PRINT: ISSN 0973-5070 ONLINE: 2456-6772
Ethno Med, 8(3): 317-324 (2014)
DOI: 10.31901/24566322.2014/08.03.14

Breastfeeding in the Vhembe district of Limpopo Province, South Africa: Duration and Factors

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KEYWORDS Malnutrition. Child Survival. Diarrhoea. Vulnerable. Food Supplements

ABSTRACT Breastfeeding has been one of the significant traditions to follow because it ensures anticipated growth and development in infants and young children. Malnutrition is high in South Africa and contributes to 64% of deaths in children under-five years. Breastfeeding is one of the most effective ways of preventing malnutrition and infectious diseases by boosting the child's immunity level. Currently, in Africa, mothers are reducing the period of breastfeeding as compared to the traditional period of minimum of twenty-four months and above to barely fifteen months or less. A 3-stage sampling covering all the six municipalities in the Vhembe district was conducted. Structured questionnaire was used to capture information from women in the child-bearing age. Applying basic statistical methods, this study shows that mothers in Vhembe breastfeed their babies for an average of about eighteen months. The study recommended that pregnant women should attend prenatal medical check-ups early so that they could be taught more about the importance of breast milk for healthy growth of their young children.

INTRODUCTION

Malnutrition is one of the causes of infant and child mortality in South Africa (DoH 2010). There are five major causes of maternal and childhood deaths that the South African government termed as "the Big 5 Health Challenges, namely: pregnancy and childbirth complications; newborn illness; childhood illness; HIV and AIDS and malnutrition" (DoH 2010). Malnutrition contributes about 64% of deaths of children under-five years (UNICEF 2009). Breastfeeding provides the ideal nutrition for a baby and provides many health benefits for both mother and baby. It protects the child from obesity, lowers the baby's risk of Sudden Infant Death Syndrome (SIDS), reduces the stress level and the risk of post-partum depression of the mother as well as reduces the risk of some types of cancer (www.kznhealth.gov.za/exclusivebreastfeeding; www.babycenter.com). According to the World Health Organization (WHO 2009) poor breastfeeding contributes to over one million avoidable child deaths each year worldwide. Despite a national policy of free primary health care for pregnant women and children under five years, child mortality has increased in South Africa since 1990. Every year, about 75000 children die before their fifth birthday (UNICEF, South Africa (SA) 2008). A significant number of women and children die during childbirth and 40% of stillbirths happen during labour (UNICEF, SA 2008). Almost, a half of all new-born babies die during the first 24 hours of birth, and 75% die in their first week of life (UNICEF, SA 2008).

Breastfeeding is one of the most effective ways to ensure child health and survival. Exclusive breastfeeding is strongly recommended for the child for the first six months and after six months it could then continue alongside with appropriate food until the child is, at least, two years of age (WHO 2011). WHO recommended, in addition, that breastfeeding should begin within an hour of birth; that it should be available and ready ("on demand"), as often as the child wants it, day and night; and that bottles or pacifiers should be avoided. Some studies have shown that breastfeeding is protective against several child diseases, such as allergies and asthma amongst others (Johnston and Esposito 2007). It is also reported in some studies that breastfeeding provides certain important benefits such as increased child spacing, earlier return to pre-pregnancy weight, decreased risk of breast and ovarian cancers, decreased risk of hip fractures and osteoporosis in the post-menopausal period to mothers (Ogbuanu et al. 2009).

Kyei (1999, 2012) commented that the probability of survival for a child increases more than 30% for a child breastfed for two or more years

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compared with a child breastfed for one year or less. Breastfeeding promotes health by providing immunity and prevents diseases such as ear infection and diarrhoea. Diarrhoeal disease is a leading cause of child mortality and morbidity in the world, and mostly results from contaminated food and water sources. Worldwide, about one billion people, lack access to pure or treated water and 2.5 billion have no access to basic sanitation (WHO 2009) so babies in these areas are prone to diarrhoeal therefore need to be protected by a considerable long period of breastfeeding.

