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Exclusive Breastfeeding Practice and Associated Factors among Employed and Unemployed Mothers in Ethiopia: Comparative Cross Sectional Study using EDHS 2016

Desta Markos*[1]

Eshetu Yisiki[2]

[1]*Department of Public Health, College of Medicine and Health Sciences, Arba Minch University, Arba Minch, Ethiopia*

[2]*Department of Midwifery, College of Medicine and Health Sciences, Arba Minch University, Arba Minch, Ethiopia*

Abstract

Background: Contrary to the recommendation, children under the age of 6 months be exclusively breastfed, many infants are also fed with other liquids such as water, non-milk liquids, and other milks before 6 months. Because of level of education and proportion of employed women in Ethiopia has been increasing gradually. Consequently, the practice of exclusive breastfeeding became very lower. The main objective of this study was to assess the magnitude and factors associated with the practice of exclusive breastfeeding among employed and unemployed mothers in Ethiopia, using dataset from EDHS 2016.

Method: Data was extracted from Ethiopia Demographic and Health Survey (EDHS-2016). A total of 1089 mothers with infants aged 0 to 6 months in the data set were included in the analysis. Descriptive analysis, chi-square and binary logistic regression models were used.

Result: This study has demonstrated a 64.7%, 95%CI (58.9-70.5) and 75.4%, 95%CI (72.3-78.2) prevalence of EBF practices among employed and unemployed mothers respectively in the 24h preceding the survey. Other factors associated with EBF practice included being unemployed mother, larger to normal birth weight; infant aged 0-3 month old, infant being male, have radio in the house, infant being wanted, delivery by non CS mode and presence of ANC follow up during pregnancy were found to be significantly associated with exclusive breastfeeding practice.

Conclusion: the prevalence of exclusive breast-feeding practice among employed mothers was significantly lower than that of unemployed mothers. Thus, having in consideration the impact of appropriate infant and young children feeding practice on children's nutritional status and mortality rate, policy makers still need to give more emphasis on promotion of exclusive breastfeeding through creating an enabling environment targeting the extension of postnatal maternity leave up to the first six month.

Keywords: Exclusive breastfeeding, Maternal employment, EDHS, Ethiopia.

Abbreviations: ANC: Antenatal care ; CSA: Central Statistical Agency; DHS: Demographic and Health Surveys; EA: Enumeration areas; EBF: Exclusive Breast Feeding; EDHS: Ethiopia Demographic and Health

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***Corresponding author:** Desta Markos, Department of Public Health, College of Medicine and Health Sciences, Arba Minch University, Arba Minch, Ethiopia.

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Surveys; EPHI Ethiopian Public Health Institute; FmoH: Federal Ministry of Health; LMIC: Lower and middle income country; MCSP: Maternal and child survival program; PHC: Population and Housing Census; SSA: Sub Saharan Africa

Introduction

World health organization(WHO) recommended that babies should be exclusively breastfed from birth until 6 months of age and thereafter continue breastfeeding with appropriate and sufficient complementary food [1]. Breastfeeding is among the most effective ways to protect maternal and child health and promote healthy growth and optimal development in early childhood. Empowering and enabling women to breastfeed should be at the heart of countries' efforts to keep every child alive and to build healthy, smart and productive societies [2].

In spite of what is known about the WHO recommendation and benefits of exclusive breast feeding for children, mothers, families and society, practice of exclusive breastfeeding is unsatisfactory in many parts of the world. Globally, rates of breastfeeding are far lower than it is expected. Less than half of newborns begin breastfeeding in the first hour after birth. Nearly 40% of infants less than 6 months of age are exclusively breastfed, which is far from the target of Sustainable Development Goal 2030 agenda(70%) [3]. The prevalence of exclusive breast feeding (EBF) is low in lower and middle income country (LMIC). It was 37% in 2016. The overall prevalence of EBF in sub Saharan Africa (SSA) was 36.0%, the prevalence was highest in Rwanda and lowest in Gabon [4]. According to maternal and child survival program (MCSP) Ethiopia ranked first by prevalence of early introduction of foods and liquids among Low- and Middle-Income Countries [5]. In Ethiopian Contrary to the recommendation, children under the age of 6 months be exclusively breastfed, many infants are also fed with other liquids such as water, non-milk liquids, and other milks before reaching age 6 months. In this report, 11% of infants begin complementary foods before 6 months of age, with more than one-fifth of children consuming complementary foods by age 4-5 months [6]. This inappropriate breastfeeding practices during infancy, and childhood expose them to malnutrition. The malnutrition contributes as underlying factor for the two top fatal diseases(diarrhea and pneumonia) among infant and children [7].

