FACTORS IMPEDING EXCLUSIVE BREASTFEEDING IN A LOW-INCOME AREA OF THE WESTERN CAPE PROVINCE OF SOUTH AFRICA

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ABSTRACT

The promotion of exclusive breastfeeding for the first six months of life is estimated to be the most effective measure to save infants from morbidity and mortality in low-income settings. South Africa is challenged by very poor exclusive breastfeeding practices (6.8–8.3%) during the first six months of life. In the low-income area investigated, the exclusive breastfeeding rate was 6% in 2011. The aim of this study was to describe the factors impeding exclusive breastfeeding practices in a low-income area of the Western Cape Province of South Africa in order to provide recommendations on tailored and generalisable intervention strategies for the promotion of exclusive breastfeeding practices. Focus group discussions were conducted with caregivers and health care workers. Several barriers to exclusive breastfeeding practices were reported and seven themes were identified during data analysis: 1) the perception that infants needed water, gripe water and *Lennon's Behoedmiddel;* 2) the concern that milk alone does not satisfy an infant; 3) inadequate infant feeding education and support by the health system; 4) the lack of community-based postnatal support; 5) convention and family influence; 6) mothers separated from infants; and 7) local beliefs about maternal behaviour and breastfeeding. The barriers to exclusive breastfeeding practices proved to be multifaceted and interlinked. The influence of convention and community perceptions and beliefs combined with suboptimal infant feeding education by the health system and the lack of local postnatal breastfeeding support initiatives posed an intricate group of barriers to exclusive breastfeeding practices.

KEYWORDS: caregivers, exclusive breastfeeding, factors, impeding, South Africa, Western Cape

INTRODUCTION AND BACKGROUND INFORMATION

Early infant feeding practices are critical in supporting the growth and health of infants and young children (Dewey, 2003:8) and undernutrition may result in a cycle of intergenerational poverty and disease (Allen & Gillespie, 2001:1; Dewey, 2003:8). Non-exclusive breastfeeding practices during the first six months of life are associated with childhood morbidity and mortality, especially in resource-limited communities (Black, Allen, Bhutta, Caulfield, De Onis, Ezzati, Mathers & Rivera, 2008:243). Breastfeeding is a key child survival strategy and during the first six months of life, exclusive breastfeeding reduces gastrointestinal infections (Kramer & Kakuma, 2012:1), promotes rapid growth (Hop, Gross, Giay, Sastroamidjojo, Schultink & Lang, 2000:2683; Villalpando & Lopez-Alarcon, 2000:546) and decreases the risk of postnatal HIV transmission through breastfeeding when compared to mixed feeding (Coovadia, Rollins, Bland, Little, Coutsoudis & Bennish, 2007:1107). In South Africa, the challenge is not poor initiation rates (88%) (Shisana, Simbayi, Rehle, Zungu, Zuma, Ngogo, Jooste, Pillay-van Wyk, Parker, Pezi, Davids, Nwanyanwu, Dinh & SABSSM III Implementation Team 2010:1) but rather the lack of exclusive breastfeeding practices (6.8 – 8.3%) during the first six months of life (DOH SA, 2002:1; DOH SA, 2007:1). In a study performed in Limpopo Province, exclusive breastfeeding declined from 44% (n=57) at one month of age, to 10% (n=13) by three months of age (Mamabolo, Alberts, Mbenyane, Steyn, Nthangeni & Delemarre-van De Waal, 2004:327). Mothers from the Moretele district North of Pretoria considered three months as an appropriate age for introducing food and most infants between two and three months received food (Kruger & Gericke 2003:217) A study conducted in an rural district of KwaZulu-Natal showed that 76% (n=89) of mothers who had initiated breastfeeding and who were contactable at fourteen weeks postpartum practised mixed feeding (Ghuman, Saloojee & Morris, 2009:74). A study done in a peri-urban area in Cape Town reported that at the time of the study, the entire sample of one hundred and seventeen breastfeeding mothers with infants younger than six months practised either predominant or partial breastfeeding (Sibeko et al., 2005:31). The exclusive breastfeeding rate in the low-income area of Worcester investigated in this study was 6% in 2011 (Goosen, McLachlan & Schübl, 2014:50). Based on certain conventional and cultural barriers, exclusive breastfeeding practices have been described as an alien concept (Magoni & Giuliano, 2005:1720), counterintuitive and impractical (Buskens, Jaffe & Mkhatshwa, 2007:1101; Sibeko, Dhansay, Charlton, Johns & Gray-Donald, 2005:31) in African societies. Furthermore, mothers cannot be expected to challenge their own beliefs and convention with messaging alone, especially not with practices deeply rooted in conventional and cultural beliefs and influenced by various external factors (Nor, Ahlberg, Doherty, Zembe, Jackson & Ekström, 2011:448).