Breastfeeding is one of the most important basic health care provisions that a mother can give because it has been proved that the breast milk is best for the newborn babies. Not only is breast milk nutritious for the baby, it also helps protect the child from almost all forms of infections, by boosting the child's immunity level. It has been found that no other milk provides as much nutrition and safety for the child as breast milk. Each nursing mother delivers millions of living white blood cells to her baby, helping the baby to help fight off all kinds of diseases (http://www.iloveindia.com). Breast milk has disease-fighting cells called anti-bodies that help protect infants from germs, illness, and even sudden infant death syndrome (SIDS). While breastfeeding rates in the United States have steadily climbed up since the 1950s, the rates of the developing world have been declining until recently (LLLI 2012).

Objectives

The present study aims to examine the duration of breastfeeding among women in the Vhembe district and the factors that affect breastfeeding; and to recommend, where necessary, proper education of the importance of breast milk to mothers.

Ogbuanu et al. (2009) explored that, work-related issues, personal preferences, having unsupportive partner, feeling embarrassed, concerns about pain, and physical/medical problems are some of the education or encouragement that pregnant women need. Besides, studies by Johnston and Esposito (2007); and Zaghloul et al. (2004), emphasize topics on income, race/ethnicity, region of residence, age, marital status, breastfeeding intent, gestational age, birth weight and participation in national programs of the government, as essential lessons that have to be taught to pregnant women.

METHODOLOGY

Materials/Data

The data used in this study was obtained through a 3-stage sample survey covering all the municipalities in the Vhembe district. The survey was conducted in five locations in the district between March and July 2010. The locations covered were Vuwani, 643 houses (dwelling or visiting points), Malamulele "town" 709 houses, Malamulele villages 649 houses, Makwarela 283 houses and Dzata (Mphephu) 379 houses. Structured questionnaire was used to capture information from women in the child-bearing age. About 2660 women aged between 13 and 50 years were interviewed. The questionnaire used has items on social, economic, demographic and health variables of the participants such as age, marital status, level of education, employment status, duration of marriage, number of children born, ante-natal visits to clinics, immunization, breastfeeding, oral rehydration therapy and other health-related variables as well as vital statistics questions.

Method/Analysis

Basic statistical analyses were performed to find the proportion of mothers who breastfed their babies for twenty-four months or more. Cross tabulations were also performed to examine the relationships using Chi-Square. In addition, some multiple regressions were run for confirmation of the factors affecting breastfeeding.

Ethical Issues

Before the beginning of data collection, round trips were made to meet with the chiefs of the villages and chairpersons of the Civic Associations in towns and townships where the objectives of the research was explained to them; and a humble request made to them to sensitize the members of their communities. Questions on ethical issues were addressed by informing them that the responses would be kept in strict confidence and that nobody was also forced to be interviewed and a copy of the questionnaires was given to them for reference.

RESULTS

Period of Breastfeeding

The results in Table 1 displayed the pattern of breastfeeding. About 42.5% of the women interviewed were still breastfeeding their children while 57.5% were no longer breastfeeding. For those who were no longer breastfeeding, majority (70.6%) of them breastfed their children for a period of less than 24 months (see Fig. 1). Thus, the surveyed women did not breastfeed their children for the period recommended by the Department of Health (DOH 2004), and this is not helpful. The DOH has recommended that mothers should breastfeed their babies for more than 2 years as a means of boosting their babies' health. When mothers breastfeed their babies for a short time, they tend to make their babies vulnerable to all kinds of diseases from artificial milk to food supplement. No matter what good reasons some women may have for not breastfeeding their babies for longer periods up to 24 months, this is contrary to the recommendation by the Department of Health (DOH 2004).

Table 1: Duration of breastfeeding

Variables	*Frequency*	*%*
Are You Still Breastfeeding?		
Yes	159	42.5
No	215	57.5
Total	374	100
Period of Breastfeeding(Months)		
<24	154	70.6
≥24	64	24.4
Total	228	100

Since the majority (70.6%) of the women breastfed their children for a period less than 24 months it is important that the study looks at other food given to the babies. Table 2 exhibits food supplements given to the children. The table shows that about 45.9% of the women gave their children bottle with tea the day before the interview while 54.1% did not give their children bottle with tea. The proportion of mothers who gave fruit juice to their children the day before the interview was 69.9% while those who did not give fruit juice were 30.1%. About 90% of the women gave their children plain water the day before the interview.