Different studies indicated that the low prevalence of EBF practice in most developing countries including Ethiopia is associated with many factors such as: socio-demographic, obstetric, health service and employment related factors [6,8-10]. Returning to work after giving birth is a major change for a woman and in her family's life. Returning to work while still breastfeeding is even more of a challenge and it is one of the main reasons that women stop breastfeeding [11]. Studies in Ethiopia indicate that significant difference (10-30%) was observed between employed and unemployed mothers on practice of exclusive breastfeeding and the improvement on EBF is low [12-15].

But there is limited studies that determine magnitude and factors associated with exclusive breast feeding among employed and non-employed mothers even all of these studies are constrained to town/community within one zone or districts. In this regard, there is a need to study this issue among the employed and unemployed mothers at national level to come up with strong evidence on the difference of their practice and to investigate and identify factors associated with EBF. Findings from this study help child bearing mothers and their child by improving exclusive breastfeeding and enable policy makers, stakeholders and public health researchers to develop interventions to improve exclusive breastfeeding in the country.

Methodology

Data source

This study used dataset from the EDHS 2016. The survey was conducted by the central Statistical Agency (CSA) along with the Federal Ministry of Health (FMoH) and the Ethiopian Public Health Institute (EPHI) from January 18, 2016 to June 27, 2016.

Study design

The current study design was a comparative cross-sectional study using the dataset. Practice and factors affecting the practice of EBF were compared between employed and unemployed mothers who have infants 6 month or less in the dataset.

Participants of current study

In EDHS 2016, 8 different datasets were used to categorize data. For current study data was extracted from kid's dataset. Women 15-49 years old with children six months or less old in the dataset were considered as the respondent (Figure 1).

Exclusion and inclusion criteria

Mothers with children aged six months or less in the dataset were included as the study population. Children who did not live with their mother, those children's who had incomplete information about last 24 hour feeding practice, children whose mothers occupational status was incomplete

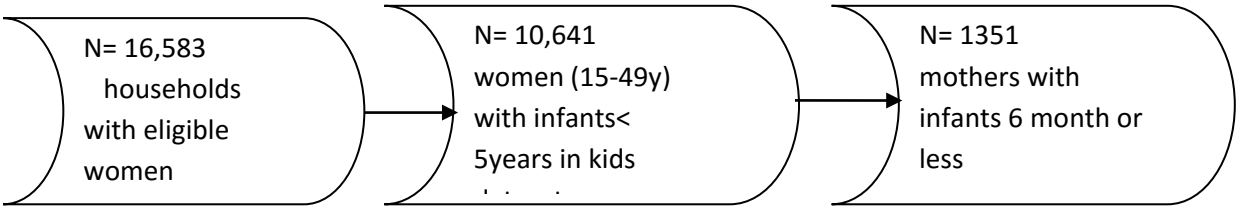

Figure 1: Selection of Study Sample.

in the dataset, and mothers who were working in private business such as merchant and agricultural work were excluded from the study.

Data extraction

Data was extracted from kids' dataset in the EDHS 2016 using data extraction sheet. Data extraction sheet contained socio-demographic characteristics, household characteristics, infant characteristics, obstetric and health service related characteristics and exclusive breast feeding practice.

Variables of interest

Dependant variable: practice of exclusive breastfeeding.

Independent Variables: Selection and categorization of independent variables in this study was based on literature review and availability of the variables. Socio-demographic characteristics of the mother and father, household characteristics, infant characteristics, obstetric and health service related characteristics [9,16-19].

The operational definition

Exclusive breastfeeding: EBF was defined as feeding only breast milk (including milk expressed or from a wet nurse) without anything else in the last 24h preceding the interview except for ORS, drops, and syrups (vitamins, minerals, medicines) for therapeutic purposes [20].

Employed mothers: Mothers who were working full time in either governmental organization or NGOs by the time of data collection were considered as employed mothers [21].

Unemployed mothers: mothers who were housewives (without a job) were considered as unemployed in this study [21].

