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## Research Article

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# KNOWLEDGE AND PRACTICE OF MOTHERS TOWARDS EXCLUSIVE BREASTFEEDING AND ITS ASSOCIATED FACTORS IN AMBO WOREDA WEST SHOA ZONE OROMIA REGION, ETHIOPIA

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(Received: February 29, 2015; Accepted: March 31, 2015)

## ABSTRACT

**Back ground:** Breastfeeding is an important public health strategy for improving infant and child morbidity and mortality, improving maternal morbidity, and helping to control health care costs. The World Health Organization (WHO) and United Nations Children's Fund (UNICEF) recommend that every infant should be exclusively breastfed for the first six months of life, with breastfeeding continuing for up to two years of age or longer.

**Methods:** A community based cross-sectional study was employed. Sample size was determined by using single population proportion formula and four hundred three lactating mothers who have breastfed for 6 months and up to two years was selected by Simple random sampling technique. All explanatory variables that were associated with the outcome variable during bivariate analysis were included in the final logistic model. A multivariate logistic regression analysis was made to identify the predictors of maternal knowledge about exclusive breastfeeding practices.

**Result:** The mean duration of exclusive breast feeding among woman in the study subjects was 5.87 months with standard error of 0.025. The prevalence of exclusive breast feeding is 305(82.2%). Three hundred thirty seven (90.8%) of mothers were Knowledgeable. The actual practice of exclusive breast feeding was 305(82.2%). Among the total variables which were included in the analysis only three variables shows positive association with mothers EBF status. These are knowledge of EBF, ANC follow up and women occupation. House wife women were two times more likely exclusively breast feed their child compared to those employed (OR=2.42 CI=1.36, 4.33 P value = 0.022).

**Conclusion and Recommendations:** The study finding implies there is a gap between the current knowledge and actual practice of exclusive breast feeding in line with the WHO recommendations. Therefore, collaborative efforts have to be exerted at different levels, relevant stake holders, health providers together with the community to improve the situation.

**Keywords:** Exclusive breastfeeding, knowledge, practice.

## INTRODUCTION

### Back ground

Breastfeeding is the process of milk transference from mother to baby that is needed for the survival and health [1, 2]. Breastfeeding Creates an inimitable psycho social bond between the mothers enhances modest cognitive development and it is the underpinning of the infant's well-being in the first year of life even into the second year of

life with appropriate complementary foods from 6 months [3, 4].

Breastfeeding is an important public health strategy for improving infant and child morbidity and mortality, improving maternal morbidity, and helping to control health care costs. Breastfeeding is associated with a reduced risk of otitis media, gastroenteritis, respiratory illness, sudden infant death syndrome, necrotizing enter colitis, obesity, and

hypertension [5]. Nutrition deficiencies and infectious diseases are the leading causes of child mortality in developing countries. Breastfed infants have a reduced risk of malnutrition and common childhood infectious diseases. Maternal health benefits from breastfeeding have also been documented. To maximize the health effect of breastfeeding, optimum breastfeeding is recommended. The World Health Organization (WHO) and United Nations Children's Fund (UNICEF) recommend that every infant should be exclusively breastfed for the first six months of life, with breastfeeding continuing for up to two years of age or longer [6,7,8]. Exclusive breastfeeding (EBF) is defined as feeding the infant only breast milk, with no supplemental liquids or solids except for liquid medicine and vitamin/mineral supplements [8].

For the first six months of life, infants should be exclusively breast fed to achieve optimal growth, development and health. Thereafter, infants should receive nutritionally adequate and safe complementary foods, while continuing to breast feed for up to two years or more. The single most effective Intervention to reduce child mortality in developed and developing countries is promotion of breast feeding practices. Despite this recommendation of worldwide only 39 % of infants 6 months of age are exclusive breast feed. In 2008 more than million children under the age of five die each year, 41 % of this death occur in sub-Saharan Africa and another 34% in south Asia and the major contributors to their death is poor breast feeding practice (9, 10).

Globally, 60% of infant and young child deaths occur due to in appropriate infant feeding practices and infectious disease from which two third of these deaths are attributable to sub optimal breast feeding practices. Inappropriate infant feeding practice could have negative effect on child growth and development, especially in developing countries, where accessibility of basic health serves is not sufficient. (11)

In Ethiopia 57% of all under-five deaths is highly associated with abrupt cessation of breastfeeding and infectious diseases, but it is closely linked to gap of knowledge how to feed appropriately and food insecurity. A recent report showed that 27% of mothers early provide water, butter and various types of food to feed their children, thereby reducing the percentage of exclusively breastfeed and increasing the percentage of receiving complementary food

at very young age. Generally, infant and young child feeding is a complex issue that has implications not only for an infant's nutritional and health status, but also affects infant's psychological development and the development of proper eating habits [11, 12, 13]

## OBJECTIVES

### General objectives

□ To assess knowledge and practice of mothers and identify associated factors towards exclusive breastfeeding.