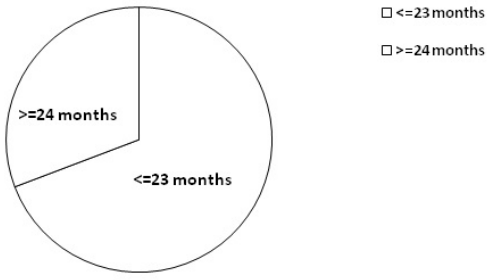

Fig. 1. Period of breastfeeding
Source: Survey date 2010

Table 2: Table of food supplements

Supplement given	*Frequency*	*%*
At Any Time Last Night Or Yesterday Was Your Child Given Tea in a Bottle?		
Yes	346	45.6
No	408	54.1
Total	754	100
At Any Time Last Night Or Yesterday Was Your Child Given Fruit Juice?		
Yes	475	69.9
No	205	30.1
Total	680	100
At Any Time Last Night Or Yesterday Was Your Child Given Plain Water?		
Yes	615	89.9
No	70	10.1
Total	685	100

Table 3 presented some other health variables that may influence breastfeeding behavior of mothers. Out of 355 women who respond-

Table 3: Frequency of other health variables/ indicators

Variables	*Frequency*	*%*
Place of Birth of Their Last Child (Less Than 5 Years)		
Hospital	261	73.5
Clinic	90	25.4
Home	2	0.6
Other	2	0.6
Total	355	100
Starting Time for Prenatal Consultations to Health Care Centre During Pregnancy		
1-3 months	209	58.4
4-6 months	96	26.8
7-9 months	53	14.8
Total	358	100
Birth Mass (kg) of Their Last Born		
< 2.5	23	18.7
2.5 to 4	99	80.5
>4	1	0.8
Total	123	100

ed to the question concerning the place of birth of their last child whose age was less than 5 years, 73.5% of the women said that their last child was born in hospital. About 25.4% said that their babies were born at the clinic and only 0.6% said their babies were born at home. Less than one per cent (0.6%) of the women also said they gave birth somewhere else. Concerning prenatal health care and consultation, 58.4% of the women started their prenatal medical check-ups when they were 1 to 3 months pregnant, 26.8% of the women started when they were 4 to 6 months pregnant and 14.8% started when they were 7 to 9 months pregnant.

Statistical Tests

First, the relationship between breastfeeding and independent variables namely, age, educational level, marital status and employment status, was examined using the Pearson Chi-square in order to explore the significance of this relationship at 5% level of significance.

Table 4: Relationship between period of breastfeeding in months and some independent variables

Variables	*Period of breastfeeding*	
Age (years)	*< 24 months*	*24 months*
15-19	77.8	22.2
20-25	80.7	19.3
26-35	68.8	31.2
36+	59.6	40.4
Educational Level	*< 24 months*	*24 months*
Grade R to 7	50.0	50.0
Grade 8 to 11	71.2	28.8
Grade 12 to 12+	70.8	29.2
Tertiary	83.3	16.7
Other	64.0	36.0
Employment Status	*< 24 months*	*24 months*
Not working	68.3	31.7
Work for self or family	79.0	21.0
Work for somebody else	66.7	33.3

The Chi-square statistics from Table 4 showed that there was no relationship between breastfeeding and the independent variables. It was expected that breastfeeding would be a function of education and employment status. That the employed women would breastfeed differently from those who are not or self-employed, because the latter are not constrained with time and, therefore, would breastfeed their children more months than those employed. But that was not the case. Similarly, it was expected that the less educated women with less income would breastfeed their babies longer than the highly educated women who are able to buy other food supplements and thereby breastfeed for a shorter period, but again, this was not the case.