Data analysis

First dataset was downloaded from DHS center after registration and permission obtained. Then the analysis was performed on the basis of children whose age is six months or less; alive and living with their mother at the dataset that was extracted from the kid's recode dataset. To estimate the magnitude of exclusive breastfeeding practice, the proportion of women (with infants aged between 0 and 6 months) who stated to have fed their children only breast milk in the last 24-hours preceding the survey in the dataset, were expressed as an EBF percentage of the total number of children in the age group of 0-6 month. The other independent variables applicable to this study in the dataset were transformed and recoded in to category if important. Descriptive analysis was carried out to examine the distribution of each individual variable. Then, chi-square test was done to compare the distribution of independent variables between employed and unemployed mothers with p-value 0.05. Bivariate analysis was carried out to describe association between pairs of variables. Finally, factors which were significant for bivariate association were observed with p-value 0.25 and retained for subsequent multivariate analyses using logistic regressions to control for possible confounders. Odds ratios were used to measure the strength of the association between dependent and independent variables. 95%CI and p-value was used to determine the significance of the associations. Data analysis was done using the SPSS (version 23). Findings was presented by use of frequency distribution, tables, charts and texts.

Ethics

Permission to use and analyze the dataset was obtained by registering on the Demographic and Health Survey (DHS) website.

Dissemination of finding

The finding of this study was presented and submitted to Arba minch University health Science College and public health department. Attempt will be made to Disseminate and present the findings to the FMOH, different organizations that will have a contribution to improve the status of EBF in the Ethiopia. Various seminars and workshops, different journals and DHS center.

Result

Socio-demographic characteristics

The mean (SD) age of employed and unemployed mothers was 28(6.1) and 27(6.4) years respectively. Regarding to the educational status of mother, about 66(27.4%) of employed and 418(49.3%) of unemployed mothers were illiterate. More than half of employed 140(58.1%) and majority (82.8%) of unemployed mothers were residing in rural area. About forty one percent of employed and 61.7% unemployed participants were Muslim followed by orthodox. Among employed mothers nearly half (49.4%) of their children were in the age group 0-3 months, while among unemployed mothers four hundred seventy one (55.5%) of children were in the age group 0-3 months. Regarding to house hold wealth index, 52(21.6%) of employed mothers and 359(42.3%) of unemployed mothers were from poorest family. Among employed mothers about 45(18.7%) of mothers had three or more under five children while among unemployed mothers 233(27.5%) had such much children. One hundred sixteen (48.1%) of employed mothers perceived their child average in size during birth but it was 333(39.3%) among unemployed mothers. About 68(28.2%) of employed mothers had TV in their house but only 112(13.2%) of unemployed mothers had TV in their house (Table 1).

Prevalence of exclusive breastfeeding practice

The prevalence exclusive breast feeding practice among employed 156(64.7%), 95%CI (58.9-70.5) mothers was lower than that of unemployed mothers 639(75.4%), 95%CI (72.3-78.2) (P-Value =0.001). The percentage of employed mother (77.6) who initiated breast feeding within one hour after birth was higher than that of unemployed mother (70.2) (p = 0.049) (Table 2).

Obstetric and health service related factors

About 143(59.3%) of employed and more than three fourth of unemployed 652(76.8%) mothers were not informed about breastfeeding by health provider during their pregnancy or postnatal care. About 196(81.3%) of the employed and 533(62.8%) unemployed mothers have ANC visit by health professional in their last pregnancy.

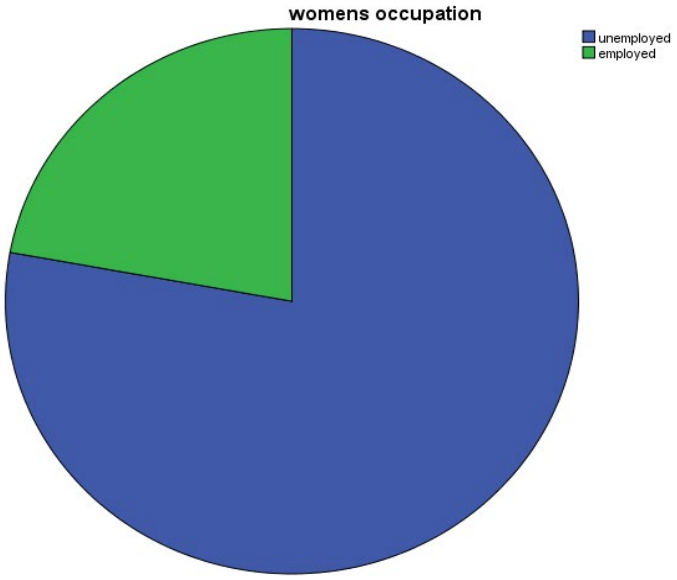

Figure 2: Percentage of employment status of mothers.

