff and providing the necessary training to staff. The study illustrated that implementing policy could be more straight forward in smaller hospital organizations and hospitals with more stable workforces. From the New Zealand study they suggest that the existence of interdisciplinary and advocacy groups that span hospitals and community may also assist with policy dissemination and compliance (Moore, Gauld, Williams, 2007).They found that gaining staff compliance with the policy took time and that considerable effort and resourcing was required to ensure that education was far reaching and accessible to all relevant staff. They also found that if the hospitals are not themselves leading a drive to become baby friendly, there is a need for external motivation (e.g. motivation from the provincial or national office) and that this motivation should possibly be matched with the right incentives and resourcing to ensure that the BFHI policy is implemented (Moore et al., 2007). A case study from Australia Hospital identified training of staff, regular monitoring of current practices and outcomes, development of a breastfeeding support unit, greater support from policy makers and managers, support from hospital administrators and first line managers as initiatives to help with the implementation of BFHI in their setting (Heads, 2005). To increase the number of facilities receiving BFHI accreditation in Australia they identified amongst others to support facilities

progressing to BFHI accreditation by assisting with the identification of specific barriers and how to overcome these barriers (Heads, 2005). The case study suggested that attitudinal change among staff continues to prove to be the greatest challenge to those wishing to seek BFHI accreditation. Within the setting much of the educational focus went into the reassurance of the staff that there would not be a dramatic change in practices (Heads, 2005).

A national assessment report on BFHI in South Africa was conducted during 2008. This report was not available for distribution at the time of the write up of this thesis. Important to note was that all the provinces, except the Western Cape were evaluated. This makes the findings of the study important in this regard.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

3.1 AIM

To assess the factors influencing the implementation of BFHI principles in non accredited MOU` s in the Metropole region of the Western Cape..

3.2 OBJECTIVES

- To assess nursing staff knowledge, attitudes and practices regarding BFHI principles in non accredited MOU`s
- To assess MOU managers knowledge regarding BFHI principles in non accredited MOU`s
- To assess MOU managers attitude towards the implementation of BFHI principles in non accredited MOU`s
- Describe barriers and constraints to implementation of BFHI principles

3.3 STUDY DESIGN

A cross sectional descriptive study design was used, employing quantitative research methods. A descriptive study was decided upon to assess the experiences of staff in MOU` s that have not applied the BFHI principles adequately. This type of design is appropriate as it is relatively inexpensive and can be done in a short space of time. It was decided against an analytical study design e.g. comparing Knowledge, Attitudes and Practices (KAP) in Baby Friendly and non Baby Friendly MOU. It would be more likely that staff in Baby Friendly MOU would be more knowledgeable, and have positive attitudes and practices. In view of time, financial and

human resource constraints the scope of the study was restricted to non accredited facilities, who we assume to have more barriers to implementation of BFHI (and thus barriers to BFHI accreditation) than already accredited facilities.

3. 4 DEFINITIONS OF TERMS:

Exclusive Breastfeeding:

Means giving the infant no other food or drink, not even water apart from breastmilk (including expressed breast milk), with the exception of drops or syrups consisting of vitamin and mineral supplements or prescribed medicines

Full Breastfeeding:

Comprises exclusive breastfeeding (only breastmilk, no other liquids or solids except vitamin and mineral supplements or medicine)

Predominant breastfeeding:

Means breastfeeding a baby, but also giving water or water based drinks, such as tea, fruit juice even in small amounts

Mixed Feeding:

Giving a baby some breastmilk and also any other fluids or feeds, even a teaspoon of water

Breastfeeding initiation rates:

Infants receiving any amount of breastmilk during the hospital stay

Breastmilk substitute:

Any food or drink marketed or otherwise representing a partial or total replacement of breastmilk, whether or not suitable for that purpose.

Complementary foods:

Complementary foods means any foodstuff, whether in solid or semi solid form, given to an infant after the age of 6 months as part of the transitional process during which an infant learns to eat food appropriate for his or her developmental stage while continuing to be breastfed or fed with commercial formula.

3.5 STUDY POPULATION

The study population consisted of nursing staff and unit managers of 8 non accredited MOU `s (Vanguard, Kraaifontein, Elsies Rivier, Bishop Lavis, Retreat, Gugulethu, Khayelithsha, Micheal Mapongwana). Eight unit managers and a random sample of nursing staff within these MOU`s was selected.

3.6 SAMPLE SIZE & SAMPLING PROCEDURE

Stratified sampling was used. The population was grouped into two stratums (nursing staff and unit managers). All eight MOU unit managers and 30% sample of nursing staff were invited to participate in the study. A list of all nursing staff of non accredited BFHI MOU` s was obtained from the Human Resource Department of MDHS and Mowbray Maternity hospital. A random sample of 45 nurses was selected from the 8 maternity units. This should yield a

95% confidence limit of +/-10% for most estimates. Permission to conduct the study was obtained from the Department of Health Research Committee.

Nursing staff from the 8 maternity units was allocated a number and all the numbers from the 8 maternity units were put into a hat and a random sample of 45 numbers were drawn from the hat. Appointments were scheduled with the randomly selected participants at the different maternity units and they were grouped together as far as possible as they we sometimes on different working shifts. If the selected participant were not present on the scheduled appointment date due to e.g. sickness, another appointment was scheduled with the participant for a later date.

3.7 DATA COLLECTION METHODS AND TOOLS

The knowledge, attitudes and practices (KAP) of nurses and MOU unit managers regarding BFHI principles was determined by means of a semi structured questionnaire. Some of the respondents were asked to demonstrate certain practices which were observed by the researcher. The questionnaire was developed using the UNICEF/WHO BFHI external assessment tool (not available for general distribution), related questions in the literature (Okolo and Ogbonna, 2002) and my experience as a BFHI assessor. Barriers and constraints sections were developed through informal discussions with unit managers and process drivers of accredited facilities as well as my observations as an assessor. Questionnaires are attached (Addendum 2 and 3). The questionnaire was piloted in one non accredited hospital in the Metropole region (False Bay hospital) before use in the study to validate the questionnaire.

Only minor modifications to the wording of some questions were made. Necessary changes were made, before the study commenced.

The questionnaire addressed basic principles of the ten steps to successful breastfeeding, attitudes of nurses and MOU managers regarding BFHI principles, practices of nurses regarding BFHI principles, training on BFHI and lactation management. To assess the attitudes of nursing staff, a 5 point Likert scale was used ranging from strongly agree to strongly disagree. The knowledge of nursing staff was assessed through 1 multiple choice questions and 5 open ended questions (e.g. what is rooming – in?). Responses were recorded and were post coded after the interview. The criteria used to assess the knowledge and practices of the nursing staff was set up by the researcher. It was based on the UNICEF / WHO 20 hour training package and her experience as a trainer of trainers (TOT) and BFHI assessor. The researcher consulted with an experienced external assessor to define the criteria. For example, for painful nipples the criteria used were to correct the positioning and attachment to the breast and to continue with breastfeeding. This was defined as adequate management for painful nipple. For engorgement, expressing and continuing with regular demand feeding was defined as adequate management. For hand milk expressing, 4 steps was identified to evaluate expressing technique. Holding the areola at 6 and 12 o clock, pressing backwards towards the chest, compress on areola and release, with no sliding of the fingers. (See Addendum 5 for criteria used). Open ended questions were asked to describe possible barriers and constraints to implementation of BFHI. The most frequently occurring categories were coded by the researcher during the analysis. Similar types of responses were grouped into single categories. All coding was be done by the researcher, an experienced BFHI

assessor. To ensure a high response rate, the questionnaires was researcher-administered and completed by face-to face interview after obtaining informed consent from the participants. Example informed consent form is attached (Addendum1).This allowed the interviewer to clarify the questions through out the interview. The questionnaire took no longer than 30 minutes to administer. Confidentiality was maintained and all instructions were explained to the participants.

The selected participants were contacted at the relevant MOU and appointments were made to discuss what the study was about and to conduct the interview after informed consent was obtained from the participant. Only one participant refused to participate in the study. She was on night duty and the reason given by her was that she was the only professional nurse on duty and that the MOU were too busy. There was nothing different about this participant suggesting selection bias is not likely.