STATEMENT OF THE RESEARCH PROBLEM

Infant mortality rates of 54 and 53, and under-five mortality rates of 97 and 104 per 1000 live births, respectively, for 2001 and 2007 in South Africa (Statistics South Africa 2010:12), call for a better understanding of the barriers to exclusive breastfeeding practices to guide a renewed effort to promote this optimal feeding practice. There is still a gap between infant feeding guidelines and current practices in South Africa, which calls for a holistic approach to infant feeding counselling and support. It is vital to understand current practices and beliefs to allow interventions to aim at the level of underlying principles or perceptions. Research shows that mothers are unlikely to change behaviour based on health care messages alone (Nor et al., 2011:448) and that external factors have a strong influence on infant feeding practices. Conventional and cultural perceptions, beliefs and practices are still evident and failure to address them will only increase the gap between well-intended policies and actual practices (Laar & Govender, 2011:129). In order to establish a culture of exclusive breastfeeding, the approach to promoting exclusive breastfeeding needs re-thinking.

PURPOSE OF THE STUDY

The aim of this study was to describe the factors impeding exclusive breastfeeding practices in a low-income area of the Western Cape Province of South Africa in order to provide recommendations on tailored and generalisable intervention strategies for the promotion of exclusive breastfeeding practices.

DEFINITIONS OF KEYWORDS

Caregivers are the mothers, fathers and grandmothers of infants in this study.

Exclusive breastfeeding is the act of giving infant breast milk only and any minerals, vitamins and prescribed medicines if needed, for the first six months.

Factors are constituents or elements that bring about certain effects or results.

Impeding is to hinder or obstruct a process.

South Africa is a country of southern Africa on the Atlantic and Indian oceans.

Western Cape is one of the nine provinces of South Africa.

WORLD HEALTH ORGANIZATION FEEDING DEFINITIONS

Table 1: WHO feeding definitions

Exclusive breastfeeding	Giving the infant breast milk only and any minerals, vitamins and prescribed medicines if needed, for the first six months.
Mixed feeding	Giving the infant breast milk and other fluids and solids. Mixed feeding may be further classified into predominant breastfeeding and partial breastfeeding.
Predominant breastfeeding	Giving the infant breast milk and non-nutritive liquids.
Partial breastfeeding	Feeding breast milk and non-nutritive and nutritive liquids and solids.

RESEARCH METHODOLOGY

An observational, descriptive study was performed with qualitative assessment methods.

Study population and sample

The study was conducted in August 2011 in a low-income area of Worcester, an urban town in the Western Cape Province of South Africa. Worcester is situated roughly one hundred kilometres east of Cape Town and the research setting had both formal and informal housing sections (Breede Valley Local Municipality, 2012:1). Worcester was chosen as study site since the exclusive breastfeeding rate is low (6%) and the Rural Clinical School located in Worcester provides a platform for tailored intervention and further research in this area.

Separate focus group discussions were held with mothers who breastfed exclusively or predominantly; mothers who breastfed partially; fathers of infants younger than six months; grandmothers of infants younger than six months; as well as health care workers (lay and professional workers) working in child health. Participants were purposively recruited by field workers who went from door to door in different areas of the communities with focus group specific screening tools. Health care workers were recruited at healthcare facilities within and around the research setting. The number of focus group discussions was determined by the available resources, the time frame of the study and logistical implications. For health care workers, only one focus group discussion was conducted since time constraints, shift duties and long working hours influenced their availability. A third focus group was conducted for fathers since their focus group discussions were very short. Figure 1 illustrates the final study sample.

