



Assessment of Early Initiation of Breastfeeding and Associated Factors Among Mothers in Benishangul Gumuz regional State, North West, Ethiopia: Community Based Cross-Sectional Study.2016

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ABSTRACT: Promoting early initiation of breastfeeding within 1 hour of birth and exclusive breastfeeding up to 6 months of age in early infancy is regarded as crucial components of child survival strategies that could avert up to 13% of deaths among children under 5 years of age. In addition, improved early initiation of breastfeeding appears to be a key in predicting neonatal mortality. Hence, this study aimed to assess prevalence of early initiation of breastfeeding and associated factors among mothers of children age less than two years northwest Ethiopia. Methods: Both quantitative and qualitative community-based cross-sectional study were conducted in seven woreda of Benishangul Gumuz Regional state on 590 infant paired mothers less than two years using simple random sampling. Data was coded, edited, entered into Epi-Info version 3.5.1 and analyzed by using SPSS version 20.0. Both descriptive and multivariable logistic regressions were used for data analysis. Results: A total of 770 women were participated with a response rate of 97.7%. The prevalence of early initiation of breast feeding was 53.8%. ANC follow up [AOR=2.02(1.07-3.92)], institutional delivery [AOR=12.18(8.29-17.98)], having adequate knowledge about breast feeding [AOR=1.9(1, 001-2.23)], having adequate knowledge about early initiation of breast feeding [AOR=2.08(1.28-3.39)], were independently associated with early initiation of breast feeding practice. Conclusions: Early initiation of breast feeding is low as nearly half the mothers did not start breastfeeding with one hour after delivery and still lower than the national plan. ANC follow up, place of delivery, having adequate knowledge, were the contributing factors early initiation of breast feeding. Increasing maternal knowledge on early initiation of breast feeding by educating the mothers both at community and institutional levels and enhance adequate uterine contraction. © 2017 iGlobal Research and Publishing Foundation. All rights reserved.

Keywords Early Initiation of Breast Feeding; Infant and Young Child Feeding; Mothers; Ethiopia.

INTRODUCTION

Promoting early initiation of breastfeeding within 1 hour of birth and exclusive breastfeeding up to 6 months of age in early infancy are regarded as crucial components of child survival strategies that could avert up to 13% of deaths among children under 5 years of age [1, 2]. In addition, improved early initiation of breastfeeding appears to be key in predicting neonatal mortality [3]. In the world sixty percent of the

infant and young child deaths occur due to malnutrition where two-thirds of these deaths attributed to sub-optimal child feeding practices and infectious disease [4]. The impacts of inappropriate infant feeding practice are great in developing countries [5].

The beneficial effects of breastfeeding children are decrease risk for ear and respiratory infections, atopic dermatitis, gastroenteritis, necrotizing enter colitis, type 2 diabetes, and

sudden infant death syndrome. For mothers it decreased risk of breast and ovarian cancer, and type 2 diabetes and speeding the return of uterine tone, stopping post-birth bleeding, and temporarily suppressing ovulation, which aids the spacing of children [6]. WHO and UNICEF recommend that mothers put newborns to the breast within one hour of birth, breastfeed infants exclusively for the first six months and continue to breastfeed for two [7].

In Ethiopia breastfeeding is nearly universal. 96% of children have been breastfed during some period in their lives and this varies minimally across regions. Although BF is universal, appropriate breastfeeding practices are not always followed. Timely feeding practice tops the table of life-saving interventions for new-borns [8, 9].

Breastfeeding practice is a vital component of primary health care. The government has been implementing the Baby-friendly Hospital Initiative (BFHI) and the community integrated management of childhood illnesses (IMCI) program [10, 11]

MATERIALS AND METHODS

The study was conducted in Benishangul Gumuz Regional State, North West Ethiopia. The Region consists of three zones (Assosa, Metekele and Kamashi), one special woreda (Maokomo) and Assosa city administration. Based on the data from regional health bureau the total population of the region is 993,584. Benishangul Gumuz Regional state consists 36 health centers, 398 health post, and 2 hospitals. Beside this the region also has one University located in Assosa the capital city of the region which is located 661 kilometres (k.ms) Northwest of Addis Ababa and one Health science college in Pawe woreda. The study was conducted in Bullen, Mandura, Assosa, Homosha, Kamashi, Bello And Maokomo woreda on a total of 46 randomly selected kebeles from April 20-29/2015.

A community-based cross-sectional study supplemented by qualitative study was used.

For quantitative study: All infant paired mothers living in BG Region.