3.8 VALIDITY & RELIABILITY

A standardized questionnaire was used to avoid measurement bias. Quality control checks were performed, e.g. check data during data collection and analysis for completeness and internal consistency, assess that the data within each field of the data set contain valid responses consistent with the meaning and content of the specific data field. The tool was circulated to experienced assessors, to validate the questionnaire. The researcher conducted all the interviews. She is employed as a senior dietician in the Eastern Sub District of the Metropole region. She is a trainer of trainers (TOT) in lactation management and a trained UNICEF BFHI accredited assessor. She has assisted and facilitated in various BFHI training

sessions as well as assisted in a number of BFHI internal assessment in the province. She used her skills, knowledge and experience as an assessor when conducting the interviews. All the non accredited MOU `s fall outside her district and she is not involved in supporting any of these MOU `s in the BFHI process. Coding was done by the researcher, during data collection and checked again when data was entered and analyzed. The researcher consulted with an experienced external assessor to define the criteria that was used in this study, to evaluate the knowledge and practices of the nursing staff. (Addendum 5). The criteria used are based on the WHO / UNICEF 20 hour training package.

3.9 DATA ANALYSIS

Data was entered and analyzed in Epi Info. Descriptive statistics were used. Most data in the dataset contained categorical data. Frequency distribution, using one way frequency tables was used. Frequencies, mean values and standard deviations were determined for the population characteristics e.g. age, gender, qualifications, job category, years serviced which was descriptively reported on. The years serviced was calculated by using the following formula: year of data collection minus year of appointment. None of the participants had interrupted years of service. Response frequencies, percentages, were calculated for items on the attitude scale and items under the knowledge and practices variables. P values were calculated using the Chi Squared test, to evaluate the statistical significance between the different categories, enrolled nursing assistant (ENA), enrolled nurse (EN) professional nurse (PN) and unit manager (UM) for knowledge and practices.

3. 10 ETHICS

Ethics approval was obtained from University of the Western Cape, Research Ethics Committee prior to the study being conducted. Permission to conduct the study was also obtained from the Department of Health, Metro District Health Services. As the study was descriptive in nature, there was no risk posed to the participants. Signed informed consent was obtained from the individuals who were prospective research participants. Participation in the study was free and voluntary. Study participants were informed that the results will remain confidential and they are free to withdraw from the study at any time. They were provided with a letter explaining the research study, requesting their participation and assuring them of confidentiality (Participant Information Sheet, Addendum 4).

3.11 LIMITATIONS

Limitations of the study included:

- The study was done over a short period of time, (3 months) and therefore did not include all the non accredited BFHI facilities in the Metropole region. Non accredited BFHI hospitals with maternity services were excluded from this study.
- A 5-point Likert scale (strongly agree, agree, no opinion, disagree, strongly disagree) was used to ascertain participants' attitudes regarding BFHI principles. However, participants may report that they agree or engage or belief BFHI statements which are socially desirable even if this is not the case.
- A two-phased approach in the study method e.g. structured interviews with focus group discussions or in-dept interviews and / or observations could have been used, This however was not logistically feasible due to time constraints.

CHAPTER 4: RESULT PRESENTATION

In this chapter the results of the data, including the demographic characteristics of the participants will be presented.

4.1 Findings of the Quantitative data

4.1.1 Demographic characteristics

The demographic characteristics of the sample are presented in table 1.

Table 1: Demographic Characteristics

	ENA (n = 12) n (%)	**EN** (n = 7) n (%)	**PN** (n = 26) n (%)	**UM** (n = 8) n (%)	**Total** (n=53) n (%)	**P value ***
Gender: Female	12 (100)	7 (100)	26 (100)	7 (87.5)	52 (98.1)	0.12
Gender: Male	0 (0)	0 (0)	0 (0)	1 (12.5)	1 (1.9)	
Mean Age (SD)	51.2 (10.0)	51.4 (8.2)	41.3 (10.4)	45.1 (8.2)	45.4 (10.5)	0.81
Mean Years in service	14.9	16.7	10.1	9.1		0.31
Ever Breastfed	10 (83.3)	6 (85.7)	21 (80.8)	6 (14.0)	43 (81.1)	0.95
Mean months breastfed	18.2	22.3	21.9	19.5	20.8	0.97
Trained in (18 hr /80 hr) lactation management in the last 5 years	5 (41.7)	4 (57.1)	12 (46.2)	1 (12.5)	22 (41.5)	0.29

(ENA = Enrolled nursing assistants, EN = Enrolled nurse, PN = Professional nurse, UM = unit manager)
* Chi – Squared test.

45 nursing staff and the 8 unit mangers (UM) of the eight non accredited MOU` s participated in the study. The nursing staff interviewed included 12 enrolled nursing assistants (ENA), 7 enrolled nurses (EN) and 26 professional nurses (PN). Ninety eight percent of the participants were female. The mean age of the sample was 45.5 years (SD 10.5, range 23 – 67 years). The mean (45.5) and median (47) for age were very close which indicates a normal distribution. The mean years in service were higher amongst the ENA (14.9 years) and EN (16.7 years). Mean years in service by the PN and UM were 10.1 years and 9.1 years respectively. Eighty one percent of participants have breastfed and 18.9 % have never breastfed. The mean age breastfed was 20.8 months (median=22).

Fourty one percent of participants have received formal training in lactation management in the last five years. Only 1 of the 8 unit managers has received training in lactation management within the last five years.

4.1.2 Knowledge of BFHI Principles

To test participant's knowledge about BFHI principles 1 multiple choice question and 5 open ended questions were asked. Knowledge of breastfeeding is necessary for health workers to adequately assist mothers. Table 2 shows the awareness and knowledge of BFHI principles among the various categories of nursing staff.

Table 2: Knowledge of BFHI principles

Knowledge	**ENA** (n = 12) n (%)	**EN** (n = 7) n (%)	**PN** (n = 26) n (%)	**UM** (n = 8) n (%)	**Total** (n=53) n (%)	**P value** *
Heard of BFHI	12(100)	7 (100)	21 (80.8)	8 (100)	48 (90.6)	0.12
Define components of BFHI	4 (33.3)	1 (14.3)	14 (53.8)	6 (75)	25 (47.2)	0.07
Name 3 baby friendly care practices and routines	7 (58.3)	3 (42.9)	15 (57.5)	7 (87.5)	32 (60.4)	0.33
Define exclusive breastfeeding	6 (50)	7 (100)	24 (92.3)	7 (87.5)	44 (83)	0.006
Define rooming – in	4 (33.3)	3 (42.9)	18 (69.2)	5 (62.5)	30 (56.6)	0.17
Define demand feeding	6 (50)	6 (85.7)	21 (80.8)	7 (87.5)	40 (83)	0.13
Define infant feeding options for a HIV positive mother	10 (83.3)	5 (71.4)	21 (80.8)	8 (100)	44 (83)	0.49

(ENA = Enrolled nursing assistants, EN = Enrolled nurse, PN = Professional nurse, UM = unit manager)
* Chi – Squared test.

The study demonstrated a fair awareness and knowledge of some of the recommended BFHI principles. Most (90.6 %) of respondents heard of BFHI. The majority (43.8 %) heard of BFHI at baby friendly hospitals and MOU` s, 14.6 % from staff at the MOU, 12.5 % at training and 8.3 % at meetings. Eighty three percent (83 %) of staff could correctly define exclusive breastfeeding, demand feeding and the feeding options for an HIV mother. However only 56.6 % of staff could define rooming – in and less than half 47.2 % of staff could define the components of BFHI. More than half of the respondent (52.8%) could name 3 baby friendly

care practices and routines. For several of the variables the proportion of health workers with knowledge of breastfeeding principles was the lowest amongst the ENA` s compared with the EN, PN and UM respectively. It however only reached statistical significance for the defining exclusive breastfeeding item (p = 0.006). When comparing the ENA with the rest of the groups (total of EN, PN and UM), 3 variables reached statistical significance i.e. defining exclusive breastfeeding (p = 0.001), rooming - in (p = 0.03) and demand feeding (p = 0.01).

Table 3: A comparison of Knowledge of BFHI trained vs. non BFHI trained staff

Knowledge of BFHI Principle	**BFHI Trained** n (%) n = 22	**Non BFHI Trained** n (%) n = 31	**Total** n (%) n = 53	**P value ***
Define components of BFHI	12 (54.5)	13 (41.9)	25 (47.2)	0.26
Name 3 baby friendly practices and routines	14 (63.6)	18 (58.1)	32 (60.4)	0.45
Define exclusive breastfeeding	20 (90.9)	24 (77.4)	44 (83)	0.18
Define rooming – in	14 (63.6)	16 (51.6)	30 (56.6)	0.28
Define demand feeding	19 (86.4)	21 (67.7)	40 (83)	0.11
Define infant feeding options for a HIV positive mother	22 (100)	22 (71.0)	44 (83)	0.004

* Chi – Squared test.