The proportion of employed mothers 145(60.2%) who give birth of their index child in health facility was higher than that of unemployed mothers 312(36.8%). About 30(3.5%) of unemployed mothers give birth of their last child by caesarean section while it was 16(6.6%) among employed mothers. The percentage of employed mothers 28(11.6%) who have postnatal care within 2 months of their birth was higher than that of unemployed mothers 51(4.8%) (Table 3).

Work related factors

From the total mother-infant pairs, 241(22%) mothers were employed and 848(78%) were unemployed (Figure 2).

Factors associated with exclusive breast feeding practice

Variables that were significant in the bivariate analysis at p value 0.25 were retained for subsequent multivariate analysis. After controlling for other variables, being unemployed mother, being child wanted, younger age of infant, non CS mode of delivery, larger birth weight, presence of media access, infant being male and mothers had ANC follow up during pregnancy were significantly associated with EBF practice in the multivariate logistic regression model for the overall study participants. Among all, those mothers who were unemployed were 1.7 times more likely to practice EBF when compared to those of employed mothers (AOR=1.67, 95%CI: 1.17-2.40). Mothers whose infants were larger to normal birth weight were 61% less likely to practice EBF compared to those of low birth weight [AOR= 0.39, 95%CI: 0.21-0.72]; Regarding to age of infants, mothers whose infant was 0-3 month old were 4.3 (AOR=4.27, 95%CI: 3.14-5.81) times more likely to practice exclusive breast feeding than mothers whose child was 4-6 month old. Mothers whose child was male in their sex were 29% less likely to practice EBF than their counter parts (AOR= 0.71, 95%CI: 0.53-0.96). Mothers who wanted their last pregnancy later were 2.3 times more likely to practice EBF than mothers who never wanted their pregnancy (AOR= 2.29, 95%CI: 1.05-5.01). Mothers who give birth of their last child by non CS mode of delivery were 2.2 times more likely to practice EBF than their counter parts (AOR= 2.22, 95%CI: 1.09-4.55). Mothers who have ANC follow up during their last pregnancy were 1.5 times more likely to practice EBF than mothers who have no ANC follow up (AOR= 1.52, 95%CI: 1.06-2.18). Those Mothers who have radio in their house were 1.5 times more likely to practice EBF when compared with their counter parts (AOR= 1.53, 95%CI: 1.07-2.21) (Table 4).

Discussion

This study revealed that the prevalence of exclusive breastfeeding practice among employed and unemployed mothers was 64.7% and 75.4% respectively. These difference was statistical significant (P-Value =0.001). This result was higher for both employed and unemployed mothers as compared to the study conducted in Gondar among children aged 7–12 months found 20.9% of employed and 48% of unemployed mothers breastfed their children for six months exclusively [13]. It was in line for unemployed mothers but higher for employed mothers as compared to the study conducted in Goba district the prevalence of exclusive breastfeeding was 33% and 73% among employed and unemployed mothers respectively [15]. In a similar trade, unemployed mothers were more likely to exclusively breastfeed their infants as compared to those of employed mothers. This indicates that maternal employment is a hindrance for EBF. In agreement with this, studies from Ethiopia, Bangladesh, Mexico, and Canada reported that maternal employment has a negative effect on EBF [22-25]. Many reasons can be stated for this association. In accordance with the Ethiopia Labor Proclamation, female workers are entitled to fully paid maternity leave of 120 days (30 days antenatal and 90 days postnatal) on recommendation of medical doctor. Hence employed mothers will have a maximum of three months to stay at home and breastfed their infants which don't fit with the recommended six months