### Specific objectives

□ To assess knowledge and practice of mothers towards exclusive breast feeding.

□ To identify predictors of exclusive breast feeding.

## MATERIALS AND METHODS

### Study setting and period

The study was carried out in Ambo woreda which is one of the eighteen woredas of West Shoa Zone. It is located 114 km from Addis Ababa. Based on the 2007 housing and census, population projection, it has an estimated total population of 129,094 of which about 65,094 are women. There are thirty two kebeles in the woreda. The weather condition of Ambo woreda is 35.3% high land, 50% woyna dega, 14.7% lowland. Data was collected from May to June 2014.

### Study design and populations

A community based cross-sectional study design was employed. The study included lactating mothers who had Breastfed for not less than six months and up to two years and permanent resident of selected kebeles. Sample of mothers randomly selected from the source population was included in the study. The study included mothers who had children under 2 years and permanent resident of selected kebeles.

### Sample size and sampling

First ten kebeles were selected randomly from total of 32 kebeles and complete census was conducted within the selected kebeles to identify the study subjects. Sampling technique was used to take the mothers-child pairs from each selected kebeles. The sample size was calculated using a formula for estimation of a single proportion as follows:

$$n = (Z\alpha/2)^2 p (1-p) / d^2$$

Where Z= Standard normal variable at 95% confidence level (1.96),

P= Estimated proportion of optimal breastfeeding, 50%,  
d= 0.05 (5% margin of error) and considering 5% possible  
non response rate.

The total sample size was 403.

#### Data Collection Procedure and Statistical Analysis

Interviewer administered questionnaire adapted from different literatures and modified according to the local context by the investigators was used to collect data concerning socio-demographics, maternal and child characteristics, child feeding practices. Furthermore, women's knowledge of optimal child feeding practices and socio-cultural influences of child feeding were also included in the questionnaire. Their knowledge and practice of breastfeeding were assessed from their responses. Questionnaire was prepared in English and translated to Oromiffa by language experts and then back translated to English language by a third person to check the consistency. Also to ensure the data quality it was collected by collectors who can speak the local language and training was given to them. The questionnaires were pre-tested. Based on a pretest result additional adjustment was made.

On site supervision was carried out during the whole period of data collection on daily basis. At the end of each day questionnaires were reviewed and cross checked for completeness, accuracy and consistency by the principal investigator and corrective measures were under taken.

The data was entered, coded, and analyzed using SPSS for windows version 21.0. Descriptive statistics such as mean was computed. The findings were presented with graphs and tables. Bivariate analysis was performed to identify the association of dependent and independent variables. Odds ratio was computed to see the strength of association between independent variables and exclusive breast feeding. To identify independent predictors, first a bivariate logistic regression was performed (at  $p < 0.25$ ) for each independents and outcome of interest. Finally a multivariate logistic regression analysis was made to identify the predictors of exclusive breast feeding practices. Variables which were significant on p-values of less than (0.05) were reported as predictors of exclusive breast feeding.

#### Ethical Consideration

The study was conducted after getting official permission from an ethical clearance committee of Ambo University,

College of Medicine and Health Sciences. Data were collected after getting official permission from Ambo Woreda Administration. Letter of cooperation from kebeles administrators was also secured. Informed verbal consent was obtained from each study Participant before data was collected and each respondent was informed about the objective of the study and their right to with draw from the study. Confidentiality was secured.

#### RESULT

The total size of the study units who were actual respondents during the data collection period in this study was 371. Therefore, response rate for the interviews conducted was 92.05%. The mean age (+/-SE) of mothers in the study is found to be 26.5 years with standard error of 0.29. Most of the respondents, 345(93%), are married. Among the total respondents, 180(48.5%) are Orthodox. Oromo 293 (79%) is the dominant ethnic group followed by Amhara 53 (14.3%). The socio-demographic characteristics of the study population are listed in the Table 1.

