

Full Length Research Paper

Exclusive breastfeeding and related antecedent factors among lactating mothers in a rural community in Southwest Nigeria

Olayinka Alade, Musibau Ayoade Titiloye, Frederick Olore Oshiname and Oyedunni Sola Arulogun*

Department of Health Promotion and Education, College of Medicine, University of Ibadan, Ibadan, Nigeria.

Accepted 10 October, 2013

This study explored the antecedent factors influencing the practice of exclusive breast feeding (EBF) among lactating mothers in Ayete, a rural community in Southwest Nigeria. A three-stage random sampling technique was used to select 410 mothers of newborns and infants less than six months from households. A pretested semi-structured questionnaire which included a 14-point knowledge scale was used for data collection. Data were analyzed using descriptive statistics, Chi-square test and analysis of variance (ANOVA). Mean age was 27.4 ± 5.9 years and 67.1% respondents were aware that EBF should be initiated immediately after birth. Mean knowledge score on EBF was 8.2 ± 2.9 . Age, educational level and occupation were significantly associated with knowledge of EBF ($p < 0.05$). Main perceived challenges associated with EBF were loss of essential nutrients by mothers (87.6%) and inducement of hunger (26.2%). Only 10.2% of respondents were practicing EBF as at the time of the study. Reasons for not practicing EBF included baby needs herbs for strength and vitality (31.3%), baby needed water to quench thirst (23.9%) and non-satisfaction with breast milk alone (20.8%). Practice of EBF was significantly more among respondents earning less than ₦5000.00 monthly ($p < 0.05$). Continuous sensitization activities are needed to promote exclusive breast feeding among lactating mothers.

Key words: Exclusive breastfeeding, lactating mothers, antecedent factors.

INTRODUCTION

Exclusive breastfeeding defined as no other food or drink, not even water, except breast milk (including milk expressed or from a wet nurse) for 6 months of life, but allows the infant to receive oral rehydration solution (ORS), drops and syrups (vitamins, minerals and medicines) (World Health Organization (WHO), 2001) has been recommended as the ideal food for infants. A child who is breastfed has a greater chance of survival than a child artificially fed.

Breastfeeding promotion activities are carried out worldwide in order to fulfill the WHO and UNICEF recommendation that infants be breastfed exclusively for six months and then the introduction of complementary foods and continued breastfeeding well into the second year (Cattaneo et al., 2000).

Breastfeeding is well achieved in Nigeria and different breastfeeding promotion activities have been put in place. This has however not translated into adopting the behaviour as evidenced in the National Demographic Health Survey. Exclusive breastfeeding rate decreased from 17% in 2003 to 13% in 2008 (National Population Commission (NPC) Nigeria and ICF Macro, 2009). Rural and urban differentials have also been documented in the practice of exclusive breastfeeding as the practice was reportedly higher (41%) in the urban areas compared with 38% in the rural areas (NPC and ICF Macro, 2009). Even though the prevalence of practice is lower in the rural area, there had not been many studies that examined the factors influencing exclusive breastfeeding in the rural

areas, a gap that this study set out to fill. The aim of this study was therefore to investigate the antecedent factors for exclusive breastfeeding among lactating mothers in Ayete, a rural community in Southwest Nigeria.

METHODOLOGY

Study design

The study was descriptive cross-sectional in design. It assessed the awareness, knowledge, attitude and practice of exclusive breastfeeding among lactating mothers in Ayete, a rural community in Southwest Nigeria.

Study site

Ayete, the study site is one of the three major towns and the headquarters of Ibarapa North Local Government Area of Oyo State, Nigeria. It was selected randomly from the three major communities in the local government area through balloting. The local government was selected based on the observation of high frequency of bottle feeding in the communities. Ayete has three political wards. The inhabitants are mostly Yoruba whose main economic activities are trading and self employment. Migrant farm labourers from other Nigerian states and neighbouring countries also reside in Ayete. The Fulani nomads are found in the community and constitute the largest minority group.