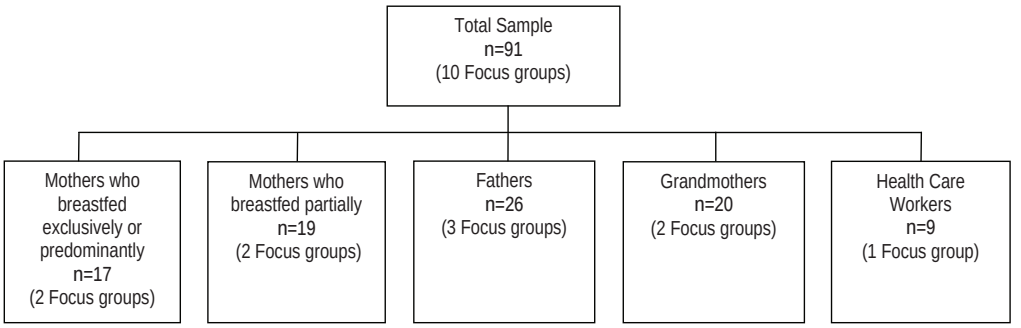

Figure 1: Diagrammatical representation of the qualitative sample size

The study was conducted according to the guidelines laid down in the Declaration of Helsinki and was approved by the Committee for Human Research at Stellenbosch University (Reference number: N10/11/362). Written informed consent was obtained from all participants. Confidentiality was stressed at the beginning of each focus group. Focus group discussions were not video-recorded but audiotaped. Participants were informed that no reference to names will be made with the analysis. Only members of the fieldworker team conducting the focus group were allowed at the focus group discussion.

Data collection

The focus group discussions (FGDs) were conducted according to the procedures outlined in the United States Department of Agriculture's (USDA) Community Food Security Assessment Toolkit (Cohen, 2002:1). Focus group discussions were held in the Multi-purpose Community Centre, Stellenbosch University Community Health Centre, and a crèche in the research setting. Transport was arranged for participants from and to their homes. Focus group discussions were conducted by different fieldworker teams. Each team had three members: a screener, a facilitator and an observer. The teams were gender and language specific for the different focus groups, with men screening, facilitating and observing the focus groups with fathers, while women screened, facilitated and observed all the other focus groups. The screener completed the informed consent form and socio-demographic questionnaire of each participant before the focus group commenced. The trained facilitator led and facilitated the discussion in isiXhosa, Afrikaans or English according to the language of the specific group. The observer audiotaped the discussion and made observational notes during the discussion. Focus group discussions were concluded once all questions were asked, prompts were given and no more responses were received.

The focus group guides used for the focus group discussions contained a written list of questions and probes. Guides were compiled by the researcher and reviewed by a panel of professionals with extensive knowledge, understanding and experience in infant feeding and/or focus group discussions for content validity. The questions in the focus group guides focused on the following key areas:

Questions to mothers:

The reasons for following a specific feeding practice; influential and/or supporting role-players with infant feeding; the availability and accessibility of information on infant feeding.

Questions to fathers, grandmothers and health care workers:

Knowledge and perceptions about infant feeding; the view of their role in caring for infants; the availability and accessibility of information on infant feeding.

The focus group guides were available in isiXhosa, Afrikaans and English, the three languages spoken in the area.

Data analysis

Field workers were trained by an expert in qualitative methods to transcribe focus group discussions. The tape recorded interviews were transcribed verbatim to their original language before being translated to English. Observational notes were also translated to English. Data was captured in MS Word®.

To ensure that the content and the core meaning of the original text were preserved during translation, field workers worked in pairs and all transcriptions and translations were checked by the partner and re-checked by a senior field worker who managed the group. No major discrepancies were identified. The decision to use local field workers was largely due to financial constraints. However, the advantage of using local field workers to transcribe and translate data was that it could help preserve region-specific dialect and terms used in the research setting.