When comparing the knowledge of BFHI trained and non BFHI trained participants regarding BFHI principles, only one variable reached statistical significance, i.e. defining the infant feeding options for a HIV positive mother (p = 0.004). See table 3.

4.1.3 Practices of BFHI Principles

Table 4 shows the practices of BFHI principles among the various categories of nursing staff. The practices relating to BFHI principles were assessed from the nursing staff (n = 45) and not the unit managers, as they are mostly the primary educators of mothers regarding the management of infant feeding practices.

Table 4: Practices of BFHI principles

Practices	**ENA** (n=12) n (%)	**EN** (n=7) n (%)	**PN** (n=26) n (%)	**Total** (n=45) n (%)	**P value ***
Show correct positioning of baby	10 (83.3)	24 (92.3)	24 (92.3)	40 (88.9)	0.68
Show correct attachment to the breast	9 (75)	25 (96.2)	25 (96.2)	41 (91.1)	0.07
Show correct hand expressing technique (all 4 steps identified)	0 (0.0)	2 (28.6)	2 (7.7)	4 (8.9)	0.10
Show correct hand expressing technique (3 steps identified)	7 (58.3)	14 (53.8)	14 (53.8)	25 (55.6)	0.96
Adequately describe preparation of formula	3 (25)	5 (71.4)	10 (38.5)	18 (40)	0.13
Adequately describe the management of painful nipples	6 (50)	2 (28.6)	8 (30.8)	16 (35.6)	0.47
Adequately describe the management of engorgement	2 (16.7)	2 (28.6)	6 (23.1)	10 (22.2)	0.82

(ENA = Enrolled nursing assistants, EN = Enrolled nurse, PN = Professional nurse)
* Chi – Squared test.

Eighty nine percent of the nursing staff interviewed was able to demonstrate correct positioning of the baby for breastfeeding. Similarly, a high proportion 91.1 % of nursing staff could correctly attach the baby at the breast. However, only 35.6 % could adequately describe the management of painful nipples and 22.2 % the management of engorgement. For hand milk expressing, 4 steps was identified to evaluate expressing technique. Holding the areola at 6 and 12 o clock, pressing backwards towards the chest, compress on areola and release, with no sliding of the fingers. (See Addendum 5 for criteria used.). An alarming 8.9 % (4) could correctly demonstrate this using the above criteria. Showing how to express is part of step 5 of the 10 steps to successful breastfeeding. Three of the 4 staff members who were able to demonstrate this were BFHI trained. Fourty seven percent of staff were not far out and could demonstrate 3 steps of the criteria. Only 40 % of staff could adequately describe the safe preparation of infant formula.

Table 5: A comparison of Practices of BFHI trained vs. non BFHI trained staff

Practices of BFHI Principle	**BFHI Trained** n (%)	**Non BFHI Trained** n (%)	**Total** n (%)	**P value ***
	n = 21	n = 24	n = 45	
Show correct positioning of baby	19 (90.5)	21 (87.5)	40 (88.9)	0.56
Show correct attachment to breast	22 (100)	20 (83.3)	41 (91.1)	0.07
Show correct expressing technique	3 (14.3)	1 (4.2)	4 (8.8)	0.25
Adequately describe preparation of formula	10 (47.6)	8 (33.3)	18 (40)	0.25
Adequately describe the management of painful nipples	12 (57.1)	4 (16.7)	16 (35.6)	0.005

Adequately describe the management of engorgement	6 (28.6)	4 (16.7)	10 (22.2)	0.27

* Chi – Squared test.

Only 1 practice variable, the management of painful nipples (p = 0.005) showed better practices amongst the BFHI trained participants (table 5). Showing correct attachments to breast showed a tendency for significance, with a p value of 0.07 but it was not significant. When comparing practices skills of the ENA with the rest of the groups (total of EN, PN and UM), it only reached statistical significance for one variable i.e. showing the correct attachment to the breast (p = 0.03).

Frequencies of "yes" responses to BFHI practices and related activities at the MOU `s according to the respondents is presented in table 6. All the respondents identified that they practice rooming in and demonstrate positioning and attachment to mothers at the MOU ` s. Eighty seven percent responded that they demonstrate expressing by hand and 97.8 % that they teach mothers who are not breastfeeding how to prepare artificial feeds for their babies.

Table 6: BFHI Practices at the MOU `s

Practice	**Yes n (%)**
Practice rooming – in	45 (100)
Demonstrates positioning and attachment	45 (100)
Demonstrates expressing by hand	39 (86.7)
Teach how to prepare artificial feeds	44 (97.8)

4.1.4 Attitudes towards BFHI Principles

Response frequencies were calculated for each of the 13 items of the attitude scale. (See table 7)

Table 7: Attitude towards BFHI Principles

	Strongly Agree n (%)	**Agree** n (%)	**No Opinion/ Uncertain** n (%)	**Disagree** n (%)	**Strongly Disagree** n (%)
The benefits of breastfeeding outweigh any difficulties/ inconvenience mothers may encounter	33 (62.3)	18 (34)	1 (1.9)	1 (1.9)	0 (0.0)
A mother should stop breastfeeding if she develops a breast infection (mastitis)	5 (9.4)	23 (43.4)	6 (11.3)	11 (20.8)	8 (15.1)
Exclusive breastfeeding for six months is the optimal feeding for healthy babies	32 (60.4)	15 (28.3)	0 (0.0)	6 (11.3)	0 (0.0)
Working mothers can exclusively breastfeed	32 (60.4)	15 (28.3)	1 (1.9)	3 (5.7)	2 (3.8)
It is very difficult to exclusively breastfeed up to 6 months of age	3 (5.7)	10 (18.9)	7 (13.2)	14 (26.4)	19 (35.8)
Babies less than six months Should not be given water	39 (73.6)	11 (20.8)	1 (1.9)	1 (1.9)	1 (1.9)
Healthy full term babies need additional fluids, other than breast milk	0 (0.0)	3 (5.7)	0 (0.0)	13 (24.5)	37 (69.8)

Early supplements can result in insufficient breast milk supply	27 (50.9)	15 (28.3)	1 (1.9)	8 (15.1)	2 (3.8)
Implementation of BFHI results in effective breastfeeding	29 (54.7)	20 (37.7)	2 (3.8)	2 (3.8)	0 (0.0)
Implementation of BFHI is a burden to nursing staff	2 (3.8)	3 (5.7)	1 (1.9)	33 (62.3)	14 (26.4)
Initiation of breastfeeding should occur skin to skin soon after birth within one hour	41 (77.4)	11 (20.7)	0 (0.0)	0 (0.0)	1 (1.9)
Babies need to suck on a dummy /pacifier	0 (0.0)	1 (1.9)	0 (0.0)	2 (3.8)	50 (94.3)
Complementary feeding should start at 6 months	27 (50.9)	23 (43.4)	0 (0.0)	1 (1.9)	2 (3.8)

Regarding breastfeeding and breastfeeding difficulties, 96.3 % of staff agreed that the benefits of breastfeeding outweigh any difficulties a mother may encounter. Fifty three percent of the respondents agreed that a mother should stop breastfeeding if she develops mastitis. This is an incorrect attitude that more than half of the participants had.

Regarding exclusive breastfeeding, most nurses (88.7%) believe that working mothers can exclusively breastfeed, however 9.5 % thought otherwise. Twenty five percent of staff believes that it is very difficult to exclusively breastfeed up to 6 months of age, 13.2 % had no opinion regarding this statement. Eighty nine percent of staff agreed with the statement that exclusive breastfeeding for 6 months is the optimal feeding for healthy babies.

Regarding fluids and supplements 94.4 % of staff agreed that babies less than six months should not be given water and 94.3 % disagreed with the statement that healthy full term babies need additional fluids, other than breast milk. Although most nurses (79.2%) agreed that early supplements can result in insufficient breast milk supply, 18.9 % thought otherwise.

Regarding BFHI implementation, most nurses (88.7 %) disagreed that BFHI implementation is an extra burden to nursing staff, although 9.5 % thought otherwise. Ninety three percent believes that implementation of BFHI results in effective breastfeeding. Regarding BFHI principles, 98.1 % agreed that the initiation of breastfeeding should occur skin to skin within 1 hour of birth and disagreed with the statement that babies need to suck on a dummy. Most (94.3%) nurses agreed that complementary feeding should start at 6 months. The majority of the nurses had correct attitudes toward BFHI principles and practices.