For qualitative study: All infant paired mothers, community and religious leaders in the region.

For the Quantitative method: All infant paired mothers randomly selected woreda and kebele.

For qualitative study: All infant paired mothers, community and religious leaders randomly selected from each kebele.

Since the study subjects are mother-infant paired groups, mothers whose infant age less than two year were included as study population. Mothers with infants who are seriously ill and unable to communicate from any cause were excluded from the study.

The quantitative sample size for this particular study will be calculated using formula for a single population proportion considering the following assumptions.

$$n = \frac{(Z_{\alpha/2})^2 p (1-p)}{d^2}$$

Where: n = required sample sizes

$Z_{\alpha/2}$ = critical value for normal distribution at 95% confidence level which equals to 1.96

P = (42.2%) prevalence of early initiation of breastfeeding of BGRS, EDHS 2011. d = an absolute precision (margin of error 5%). Using the above formula

$$n = \frac{(1.96)^2 0.422 (1-0.422)}{(0.05)^2}$$

n = 375 mothers with infants.

Using Design Effect of 1.5 then sample size become 562.

Adding 5% of non-respondent the final sample becomes 590.

10 focused group discussions (FGDs) on mother/infant/child pair and 20 in-depth interviews on community and religious leaders were conducted until the saturation of idea reached in all purposively selected woreda.

There are 20 woreda and one administrative town in Benishangul Gumuz Regional state. The sampling procedure of this study was started by using classification of the 20 woreda and one administrative town into strata since population of each woreda is known to have heterogeneity with regard to infant and child feeding practice. The total populations size of infant-paired mothers with age less than two years found in each woreda were calculated using the conversion factors and again proportionally allocated sample size for each woreda were reallocated to their respective urban and rural kebele proportionally. Finally the total of 788 study participant were selected using simple random sampling methods for this purpose health extension workers were assisted the data collectors as a guider in locating where mother-infants pairs were found.

The quality of the data was assured through careful design, translation, retranslation and pre-test of the questionnaire. The questionnaire was adopted in English from different literature and translated into Amharic and then back into English by experts. Pre-testing was done 10 days prior to actual data collection nearby Kebele. The participants in this sample pre-test kebele were not included in the study.

Data collectors and supervisors were trained for one day. The principal investigator and the supervisors were checked the collected data for completeness and corrective measures were taken accordingly. The collected data were cleaned, coded and explored before.

Data were collected using semi-structured and interviewer guided questionnaire adopted from related studies and EDHS. The questionnaire adopted were modified and contextualized to the local situation and the research objective after pre testing. Open-ended questionnaire were also used for Focused Group Discussion and in-depth interview.

Health care providers (who understand, speak and write the local language) were used as data collectors. They were trained for one day by the principal investigator on the objective of the study, data collection tools and sampling procedures.

Before the actual data collection, the questionnaire was pretested on a similar kebele which were not included in the study. Amendments on the questionnaire were made accordingly after the pre-test.

After identifying the study subjects with random selection infant paired mother, face to face interview data collection method was employed. To maximize the data quality obtained by the use of semi- structured questionnaires FGDs were undertaken in group of infant paired mother. Each FGD were consisting of minimum of six members. The members of each FGD were selected by principal investigator (Researcher) or supervisors. FGD were moderated by Principal investigators/supervisors and translator who able to speak, hear and write local languages.

Data, the data was checked for completeness and entered in to Epi-Info version of 3.1 then it was exported to SPSS version 20.0. Descriptive statistics was calculated to describe the overall distribution of the study subject with the variables under study. Bivariate and multivariable logistic regression analyses were used to determine the presence of statistically significant associations between outcome and the independent variables. The strength of association was measured by adjusted odds ratios and 95% confidence intervals using multivariate analysis. Statistical significance were declared at $P < 0.05$. Finally the result was presented in tables and graphs. For qualitative data, data was transcribed in to an English text by the principal investigator from the note and by replaying the tape recorder. The different ideas in the text were merged in their thematic areas and thematic framework analyses were employed to extract meanings out of the texts manually. Then

finally results were presented in narratives in triangulation with quantitative data.

Socio-demographic and economic characteristics: (age, sex, marital status, residence, occupation, educational status, ethnicity, religion, and monthly income). Sociocultural factors: (provide butter for new born infants, discarding the first milk, giving water for new born before breast feed). Maternal related factors/practice: (use of ANC service, use PNC services, place of delivery, access to health care, access to health information, Knowledge). Obstetrics and Medical factors: (Breast illness, Mode of delivery, Gastroenteritis, respiratory infections). Ethical clearance was obtained from Ethical Review Committee OF Benishangul Gumuz Regional Health Bureau, and then submitted to both zonal and woreda health bureau where study is conducted. The study participants were informed about the purpose of the study and finally their oral consent were obtained before interview. They also notified that the information provided by each respondent was kept confidential with assurance of the right to refuse or terminate the interview at any point.