There are two government-owned health facilities (General hospital and Maternity centre) in Ayete and these are baby friendly hospitals. There are three secondary schools, namely Ayete Grammar School, Baptist High School and Angel Height School and 13 primary schools. The inhabitants of Ayete rely on borehole and hand dug wells as sources of drinking water while ponds are used for domestic purposes.

The population of Ayete is 33,696 comprising 17,136 males and 16,560 females. Of the female population, about 35% consisting of 5796 women are of child bearing age and who may or may not be lactating as at the time of the study.

Study population and sampling procedure

The study population consisted of lactating mothers of newborns and other infants less than six months of age. The sample size for the study was determined using the formula $n = z^2pq/d^2$, where n is sample size, d is degree of accuracy which is 0.05, z is the confidence interval (1.96) and p is the prevalence and the prevalence of 58.3% reported by Okolo et al. (1999) was used. The calculated sample size was 374 and it was increased to 410 by adding 10% of the calculated sample size to take care of non response.

The 410 participants were then selected using a three-stage sampling technique. In stage 1, communities were randomly selected by balloting in the proportion of 3:2:1, respectively from the 3 political wards based on population density (Ward A has 10 communities, Ward B has 7 communities and Ward C has 4 communities). Stage 2 involved selection of compounds or streets through balloting. Compounds and households were then selected by systematic random sampling where every second house on each street or compound was eligible for the study. In stage 3, an eligible participant was interviewed from the selected household. In a house where there was more than one eligible participant, one was randomly selected by balloting. Mothers who were not resident in Ayete community or those whose children are older than six months were excluded from the study.

Instrument for data collection

The instrument for data collection employed by this study was the interviewer administered questionnaire. The semi-structured questionnaire was divided into four sections: demographic characteristics; awareness and knowledge about exclusive breastfeeding; attitude towards exclusive breastfeeding and practice of exclusive breastfeeding.

Validity and reliability of study instruments

The study instrument was peer reviewed and translated to Yoruba language, the language of administration and back translated to English language. The Yoruba version of the questionnaire was pretested among lactating mothers in Ido another rural community with similar characteristics with Ayete. The pretested questionnaire was subjected to reliability test using the Cronbach Alpha model and the outcome was 0.7 as the correlation coefficient.

Data analysis

The researchers checked all the administered copies of the questionnaire one by one and edited them for completeness and accuracy with a serial number assigned to each for easy identification. Questionnaire was then coded using a guide developed for that purpose and data was entered onto the computer.

Knowledge on exclusive breastfeeding was analyzed by assigning two marks to each correct answer and zero to a wrong answer provided by the respondents. This was used to generate a 14-point knowledge score. Knowledge of respondents was categorized into good (10 and above), fair (6-9) and poor (≤ 5).

Attitude towards exclusive breastfeeding was assessed by assigning three marks to each positive attitude response provided by the respondents and zero to a wrong question. A score of 13.5 and above was categorized as a positive attitude while a score of <13.5 was categorized as negative attitude. Data were analyzed using analysis of variance (ANOVA) and Chi square test to compare means and frequencies between the groups with the level of significance set at 5%.

Ethical considerations

The study followed the ethical principles guiding the use of human participants in research. Informed consent was obtained from each respondent. All research respondents were informed that the survey was voluntary, and that they did not have to participate if they chose not to or could withdraw at any time. Respondents were assured that confidentiality of responses would be maintained during and after data collection. Only questionnaire numbers were assigned to each questionnaire and no name was required on the questionnaire. The numbers were to facilitate data entry and analysis and no one can link the identity of the participants with the registration numbers.

RESULTS

Socio-demographic characteristics of respondents

The age of the respondents ranged from 13 to 49 years with a mean of 27.4 ± 5.9 years and 56.3% were in the 21 to 30 years age group. Most (95.4%) of the respondents were married, 59.3% were Muslims and 94.9% were Yoruba. Thirty-five percent of the respondents' had a

Table 1. Socio-demographic characteristics of respondents.