Variables	Category	Employed N=241(22%)	Unemployed N= 848(78%)	Total N=1089(100%)	$X^{2\ value}$	P value
women's age in year	15-19	18(7.5%)	85(10%)	103(9.5%)	9.4	0.093
	20-24	56(23.2%)	246(29.0%)	302(27.7%)		
	25-29	80(33.2%)	229(27.0%)	309(28.4%)		
	30-34	53 (22%)	145(17.1%)	198(18.2%)		
	35-39	27(11.2%)	113(13.3%)	140(12.9%)		
	40-49	7(2.9%)	30(3.5%)	37(3.4%)		
husband/partner's age	<20	4(1.7%)	21(2.5%)	25(2.3%)	3.1	0.377
	21-40	197(81.7%)	660(77.8%)	857(78.7%)		
	41-60	33(13.7%)	149(17.6%)	182(16.7%)		
	>60	7(2.9%)	18(2.1%)	25(2.3)		
educational status of the father or husband	Illiterate	93(38.6%)	532(62.7%)	625(57.4%)	73.3	<0.001
	Primary	79(32.8%)	229(27.0%)	308(28.3%)		
	Secondary	43(17.8%)	69(8.1%)	112(10.3%)		
	Higher	26(10.8%)	18(2.1%)	44(4.0%)		
educational status of the mother	No education	66(27.4%)	418(49.3%)	484(44.4%)	50.8	<0.001
	Primary	92(38.2%)	273(32.2%)	365(33.5%)		
	Secondary	39(16.2%)	98(11.6)	137(12.6%)		
	Higher	44(18.3%)	59(7%)	103(9.5%)		
current marital status of mother	Married	225(93.4%)	812(95.8%)	1037(95.2%)	2.4	0.124
	Others	16(6.6%)	36(4.2%)	52(4.8%)		
Type of place of residence	Urban	101(41.9%)	146(17.2%)	247(22.7%)	65.2	<0.001
	Rural	140(58.1%)	702(82.8%)	842(77.3%)		
Parental Religion	Orthodox	93(38.6)	168(19.8%)	261(24%)	42.8	<0.001
	Muslim	98(40.7%)	524(61.8%)	622(57.1%)		
	Other	50(20.7%)	156(18.4%)	206(18.9%)		
Preceding birth interval in (months)	<12	31(12.9%)	94(11.1%)	125(11.5%)	6.1	0.109
	13-24	36(14.9%)	154(18.2%)	190(17.4%)		
	25-60	131(54.4%)	494(58.3%)	625(57.4%)		
	≥61	43(17.8%)	106(12.5%)	149(13.7%)		
sex of child	Male	113(46.9%)	433(51.1%)	546(50.1%)	1.3	0.253
	Female	128(53.1%)	415(48.9%)	543(49.9%)		
current age of child in months	0-3	119(49.4%)	471(55.5%)	590(54.2%)	2.9	0.090
	4-6	122(50.6%)	377(44.5%)	499(45.8%)		
Number of household members	1-3	24(10.0%)	120(14.2%)	144(13.2%)	5.6	0.131
	4-6	133(55.2%)	405(47.8%)	538(49.4%)		
	7-9	72(29.9%)	266(31.4%)	338(31.0%)		
	≥10	12(5.0%)	57(6.7%)	69(6.3%)		
Under 5 children in household	1	96(39.8%)	278(32.8%)	374(34.3%)	8.6	0.014
	2	100(41.5%)	337(39.8%)	437(40.1%)		
	≥3	45(18.7%)	233(27.5%)	278(25.5%)		
Sex of household Head	Male	187(77.6%)	671(79.1%)	858(78.8%)	0.3	0.605
	Female	54(22.4%)	177(20.9%)	231(21.2%)		
House hold wealth index	Poorest	52(21.6%)	359(42.3%)	411(37.7%)	83.3	<0.001
	Poorer	26(10.8%)	131(15.5%)	157(14.4%)		
	Middle	29(12.0%)	100(11.8%)	129(11.8%)		
	Richer	25(10.4%)	106(12.5%)	131(12.0%)		
	Richest	109(45.2%)	152(17.9%)	261(24.0%)	2.9	0.240
Birth weight of infant	LBW(<2.5)	48(19.9%)	207(24.4%)	255(23.4%)		
	NBW(2.5-4)	173(71.8%)	560(66%)	733(67.3%)		
	HBW(>4)	20(8.3%)	81(9.6%)	101(9.3%)		

Perceived Size of child at Birth	Very large	39(16.2%)	113(13.3%)	152(14.0%)	12.0	0.017
	Larger than average	21(8.7%)	114(13.4%)	135(12.4)		
	Average	116(48.1%)	333(39.3%)	449(41.2%)		
	Smaller than average	26(10.8%)	94(11.1%)	120(11.0%)		
	Very small	39(16.2%)	194(22.9%)	233(21.4%)		
Household has: TV	No	173(71.8%)	736(86.8%)	909(83.5%)	30.6	<0.001
	Yes	68(28.2%)	112(13.2%)	180(16.5%)		
Household has: radio	No	150(62.2%)	637(75.1%)	787(72.3%)	15.5	<0.001
	Yes	91(37.8%)	211(24.9%)	302(27.7%)		
Birth order of infant	1	61(25.3%)	193(22.8%)	254(23.3%)	3.0	0.229 .
	2-5	135(56.0)	453(53.4%)	588(54.0%)		
	>5	45(18.7)	202(23.8%)	247(22.7%)		

Table 1: Socio-demographic characteristics in Ethiopia, 2016.