**Table: 1** Socio demographic characteristics of the respondents in Ambo woreda, 2014

Variables		Frequency	Percent (%)
Age group	15-19	27	7.3
	20-24	122	32.9
	25-29	152	41.0
	30-34	26	7.0
	35-39	30	8.1
	40-44	12	3.2
	45-49	2	0.5
Marital status	Married	345	93.0%
	Single	0	0%
	Divorced	22	5.9%
	Widowed	4	1.1%
	<b>Total</b>	371	100%
Religion	Muslim	30	8.1%
	Orthodox	180	48.5%
	Protestant	145	39.1%
	Catholic	12	3.2%
	Other	4	1.1%
	<b>Total</b>	371	100%
	Ethnicity	Oromo	293
Amahara		53	14.3%
Tigrie		11	3.0%
Others		14	3.8%
<b>Total</b>		371	100%
Maternal education		Illiterate	62
	Able to read and write	16	4.3%
	Elementary (1-6)	76	20.5%
	Junior (7-8)	72	19.4%
	Secondary (9-12)	92	24.8%
	Tertiary(+12)	53	14.3%
	<b>Total</b>	371	100%

Husband education	Illiterate	20	5.4%
	Able to read and write	10	2.7%
	Elementary(1-6)	40	10.8%
	Junior(7-8)	52	14%
	Secondary(9-12)	99	26.7%
	Tertiary(+12)	150	40.43%
<b>Total</b>		371	100.0%
Occupation of the mother	Employee(GO/NGO)	61	16.4%
	Merchant	68	18.3%
	House wife	183	49.3%
	Student	12	3.2%
	Farmer	17	4.6%
	Daily worker	28	7.5%
	Other	2	0.5%
<b>Total</b>		371	100%
Occupation of husband	Employee(GO/NGO)	168	45.2%
	Merchant	74	19.9%
	Student	9	2.4%
	Farmer	31	8.4%
	Daily worker	75	20.2%
	Other	14	3.8%
	<b>Total</b>	371	100.0%

#### Knowledge and practices of respondents towards EBF

The actual duration and feeding style about exclusive breast feeding among the respondents has assessed based on the WHO recommendations. Similarly, majority of the respondents 337(90.8%) know that the duration of EBF was 6 months without giving any additional food except necessary medications. Whereas, 10(2.6%) of respondents know that the duration of EBF was 4 to 5 months. The mean duration of EBF is 5.87 months with a standard error of 0.025 while, the median duration of exclusive breastfeeding is six months with a standard deviation of  $\pm 0.48$ . The main Sources of information for mothers on EBF was television 126 (34%) followed by others 107 (28.8%) which include health workers and neighbours. Additionally, radio 40 (10.8%) and magazine 5(0.2%) were the other source of information for mothers on EBF.

Three hundred forty eight (93.8%) of the respondents knew that, EBF is important for the child; to prevent young child from infection 78(21%), to strength the baby 55(14.8%), provide ideal source of nutrient 23(6.2%). Two hundred sixty three (70.9%) of mothers knew that breast milk is nutritionally enough for the first six month while, 48(12.9%) of them responded it is not enough and 41(11.1%) of them did not know whether it is enough or not.

**Table 2** knowledge and pattern of breast feeding in Ambo woreda 2014

Variables	Frequency (n)	Percent (%)
<b>Knowledge of EBF</b>		
Yes	337	90.8%
No	34	9.2%
<b>Exclusively breast feed</b>		
Yes	305	82.2%
No	66	17.8%
<b>Breastfeeding initiation</b>		
Within one hour	264	71.2%
After one hour	93	25.1%
<b>Breast feeding frequency</b>		
<8	149	40.2%
8-12	190	51.2%
>12	32	8.6%
<b>Prelactal food</b>		
Yes	36	9.7%
No	335	90.3%
<b>Types of prelactal food</b>		
Butter	18	4.9%
Water	8	2.2%
Cow milk	3	0.8%
Glucose water	7	1.9%

Concerning the breastfeeding practices of the mothers, 305 (82.2 %) of the respondents practiced exclusive breastfeeding for the first six months whereas, 66 (17.8%) were not practiced EBF, due to the assumption of insufficient breast milk 30(8.1%), bottle feeding give enough food 14(3.8%), the baby was unable to feed breast 2(0.5%), breast feeding is pain full 2(0.5%). Breastfeeding initiation within one hour after birth was 264(71.2%), 93(25.1%) did so within twenty four hours after birth. On the frequency of breastfeeding 190 (51.2%) of the mothers fed their child 8-12 times per day, while 149(40.2%) of mothers fed their child less than 8 times per day, but the rest fed more than 12 times per day. Two hundred sixty four (71.2%), of mothers initiated breastfeeding within one hour after birth and 93(25.1%) of mothers did so within twenty four hours after birth. High percentage of the mothers 335(90.3%) were not practiced to give the child prelacteal food or fluid. However, 36(9.7%) of mothers practiced to give food or fluid before the initiation of breast feeding, predominantly butter 18(4.9%), followed by water 8(2.2%), others including