4.2 Findings on Barriers and Constraints to BFHI Implementation

The primary purpose of the open-ended questions was to explore in greater depth issues and concerns staff may have relating to BFHI implementation. Analysis of open-ended questions was post coded and major themes were identified. Questions were asked regarding their opinion of BFHI, perceptions of their main role and function, barriers and constraints to implementation of BFHI and suggestions for improvement of BFHI implementation. The unit mangers were asked an additional two questions regarding their feelings and experiences of facilitating the BFHI process within their facilities. Responses to these questions are presented

in table 8 -13. With the open ended questions the participants could answer none or more than one answer.

4.2.1 Opinion of BFHI

The majority of the staff had a positive opinion of BFHI and saw the importance and benefits it has for the mother, baby and staff (see table 8). Two respondents, nursing staff were of the opinion that BFHI poses extra work for nurses.

Table 8: Opinion of BFHI

	Nursing staff # (n = 45)	**UM # (n =8)**	**Total #**	**Total % (n=53)**
Good thing	25	4	29	54.7
Beneficial for mom and baby	11	1	12	22.6
Feels strongly about it, promotes it, supports it, positive	10	1	11	20.7
Important, helpful tool	2	1	3	5.7
Lots of extra work for nurses	2	0	2	3.8
Can work	1	0	1	1.9
Less work for nurses	1	0	1	1.9
Empowers staff to do more	0	1	1	1.9

4.2.2 Main role in implementation of BFHI

Table 9: Main role in implementation of BFHI

	Nursing staff # (n = 45)	**UM # (n =8)**	**Total #**	**Total % (n=53)**
Teach, educate, inform, advise on breastfeeding	20	0	20	37.7
Support, assist, help with breastfeeding and initiation of breastfeeding	8	1	9	16.9
Encourage, promote, awareness of breastfeeding	9	0	9	16.9
Ensure that staff are trained	2	4	6	11.3
Supervise staff implementing things	3	2	5	9.4
Motivate staff	2	1	3	5.7
Not to separate mom and baby	2	0	2	3.8
Antenatal education	2	0	2	3.8
Drive process	1	1	2	3.8
Training, education of staff and students	2	0	2	3.8
Awareness, inform staff of BFHI and process	0	1	1	1.9
Ensure implementation of BFHI process	1	0	1	1.9
No comments	3	0	3	3.8

Most of the participants viewed their main role to teach, educate, inform, advice on breastfeeding (37. 7 %), to support, assist, help with breastfeeding and initiation of breastfeeding (16.9 %) and to encourage, promote, awareness of breastfeeding (16.9 %). Fifty percentage of the unit managers perceived their main role to be, ensuring that their staff are trained.

4.2.3 Barriers / constraints / Difficulties to implementation of BFHI

Table 10: Barriers / constraints / Difficulties to implementation of BFHI

	Nursing staff # (n = 45)	**UM # (n =8)**	**Total #**	**Total % (n=53)**
Organizational / Structural Issues				
Shortage of staff	16	4	20	37.7
To busy, heavy workload	7	0	7	13.2
No space	0	1	1	1.9
Staff leaving service	0	1	1	1.9
Staff resistance to change, set in old ways	2	0	2	3.8
Stay after delivery to short	1	0	1	1.9
Lack of knowledge, training of staff	2	2	4	7.5
Not good team work	1	0	1	1.9
Staff perceptions e.g. extra work, partners in the way	2	0	2	3.8
Staff attitude	0	3	3	5.7
Fear of the unknown, writing examines	0	1	1	1.9
Availability of training courses	0	1	1	1.9
No comments	18	0	18	34
General Issues				
Teenage mothers	2	0	2	3.8

PMTCT mothers	2	0	2	3.8
Community influences e.g. grand parents	4	0	4	7.5

The main structural barrier to implementation identified by the staff was shortage of staff (37.7 %), followed by heavy busy workload (13.2 %). Fifty percent of the unit managers perceived staff shortages as a barrier to BFHI implementation.

Response frequencies of unit mangers were calculated for each of the 6 items on the barriers to implementation scale. (See table 11)

Table 11: Barriers / Constraints to BFHI implementation

	Strongly Agree n (%)	Agree n (%)	No Opinion/ Uncertain n (%)	Disagree n (%)	Strongly Disagree n (%)
Support from management positively affects implementation	7 (87.5)	0 (0.0)	0 (0.0)	0 (0.0)	1 (12.5)
Understaffing affects implementation	7 (87.5)	0 (0.0)	0 (0.0)	1 (12.5)	0 (0.0)
Regular communication on BFHI issues are important for implementation	8 (100)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Staff attitude has an effect on implementation	6 (75)	2 (25)	0 (0.0)	0 (0.0)	0 (0.0)
Lack of knowledge / training affects implementation	8 (100)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Resistance / Reluctance to	7 (87.5)	1 (12.5)	0 (0.0)	0 (0.0)	0 (0.0)

behavior change negatively affects implementation					

Most of the unit managers strongly agreed / believes that understaffing, staff attitude, lack of knowledge and training and resistance and reluctant to behavior change are barriers to implementation of BFHI principles. All unit managers agreed that regular communication on BFHI issues is important for implementation of BFHI and 87.5 % believes that support from management positively affects the implementation of BFHI principles

4.2.4 Assistance / support needed to improve BFHI implementation

Table 12: Assistance / support needed to improve BFHI implementation

	Nursing staff # (n = 45)	**UM # (n =8)**	**Total #**	**Total % (n=53)**
Structural Support				
More staff, permanent staff	5	1	6	11.3
Extra person, nurse to assist with breastfeeding/ in delivery room	2	0	2	3.8
More wards to separate PMTCT and breastfeeding mothers	1	0	1	1.9
Advocacy to staff and facility	3	0	3	5.7
Training, workshops to staff and counselors	9	2	11	20.7
Onsite training	1	0	1	1.9

Communication of available training dates	1	0	1	1.9
Promotional, visual aids e.g. dolls, breast, DVD, pamphlets	4	0	4	7.5
Media, talks, more talks	2	1	3	5.
3 to 6 monthly reviews	2	0	2	3.8
Full time breastfeeding peer counselor	1	1	2	3.8
Passionate, active breastfeeding peer counselor	0	1	1	1.9
Project manager for BFHI	0	1	1	1.9
Assistance and support from district nutrition	2	2	4	7.5
Community outreach programmes e.g. home visits, workshop for grandmothers, support groups at clinic	7	1	8	15.1
Support from NGO, dulas, partner support	3	0	3	5.7
Support from knowledgeable people	1	0	1	1.9
Support from baby friendly facilities	1	0	1	1.9

The main assistance, support identified to improve the implementation of BFHI principles included training, workshops to staff (20.7 %), followed by community outreach programmes e.g. support groups, workshops for grandmothers (15.1 %), followed by employing more staff (11.3%). A few (7.5%) of staff felt assistance and support from district nutrition is needed and to obtain promotional, visual aids e.g. dolls, breast, DVD, pamphlets to assist.

4.2.5 Feelings and experiences about facilitating the BFHI process

Table 13 and 14 represents the responses of the unit manger regarding BFHI facilitation and experiences.

Table 13: Feelings about facilitating the BFHI process

	#	% (n=8)
Have to put in extra effort to facilitate	2	25
Challenging, sometimes don` t have the energy to drive it	1	12.5
No problem, have started process	1	12.5
Needs continuous planning	1	12.5
No comments	2	25

Feelings expressed regarding facilitation of the BFHI process included: “Have to put in extra effort to facilitate”, “Challenging, sometimes don` t have the energy to drive it”, “Needs continuous planning”, “No problem, have started process”.

Table 14: Experiences about facilitating the BFHI process

	#	% (n=8)
Challenging, limited time to drive process	1	12.5
Staff resistance to change and staff attitudes impacts on facilitation of process	1	12.5
Lots of obstacles, need district nutrition to be on board to give guidance. Change of dietician impacts on process	1	12.5
No / not much experience	5	62.5

Most of the unit manager (62.5%) felt that they did not have much experience in facilitating the BFHI process in their facility. One unit manager felt that it is challenging and that there is limited time to drive the process. One unit manager also responded that there are many obstacles and that they need guidance from the district nutrition team and that nutrition staff turn - over impacts on the process.