Variables	Category	Employed N=241(22%)	Unemployed N=848(78%)	Total N=1089(100%)	X^2 value	P value
When child put to breast 1st time after birth	Within first hour	187(77.6%)	595(70.2%)	782(71.8%)	6.0	0.049
	after Hours	37(15.4%)	188(22.2%)	225(20.7%)		
	after Days	17(7.1%)	65(7.7%)	82(7.5%)		
EBF PRACTICE for last 24hrs	Yes	156(64.7%)	639(75.4%)	795(73%)	10.8	0.001
	No	85(35.3%)	209(24.6%)	294(27%)		

Table 2: Prevalence of practice of exclusive breast-feeding practice in Ethiopia, 2016.

of EBF. This short maternity leave period successively influences them to introduce complementary feeding starting from the time they return to work [26]. Another study reported that, each week of maternity leave increased the duration of breastfeeding by almost one-half week [27]. Besides, since there is no breastfeeding friendly environment like facilities for breastfeeding at workplaces, employed mothers couldn't take their infants to the workplace and breastfeed there [28,29]. Therefore, the summative effect of the stated reasons above, would compromise the rate of EBF among employed mothers.

This study revealed that child's age had significant association with EBF practice. Mothers with younger infant had high tendency to practice EBF. This finding was consistent with the studies conducted in other parts of Ethiopia, Brazil, Nigeria and Congo [16-18,23,30-32]. The first possible reason for this association could be the postpartum rest in the first few months after delivery that obligates women to stay at home. This, as a result may encourage them to breastfeed their infant. The other explanation may be due to the perception that some mothers have, that breast milk alone is not enough as the infant gets older.

On the other hand, mothers who wanted to give birth of their child later were more likely to practice EBF than who never wanted in the present study. This is due to the fact that mothers who gave birth of unwanted child were psychological not prepared to do what is expected from as a mother to her child. Prenatal exclusive breastfeeding intention was a strong predictor of exclusive breastfeeding practice. Intentions to EBF were further affected by having an unplanned pregnancy [33,34].

Birth weight of infant was negatively associated with EBF practice. The possible explanation for this was that most of the time microsomia children are delivered through cesarean section. Again the cesarean delivery further affects exclusive breast feeding practice. This finding is inconsistent with finding in Australia [35].

Mothers who give birth of their last child by non CS mode of delivery were found to practice EBF more likely than those who give birth of their last child by CS delivery. This is due to the fact that cesarean delivery affects exclusive breast feeding. This finding was in line with finding in Ethiopia, Bangladesh, and Palestine [23,36,37].

In present study mothers whose index child was male were less likely to practice EBF than their counter parts. This finding contradicts the finding in Egypt, and New York [38]. The possible reason for this association was the cultural difference in different parts of Ethiopia that prefer sex in feeding.

In line with previous studies, mothers who had radio in their house were more likely to practice EBF than their counter parts. This is due to that mothers who have media access to get information about EBF had more knowledge about EBF practice [17,23].

Consistent with earlier studies ANC follow up was an independent determinant affecting EBF practice [18,23,39]. Mothers who had ANC follow up were more likely to practice excusive breast feeding than their counter parts. This could be due to the ANC programs that include breastfeeding counseling which in turn improves breastfeeding knowledge of mothers and motivates.