**Table 3.** Determinant factors of exclusive breast feeding status in Ambo Woreda 2014

Variables	No	COR	AOR	P-value
Religion				
Muslim	30	0.48 (0.53,10.44)	0.24( 0.16, 11.44)	0.112
Orthodox	180	1	1	
Protestant	145	0.95(0.68,1.32)	0.92(0.68, 3.27)	
Catholic	12	2.68( 1.32, 22.49)	0.39(0.20, 18.75)	
Other	4	0.61(0.13, 1.44)	2.33(0.15, 5.65)	
Ethnicity				
Oromo	293	1	1	0.0821
Amahara	53	1.20 (0.46, 3.25)	1.40 (0.38, 5.23)	
Tigrie	11	0.92 (0.23, 23.93)	1.08 (0.23, 15.14)	
Others	14	2.31 (0.18, 32.31)	1.18 (0.32, 21.40)	
Mothers education				
Illiterate	62	1	1	0.132
Able to read and write	16	2.50(0.73, 10.42)	3.50(0.63, 5.58)	
Elementary(1-6)	76	1.24(0.14, 6.47)	4.12(0.17, 17.54)	
Junior(7-8)	72	3.53(0.06, 37.02)	1.50(0.08, 15.16)	
Secondary(9-12)	92	0.15(0.01, 0.63)	4.50(0.38, 6.66)	
Tertiary(+12)	53	1.10(0.14, 4.32)	0.09(0.25, 7.03)	0.022
Husband education				
Illiterate	20	1	1	
Able to read and write	10	3 (0.17, 13.32)	0.03(0.66, 2.65)	
Elementary(1-6)	40	0.61 (0.29, 1.28)	1.54 (0.74, 3.22)	
Junior(7-8)	52	0.71 (0.33, 1.13)	1.53 (0.83, 2.81)	0.132
Secondary(9-12)	99	0.92 (0.42, 1.99)	1.11 (0.52, 2.39)	
Tertiary(+12)	150	0.53 (0.29, 0.96)*	1.44 (0.93, 2.25)	
Mother Occupation				
Employee(GO/NGO)	61	1	1	
Merchant	68	4.21(0.57, 1.44)	0.64(0.55, 2.85)	0.022
House wife	183	0.53(0.46,0.82)	2.42(1.36, 4.33)	
Student	12	0.92(0.67,1.27)	0.95(0.68,1.32)	
Farmer	17	0.10,(0.00,0.70)	0.45(0.38,1.89)	
Daily worker	28	0.81 (0.52,1.27)	0.51 (0.22,1.23)	
Other	2	0.31 (0.11,1.51)	0.13(0.28,1.11)	0.012
Husband occupation				
Employee(GO/NGO)	168	1	1	
Merchant	74	0.64 (0.14, 2.42)	0.62 (0.19, 1.98)	
Student	9	0.95(0.68,53.32)	0.92(0.68, 43.27)	
Farmer	31	0.46 (0.09, 2.03)	0.44 (0.13, 1.49)	0.012
Daily worker	75	0.25 (0.04, 1.47)	0.54 (0.15, 2.03)	
Other	14	2.06 (0.94, 14.81)	0.69 (0.12, 15.07)	
ANC follow up				
Yes	317	6.16(2.33, 11.56)	4.37( 2.19, 10.45)	
No	54	1	1	0.012
Place of delivery				
Home	25	1	1	

Health facility	346	2.68( 1.32, 22.49)	0.39(0.20, 1.75)	0.105
Mode of delivery				
Normal (SVD)	340	1	1	
Caesarian section	31	0.61(2.13, 1.44)	2.33(0.15, 5.65)	0.071
Knowledge on EBF				
Yes	337	2.08(1.13, 3.34)	2.02 (1.12, 4.48)	0.003
No	34	1	1	

glucose water 7(1.9%), cow milk 3(0.8%). The main reason of mothers to give prelacteal food for the new born is culture 16(4.3%), maternal illness 9(2.4%), painful breast 4(1.1%), caesarean delivery 7(1.9%).

Most of the respondents 212(57.1%) fed their child with bottle when they are away for long period of time, 70 (18.9%) gave expressed milk, 17(4.6%) gave care giver milk but 70(18.9%) did not go away. More than half of mothers 192 (51.8%) fed their baby on demand and 35(9.4%) fed when they are free to feed while 141(38.0%) fed when the baby cry.