The researcher read and analysed the total data set using content analysis to sort and categorize data (Graneheim & Lundman, 2004:105). Subsequent analysis involved coding and labelling, reflecting on the key elements of the data, finding new relationships, clarifying the emerging ideas and identifying patterns. The developed themes and findings were written up and shared with the broader research team for further validation. Through this process, themes presented in this paper were developed.

FINDINGS AND DISCUSSION

The findings in this study are presented in two sections. The socio-demographic profile of the participants is presented; this is followed by the findings and discussion of the factors impeding exclusive breastfeeding practices.

Socio-demographic profile

The socio-demographic profiles of the respective focus groups are summarised in Table 2.

Table 2: Socio-demographic profile of the respective focus groups

Characteristics	Mothers who breastfed exclusively or predominantly (n=8; n=9)	Mothers who breastfed partially (n=9; n=10)	Fathers (n=7; n=9; n=10)	Grandmothers (n=9; n=11)	Health care workers (n=9)
Age (years)					
Mean	26.5 (SD 7.1)	25.3 (SD 7.6)	24.3 (SD 5.1)	54.0 (SD 10.7)	44.1 (SD 10.0)
Range	15-39	16-42	14-38	31-71	28-57
Gender	n (%)	n (%)	n (%)	n (%)	n (%)
Female	17 (100)	19 (100)	0 (0)	20 (100)	9 (100)
Male	0 (0)	0 (0)	26 (100)	0 (0)	0 (0)
Ethnicity					
Black African	8 (47)	14 (74)	20 (77)	11 (55)	5 (56)
Coloured	9 (53)	5 (26)	6 (23)	9 (45)	3 (33)
White	0 (0)	0 (0)	0 (0)	0 (0)	1 (11)
First language					
IsiXhosa	8 (47)	14 (74)	18 (69)	11 (55)	5 (56)
Afrikaans	9 (53)	5 (26)	7 (27)	9 (45)	4 (44)
Sesotho	0 (0)	0 (0)	1 (4)	0 (0)	0 (0)

Marital status					
Married	6 (35)	3 (16)	2 (8)	14 (70)	3 (33)
Unmarried	11 (65)	16 (84)	24 (92)	6 (30)	6 (67)
Education					
None	0 (0)	0 (0)	0 (0)	2 (10)	0 (0)
Primary School	1 (6)	0 (0)	1 (4)	5 (25)	0 (0)
Grade 8-9	9 (53)	11 (58)	5 (19)	13 (65)	0 (0)
Grade 10-12	7 (41)	8 (42)	19 (73)	0 (0)	3 (33)
Tertiary	0 (0)	0 (0)	1 (4)	0 (0)	6 (67)
Employment status					
Employed	0 (0)	2 (11)	3 (12)	9 (45)	9 (100)
Unemployed	17 (100)	17 (89)	23 (88)	11 (55)	0 (0)
Child support grant					
Received	15 (88)	14 (74)	N/a	N/a	N/a
Not received	2 (12)	5 (26)	N/a	N/a	N/a

Factors impeding exclusive breastfeeding practices

Table 3 gives a brief overview of the findings from the different focus group discussions.

Table 3: Overview of the different groups interviewed and their views in brief

	Breastfeeding mothers	Grandmothers	Fathers	Health care workers
Water	Supported. Most within first month. Needed for health. Cleans infant's system. Constipation. Keeps infant quiet.	Supported. Needed for health. Cleans infant's system. Constipation. Dehydration. Jaundice. Keeps infant quiet.		Not supported.
Non-prescription and herbal medicine	Gripe water and Lennon's Behoedmiddel supported by some. For cramps and wind.	Gripe water and Lennon's Behoedmiddel supported – given for cramps and wind. Herbal medicine given by some for jaundice. "Stronger" medicines not supported.		Not supported.
Nutritive liquids and food	Supported. Milk insufficiency (crying, hunger). Infant left with relatives/ caregiver.	Supported. Growth and intelligence. Milk insufficiency (crying, hunger). Infant left with relatives. High cost of formula milk.	Supported. Nutrients. Growth and intelligence. Milk insufficiency (crying, hunger). Infant sleeps well.	Not supported.
Cessation of breastfeeding	Returned to work or school. Infant left with caregiver. Milk insufficiency (crying, hunger).			Express breast milk and breastfeed frequently to maintain milk supply.