RESULTS

Socio-demographic Characteristic of the Respondents:

From a total of 788 study subjects, 770 respondents were provided accurate information with a response rate of 97.7%. All of the respondents were between the age group of 16-40 years with the mean age of 25.5 + 5.2 years. Among the study participants of infant paired mothers 391(50.8%) were followers of Muslim while 261(33.9%) were Christians, 111(14.4%) were protestant. Regarding ethnic composition of the respondents 227(29.5%) were Berta, 142(18.4%) were Gumuz, 66(8.6%) was Shinasha and 37(4.8%) respondents were Mao. Among the study participants of infant paired mothers about 629(81.7%) lives in rural while

141(18.3%) lives in urban. Regarding marital status 711(92.3%) were married the 30(3.9%) were single. Among the respondent of mothers 247(32.1%) were housewives, 423(54.9%) were farmer. In case of educational status out of the study participants 381(49.5%) were unable to read and write, 103(13.4%) were learnt grade one to grade four and 37(4.8%) were completed grade ten.

Obstetrics characteristics and knowledge of the respondents

Among a total of study participants 691(89.7%) mothers had attended ANC for their last birth. 533(46.1%) were delivered at health institution and 514(53.8%) were delivered at home.

Table 1:- Socio-demographic related variables of infant paired mothers (n=770) in Benshangul Gumuz regional state Northwest Ethiopia, 2016

Variables	Frequency (n=770)	%
Age		
<=29	527	67.8
>=30	250	32.2
Residence		
Rural	629	81.7
Urban	141	18.3
Religion		
Muslim	391	50.8
Orthodox	261	33.9
Protestant	111	14.4
Catholic	7	0.9
Ethnicity		
Berta	227	29.5
Amhara	147	19.1
Gumuz	142	18.4
Oromo	94	12.2
Shinasha	66	8.6
Mao	37	4.8
Agew	36	4.7
Komo	14	1.8
Tigre	7	0.9
Marital status		
Married	711	92.3
Single	30	3.9
Divorced	20	2.6
Widowed	9	1.2
Educational status		
Unable to Read & Write	381	49.5
Able Read & Write	63	8.2
Grade 1-4	103	13.4
Grade 5-8	143	18.6
Grade 9-10	43	5.6
Grade 10 +	37	4.8
Occupational status		
Farmer	423	54.9
Housewife	247	32.1
Merchant	42	5.5
Employed	29	3.8
Student	21	2.7
Daily Labor	8	1.0
Income in month		
<=1000 birr	588	76.4
1001-2000birr	123	16.0
2001-3000birr	35	4.5
>3000birr	24	3.1

The proportions of mothers who assisted delivery at home by NTTBA, TTBA, alone, were 83(10.8%), and 46(6%) respectively

Five hundred (64.9) of the respondents were informed about breast feeding practice during ANC service. Of the informed mothers on breast feeding practice about 19(3.8%) were informed only about early initiation of breast feeding and About sixty two percent of mothers were informed on (early initiation, exclusive breast feeding for six months, introduction

complementary feeding time and continuation of breast feeding for two years) during ANC service.

About 61 percent of mothers had adequate knowledge about function of breast feeding practice. Among a total of the study participants Mothers who had adequate knowledge about function early initiation of breast feeding practice and timely introduction of complementary feeding practice were 563(73.1%) and 707(91.8%) respectively.

Table 2:- Obstetrics and knowledge related variables of infant paired mothers (n=770) in Benishangul Gumuz regional state Northwest Ethiopia, 2016 .