Demographic characteristic	No	%
Marital status		
Married	391	95.4
Single	14	3.4
Divorced	5	1.2
Age range		
≤ 20	58	14.1
21-30	231	56.3
31-40	112	27.3
41-50	9	2.3
Highest level of education		
Primary school	145	35.4
Secondary school completed	107	26.1
Secondary school uncompleted	110	26.8
Tertiary institution	17	4.1
No formal education	31	7.6
Occupation		
Civil servant	16	3.9
Self employed	152	32.3
Farming	79	24.1
Trading	162	39.5
Artisan	1	0.2

primary school education, while a few (4.1%) had tertiary education. Forty percent of the respondents' were traders, 24.1% were farmers and 3.9% were civil servants. Many (80.5%) of the respondents' earned a monthly income less than ₦5,000. Other socio-demographic details are shown in Table 1.

Awareness and knowledge of exclusive breastfeeding

Almost all (95.1%) the respondents had heard about exclusive breastfeeding and 79.5% heard from the hospital. Fifty-one percent of the respondents were able to state the meaning of exclusive breastfeeding correctly. Sixty-seven percent of the respondents stated that exclusive breastfeeding should be initiated immediately after birth and 21.5% knew the benefit of exclusive breastfeeding, which was that exclusive breastfeeding prevents childhood killer diseases. Fifty-eight percent of the respondents perceived that exclusive breastfeeding causes cancer of the breast. Less than half (43.0%) knew that exclusive breastfeeding could be used as a method of family planning while all respondents (100%) disagreed with the statement that exclusive breastfeeding can only be practiced in the day time.

The mean knowledge score of respondents was 8.2 ± 2.9 . The breakdown of knowledge level by category is shown on Figure 1. Age of respondents, educational level and occupation were found to significantly influence knowledge of exclusive breastfeeding (Table 2).

Attitude towards exclusive breastfeeding

Majority (88.8%) of the respondents agreed that exclusive breastfeeding makes a child to grow healthy and strong, 44.4% of the respondents agreed that exclusive breastfeeding is useful in delaying pregnancy and 57.6% did not agree with the statement that exclusive breastfeeding is time consuming. Majority (87.6%) of the respondents agreed that a woman who practices exclusive breastfeeding will lose a lot of nutrients while 9.5% disagreed with the statement. Eighty-one percent of respondents agreed that exclusive breastfeeding causes breast ptosis. The mean attitudinal score was 12.47 ± 5.49 . Fifty-six percent of the respondents had a negative attitude towards breastfeeding while 43.7% of the respondents had a positive attitudinal disposition. Knowledge of exclusive breast feeding (EBF), marital status of respondents and education were significantly associated with the attitudinal disposition towards exclusive breastfeeding (Table 3).

Practice of exclusive breastfeeding

Only 42 (10.2%) of the respondents were practicing exclusive breastfeeding as at the time of the study, 89.8% did not practice exclusive breastfeeding. The 10.2% who practiced exclusive breastfeeding reported that they exclusively breastfed all their children. Level of education, income, knowledge level and religion were significantly associated with practice of exclusive breastfeeding (Table 4).

Support received during the practice of exclusive breastfeeding included help with house chores (62.0%), verbal encouragement (26.2%) and assistance in the care of the older child (11.9%). People from whom respondents received these support in a mutually exclusive question included respondents' grandmothers (78.6%), mothers-in-law (52.0%), friends (52.0%) and husbands (50.0%).

Negative experiences of respondents while practicing exclusive breastfeeding included rebuke from fellow women (24.0%), rebuke from members of the family (14.3%) and from husbands (11.9%). Challenges faced by respondents while practicing exclusive breastfeeding included induced hunger (26.2%), severe body pains (11.9%) and painful breast teat (4.8%).