Infant feeding advice and support	Health care workers. Own mother. Other relatives.	Draws from own experiences. Convention. Traditional beliefs.	Information not available in community. Shy/ embarrassedNot willing to go to clinic.	Offered at health care facility. Pamphlets/ posters. Time constraints. Aware that family members also give advice.

The following seven themes were identified during data analysis:

The perception that infants need water and non-prescription medicines

Giving water and non-prescription medicines was a common practice. Reasons for this practice were deeply rooted in beliefs and perceptions that it contributed to infant health and solved various symptoms or ailments. Mothers felt responsible for their infants' health and related the practice of giving water to being responsible. Reasons for giving water included: infant health; to clean urine; to help with constipation; to work off acid caused by milk; and to stop hiccups. Grandmothers agreed and added that water prevented dehydration and took away jaundice. Grandmothers also supported the practice of giving non-prescription medicines. A few grandmothers reported giving herbal medicines. Contrary to practices in other rural settings where herbal medicines were given for cleaning purposes or colic (Buskens et al., 2007:1101; Sibeko et al., 2005:31), grandmothers gave it for flatulence and jaundice. Gripe water and *Lennon's Behoedmiddel*[1] were given by some mothers and grandmothers who believed it improved growth, prevented constipation, and relieved flatulence and cramps. Water and gripe water seemed to serve as a convenient pacifier when infants cried and were reportedly given by some mothers and grandmothers to quieten the infant. Health care workers were concerned about the additional fluids given by mothers and grandmothers.

> "All those extra fluids, they just make the child keep quiet and sleep." (Health care worker)

Gripe water is a sweet-tasting liquid and it has been suggested that the taste may soothe the infant (Adhisivam, 2012:207), leading to the required outcome, which provides motivation to continue this practice.

1 *Lennon's Behoedmiddel* is an over-the-counter product marketed for treating wind, stomach ache, colic and diarrhoea in children. It contains Magnesium Carbonate.

The concern that milk alone does not satisfy the infant

Mothers and grandmothers were not convinced that milk alone satisfied infants, a perception deduced from infant crying behaviour. Similar to other studies (Nor et al., 2011:448; Buskens et al., 2007:1101; Kaufman, Deenadayalan & Karpoti, 2010:696), fathers also reported that infants should eat food since milk alone did not provide all the needed nutrients. The perception of breast milk insufficiency is a well-known barrier to exclusive breastfeeding practices (Fjeld, Siziya, Katepa-Bwalya, Kankasa, Moland & Tylleskär, 2008:26; Engebretsen, Wamani, Karamagi, Semiyaga, Tumwine & Tylleskär, 2007:10; McCann & Bender, 2007:341). Similar to findings by Fjeld and colleagues (Fjeld et al., 2008:26), mothers seemingly failed to distinguish hunger from other reasons for crying and assumed that a crying infant was unsatisfied and needed formula milk or food to satisfy hunger. Consistent with a previous study in South Africa (Nor et al., 2011:448), mothers reported that their infants cried or that they could "see" that their infants were still hungry. Consistent with findings from previous studies (Nor et al., 2011:448; Kaufman et al., 2010:696), caregivers reported that not only did infants stop crying when given supplementary feeds; they were also happier and slept better.

> "She sleeps well, she was like that when she was full from eating and drinking, she might wake up once during the night." (Father)

This was perceived as a positive development and justification for mixed feeding. This is an important finding, since it is critical to understand the underlying mechanism for the interpretation of milk insufficiency and for refining messages promoting exclusive breastfeeding practices. Giving complementary food based on an incorrect perception of breast milk insufficiency may result in actual breast milk insufficiency based on less frequent feeds and the physiological need for frequent suckling to maintain breast milk production.

