EARLY POSTNATAL CARE SERVICE UTILIZATION AND ASSOCIATED FACTORS AMONG MOTHERS WHO GAVE BIRTH IN THE LAST ONE YEAR PRECEDING THE SURVEY IN SIDAMA ZONE MALGA DISTRICT, SOUTHERN ETHIOPIA

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ABSTRACT

BACKGROUND: Early Post-natal care service utilization is extremely low and stagnant over the decade of period in Ethiopia. Ethiopian Demographic and Health Survey 2016 reported that only 17% early post-natal care service utilization occurred despite the fact that, maternal mortality is high in the first 24 to 48 hours after delivery.

OBJECTIVE: The aim of this study was to assess early postnatal care service utilization and associated factors among mothers who gave birth in the last one year, in Sidama Zone Malga Woreda, Southern Ethiopia.

METHOD: A community based quantitative supplemented by a qualitative cross-sectional study was conducted from September 15, 2017 to October 15, 2017 in Sidama Zone, Malga district among 395 mothers who gave birth in the last one year. Mothers were selected by Simple random sampling technique. Quantitative data was collected by semi structured questionnaires and coded, cleaned, entered into EPI info version 3 and exported to SPSS version 20 for analysis. In binary logistic regression, variables with P value less than 0.25 were taken into multivariable logistic regression analysis and then, variables with p value < 0.05 at the final model were considered statistically significant predictors of the outcome variable. Qualitative data was collected by focus group discussions, and Individual In-depth interview and then thematic analysis were used to interpret the results.

RESULTS: In this study, 22.5% of mothers utilized early postnatal care. Women who had experience of early postnatal care utilization has two times (AOR: 2.11, 95% CI: 1.11, 4.00), those who delivered at health facility were four times, (AOR: 4.10, 95% CI : 1.76, 9.57), those mothers who decide by themselves about early post-natal care utilization nearly four times (AOR: 3.84, 95% CI: 1.88, 7.82) , mothers who traveled on foot for less than two hours were four times (AOR: 4.24, 95% CI: 1.82, 9.91), mother who had four antenatal care follow up were nearly four times (AOR: 3.94, 95% CI: 1.18, 13.23) and educated mothers were seven times (AOR: 7.04, 95% CI: 2.42, 20.49) more likely to utilize early postnatal care service than their counterparts.

CONCLUSION: The study revealed that, early postnatal care services in the district are low. Maternal education, place of delivery, decision making power of the mother, time taken to reach to health facility, antenatal care follow up, previous early postnatal care utilization and experience of the mother were independent predictors of early post-natal care service utilization. Therefore, Social and behavioral change communication strategies and continuum of community based care should have to strengthened.

KEY WORDS: Early Post-natal care, utilization, Barrier, Associated factor, Malga district

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BACKGROUND

Globally, four million new-born die in the neonatal period of time, that accounts 40-44% of under five-year age of deaths. About 1, 000, 000 of new born death and 46% of all maternal death occur within the first day of life. A large proportion, 515, 000 of maternal deaths and 75% of Newborns death occur during the first weeks of postnatal periods[1-3].

In Sub Saharan Africa, the maternal mortality ratio due to the condition related to pregnancy and child birth is unacceptably high over the decade. Ethiopia is one of the sub-Saharan countries with higher Maternal Mortality Ratio. Lancet series and state of the world children stated that, majority of maternal and new born death occurred during early postnatal period[1,4-6].

The United Inter-Agency Group for Child Mortality Estimation (UN-IGME 2014) indicated that, there is a further decline in under five mortality ratio (U5MR), Infant mortality ratio (IMR) and Neonatal mortality ratio (NMR). However, the proportion of newborn death is still high and Ethiopia is one of the eight high newborn mortality countries (together with Bangladesh, Malawi, Nepal, Liberia, United Republic of Tanzania, Timor – Leste, Niger and Eritrea)11. Federal Ministry of Health of Ethiopia dully recognized that, the current under-five and neonatal mortality rates of 64 and 29 per 1,000 live births, respectively, is unacceptably high and also acknowledged that, neonatal mortality rate is disproportionally high accounting for 44% of under-five deaths[8].

Both The Lancet series on Newborn and Maternal Health suggested that, 15 to 32% of neonatal deaths can be prevented through achieving high coverage of a few key practices through early post-natal care (The care that newborn and mothers received within the first 2 days following delivery) intervention. In other hand, blended module for health extension program stated that, early PNC service utilization could decline 10-27% of neonatal deaths. For this reason, community based new born care programs in Ethiopia recommended that, mother and new born should receive early postnatal care services following delivery regardless of their birth place[1,9].

However, utilization of early postnatal care in developing countries in general and in Ethiopia in particular is very low. In the 2016 Ethiopian Demographic and Health Survey, it's reported that only 17% of women received early PNC within 48 hours[1,10]. Utilization of early post natal care can be prejudiced by cultural, demographic, social and Economic factors, and other barriers that need to dig out from community according to the local conditions[11].

It is said that, there are multiple associated factors, facilitators and barriers that affect early PNC service utilization[1,3-5,8]. Thus, identifying associated factors for early postnatal care will contribute on reduction of maternal and new born mortality, and strengthen the existing supply and birth surveillance mechanism, improve early PNC utilization by women of reproductive age and will help decision makers at all level to design for defending mechanism for associated factors and barriers.