Practice of EBF for next child

When asked if respondents would exclusively breastfeed

Table 2. Association between demographic variables of respondents and knowledge of exclusive breastfeeding.

Variable	N	\bar{x}	SD	F-statistic	p value	Level of association
Age in years						
≤20	58	7.03	2.3	6.92	0.00	Significant
21-30	231	8.11	2.7			
31-40	112	9.05	3.0			
41-50	9	7.56	4.3			
Highest level of education						
Primary education	145	7.92	2.9	17.76	0.00	Significant
Secondary education (completed)	107	9.23	2.4			
Secondary education (uncompleted)	110	7.67	2.4			
Tertiary education	17	11.65	2.8			
No formal education	31	6.00	2.9			
Occupation						
Civil servant	16	11.38	2.5	6.04	0.00	Significant
Self employed	152	7.65	2.6			
Farming	79	7.92	2.9			
Trading	162	8.40	2.8			
Artisan	1	10.00	0.0			

Table 3. Association between knowledge of EBF, marital status, educational level and attitude towards exclusive breastfeeding.

Variable	Attitude towards Exclusive Breastfeeding		X ²	P value	Level of association	
	Negative	Positive				
Highest level of Education	Primary school	86	59	33.5	0.000	Significant
	Secondary school completed	45	62			
	Secondary school uncompleted	78	32			
	Tertiary institution	2	15			
	No formal education	20	11			
Marital status	Married	215	176	11.7	0.003	Significant
	Single	14	0			
	Divorced	2	3			
Knowledge level	Poor	40	12	37.2	0.000	Significant
	Fair	134	72			
	Good	57	95			

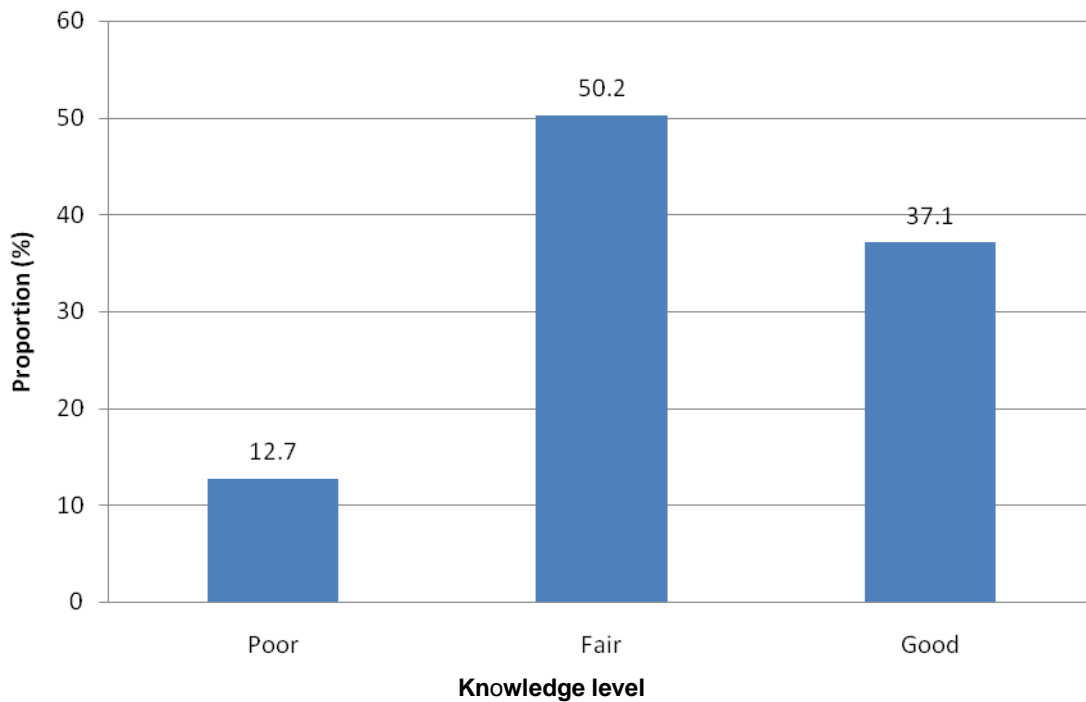
their next child, 36.3% reportedly would practice EBF with their next child, 62.2% would not and 1.5% was not sure. Only 41.2% would advise their friend or sister to practice EBF. Reasons for deciding to practice EBF for next child included; EBF makes child grow healthy and strong (61.0%), EBF increases high intelligence quotient of a