Variables	Frequency (n=770)	%
ANC follow up		
No	79	10.3
Yes	691	89.7
Parity		
Para One	196	25.5
Para Two And Above	574	74.5
Place of delivery		
Home	415	53.9
Institution	355	46.1
Mode of delivery		
Normal delivery	747	97.0
Cesarean section	20	2.6
Instrumental delivery	3	0.4
Delivery assisted by		
Health professional	364	47.3
TTBA	53	6.9
NTTBA	83	10.8
Alone	46	6.0
Family	224	29.1
Informed about feeding practice during ANC follow up		
No	283	36.8
Yes	487	63.2
Informed about feeding practice during PNC follow up		
No	270	35.1
Yes	500	64.9
Knowledge about function of Breast milk		
inadequate knowledge	302	39.2
adequate knowledge	468	60.8
Knowledge about early initiation Breast feeding		
inadequate knowledge	207	26.9
adequate knowledge	268	73.1
Knowledge about timely introduction of complementary		
inadequate knowledge	63	8.2
adequate knowledge	707	91.8

Infant and young child breast feeding practice:

About 99.7% of the respondents were responds that infant breast feed their infants during data collection period. The proportion of early initiation of breast feeding practice in this research was 414(53.8%). A total of 39(5.1%) mothers practice Prolactal feeding (caw milk, sugar with water or 40%, water, better were 14(36%), 11(28.9%), 8(21.1%) and 5(12.2%) respectively.

About 5.8% of infants were breastfed exclusively for one month, 12.3% of infants were breastfed exclusively to 2-3 months of age.

Factors associated with early initiation of breast feeding and timely Introduction of Complementary feeding practice:

From the bivariate analyses variables that fulfilled the minimum requirement (0.2 level of significance in this study) were entered in to multivariate logistic analysis. The multivariate logistic regression which controls the

effect of confounding variables was used by taking all covariates into account simultaneously for early initiation of breast feeding and timely introduction of Complementary feeding practice. Multi-logistic regressions showed that the present parsimonious model adequately fits the data for timing introduction of Complementary feeding practice as P- value from Hosmer and Lemeshow test was 0.590.

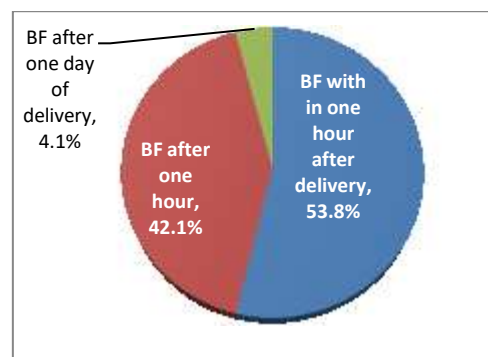


Figure 1:-Distribution of women by time of initiation of breast feeding practice

After applying bivariate and multi-logistic regressions, four variables were found to be significantly associated with early initiation of breast feeding practice. These were who delivered at health institution (AOR=12.18), mothers who had ANC follow up (AOR=2.02), mothers who had adequate knowledge about breast feeding (AOR=2.02) and mothers who had adequate knowledge about early initiation of breast feeding practice(AOR=2.09) were more likely to start breast feeding practice within one hour of delivery.

On the other hand residences, gender, educational status of mothers were not associated with early initiation of breast feeding practice. (The results of Bivariate and multivariate analysis were summarized in **Table 3** below).

Qualitative result:

“Thematic frame work analysis” was used for sorting transcribed information, looking for patterns, similarities, differences or contradictions. The results of qualitative parts were summarized in three parts as follows.

Regarding the results of FGD and In-depth interview on breastfeeding practice all mothers those participated in the FGD in the five woreda stated that breastfeeding is widely practiced in their residential area and they believe it is important for normal child development, strength and health. They also stated that timely introduction of complementary food on the top.

Table 3: Factors associated with early initiation of breast feeding practice (n=770) in Benishangul Gumuz regional state Northwest Ethiopia, 2007 .E.C.

Explanatory Variable	Early initiation of breast feeding practice				
	No	Yes	Crude OR(95% CI)	P-value	Adjusted OR(95% CI)
Child sex					
Male	199	211	0.86(0.65-1.14)		0.99(0.69-1.39)
Female	161	199	1	0.94	1
Residence					
Rural	311	321	1	0.33	1
Urban	49	89	1.76(1.20-2.58)*		0.75(0.47-1.29)
Educational level					
Not Educated	198	183	1	0.89	1
Grade 1-4	76	90	1.28(0.89-1.85)		1.023(0.65-1.60)
Grade Five And Above	86	137	1.72(1.23-2.41)*		0.935(0.615-1.42)
Place of delivery					
Home	300	115	1	0.00	1
Institution	60	295	12.85(9.09-18-22)*		12.18(8.29-17.98)**
ANC follow up					
no	56	23	1	0.03	1
yes	304	387	3.10(1.54-5.15)*		2.02(1.07-3.92)**
info about FDP during ANC					
No	155	128	1	0.22	1
Yes	205	282	1.67(1.24-2.24)*		0.69(0.38-1.25)
Knowledge about importance of breast milk					
inadequate knowledge	175	127	1	0.05	1
adequate knowledge	185	283	2.22(1.57-2,83)*		1.9(1,00-2.23)**
Knowledge about of early initiation breast feeding					
No	135	72	1	0.00	1
Yes	225	338	2.82(2.08-3.39)*		2.08(1.28-3.39)**