CHAPTER 5: DISCUSSION

Promoting breastfeeding should occur in the health facilities at antenatal clinic, the delivery room and just after birth. The health worker should be responsible for this and should ensure practices that promote, protect and support breastfeeding (Okolo and Ogbonna, 2002). Inadequate support for infant and young child feeding is a main contributing factor to inappropriate feeding practices (Shah et al., 2005). This study set out to assess factors influencing the implementation of BFHI principles in non accredited MOU `s in Cape Town.

Knowledge

Lack of knowledge by health care professionals can be damaging to breastfeeding success when women receive inconsistent, inaccurate and or inadequate breastfeeding information (Dennis, 2002). The ENA and EN ranked the lowest with 4 of the 6 knowledge questions, and 3 of the 6 knowledge questions, respectively, answered correctly. This might possibly be that the ENA and EN have the longest years serviced and are older in mean age, compared to the PN and UM. Another possible explanation for this might be that the ENA and the EN don't keep track with the latest development and recommendations and they might not be included when feedback are given to nurses regarding the facilities progress. For several of the variables the proportion of health workers with knowledge of breastfeeding principles was the lowest amongst the ENA` s compared with the EN, PN and UM respectively, with one item reaching statistical significant i.e. defining exclusive breastfeeding ($p = 0.006$). When comparing the ENA with the rest of the groups (total of EN, PN and UM), 3 variables reached statistical significance i.e. defining exclusive breastfeeding ($p = 0.001$), rooming - in ($p =$

0.03) and demand feeding (p = 0.01). This brings the focus to improving the knowledge of the lower level spectrum of nursing staff. This category of staff should be prioritized for training.

The unit manager's knowledge ranked reasonably high. This is quite surprising as only one of the unit managers were trained in BFHI. It may be that the unit managers probably spend more time on reading relevant documents and policies thus gaining information and most probably get more exposure to information, presentations and lectures when attending meetings. Knowledge and information however needs to be communicated to all relevant staff. It should become common practice in the MOU ` s that information must be communicated to all staff, after they have attended information or training sessions.

The score on BFHI knowledge and practice variables of the cohort of trained staff were not always significantly higher than the untrained staff. The study found that BFHI trained staff were significantly more knowledgeable than the non BFHI trained staff ,on 1 knowledge variable and 1 practice variable (defining infant feeding options for a HIV positive mother p = 0.004 and management of painful nipples p = 0.005). The findings in this study are somewhat in line with earlier studies were knowledge of trained versus untrained health care workers were compared (Owoaje et al., 2002; Cattaneo and Buzzett, 2001). These studies add to the body of evidence that BFHI trainings are associated with an increase in staff knowledge score.

Practices

It is critical that nursing staff need to be able to show mothers the right way to do things and to manage any problems that she may encounter. The correct positioning and attachment of the

baby to the breast is essential for the efficient transfer of milk and may be the single most important measure to prevent and treat lactation problems (Woolridge, 1986). Eighty nine percent of the nursing staff interviewed was able to demonstrate correct positioning of the baby for breastfeeding. Similarly, a high proportion 91.1 % of nursing staff could correctly attach the baby at the breast. The EN and PN ranked the highest, followed by the ENA. A study in Nigeria found that only 5.22 % of staff could demonstrate correct positioning and attachment. The staff interviewed however had no BFHI training (Okolo and Ogbonna, 2002).

Nursing staff have the primary responsibility to support mothers and for helping them to overcome related problems. This study however showed that only 8.9 % of the nursing staff interviewed was able to adequately demonstrate correct hand milk expressing technique, 35.6% the management of painful nipples and 22.2 % the management of engorgement. . The most common reason for a painful nipple is poor attachment, but only some of the staff recommended correcting the attachment (WHO, 2006; Savage King, 1998; Hertz, 2005). The EN and the PN ranked the highest. It is interesting to note that the ENA ranked the lowest in 5 of the 6 practice variables and seeing that they have the most contact with mothers after delivery. These findings indicate that nursing staff does not acquire the necessary skills to provide adequate breastfeeding support and assistance to mothers with regards to milk expressing technique, the management of engorgement and painful nipples. Participants own experiences of breastfeeding or lack thereof could have an impact on the confidence and skills needed to assist mothers. The mean month's breastfed were the lowest amongst the ENA (18.2 months). Several studies suggest that the personal and professional experience of professionals with breastfeeding, significantly influences their professional behavior (Tennant et al., 2006;

Hellings and Howe 2000; Patton et al., 1996). Recommendation from Tennant et al was that debriefing should be offered to staff returning from maternity leave to help them to reconcile their own experiences with their professional practice.

Only an alarming 40 % of staff could adequately describe the safe preparation of infant formula. It is widely recognized that powdered infant formula is not always a commercially sterile product and therefore carries a risk of infection. This finding has important implications for the PMTCT programme and the prevention of morbidity, illness and infections in children. World Health Resolution 58.2 of 2005 recognizes that intrinsic contamination of powdered infant formula with E. sakazaki and Salmonella has been a cause of infection and illness. (Institute of Communicable Disease Control, 2005). It is thus critical that parents and caregivers are provided with enough and correct information on the preparation, use and safe handling of powdered infant formula in order to minimize health hazards (Department of Health, 2007; Institute of Communicable Disease Control, 2005).

Attitudes

The majority of the nurses had correct attitudes toward BFHI principles and practices.
Fifty three percent of the respondents agreed that a mother should stop breastfeeding if she develops mastitis. This is an incorrect attitude that more than half of the participants had. For the correct management of mastitis it is important that mothers should not rest the breast, but rather to remove the milk by continuing with on demand breastfeeding (Savage King, 1998).

Opinion of BFHI

Most of the staff saw the importance of BFHI and breastfeeding and the benefits it has for mother and baby. They see it as important and a good thing to implement. Some of the staff felt that it is more work for staff and that they need an additional person to help with BFHI. Almost 10 % of the respondents agreed with the statement that BFHI implementation is a burden to nursing staff. BFHI implementation however does not necessarily represent substantial additional work for nursing staff, but rather a better way of performing tasks. With implementing step 7 of the 10 steps (rooming in), the mother becomes the main provider of the baby` s basic needs and first line monitor of the babies health. This progressively relieves nursing staff of many routine activities e.g. feeding the baby, cleaning the baby, monitoring the baby. 24 hour supervision is thus not needed, only periodic checks and the availability of the staff to respond to the mother's needs and education of the mothers are needed. A case study of Australia Royal Hospital for Women suggested training of staff to ensure that they understand that it does not involve a substantial additional workload to implement BFHI principles (Heads, 2005).The opinion that BFHI involves additional work should be addressed in these MOU `s.

Barriers to implementation of BFHI & suggestions for improvement

Implementing BFHI with its ten steps has proven to be a difficult task in many countries, as in the Western Cape MOU setting. The study identified the barriers to implementing BFHI principles in Cape Town non accredited MOU `s. Respondents expressed a sense of frustration with increased workloads and low staffing levels, making it difficult for them to find the time to implement BFHI effectively. Half of the participants (50. 9%) identified low staffing and heavy workloads as a barrier to implementation. Almost 90 % of respondents strongly agreed

with the statement that understaffing affects BFHI implementation, however only 11.3 % of the staff stated that more staff are required to improve BFHI implementation. The latter was however an open ended question. The denominators are different, as some of the participants could have no comments to the question of suggestions to improve BFHI implementation. These findings are consistent to the study by Reddin et al (2007) were participants felt that time pressures on staff and heavy workloads are amongst the barriers for not only the midwifery graduates but experienced staff who are trying to comply with the BFHI 10 steps. Davies et al (2008) similarly reported lack of time and workload as barriers to implementing breastfeeding guidelines. These findings provide useful information, to further assist these facilities with implementation of the BFHI. It is thus evident that if real change are to be achieved in BFHI, ongoing support to address the staffing issues will be needed.

Most of the unit managers strongly agreed / believe that understaffing, staff attitude, lack of knowledge and training and resistance and reluctant to behavior change are barriers to implementation of BFHI principles in their maternity units. All unit managers agreed that regular communication on BFHI issues are important for implementation of BFHI and believes that support from management positively affects the implementation of BFHI principles. The Australia case study similarly found that attitudinal change among staff continues to prove to be the greatest challenge to those wishing to seek BFHI accreditation (Reddin et al., 2007). Much of the educational focus at this hospital went into the reassurance of the staff that there would not be a dramatic change in practices (Reddin et al., 2007). Davies et al similarly found staff resistance, workloads, lack of management support, and lack of communication as the most important barriers to implementation of breastfeeding guidelines

in Australia (Davies et al., 2008). Important to note is that overcoming some of these barriers identified in this study e.g. staff resistance and staff attitude would not happen over night and would take time and effort to address. On a positive note a study by Merewood and Phillips (2001) showed that staff was initially resistance to change in their setting, but with time BFHI took momentum.