child (24.1%) and EBF prevents diseases (9.4%).

For the 368 who did not practice exclusive breastfeeding, reasons adduced included baby needs water when thirsty (41.0%), breast milk alone cannot satisfy the baby (28.8%) and the baby needs herbs for strength and vitality (19.3%) (Figure 2).

Table 4. Association between level of education, income, knowledge level, religion and practice of exclusive breastfeeding.

Variable		Have you ever practiced exclusive breastfeeding		χ^2	P value	Level of association
		Yes	No			
Highest level of Education	Primary school	8	137	42.4	0.000	Significant
	Secondary school completed	20	87			
	Secondary school uncompleted	5	105			
	Tertiary institution	8	9			
	No formal education	1	30			
Income	> 5,000	17	63	73.2	0.000	Significant
	< 5,000	25	305			
Knowledge level	Poor	0	52	17.2	0.000	Significant
	Fair	15	191			
	Good	27	125			
Religion	Islam	19	224	3.82	0.038	Significant
	Christianity	23	144			

**Figure 1.** Respondents' level of knowledge on exclusive breastfeeding.

DISCUSSION

The age of respondents documented in this study was at variance with earlier studies. Omotola et al. (2005) in their study among mothers in Epe Local Government

Area of Lagos State Nigeria reported that most of their respondents were adolescents whereas in our study more than half 56.3% of the respondents belong to the 21 to 30 years age group. This shows that age at becoming a mother is increasing compared to what it was in the