Finally those variables which show significant associations in bivariate analysis candidated to multivariate analysis. Accordingly results showed that three variables had significantly associated with mothers EBF status. Those who had knowledge on exclusive breastfeeding were 2 times more likely to breastfeed exclusively than the ones who had no knowledge on exclusive breastfeeding (Adjusted OR = 2.02, 95% CI= 1.12, 4.48 ). Also those mothers who had ANC follow up were 4.37 times more likely to exclusively breastfeed their infants than those in the referent group (Adjusted OR = 4.37 95% CI= 2.19, 10.45). The results are summarized in table 3

## DISCUSSION

The median duration of exclusive breastfeeding in Ethiopia was documented with a wide range of variety from lowest (0.4 month for Afar Region) through the highest (4.3 months for Amhara region) [14,15]. However in this study, the median duration of exclusive breastfeeding is six months which is in line with WHO recommendation.

According to our study maternal knowledge about exclusive breast feeding, ANC follow up and women occupational status are the three variables which had significant effect to practice EBF. This study revealed high percent of women have knowledge about exclusive breast feeding 337(90.8%) and also maternal knowledge about exclusive breast feeding has significantly associated with their practice. This

shows similarity with the study conducted in Arba Minch worda zuria in which Breastfeeding is considered as a natural gift in according to their in depth interview showed some mothers perceived breastfeeding as a natural gift though they could not feed appropriately due to field and home activities. EBF practice was more common among knowledgeable mothers. This shows that basic education in the promotion of EBF should be encouraged. This is fully supported by the study conducted at Arba Minch zuria in which findings from in-depth interviews indicated mothers' knowledge of optimal breastfeeding is due to an exposure to health education given by health extension workers. This study indicated health education which is given at different occasion concerning about hygiene, complementary food and breastfeeding practices is one of the predetermining factors to promote optimal breastfeeding practices. [16].The prevalence of exclusive breastfeeding practice was 305(82.2%). This is higher than the findings of Arba Minch worda zuria (55.6%), semi urban community of Nigerian mothers (69.5%) and that of rural Papua New Guinea (17%).[16-18].

According to result of this finding women's who had ANC follow up during their pregnancy period four times more likely to practice EBF compared to those did not have follow up. This might be due to fact that counseling about EBF and its importance after the birth of the child is provided for women's during their ANC follow up.

Other major finding in this study is that women's occupation. Being house wife shows positive association with women's EBF status compared to that of employed. The likely explanation for this association could be this types of mother's have more chance to be with their child all the day so that they can provide their breast milk to their child as per needed. In other side when we observe the employed ones they are away of their child due to their job.

From our study 66(17.8%) of mothers were not practiced EBF, due to the assumption of insufficient breast milk

30(8.1%), bottle feeding give enough food 14(3.8%), the baby was unable to feed breast 2(0.5%), breast feeding is pain full 2(0.5%). The reason of those mothers is inconsistent with mothers in south west Nigeria, who were not practiced exclusive breast feeding (81%) with the perception that babies continued to be hungry after breast feeding (29%), maternal health problems (26%), fear of babies becoming addicted to breast milk (26%), and the need to return to work (24%) [19].

## CONCLUSION

In summary, even though majority, 337(90.8%) of the respondents are knowledgeable about EBF but, still there is a gap between the actual practice within the recommended duration and feeding style which is 305(82.2%). Women's knowledge about EBF, ANC follow up and occupations are the important variables which show positive association with their practice.

Based on the finding of this study, health service organizations have to critically look at the gap between the actual exclusive breast feeding and the practice done in the area and have to orient service providers at service delivery points, particularly in clinic based settings on exclusive breast feeding practice. programs made to improve maternal and child health should consider the above modifiable factors like enhancing maternal knowledge of exclusive breast feeding and giving health education about the advantages of ANC service and then women's have utilize the service. Policy makers should consider the barriers of women's occupation for EBF during the first six months of child life.

## Acknowledgement

We are very grateful to our college staff members for unreserved guidance and constructive suggestions and comments from the stage of proposal development to this end. We would like to thank Ambo University for supporting the budget which required for this research. Finally our deepest gratitude goes to Ambo Woreda Administration office, who helped and allowed us in collecting and gathering data.

**Funding:** Ambo University

**Conflict of interest:** None declared

**Ethical approval:** Approval and permission was sought from Ethical Review Board of College of Medicine and Health Sciences of Ambo University

## Authors' contributions

Z. B., A. A., & B. C. participated in all phases of the study including topic selection, design, data collection, data analysis and interpretation. Zenebu and Belayneh contribute to write this manuscript.

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