Next, the data were transformed to enable regression analyses to be done. When marital status, age and education were factored into the regression model (see Agresti 1996; Hosmer and Lemeshow 2000), interestingly, breastfeeding showed some relationships. As can be seen in Table 5, when marital status was factored into the model, breastfeeding was seen to have a negative relationship with contraception (use of pills, p=0.018), teenage /never married births nor lived together but have a child, (p= 0.047), and prenatal medical check-ups (p=0.058). While the relationship between breastfeeding and prenatal medical check-ups is positive, the relationship between breastfeeding and contraception is negative. Similarly, the relationship between

Table 5: Dependent variable - breastfeeding factored by marital status

Model	*Unstandardized coefficients*		*T*	*Sig*
	B	*Std error*		
Intercept	1.999	0.533	3.753	0.000
Woman working	0.045	0.058	0.769	0.443
Who assisted birth	-0.010	0.071	-0.135	0.893
Total # of children born	-0.003	0.047	-0.072	0.943
Educational level	0.049	0.044	1.112	0.265
Prenatal consultations	0.252	0.132	1.910	0.058*
Dwelling	0.166	0.106	1.567	0.119
Age	-0.002	0.008	-0.306	0.706
Contraception (pills)	-.0232	0.098	-2.386	0.018*
Marital status (married)	-0.359	0.280	-1.284	0.201
Marital status (living together)	-0.431	0.265	-1.628	0.105
Marital status (widowed)	0.049	0.422	0.116	0.908
Marital status (divorced)	-0.205	0.339	-0.605	0.546
Marital status (Never married)	-0.466	0.232	-2.003	0.047*

Dependent Variable: Breastfeeding

breastfeeding and teenage births is also negative. Subsequently, when age was factored into the model, almost the same observation was made, breastfeeding was seen to have relationship with contraception (p=0.022), prenatal medical check-ups (p=0.033) and dwelling (p=0.085).

Similarly, when education was also factored into the model, breastfeeding was seen to have same relationship with contraception, prenatal medical consultations and dwelling place. The relationship is negative between breastfeeding and contraception but positive between breastfeeding and; prenatal medical check-ups and dwelling (see Table 6). Incidentally, the study did not consider urban-rural at this stage, but since the type of dwelling is seen to have some relationship with breastfeeding, it will be interesting to consider urban-rural also in a further study.

DISCUSSION

This study indicates that the duration of breastfeeding in Vhembe has reduced from the traditional twenty four months and above to merely eighteen months. This trend seems not to be limited to the study area but a worldwide phenomenon. Statistics from the Associations in Support for Exclusive Breastfeeding (ASEB) in Cameroon indicated that the rate of breastfeeding in that country is low (Brenda Yufeh, 2012). According to the President of the association (ASEB), James Achanyi Fontem, just 20% of the women exclusively breastfeed their children for six months. Brenda Yufeh (2012) comments: "Breast milk is readily available and affordable, which helps to ensure that infants get adequate sustenance. It is recommended that babies receive exclusive breast milk for at least six months to avert health complications, but the reality on the ground now is different. Health experts say as days go by, the rate at which mothers' breastfeed babies exclusively with breast milk keeps going down."

This study seeks to investigate the decline in the period of breastfeeding in Vhembe district of the Limpopo province as it is with other developing nations. Further, the chi-square tests did not provide any solution. However, when marital status was introduced in the regression model, breastfeeding was seen to have some relationship with "teenage" births, contraception and prenatal medical consultations. "Teenagers" do not breastfeed their babies simply because of time constraint. These "teenage" mothers are still in school and their parents still want them to continue schooling despite being mothers themselves. Thus, the parents end up taking care of the babies of these "teenage" daughters while they continue their studies. Prenatal medical check-up has a positive relationship with breastfeeding because health education regarding breast care and feedings are emphasized during consultations. They are taught about the significance of breastfeeding and presumably, they take it seriously. Why contraception (pills) has some relationship with breastfeeding is not a straightforward theory. Both of them, however, have a common underlying effect on pregnancy. Breastfeeding was the traditional meth-