Conclusion and Recommendation

In conclusion, the prevalence of EBF practices among

Variables	Category	Employed N=241(22%)	Unemployed N=848(78%)	Total N=1089(100%)	X^2 value	P value
Wanted last Child	Wanted then	189(78.4%)	714(84.2%)	903(82.9%)	5.3	0.072
	Wanted later	36(14.9%)	101(11.9%)	137(12.6%)		
	Wanted no more	16(6.6%)	33(3.9%)	49(4.5%)		
ANC by health Professional	No	45(18.7%)	315(37.2%)	360(33.1%)	28.9	<0.001
	Yes	196(81.3%)	533(62.8%)	729(66.9%)		
Place of Delivery	Home	96(39.8)	536(63.2%)	632(58.0%)	42.1	<0.001
	Health facility	145(60.2%)	312(36.8%)	457(42.0%)		
Health provider counsel on BF	No	143(59.3%)	652(76.8%)	795(73.0%)	29.3	<0.001
	Yes	98(40.7%)	196(23.2%)	294(27.0%)		
Last birth caesarean Section	No	225(93.4%)	818(96.5%)	1043(95.8%)	4.5	0.035
	Yes	16(6.6%)	30(3.5%)	46(4.2%)		
Timing of 1st antenatal check	0-4 month	140(58.1%)	312(36.8%)	452(41.5%)	40.5	<0.001
	5-6 month	46(19.1%)	171(20.2%)	217(19.9%)		
	7-9 month	55(22.8%)	365(43.0%)	420(38.6%)		
Number of ANC during pregnancy	No ANC	45(18.7%)	308(36.4%)	353(32.4%)		
	1-2	38(15.8%)	139(16.4)	177(16.3%)		
	3-4	87(36.1%)	240(28.3%)	327(30.0%)		
	≥5	71(29.5%)	161(18.9%)	232(21.3%)		
Respondent's health checked after discharge	No	222(92.1%)	806(95.0%)	1028(94.4%)		
	Yes	19(7.9%)	42(5.0%)	61(5.6%)		
postnatal check within 2 months	No	213(88.4)	797(95.2%)	1010(92.7%)		
	Yes	28(11.6)	51(4.8%)	79(7.3%)		

Table 3: Obstetric and health service-related factors by employment status in Ethiopia, 2016.

Variables	Category	Exclusive breastfeeding practice		COR(95%CI)	AOR(95%CI)	P value
		Yes	**No**			
Occupational status of mother	Unemployed	639	209	**1.67(1.23-2.26)****	**1.67(1.17-2.40)**	**0.005***
	Employed	156	85	1	1	
Birth weight in Kilograms	LBW(<2.5)	199	56	1	1	0.011
	NBW(2.5-4)	535	198	0.76(0.54-1.07)	0.74(0.49-1.13)	0.166
	HBW(>4)	61	40	**0.43(0.26-0.71)***	**0.39(0.21-0.72)**	**0.003***
Perceived Size of child at birth	Very large	106	46	0.65(0.41-1.03)	1.20(0.68-2.11)	0.529
	Larger than average	95	40	0.67(0.41-1.08)	1.60(0.59-1.90)	0.847
	Average	330	119	0.78(0.53-1.13)	1.01(0.64-1.60)	0.960
	Smaller than average	82	38	**0.61(0.37-0.99)***	0.66(0.38-1.16)	0.149
	Very small	182	51	1	1	0.416
Current age of child in months	0-3	506	84	**4.38(3.27-5.86)****	**4.27(3.14-5.81)**	**<0.001****
	4-6	289	210	1	1	<0.001
Type of place of residence	Urban	166	81	1	1	
	Rural	629	213	**1.44(1.06, 1.96)***	1.45(0.80-2.62)	0.223
Wanted last Child	Wanted then	663	240	**2.07(1.16-3.72)***	1.81(0.92-3.56)	0.085
	Wanted later	104	33	**2.36(1.19-4.70)***	**2.29(1.05-5.01)**	**0.038***
	Wanted no more	28	21	1	1	0.115
Last birth caesarean Section	No	772	271	**2.85(2.48-3.27)***	**2.22(1.09-4.55)**	**0.029***
	Yes	23	23	1	1	
When child put to breast	Immediately	579	203	**1.83((1.14-2.93)***	1.42(0.83-2.41)	0.198
	after Hours	166	59	**1.80(1.06-3.07)***	1.40(0.76-2.57)	0.285
	after Days	50	32	1	1	0.433
Sex of child	Male	382	164	**0.73(0.56-0.96)***	**0.71(0.53-0.96)**	**0.028***
	Female	413	130	1	1	
Had ANC follow up	No	253	107	1	1	
	Yes	542	187	1.23(0.93, 1.62)	**1.52(1.06-2.18)**	**0.022***
Educational status of the mother	No education	371	113	**1.69(1.07-2.67)***	1.57(0.87-2.84)	0.137
	Primary	256	109	1.21(0.76-1.93)	0.99(0.57-1.73)	0.968
	Secondary	100	37	1.39(0.80-2.42)	1.23(0.66-2.31)	0.516
	Higher	68	35	1	1	0.093
Preceding birth interval in (months)	<12	86	39	1	1	0.062
	13-24	136	54	1.14(0.70, 1.87)	0.98(0.54-1.77)	0.945
	25-60	457	168	1.23(0.81, 1.87)	0.98(0.59-1.64)	0.941
	61+	116	33	1.59(0.93, 2.74)	1.88(0.99-3.59)	0.054