Timely initiation of breast feeding:- although all mothers of the five woreda expressed their belief breast milk is good for children making them strong and health, Most of them did not breastfed within an hour after delivery. As most of them stated early initiation of breastfeeding practice within one hour depends on several factors like place of delivery, mode of delivery, health status of the mothers and the child and knowledge of the mothers. Still in some kebele of each woreda there are a promising awareness creation done on this issue.

As one of the mothers from (Abrhamo kebele, Assosa woreda) state as:

“All my child born before him has not been given a breast within an hour because I gave all of birth at home and I consider the first milk is not clean enough for them to be fed but after we have got an education from health workers and HEW in house-to- house mode I gave a birth of my young child at health center and immediately I put my breast in to his mouth.”

DISCUSSION

Ninety-nine percent of mothers had ever practiced breastfeeding which is almost similar to the national ever breastfeeding rate (96%). This study showed that the prevalence of early initiation of breast feeding practice within one hour of delivery was 414(53.8%). This finding is lower as compared to research conducted in Kapasia Bangladesh 67% [19], other Ethiopian region like in Sidama zone 80.1% [21], Wolayita zone 90% [22], Bahirdar city administration 87% [24], Mekelle 77% [23], Debrebrhan 84.5% [26] and Tiyo Arsi zone 67.3% [27] and the national early initiation of breast feeding prevalence in Ethiopia which was (92%). Such variations may due to methodological variations between studies, dissimilarities in infant and maternal socio-demographic characteristics and other differences in sociocultural, economical, health and health service utilization characteristics between respondents of the referenced areas and the study place.

In this study mothers who had ANC visit of their last child were about two times more likely initiate early breast feed as compared to counterpart [AOR=2.02(1.07-3.92)]. This is in line with study conducted in Mekelle [23] and Debrebrhan [26]. This could be those who have ANC follow up have the possibility being aware of early initiation of Breast feeding practice during follow up and adequate knowledge on breast feeding tend to introduce feedings in early as possible.

Those mothers who were knowledgeable on correct time of breastfeeding initiation were two times more likely to practice early initiation than those who were not knowledgeable 2.08(1.28-3.39). This implies the importance of maternal knowledge on correct initiation time in improving early initiation of breastfeeding this is also in line with research conducted in Bahirdar [24].

Those mothers who delivered current child at health institution were about twelve times more likely to initiate breastfeeding early than those mothers who delivered at home 12.18(8.29-17.98) . This finding was consistent with those of other studies in Mekelle [23], east haraghe zone [29], Nairobi Kenya [28]. This might be due to the fact that health institution delivery is the best source of information for early initiation of breastfeeding.

The qualitative report of the study showed that Most of them did not breastfed within an hour after delivery of a baby as most of them stated early initiation of breastfeeding practice within one hour depends on several factors like place of delivery, mode of delivery, health status of the mothers and the child and knowledge of the mothers.

Most of them stated that early initiation of breastfeeding practice within one hour depends on several factors like place of delivery, mode of delivery, health status of the mothers and the child and knowledge of the mothers.

As one of the mother from (Abrhamo kebele, Assosa woreda) stated that:- “for all my children I did not gave breast milk within one hour of my delivery because I gave all birth at home and I consider the first milk is not clean enough to fed.”

CONCLUSION

Early initiation of breast feeding is low as nearly half the mothers did not start breastfeeding with one hour after delivery and still lower than the national plan. ANC follow up, place of delivery, having adequate knowledge, were the contributing factors early initiation of breast feeding. Increasing maternal knowledge on early initiation of breast feeding by educating the

mothers both at community and institutional levels and enhance adequate uterine contraction.

ABBREVIATIONS

ANC: Antenatal care
BF: Breastfeeding
EBF: Exclusive breastfeeding
EDHS: Ethiopian Demographic and Health Survey
IYCF: Infant and Young Child Feeding
WHO: World Health Organization.

CONFLICTS OF INTEREST

The author declares that there is no conflict of interests regarding the publication of this paper.

AUTHOR'S CONTRIBUTION

Yonas Deressa and Girma Tadese designed the study, performed the statistical analysis, and drafted the paper. Muluwas Amentie reviewed and advised the whole research process

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