One respondent surprisingly identified short stay at the maternity unit as a barrier to implementation. A study by Hofvander (2005) has identified that stay at the maternity centres in Sweden has been shortened in the recent years. The fact that mothers only stay for a few hours at the MOU, now only places even more emphasis and importance to the antenatal education (step 3 of the 10 steps) that should be done at the antenatal clinic. Early booking (before 20 weeks) and sufficient antenatal visits should be promoted to ensure sufficient education sessions are done with the mothers. The education at the maternity unit will then only be a reinforcement of the messages covered at the antenatal site. Short stay at the MOU should thus not be considered as a barrier, rather the focus should be on the antenatal education.

Lack of knowledge was also identified by respondents (7.5 %) as a barrier to BFHI implementation and 20.7 % of staff suggested training and workshops to improve BFHI implementation . The study by Cattaneo and Buzzett (2001) found that staff training in BFHI was an important component in obtaining compliance with and commitment to implementing the 10 steps. This study is consistent with a study done in the United States where suboptimal clinician knowledge were identified as a barrier to becoming Baby Friendly (Merewood and

Phillips, 2001). The lack of knowledge will need to be addressed. One way of ensuring ongoing education is by identifying suitable teachers for continuing education at each MOU. An important element must be the formation of small staff groups that would be responsible for continuing education and ensuring implementation of practices and principles on the ground. A Swedish study has proven that continuous education for nursing staff and identifying suitable teachers to be very useful in their setting (Hofvander, 2005).

Assistance / support needed to improve BFHI implementation

Support identified to improve the implementation of BFHI in these MOU `s included training, workshops to be held, more staff to be employed, using visual aids like dolls, breast, support, assistance from district nutrition staff and establishing community outreach programmes e.g. home visits, workshop for grandmothers, support groups at the clinic. Lack of knowledge and training was identified as a barrier to implementation, so to address this, training would be required. A case study from Australia Hospital also similarly identified training of staff, regular monitoring of current practices and outcomes, development of breastfeeding support unit, greater support from hospital administrators and first line managers as initiatives to help with the implementation of BFHI.

A study by Davies et al (2008) also identified education sessions as facilitators for implementation of breastfeeding guidelines. To increase the number of facilities receiving BFHI accreditation they recommend assisting with the identification of their specific barriers and how to overcome these barriers. The findings by Cattaneo and Buzzett (2001) similarly found that staff training in BFHI was an important component in obtaining compliance with

and commitment to implementing the 10 steps. Findings from Hofvander (2005) concluded that continued work is necessary for sustaining attitudes and knowledge of staff.

Feeling and Experiences about facilitating the BFHI process

Most of the unit manager (62.5%) felt that they did not have experiences in facilitating the BFHI process in their facility. Which leaves the question, is someone really facilitating the process within these facilities and who is ultimately responsible for this function. Of the 8 MOU `s only 2 had established BFHI committees. Clarity must be given regarding the roles and responsibilities of the unit managers with reference to the BFHI process. One unit manager felt that it is challenging and that there is limited time to drive the process. Feelings expressed regarding facilitation of the BFHI process included: “Have to put in extra effort to facilitate”, “Challenging, sometimes don` t have the energy to drive it”, “Needs continuous planning”, “No problem, have started process”. It seems that there is a real need for some kind of external motivation to address these feelings expressed.

Only two respondents identified their main role to be, to drive the process within the MOU. The two respondents were unit managers. However the one unit manager felt to rather take on the supportive role and that a staff member in the unit should take on the driver role. This a quite an interesting comment to make, which bring the question to strong leadership, which Merewood and Phillips (2001) identified as key to becoming baby friendly. One unit manager was of the opinion that staff resistance to change and staff attitudes impacts on facilitation of the process. The study by Merewood and Phillips (2001) showed that staff was initially resistance to change in their setting, but with time BFHI took momentum.

The study was done over a short period of time, (3 months) and therefore did not include all the non accredited BFHI facilities in the Metropole region. Non accredited BFHI hospitals with maternity services were excluded from this study. A 5-point Likert scale (strongly agree, agree, no opinion, disagree, strongly disagree) was used to ascertain participants' attitudes regarding BFHI principles. However, participants may report that they agree or engage or belief BFHI statements which are socially desirable even if this is not the case. A two-phased approach in the study method e.g. structured interviews with focus group discussions or in-dept interviews and / or observations could have been used. This however was not logistically feasible due to time constraints.

The scope of the study was restricted to non accredited facilities. The assumption was made that these facilities have more barriers to implementation of BFHI than accredited facilities. The barriers in BFHI accredited facilities were thus not accessed and it could possibly be a area of research to be explored in future studies.

The study provides the Cape Town Metropole region with empirical information regarding the experiences of the MOU` s that are not BFHI accredited. The next step would be to initiate a process of identifying specific barriers to each MOU and set up task team and action plans to overcome these barriers. It would also benefit to have advocacy sessions at all of these MOU`s and assistance from the district nutrition team would be needed. Advocacy sessions and assistance from the district nutrition team, was identified by respondents as support needed to improve the implementation of BFHI principles.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

Lack of properly skilled nursing staff is a major obstacle to proper breastfeeding and infant and young child feeding management. The findings of this study have highlighted that there is a need for BFHI training in the non accredited MOU `s in order to respond to the concern and growing need for proper infant and young child feeding practices. Special attention needs to be given to training of the lower level staff especially the ENA and EN. Attention must be given to training on the more advance skills such as expressing by hand. Health care personnel need to receive up to date evidence based knowledge and skills on appropriate infant and young child feeding practices to provide quality counseling and adequate support to mothers and caregivers (Shah et al., 2005; Department of Health, 2007). The trained staff should use the knowledge and skills gained in the training to promote, support and promote breastfeeding.

RECOMMENDATIONS

The recommendations are based on the study findings and from the review of the literature.

- MOU `s should implement strategies to overcome practical constraints that have been identified e.g. maintaining staff compliment. BFHI must be prioritized and seen as the core business of MOU`s and resources (human / financial) must be dedicated to the initiative.
- All staff at the non accredited MOU` s should undergo 20-hour on-site BFHI training.

Training would increase and improve the knowledge and practices of the nursing staff and also instill a positive attitude amongst the staff, a big step in the right direction. Training should especially give attention to the more advanced skills e.g. breastmilk expressing and must also address the misconceptions regarding workloads and the management of mastitis

- Advocacy sessions at all the MOU `s and active assistance from the district nutrition team is required, especially with regards to policy development.

- Unit managers should undergo a Trainer of Trainer course (TOT) which would equip them with the skills to present training and drive the process more efficiently. In this training more emphasis must be placed on the facilitation of the BFHI process and how to deal with staff attitude, resistance to change and motivation of staff.

- Initiation of a process to clarify the roles and responsibilities of the unit managers with regards to the BFHI process is needed

- Based on the barriers identified it would be beneficial to create linkages of these MOU `s with other baby friendly facilities and knowledgeable facilitators – to discuss how to address certain barriers

- A professionally supported specialist in lactation management can be appointed to manage, evaluate staff at the MOU `s after training has been completed. It should be a committed person, with the necessary authority and powers within the management structure / hierarchy.

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Addendum 1

INFORMED CONSENT TO CONDUCT AN INTERVIEW

Date:…….
Interviewer: Lynette Jacobs
UWC Student no: 2520465
Institution:…….
Interviewee` s pseudonym: ……..
Place at which the interview was conducted: ……

Thank you for agreeing to allow me to interview you. What follows is an explanation of the purpose of this interview. You are asked to give your consent to conduct the interview.

1. Information on the interviewer
I am Lynette Jacobs, a part time student at the SOPH, University of the Western Cape. As part of my Masters in Public Health, I am required to conduct a mini research thesis. I will be focusing on the implementation of Baby Friendly Hospital Initiatives (BFHI) in non accredited Obstetric Units in Cape Town. . I am accountable to Prof. Debra Jackson who is contactable at 021 – 959 3686, 021 – 959 2872 Fax, or by email at djackson@uwc.ac.za

Here is some information to explain the purpose and usage of my interview.