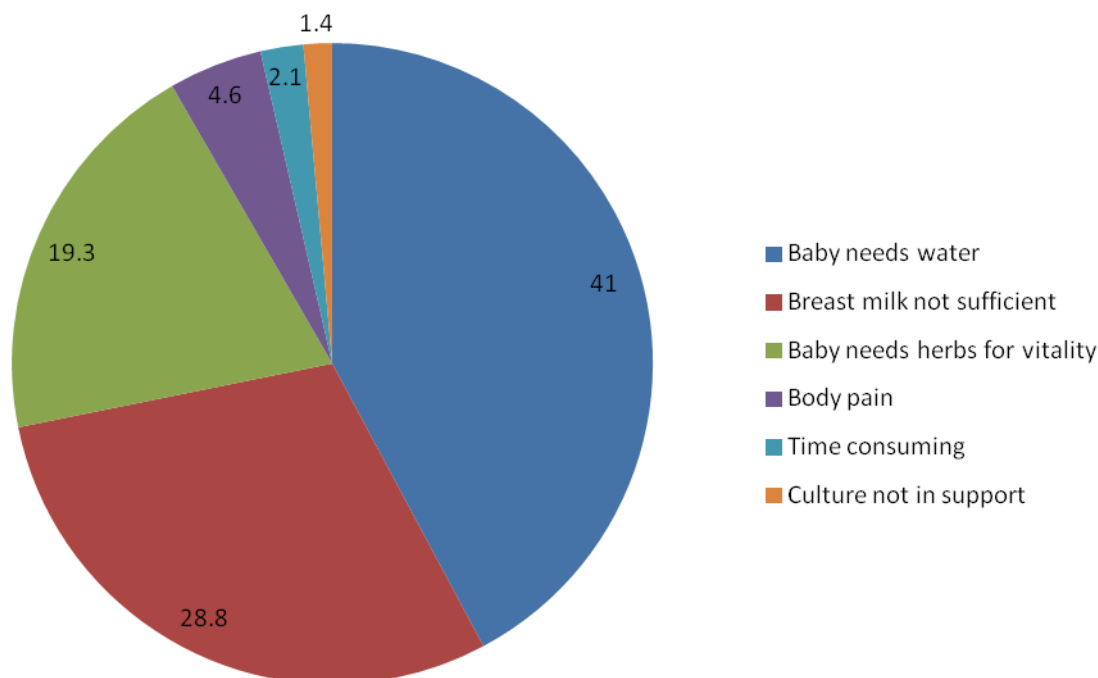


Figure 2. Reasons for not practicing EBF by respondents.

2005 study. This could be attributed to more women attending schools thereby delaying marriage and child bearing. Majority of the respondents were of Yoruba origin and this could be explained because the study area is an indigenous part of Ayete. The religious affiliation of the respondents documented by the study affirms what had earlier been documented by Titiloye and Brieger (2009-2010).

Almost all the respondents were aware of exclusive breastfeeding and hospital was their major source of information. This may not be unconnected with the importance placed on EBF which is reinforced in health talks at the antenatal clinics. This was corroborated by Oyewole and Amosu (2008) who documented a similar level of awareness among nursing mothers studied in another part of Southwest Nigeria.

Education was found to be significantly associated with knowledge of EBF, a finding similar to those of Ogbonna and Daboer (2007) who observed that improved maternal education enhances mothers understanding and appreciation of the demand and benefits of EBF, and empowers them to resist external interferences and pressures. Having a higher level of education has been documented to increase the likelihood of mothers practicing the six months exclusive breastfeeding (Veghari et al., 2011; Al-Sahab et al., 2010). This allows mothers to formulate well-informed decisions regarding the feeding practices used for infant. The attitudinal disposition of respondents in this study about EBF being an essential ingredient for growth and means of contraception was corroborated by Singh (2010). However, despite these

positive assertions, misconceptions such as 'a woman who practice EBF will lose a lot of nutrients', 'EBF causes sagging of a woman's breast', and 'EBF causes a woman's sleep to be disrupted. These misconceptions need to be addressed in culturally sensitive interventions.

The 10.2% prevalence of EBF practice recorded in this study is lower than the 13% documented by the 2008 NDHS survey (National Population Commission (NPC) Nigeria and ICF Macro, 2009), a trend documented in other countries by Tan (2009), Millar and Maclean (2005) and Ludvigsson (2003). Most of the reasons given by mothers for not practicing EBF are deeply enshrined in the belief and cultural system of the respondents. This was corroborated by Nwankwo and Brieger (2002) who observed that some traditional beliefs, practices and rites encourage use of pre-lacteal feeds as well as giving extra water, herbs and "teas" to breastfeeding babies. Davies-Adetugbo (1997) observed that in rural Yoruba communities, EBF was considered dangerous to the infant who is thought to require water to quench thirst and promote normal development.

The findings of this study have several implications for planning, development and implementation of exclusive breastfeeding practice in Ayete and other rural areas in Nigeria. The responsibility of health promotion and education focuses on the modification of people's behaviour and behavioural antecedents (WHO, 1998; Green and Kreuter, 1980). Health education is concerned with helping people develop practices that ensures their best possible well-being (WHO, 1988). It is also concerned with reinforcing and changing knowledge, attitude and

behaviour of people through effective communication of factual information, with the aim of helping them to ensure an optimum well-being. Health education can therefore be used to bridge the gap between health information and health practices within the context of EBF. Health education principles and strategies can be used to address the challenges identified in this study.

Self-efficacy, as a perception, can be listed among the predisposing factors in the PRECEDE framework. These are best confronted through communication strategies. The benefits of EBF should always be aired on radio, television, by community information officers, in churches and mosques. Also more educational materials in the native language should be made available at strategic places in parts of the town to serve as a reminder and reinforcement of behaviour. Practical health education sessions at clinics and during association meetings could provide an opportunity to discuss and demonstrate the feasibility of EBF and remove the misconceptions.