Inadequate infant feeding education and support by the health system

Grandmothers raised a concern that pamphlets and posters had seemingly replaced infant feeding education at clinics due to a high workload and a lack of time.

> "Unfortunately these days the mothers come out of the clinic with a pamphlet, she must go read it at home, the clinic doesn't have a chance to sit down and teach the mother because the nurses have too much on their hands." (Grandmother)

Doherty and colleagues (Doherty, Chopra & Colvin, 2006:27) found that very busy antenatal clinics challenged proper and complete counselling and that shortcomings in infant feeding counselling negatively affected the choices of mothers. Health care workers confirmed that they did not always have enough time to give mothers all the information but that there were always posters on the walls and pamphlets

available. This apparent lack of comprehensive individual or group counselling was despite reports from health care workers that they played an essential role with infant feeding education. All but two of the mothers obtained some level of secondary school education (Grade 8 to 12), and while literacy was not a challenge, the messages on posters and pamphlets were not always understood. This resulted in mothers turning to their own mothers and other relatives for further advice or practised what they thought was suitable. Utilising alternative sources of infant feeding information poses a risk of misinformation, conflicting messages, confusion and a generational cycle of incorrect infant feeding practices based on conventional practices or beliefs.

Health care workers were frustrated with mothers for not reading the available information or for following the advice of others but did not seem to realise that the lack of or inadequacy of counselling contributed to these practices. Only one health care worker realised that having information available at the clinic did not necessarily translate to mothers being informed.

> "The thing is the information, we have it; whether we give it all to the patients is a different question." (Health care worker)

Similar to respondents in another study (Nor et al., 2011:448), mothers were aware that food and other liquids should only be introduced at six months of age, but wanted to understand the underlying mechanism of this practice. Without this understanding, mothers felt unsure and easily doubted this practice when faced with a crying infant or relatives advising differently than health care workers.

> "If they say six months, then the mother would ask what to do if my baby cries, the baby wants food that six months is too far. If they say we must wait until the baby is six months before we feed solids, then they need to explain to us what happens to the baby if the baby is fed before six months." (Mother)

Infant feeding counselling by health care workers seemed to be directive and not explanatory, which did not allow mothers to develop the understanding, reasoning skills and confidence needed to negotiate infant feeding practices with family members. One mother explained that she was told at the hospital not to give non-prescription medicines. Back home, her mother questioned this practice and argued that non-prescription medicines have been given to infants for years. The mother explained that since she was unsure as to why non-prescription medicines should not be given, she could not answer or challenge her mother and eventually gave the medicines. This is an important finding and indicates that mothers *want* to understand the underlying mechanism of infant feeding guidelines and that there is a need to develop their negotiation skills.

The lack of community-based postnatal support

All groups of participants highlighted the need for postnatal support with infant feeding. Already in 1993, the WHO indicated that the key to optimal breastfeeding practices is ongoing, daily support to a breastfeeding mother within her home and community (Saadeh, 1993:62). Participants felt that postnatal support should be community based since the health care system was burdened with a high work load; that mothers did not necessarily visit the clinic if they had feeding problems; and that mothers often found themselves in a situation where they needed help immediately. Health care workers explained that feeding problems had often already established when mothers returned to the clinic for the six-week immunization visit.

> "So what I'm saying is breastfeeding clinics and breastfeeding support groups is going to do it because then they can give information whenever it's needed because they don't come to us with breastfeeding problems, they come for weighing, immunization and that's where we pick up the problems and then it's an old problem." (Health care worker)

A need was expressed for ongoing infant feeding education, demonstrations and support, especially for young mothers, first-time mothers and mothers who did not have support at home. Suggestions included more school or community-based talks on breastfeeding, training programmes run by mothers from the community, breastfeeding support groups, and weekly home visits by breastfeeding workers.