2. Purpose and content of interview
The aim of the research study is to assess factors influencing the implementation of Baby Friendly Hospital Initiative (BFHI) principles in non accredited Obstetric Units in Cape Town. The main objectives are to assess nursing staff and unit manager's knowledge, attitude and practices of BFHI principles. Questions will only focus on the above.

3. The interview process
The interview will take place in the maternity ward during working hours. It will take no longer than 30 minutes and a semi structured questionnaire will be used. Ms. L. Jacobs will conduct the interview. The content of the interview will be confidential and you may withdraw from the study at any time.

4. Anonymity of contributors
At all times, I will keep the source of information confidential and refer to you or your words by a pseudonym. See name above. I shall keep any other records of your participation locked away at all times, and destroy them after the data has been collected.

5. Things that may affect your willingness to participate
If there is anything that you would prefer not to discuss, please feel free to say so. I will not be offended and there will be no negative consequences if you would prefer not to answer a question. I would appreciate your guidance should I ask anything which you see as intrusive.

6. Agreement

6.1 Interviewee `s agreement
The respondent will be asked to give her/ his consent by signing this consent form.

6.2. Interviewer `s agreement
I shall keep the contents of the interview confidential in the sense that the pseudonym noted above will be used in all documents which refer to the interview. The contents will be used for the purposes referred to above, but may be published or unpublished research at a later stage without further consent. Any changes from this agreement will be renegotiated with you.

Signed: ……..
Date: …….
Place: ……

Witness: ……..
Date: …….
Place: ……

Addendum 2

QUESTIONNAIRE FOR MOU NURSING STAFF

Questionnaire No. (official use):_____ Interviewer Name:_____
Date: ___ / ___ / 2008

(First 2 blocks = Category staff, last 2 blocks =MOU # e.g. PN01) Code | | | | |

PART I: GENERAL INFORMATION

1. Gender: ☐ Male ☐ Female Date of birth: ___/____/____ Age: …..

2. What is your official job category /position?

[Mark ONE answer only, with an ✕]	
Professional Nurse (PN)	
Enrolled Nurse (EN)	
Enrolled Nursing Assistant (ENA)	
Other category (specify) ……	

3. What are your highest qualifications? ……..
☐ Primary ☐ Secondary ☐ Tertiary

4. Date started at the maternity unit? ___/____/____

5. Have you received formal training in lactation management in the last 5 years?
☐ Yes ☐ No
5 i). If yes: How many hours? _____

6. Have you ever breastfed?
☐ Yes ☐ No
6 i) If yes, for how long did you breastfeed? _____ months

7. Have you heard of the Baby Friendly Hospital Initiative (BFHI)?
☐ Yes ☐ No
7 i) If yes, where did you hear of it? ……..

PART II: KNOWLEDGE

1. Components of the BFHI include: *Choose one answer* Correct ☐Yes ☐ No
a) ☐ 10 steps to successful breastfeeding
b) ☐ PMTCT (Prevention of Mother to Child Transmission)
c) ☐ Code of marketing Breastmilk substitute (BMS)
d) ☐ Better Birth Initiative (BBI) / Mother friendly care
e) ☐ 10 steps to successful breastfeeding & Code of marketing BMS
f) ☐ All of the above

2. Can you name 3 examples of baby friendly care practices or routines in the delivery room or postnatal ward? Correct ☐Yes ☐ No
……
……
……
……

3. What is the meaning of exclusive breastfeeding? Correct ☐Yes ☐ No
……
……
……

4. What is rooming – in? Correct ☐Yes ☐ No
……
……

5. What is demand feeding? Correct ☐Yes ☐ No
……
……

6. What are the infant feeding options for a HIV positive mother? Correct ☐Yes ☐ No
……
……
……

PART III: PRACTICE

1. Do you demonstrate positioning and attachment to breastfeeding mothers? ☐Yes ☐ No

2. Can you show or describe how you would teach

2.1 Positioning ……..
Adequate Yes □ No □

2.2 Good attachment / latching ……..
Adequate Yes □ No □

3. Do you demonstrate hand milk expressing to breastfeeding mothers? ☐Yes ☐ No

4. Can you show or describe how you would teach hand milk expressing
……
Adequate Yes □ No □

5. Do you teach mothers who are not breastfeeding how to prepare their feeds for their infants ? ☐Yes ☐ No

6. What information would you discuss with a mother on how to prepare artificial feeding in a safe manner?
……
……
……
Adequate Yes □ No □

7. Are mothers and babies routinely kept together after birth?
☐ Yes ☐ No

8. What is the main advice you would give to a mother regarding the following:

8.1 Painful nipples ……..
Adequate Yes □ No □

8.2 Engorgement ……
Adequate Yes □ No □

PART IV: ATTITUDE

How much do YOU agree with the following statements? *(Please mark the statement that MOST CLOSELY corresponds with your own opinion.) [Mark ONE answer per question only]*

Item	Strongly Agree	Agree	No Opinion/ Uncertain	Disagree	Strongly Disagree
1. The benefits of breastfeeding outweigh any difficulties/ inconvenience mothers may encounter					
2. Working mothers can exclusively breastfeed					
3. It is very difficult to exclusively breastfeed up to 6 months of age					
4. Babies less than six months should not be given water					
5. Early supplements can result in insufficient breast milk supply					
6. Implementation of BFHI results in effective breastfeeding					
7. Exclusive breastfeeding for six months is the optimal feeding for healthy babies					
8. A mother should stop breastfeeding if she develops a breast infection (mastitis)					
9. Initiation of breastfeeding should occur skin to skin soon after birth within one hour					
10. Healthy full term babies need additional fluids, other than breast milk					
11. Implementation of BFHI is a burden to nursing staff					
12. Complementary feeding should start at 6 months					
13. Babies need to suck on a dummy /pacifier					

What is your opinion /feelings of BFHI?

……
……
……

What do you perceive as your main role / function in implementation of BFHI?

……
……

What are the most important barriers / difficulties / challenges to implementing BFHI principles within your facility?

……
……
……
……

What assistance / support is needed to improve BFHI implementation at facility level? /Do you have any suggestions for improvement in BFHI implementation at facility level?

……
……
……

Thank You

Addendum 3

QUESTIONNAIRE FOR MOU UNIT MANAGER

Questionnaire No. (official use):_____ Interviewer Name:_____
Date: ___ / ___ / 2008

(First 2 blocks = Category staff, last 2 blocks =MOU # e.g. UM01) Code | | | | |

PART I: GENERAL INFORMATION

1. Gender: ☐ Male ☐ Female Date of birth: ___/____/____ Age: .....

2. What are your official job category / position?

[Mark ONE answer only, with an ✕]	
Chief Professional Nurse (CPN)	
Other category (specify) ……	

3. What are your highest qualifications? ……
☐ Primary ☐ Secondary ☐ Tertiary

4. Date started as unit manager? ___/____/____

5. Have you received formal training in lactation management in the last 5 years?
☐ Yes
☐ No
5 i) If yes: How many hours? _____

6. Have you ever breastfed?
☐ Yes
☐ No
6 i) If yes, for how long did you breastfeed? _____ months

7. Have you heard of the Baby Friendly Hospital Initiative (BFHI)?
☐ Yes
☐ No
7 i) If yes, where did you hear of it? ……..

8. Does your facility have a BFHI committee?
☐ Yes
☐ No
8 i) If yes, how often do they meet? _____

PART II: KNOWLEDGE

1. Components of the BFHI include: *Choose one answer* Correct ☐ Yes ☐ No
a) ☐ 10 steps to successful breastfeeding
b) ☐ PMTCT (Prevention of Mother to Child Transmission)
c) ☐ Code of marketing Breastmilk substitute (BMS)
d) ☐ Better Birth Initiative (BBI) / Mother friendly care
e) ☐ 10 steps to successful breastfeeding & Code of marketing BMS
f) ☐ All of the above

2. Can you name 3 examples of baby friendly care practices or routines in the deliver room or postnatal ward? OR What activities does your facility have in place to support BFHI?