Wealth index	Poorest	304	107	1.23(0.87-1.74)	0.69(0.34-1.42)	0.314
	Poorer	120	37	1.41(0.90-2.22)	0.78(0.36-1.70)	0.528
	Middle	93	36	1.12(0.70-1.79)	0.64(0.29-1.40)	0.259
	Richer	96	35	1.19(0.75-1.90)	0.52(0.25-1.10)	0.087
	Richest	182	79	1	1	0.465
Husband/partner's age	<20	16	9	1	1	0.117
	21-40	640	217	1.66(0.72, 3.81)	1.87(0.75-4.69)	0.181
	41-60	123	59	1.17(0.49,2.81)	1.22(0.46-3.23)	0.695
	>60	16	9	1.00(0.32, 3.17)	1.41(0.39-5.10)	0.598
Household has: TV	No	673	236	1	1	
	Yes	122	58	0.74(0.52, 1.04)	0.67(0.37-1.24)	0.206
Household has: radio	No	563	224	1	1	
	Yes	232	70	1.32(0.97,1.80)	**1.53(1.07-2.21)**	**0.022***
Baby Had postnatal check	No	744	266	1	1	
	Yes	51	28	0.65(0.40, 1.05)	0.67(0.38-1.18)	0.160
Hosmer and Lemeshow Test	Chi-square =2.856	P – value = 0.943				

**- Significance level of <0.05*
***- Significance level of <0.001*

Table 4: Multivariate logistic regression of factors associated with practice of exclusive breastfeeding among employed and unemployed mothers in Ethiopia, 2016.

employed mothers was lower than that of unemployed mothers, indicating a significant difference between the two groups. Hence, maternal employment has a negative influence on EBF practices.

In addition, being unemployed mother, presence of ANC follow up, younger age of infant, presence of media access like radio, non cesarean mode of delivery, large birth weight of child, being wanted child and child sex being male were also significantly associated with EBF practice.

Having in consideration the impact of appropriate infant and young children feeding practice on children's nutritional status and mortality rate, policy makers still need to give more emphasis on promotion of exclusive breastfeeding through creating an enabling environment targeting the extension of postnatal maternity leave up to the first six month.

Government and non government organization should launch breastfeeding-friendly work environment for working mothers by establishing work-site day care centers for infants in order to promote of EBF.

Health personnel who are working in the clinics should advise mothers to have a spontaneous vaginal delivery and should not insist on performing C/S delivery unless and otherwise medically justified.

Awareness should be created in community or among mothers that breast milk alone is enough for any nutritional requirements of infant for the first 6 months after birth.

Increasing media coverage regarding the awareness programs of exclusive breastfeeding should be considered to improve EBF practice.

Maternal health clinics and health extension program should be strengthened throughout the country so that more number of pregnant women and mothers can receive appropriate maternal health service both at the community and institutional levels, such as, ANC follow up , family planning.

Declaration

Ethical approval

Permission to use and analyze the dataset was obtained by registering on the Demographic and Health Survey (DHS) website. The permission letter is included in supporting information.

Consent from participant

Not applicable

Consent for publication

Not applicable

Availability of data and materials

The dataset supporting the conclusions of this article is available from DHS center but restriction apply to the availability of these data, which were used under license for the current study and so are not publicly available. Data are however available from the author upon reasonable request and with permission of DHS center.

Competing interest

I declare no competing interests.

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Authors' contributions

Conceptualization: Desta Markos, Eshetu Yisihak

Data curation: Desta Markos, Eshetu Yisihak

Formal analysis: Desta Markos, Eshetu Yisihak

Funding acquisition: Desta Markos, Eshetu Yisihak

Methodology: Desta Markos, Eshetu Yisihak

Project administration: Desta Markos, Eshetu Yisihak

Resources: Desta Markos, Eshetu Yisihak

Software: Desta Markos, Eshetu Yisihak

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