Conclusion

This study reported poor exclusive breastfeeding practice despite the high level of knowledge exhibited by respondents. Misconceptions also exist about the effects of EBF on the practicing mothers. There is need for enhanced health promotion and education activities targeting the misconceptions and strengthening the attitudinal disposition to EBF using the husbands, female significant others as allies

ACKNOWLEDGEMENTS

The authors would like to thank all the women who participated in this study and the field staff for their valuable assistance during the field work.

REFERENCES

Al-Sahab B, Lanes A, Feldman M, Tamim H (2010). Prevalence and predictors of 6-month exclusive breastfeeding among Canadian women: A national survey. *BMC Pediatr.* 10:20

- Cattaneo A, Davanzo R, Ronfani L (2000). Are data on the prevalence and duration of breastfeeding reliable? The case of Italy. *Acta Paediatr.* 89:88-93.
- Davies-Adetugbo AA (1997). Sociocultural factors and the promotion of exclusive breastfeeding in rural Yoruba communities of Osun State, Nigeria. *Soc. Sci. Med.* 45:113-125.
- Green LW, Kreuter M (1980). *Health Education Planning: A Diagnostic Approach.* Palo Alto, CA: Mayfield Publishing Company, p 306.
- Ludvigsson JF (2003). Breastfeeding intentions, patterns and determinants in infants visiting hospitals in La Paz, Bolivia. *BMC Pediatr.* 3:5.
- Millar WJ, Maclean H (2005). Breastfeeding practices. *Health Rep.* 16:23-31.
- National Population Commission (NPC) Nigeria and ICF Macro (2009). *Nigeria Demographic and Health Survey 2008.* Abuja, Nigeria: National Population Commission and ICF Macro.
- Nwankwo BO, Brieger WR (2002). Exclusive breastfeeding is undermined by use of other liquids in rural southwestern Nigeria. *J. Trop. Pediatr.* 48:109-112.
- Okolo SN, Adewunmi YB, Okonji MC (1999). Current breastfeeding knowledge, attitude, and practices of mothers in five rural communities in the Savannah region of Nigeria. *J. Trop. Pediatr.* 45(6):323-326.
- Ogbonna C, Daboer JC (2007). Current knowledge and practice of exclusive breastfeeding among mothers in Jos, Nigeria. *Niger. J. Med.* 16(3):256-60.
- Omotola BD, Grange AO, Adedoyin JA, Brai BIC, Omotola EB, Njebuome N (2005). Breastfeeding practice in the first six months of life in Epe Local Government Area of Lagos state. *Niger. J. Nutr. Sci.* 26(2):16-20.
- Oyewole OE, Amosu AM (2008). Breast-feeding practices and nutritional status of infants in Ibadan North LGA of Oyo state, Nigeria. *Niger. J. Nutr. Sci.* 29(2): 86-89.
- Singh B (2010). Knowledge, Attitude and Practice of Breastfeeding- A case study. *Eur. J. Sci. Res.* 40(3):404-422.
- Tan KL (2009). Knowledge, attitude and practice on breastfeeding in Klang, Malaysia. *Int. Med. J.* 8(1):17-21.
- Titiloye MA, Brieger WR (2008-2009). Infant Weaning Methods: An Intergenerational View from Igbo-Ora Nigeria. *Int. Q. Community Health Educ.* 29(4):323-334.
- Veghari G, Mansourian A, Abdollahi A (2011). Breastfeeding Status and Some Related Factors in Northern Iran. *Oman Med. J.* 26(5):342-348
- World Health Organization (1988). *Education for health.* Geneva.
- World Health Organization (2001). *World Health Organization's infant feeding recommendation.* Available at: http://www.who.int/nutrition/topics/infantfeeding_recommendation/en/