Correct ☐ Yes ☐ No

……
……
……
……

3. What is the meaning of exclusive breastfeeding? Correct ☐Yes ☐ No

……
……
……

4. What is rooming – in? Correct ☐Yes ☐ No

……
……

5. What is demand feeding? Correct ☐Yes ☐ No

……
……

6. What are the infant feeding options for a HIV positive mother? Correct ☐Yes ☐ No

……
……
……

PART III: ATTITUDE

How much do YOU agree with the following statements? *(Please mark the statement that MOST CLOSELY corresponds with your own opinion.) [Mark ONE answer per question only]*

Item	Strongly Agree	Agree	No Opinion/ Uncertain	Disagree	Strongly Disagree
1. The benefits of breastfeeding outweigh any difficulties/ inconvenience mothers may encounter					
2. Working mothers can exclusively breastfeed					
3. It is very difficult to exclusively breastfeed up to 6 months of age					
4. Babies less than six months should not be given water					
5. Early supplements can result in insufficient breast milk supply					
6. Implementation of BFHI results in effective breastfeeding					
7. Exclusive breastfeeding for six months is the optimal feeding for healthy babies					
8. A mother should stop breastfeeding if she develops a breast infection (mastitis)					
9. Initiation of breastfeeding should occur skin to skin soon after birth within one hour					
10. Healthy full term babies need additional fluids, other than breast milk					
11. Implementation of BFHI is a burden to nursing staff					
12. Complementary feeding should start					

at 6 months					
13. Babies need to suck on a dummy /pacifier					

What are your opinions /feelings about BFHI?

……
……
……

How do you feel about facilitating the BFHI process in your facility?

……
……
……
……

What are your experiences about facilitating the BFHI process?

……
……
……

What do you perceive as your main role in implementation of BFHI?

……
……
……
……

What are the most important barriers / difficulties / challenges to implementing BFHI principles within your facility?

……
……
……
……

What assistance / support is needed to improve BFHI implementation at your facility? OR Do you have any suggestions for improvement in BFHI implementation at your facility?

……
……
……
……

How much do YOU agree with the following statements? *(Please mark the statement that MOST CLOSELY corresponds with your own opinion.) [Mark ONE answer per question only]*

Barriers to implementation	Strongly Agree	Agree	No Opinion/ Uncertain	Disagree	Strongly Disagree
Support from management positively affects implementation					
Understaffing affects implementation					
Regular communication on BFHI issues are important for implementation					
Staff attitude has an effect on implementation					
Lack of knowledge / training affects implementation					
Resistance / Reluctance to behavior change negatively affects implementation					

Thank You

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Addendum 4

PARTICIPANT INFORMATION SHEET

Dear Participant
Thank you for your willingness to hear about this research. What follows is an explanation of the research project and an outline of your potential involvement. The research is being conducted for a mini thesis. This is a requirement for the Masters in Public Health which I am completing at the University of the Western Cape. If there is anything you do not understand or are unclear about, please ask me. My contact details and those of my supervisor are recorded at the end of the memo.

TITLE OF RESEARCH
Knowledge, Attitude and Practices of Nursing Staff regarding Baby Friendly Hospital Initiative (BFHI) principles in non Accredited Obstetric Units in Cape Town.

PURPOSE OF THE STUDY
The aim of the research study is to assess factors influencing the implementation of Baby Friendly Hospital Initiative (BFHI) principles in non accredited Obstetric Units in Cape Town.. The main objectives are to assess nursing staff and unit manager's knowledge, attitude and practices of BFHI principles and to describe the barriers and constraints to implementation of BFHI principles.

DESCRIPTION OF THE STUDY AND YOUR INVOLVEMENT
The study will include individual interviews with nursing staff and unit managers at non accredited BFHI MOU `s. Questions about your knowledge, practices, attitude and experiences of BFHI will be asked.

CONFIDENTIALITY
Your name will be kept confidential at all times. I shall keep all records of your participation, (the questionnaire and the signed consent form) locked away at all times and will destroy them after the research is completed.

VOLUNTARY PARTICIPATION AND WITHDRAWAL
Your participation in this research is entirely voluntary i.e. you do not have to participate. If you choose to participant, you may stop at any time. You may also choose not to answer particular questions that are asked in the study. If there is anything that you would prefer not to discuss, please feel free to say so.

BENEFIT AND COST
You may not get any benefit from this study. However the information we learn from participants in this study may help health facilities, unit managers and the nutrition directorate in supporting facilities in the implementation of BFHI principles. There are no costs for participating in the study other than the time you will spend in the interview.

INFORMED CONSENT
Your signed consent to participant in this research study is required before I proceed to Interview you.

QUESTIONS
Should you have further questions or wish to know more, I can be contacted as follows:

Lynette Jacobs
Student number: 2520465
Cellphone: 082 513 6409
Email: lynjacobs@pgwc.gov.za
Telephone at work: 021 – 954 2237 ext 203
Fax no. work: 021 – 954 1207

I am accountable to Debra Jackson, my supervisor at UWC. Her contact details are:
021 – 465 2243
Or c/o The School of Public Health
Fax: 021 – 959 2872
Email: djackson@uwc.ac.za
Website: www.uwc.ac.za/comhealth/soph

Addendum 5 – Criteria used for assessing / evaluating knowledge and practices questions

PART II: KNOWLEDGE

Can you name 3 examples of baby friendly care practices or routines in the delivery room or postnatal ward?

Early initiation of breastfeeding, Skin to skin contact within one hour of birth
Rooming in, No separation of mother and baby
No use of dummies, teats, bottles
Promotion of feeding on demand
Encouraging exclusive feeding, No mix feeding
No supplements (food or drink other than breastmilk), unless medically indicated
Showing / Teaching the mother how to breastfeed

What is the meaning of exclusive breastfeeding?

Only breastmilk, no food, water or other fluids – with the exception of medicines and vitamin and mineral drops

What is rooming – in?

Keeping mother and baby together 24 hours of the day

What is demand feeding?

Breastfeeding whenever the baby or mother wants to or whenever hungry, with no restrictions on the length or frequency of feeds. As long as the baby wants to.

What are the infant feeding options for a HIV positive mother?

Exclusive breastfeeding OR exclusive formula feeding. No mix feeding

PART III: PRACTICE

Can you show or describe how you would teach

1. Positioning

- *Mother should be comfortable*
- *Baby should be held close, facing the breast. Tummy to tummy*
- *Baby` s head and body should be in a straight line*
- *Baby should be supported at the head, shoulders and body*
- *Passed if generally correct with enough correct information to help mother to correctly position the baby and no erroneous information*

2. Good attachment / latching

- *Baby mouth should be wide open*
- *Lower lip turned out*
- *Chin, nose touching the breast*
- *More areola should be visible above than below the baby` s mouth*
- *Cheeks should be full, with slow deep sucking and swallowing sounds*
- *Passed if generally correct with enough correct information to help mother to correctly attach the baby to the breast and no erroneous information*

3. Can you show or describe how you would teach hand milk expressing

- *Encourage milk flow through relaxation, massage, warmth, thinking of the baby*
- *Wash hands and cup*
- *Description should indicate adequate understanding*
- *Adequate = 4 step were identified to evaluate expressing technique*
    - *Position: Find the milk ducts, hold the areola at 6 and 12 o clock. Thumb above nipple and first fingers below the nipple*
    - *Push: Press backwards towards the chest*
    - *Compress the breast on the areola and*
    - *Release. Repeat in all parts of the breast. No sliding of the fingers.*

4. What information would you discuss with a mother on how to prepare artificial feeding in a safe manner?

***Adequate* =**

- *Hygiene: Sterilize utensils, boiling utensils (bottles, teats), washing hands, covering prepared feeds*
- *Boiling and cooling water before mixing feeds*
- *Correct Mixing:, correct proportions for mixing, 1 scoop of milk powder per 25 ml of water OR according to baby `s weight, age. First water then add level scoops of milk powder*
- *Other includes: Keeping feeds for less than 1 hours, preparing feeds just before giving it, preparing the correct amount of feed*

5. What is the main advice would you give to a mother regarding the following:
Painful nipples

***Adequate* =**

- *Ensure proper positioning and attachment of baby to the breast and continue breastfeeding (on demand)*
- *Other includes*
    - *Express milk on the nipple*
    - *Insert finger in side of baby `s mouth to break suction when feeding*
    - *Avoid dummies, teats, bottles etc.*

Engorgement

- ***Adequate* =**
- *Continue to breastfeeding frequently, on demand and Expressing before feeding to soften the areola*
- *Other includes*
    - *Place chilled green cabbage leaves on breast (softens breast)*
    - *Shower or warm compresses on breast before feeding (helps with let down, milk flowing)*
    - *Between feedings cold compressors*
    - *Avoid wearing tight bras*