Table 6: Dependent variable - breastfeeding factored by education

Model	*Unstandardized coefficients*		*T*	*Sig*
	B	*Std error*		
Intercept	1.926	0.491	3.922	0.000
Woman working	-0.086	0.126	-0.679	0.498
Who assisted birth	0.002	0.072	0.023	0.981
Total # of children born	0.009	0.046	0.199	0.843
Marital status	-0.035	0.023	-1.527	0.129
Prenatal consultations	0.251	0.130	1.922	0.056*
Dwelling	0.228	0.103	2.213	0.028*
Age	-0.002	0.008	-0.211	0.833
Contraception (pills)	-.0244	0.097	-2.511	0.013*
Education (No school)	-0.146	0.183	-0.276	0.783
Education (Primary)	-0.098	0.154	-0.639	0.524
Education (Secondary)	0.047	0.141	0.331	0.741
Education (Tertiary)	0.032	0.152	0.212	0.832

Dependent Variable: Breastfeeding

od of spacing births while contraception is a modern method of preventing pregnancy.

Breastfeeding was seen to have some relationship with contraception, prenatal medical consultations and dwelling, when age and education were factored into the model. A strong correlation has been found between breastfeeding and a lifetime of good health. Breastfeeding has also been linked to lower rates of obesity and has been found to help women return to their pre-pregnancy weight faster. Breastfeeding can also protect against the development of allergies and other anti-immune system related conditions. Studies confirm that women who have breastfed their children have lower risks of major health conditions such as ovarian cancer, breast cancer and type II diabetes (www. babycenter. com.).

The relationship between breastfeeding and dwelling is not straightforward. Nonetheless, higher education may imply that the dwelling may be in urban area where tertiary institutions are available. Urban women may be working outside home (paid job) so may not have enough time to breastfeed their babies for longer periods. The declining rate of breastfeeding, health experts say, is blamed on urbanization and the embrace of western culture, while some mothers complain that breastfeeding is painful. Besides, other mothers say they are unable to produce enough milk while many hint that their life styles do not permit it. Other mothers even go as far as complaining that their babies lose weight from breastfeeding. However, the prime reason advanced by many nursing mothers in Cameroon for not exclusively breastfeeding up to six months; especially those in urban areas remain the lack of time. “My job did not permit me to breastfeed even for one day,” Jacqueline Kebnang (reported by Brenda Yufeh 2012) said, while adding that when she gave birth to her three-years old baby, she was given two options in the hospital, either to risk the health of the baby by putting her completely on artificial milk, or do exclusive breastfeeding. She preferred the former because she had only one month in the country. Again, other mothers explained that their breast milk could not flow to the satisfaction of their babies; reason why they had to opt for artificial feeding (Brenda Yufeh 2012).

Changing socio-economic factors and the perception that infant food is superior to breast milk have brought about declines in the rates of breastfeeding in developing countries such as Mali, Nigeria, Bolivia and Thailand where the rates of breastfeeding fell below 4% by 1988 (LLLI 2012). Though, synthetic formula has been developed to mimic some of the nutrients of breast milk, it can never achieve the overall benefits of breast milk, stressed LLLI (2012). Nutritionally, breast milk is optimal combination of proteins, fats, carbohydrates, and vitamin, providing anti-bodies, and white blood cells known as leukocytes, that help babies fight off infections and improve overall digestive health. According to the Director of Health Services in Ghana, Dr (Mrs) Glover, [quoted at ghanweb.com, July, 2014], in countries suffering from high infant and child mortality and malnutrition, improved breastfeeding would help address these issues, leading to a generation of healthier children and adults. Similarly, according to the Department of Health of Kwazulu-Natal province, the healthiest babies are the ones who are exclusively breastfed for at least six months (www.kznhealth.gov.za/exclusivebreastfeeding. htm).