> "Why can't they like establish a group of breastfeeding workers, if there are births at the hospital, get that group to go and do home visits because we don't do it anymore, go do home visits. There are babies, they are under six months, go once a week and go see if everything is going well with that mother and the baby so that if she has a question, it can be asked there in the house." (Health care worker)

Furthermore, a recommendation was made for breastfeeding houses, where people from the community willing to assist with breastfeeding could be identified and mothers be allowed to go to their homes for advice and support.The importance of follow-up support was highlighted by Fjeld and colleagues (Fjeld et al., 2008:26) who asserted that a mother in doubt is at higher risk of returning to conventional practices of mixed feeding. Community-based support is an important follow-up strategy to facility-based support. Extending health care to communities has been seen to contribute to continued exclusive breastfeeding practices (Mazaleni & Bamford, 2010:71) and a combination of professional and lay support has been shown to be successful in prolonging breastfeeding (Britton, McCormick, Renfrew, Wade & King, 2007:1).

Convention and family influence

Various people influenced infant feeding choice and practices but health care workers and maternal grandmothers (of infants) remained the key role-players. It is well documented that family members, especially grandmothers and other elder relatives, exert great influence on infant feeding practices (Mamabolo et al., 2004:327; Buskens et al., 2007:1101; Sibeko et al., 2005:31; Mushapi, Mbhenyane, Khoza & Amey, 2008:36). Mothers reported that family members advised them to give water, gripe water, formula milk and food since their infants were crying, not drinking, or not getting enough from breastfeeding.

Health care workers agreed that family members played a vital role with supporting mothers but seemed frustrated and raised concerns that advice given by family members conflicted with information given at health care facilities. They felt that mothers understood messages and left with good intentions but that influence exerted by family members led to different practices.

> "Because you can talk to the client, the client will listen, yes, I'm hearing what you're saying but when she comes there, when she has to do the reality, it changes." (Health care worker)

One health care worker admitted to being overpowered herself, where despite having the knowledge, did what her grandmother advised her to do. Despite good intentions, mothers might prefer to follow the advice of relatives in order to respect them or not to disappoint them (Fjeld et al., 2008:26). Consistent with findings from other studies (Buskens et al., 2007:1101; Fjeld et al., 2008:26), mothers also explained that they followed the advice of their mothers since they themselves were living proof of their mothers' capability to raise children. Literature indicates that family and community pressure leads to early cessation of exclusive breastfeeding (Mamabolo et al., 2004:327; Sibeko et al., 2005:31; Mushapi et al., 2008:36) and that these role-players do not always understand the value of exclusive breastfeeding (Thairu, Pelto, Rollins, Bland & Ntshangase, 2005:2). Consistent with previous findings (Buskens et al., 2007:1101; Fjeld et al., 2008:26), the father's role was seen as providing material support. Formula feeding was also seen as a way in which fathers could help with the workload and bond with the infant (Fjeld et al., 2008:26). This type of support impedes exclusive breastfeeding practices and highlights that fathers need guidance in supporting breastfeeding mothers.

Mothers separated from their infants

Returning to work or school is frequently reported in the literature as a barrier to breastfeeding (Mamabolo et al., 2004: 327; Sibeko et al., 2005:31). Consistent with previous research findings (Buskens et al., 2007:1101; Sibeko et al., 2005:31), formula milk was given to infants when the mother was away and the infant left with caregivers. A sense of independence was linked to formula-fed infants and formula feeding was perceived as easy and convenient. Mothers reported that it was easier to leave a formula-fed infant with caregivers and that people were reluctant to look after breastfed children since they perceived them to be too attached to the mother and naughty.

> "And it is much better for us as mothers to have a child that drinks the bottle for when you have to go and work, because people do not want to look after a breastfed child, because a breastfed child is … naughty… you see." (Mother)

Expressing breast milk was seldom mentioned. The perceived inconvenience of looking after a breastfed infant and the perceived convenience of formula feeding may be some of the factors contributing to the rare practice of expressing breast milk. Previous studies found that some mothers made negative connections to expressing breast milk based on a lack of knowledge and understanding (Coutsoudis, 2005:956; Osman, Zein & Wick, 2009:12).