Some health experts, however, partly blame the drop on the rate of exclusive breastfeeding of infants of less than six months on the environment. The attitude of other people towards women breastfeeding in the public is unacceptable and embarrassing while the relatives and friends find it ‘repulsive’ to be in the same room when they are breastfeeding. In fact, the lack of knowledge, professional support experience and worry about baby’s weight gain were advanced by many nursing mothers quoted at ghanaweb.com, July 2014. “We made a lot of efforts and the percentage went up to 24 but later dropped”, James Achanyi stressed, while adding that women have been a little bit more resistant to feeding their new-born babies only with breast milk for six months. It is within this backdrop that the Minister of Public Health in Cameroon, André Mama Fouda set aside the third week of August, 2012, as the breastfeeding week in the country to sensitize and educate the population on the importance of breast milk. The launching of the Breastfeeding Week in Cameroon on Friday, August 24, 2012, came two weeks after the international day for the event because the Minister of Public Health wanted all stakeholders in the sector to give the importance the week requires especially as infant mortality keeps increasing in the country (Brenda Yufeh 2012).

When a woman breastfeeds her child for a period of 2 years or more, the chances of survival of the child increases by at least one and a half times. Thus, the longer the duration of breastfeeding (from HIV-negative women) the lower the risk of child mortality; risk reduced by over 33 percent, and the probability of survival is increased by over 30 percent (Kyei 1999), because breastfeeding lowers the risk of various health problems for babies, including: ear infection, stomach viruses, respiratory infections, atopic dermatis, asthma, obesity, type 1 and type II diabetes, childhood leukemia, necrotizing and enterocolitis, a gastrointestinal disease in preterm infants. Recognizing the extreme benefits of breastfeeding for both mother and child, especially in the developing world, LLLI has worked in the developing countries since the 1980s (LLLI 2012).

Infant formula cannot match the exact chemical make-up of human milk, especially the cells, hormones, and antibodies that fight diseases. Cow's milk lacks vitamin E, iron or essential fatty acids which can cause anemia. Besides, the proteins and fats in cow's milk are difficult to be fully digested by the babies (http://www.womenshealth.gov). Breast milk is convenient, clean and safe, always available at the right temperature at all times and nearly all mothers can breastfeed (http://www.ghanaweb.com).

From the survey, 18.3% responded positively saying that their children had had diarrhea two weeks prior to the interview and 81.7% responded negatively. For those who responded positively, about 54.8% gave their children salt and sugar solution (Oral Rehydration Solution, ORS) while 45.2% did not. On whether they took their children to hospital/clinic/health care centers, 58.1% of the women responded positively while 41.9% did not. Such act endangers the lives of their young children and increases the risk of child mortality.

CONCLUSION

Breast milk is very rich in nutrients and antibodies that a child would not receive from any other source. Diarrhea, ear infections, pneumonia and other devastating infantile conditions can be greatly reduced by simply breastfeeding. Breast milk is also very easy to digest and readily absorbed in comparison to artificial formulas. In fact, breast milk has disease-fighting antibodies that can help protect infants from several types of illnesses and is possibly the most important way of ensuring health and survival.

South Africa is losing babies and young children due to malnutrition. Despite the importance and benefits in breastfeeding, the present study has brought out that, women in Vhembe breastfeed their babies for about eighteen months. Teenage mothers do not breastfeed their babies for long periods because these young mothers return to continue their studies after giving births.

Concerning factors affecting breastfeeding, this study could only identify prenatal medical consultations and contraception. Mothers, who consult early or consult many times, breastfeed their babies for longer period while those using contraceptives (pills) are seen to breastfeed for shorter periods. Some mothers admitted their children had had diarrhea two weeks before the survey, and a sizeable number of these women whose children had had diarrhea did not know how to prepare oral rehydration solution or did not even know about the solution. For such women breastfeeding is the solution to diarrhea and this is the more reason why non-urban women with little income should breastfeed their babies for longer period of time because it will prevent their babies getting diarrhea or it will cure it.

RECOMMENDATIONS

This study, thus, recommends that pregnant women should attend prenatal medical consultations early so that they could be taught more about the importance of breast milk and be encouraged to practice it for much longer period for the healthy growth of their young children. Specially, women with little income and less education should be taught to breastfeed their babies for longer period.

NOTES

1. La Leche League International (LLLI) is a non-governmental organization established in 1956 with the goal of supporting mothers through improved education, encouragement, and mother-to-mother support.
2. *Dwelling:* The categories of the type of dwelling are the following – western or formal, flat, backyard formal structure, backyard shack, shack in squatter area, and traditional.

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