Local beliefs about maternal behaviour and breastfeeding

Mothers and grandmothers reported breastfeeding beliefs similar to those reported in the literature (Buskens et al., 2007:1101; Sibeko et al., 2005:31; Fjeld et al., 2008:26). As cited by other studies (Buskens et al., 2007:1101; Fjeld et al., 2008:26), there seemed to be beliefs that emotions or sickness were carried to the infant through breast milk. One mother reported that she breastfed while feeling stressed and that she knew the stress carried over to her infant since he slept very uneasy after that feed. She mentioned that she should have expressed the "stressed" milk before breastfeeding. Grandmothers also explained that milk can become sour in the breast if there is a long period between feeds and that the "sour" milk should be expressed before breastfeeding. They also reported that mothers should not breastfeed if they had sexual relations with a man other than the father of the infant, since the milk was then "upset" and would cause stomach cramps or illness. As described by Buskens and colleagues (Buskens et al., 2007:1101), mothers understood and accepted that HIV was transmitted through sexual contact and breastfeeding. This understanding might have caused the perception that everything that happened to the mother would affect her breast milk and might transmit to the infant.

CONCLUSIONS

The barriers to exclusive breastfeeding practices are multifaceted and interlinked. Caregivers did not appear to have sufficient knowledge and understanding of the rationale for infant feeding recommendations and mothers seemed ill equipped to negotiate infant feeding practices with role-players at home. The influence of convention and community perceptions and beliefs combined with suboptimal infant feeding education by the health system and the lack of local postnatal breastfeeding support initiatives posed an intricate group of barriers to exclusive breastfeeding practices.

RECOMMENDATIONS

Researchers, policy makers, programme implementers and communities should work closely together on improving infant feeding practices. Role-players should build on interventions that have been proven to work (e.g. individual and groups counselling about breastfeeding) (Bhutta, Ahmed, Black, Cousens, Dewey, Glugliani, Haider, Kirkwood, Morris, Sachdev & Shekar, 2008:417) and invest in testing messages, behaviour change communication approaches and other intervention strategies in a systematic way.

In the research setting, the local health system should evaluate their staff complement and workload to ensure that health education on addressing barriers to exclusive breastfeeding is intensified. The health system should extend infant feeding and health information beyond their facilities by collaborating with stakeholders that work in the communities to educate grandmothers and fathers on the value of exclusive breastfeeding and ways in which they can support the mother to breastfeed successfully, emphasizing that breastfeeding can be supported by providing the mother with an adequate and healthy diet, that mothers should be motivated to express breast milk and that they can assist the mother with feeding the infant by giving expressed breast milk. Supported by the local health system, community leaders should consider implementing a pilot programme on community-based support for mothers with young infants. In general, policy makers should consider expanding community-based health care services and integrating infant feeding support into the service package of community care workers; engage with the broader community to align breastfeeding support programmes to real time challenges and information requirements; develop large-scale promotion of exclusive breastfeeding and explicit demotion of mixed feeding to influence the understandings and attitudes of mothers, families and communities; and accelerate efforts to protect and extend maternity benefits while also educating employers and schools on how they can support breastfeeding mothers by providing them with adequate facilities and time to express breast milk.

Furthermore, alternative approaches to improving exclusive breastfeeding rates, using different combinations of health facility and community-based interventions should

be tested, using rigorous research designs. Options to study would include a social study on the deep-rooted social and cultural factors influencing exclusive breastfeeding practices; approaches to delivering infant feeding messages; approaches to developing negotiation skills; approaches to strengthen the practice of expressing breast milk; community-based approaches such as "breastfeeding houses", school and workplace interventions as well as integrated media campaigns that are inclusive of caregivers and other community members.

LIMITATIONS OF THE STUDY

Due to financial constraints, professional transcription services were not used. Despite the quality control mechanisms described earlier in the paper, it is recognized that the transcription and translation process may have altered the original meaning of the text.

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