Despite this importance, there is scarcity of studies that assessed utilization of early post natal care utilization and associated factors in the study area and also the previous published researches in Ethiopia at different regions were not focused on early PNC service utilization, rather focused on PNC service utilization in general. In addition, most studies conducted in the country were not focused on cultural factors than can hinder the utilization of early post natal care service. So, the main aim of this study was to assess early post natal care service utilization and associated factors among mothers who gave birth in the last one year in Malga district of Sidama zone, Southern Nations Nationalities and Peoples Region.

Zone, Southern Nations Nationalities and Peoples Region.

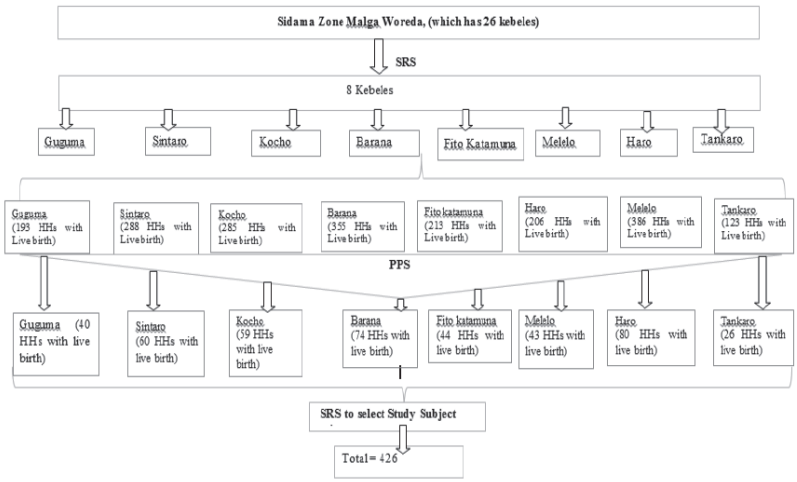

Figure 1: Sampling procedure of earlypost-natal care utilization in Sidama zone, malga woreda, 2017

METHODS

A community based quantitative cross sectional study design supplemented with qualitative study was conducted from September 15,2017 to October 15, 2017 in Malga district, Sidama zone, Southern Ethiopia among 426 women who gave birth in the last one year in the district. Malga district is found in SNNPR state Sidama Zone, and located 300 km far from the capital city, Addis Ababa and 27 km from Hawassa city of SNNPR. Based on the adjusted 2010 census estimation by the CSA, the total population of Malga Woreda is 142,536 of whom 69,996 are males and 72,561 are females. All mothers who gave birth in the previous one year in Malga district were source population and all mothers who gave birth in the last one year in selected kebeles of Malga district were the study population for this study. All mothers who gave birth in the last one year prior to data collection and who resided in malga woreda for at least 6 months were included in to the study and mothers who had a mental problem and/or critically ill during data collection were excluded from this study.

To get the required sample size, multistage sampling technique was used. First, 8 kebeles were selected by lottery method from 26 kebeles in Malga district. Then, census was conducted to identify number of households with study respondent and proportionally allocated for each selected kebele. Finally, lottery method was used to select the study sample (Figure 1).

For qualitative study, purposive sampling was used to select participants for FGDs. Two FGDs which comprise a total of 8-12 individuals with mothers, and father groups and 3 IDI, one with health professional and two with health extension workers were conducted. The number of the FGD and IDI was determined based on information saturation.

Data collection procedures and quality control

Quantitative data

Structured interviewer administered questionnaire, which was prepared in English and translated to Amharic was used for data collection. Data was collected by 8 trained data collectors and two supervisors supervised the data collection process.

Qualitative data

Qualitative data was collected by using FGD and IDI. FGD and IDI guide were prepared and implemented after reviewing relevant literatures. Two FGD were conducted with a total of 20 participants. Among these, 12 participants were from lactating mothers, and 8 from father's groups. The selected mothers for these FGDs had similar background with respondents, whereas fathers were husbands who currently living with eligible mothers for the study. In other hands 3 IDI were conducted with one health workers from health center and two health

extension workers from two different health posts. The number of FGD and IDI was determined based on the information saturation.

To control the quality of data, instruments were translated to local language, data collectors and supervisors were trained, questionnaire, FGD and IDI guides were pretested on respondents who were not included into the study to validate the instrument. Based on the findings of the pretest, necessary modifications were made. Data collection procedure was closely supervised and the collected data were checked for completeness, consistency and reliability.

Dependent variable for the study was utilization of Early Post-natal care. Independent variables were: Socio demographic factors including: age, marital status, gravidity, party and religion; Socio economic factors including: level of income, education, birth preparedness, planed pregnancy, media exposure and culture; Health care related factors including: status of ANC follow up, previous delivery history and access for health care, and attitude related factors including: thought, norms, perception, belief and practice

Measurements

Early post-natal care utilization: in this study, it refers to mother who have at least one postnatal visit within 48 hours following delivery.

Barriers for Early PNC: in this study, it refers to any thought, norms, perception, belief and practice that confine mother and new born from benefiting from early PNC.

Awareness: in this study, it refers to whether the mother or FGD participants mentioned at least one of the PNC services among the components

Data processing and analysis

Quantitative data

Data was entered using EPI-data version 3.1 and exported to SPSS version 20 for analysis. Descriptive statistics were computed. Presence of association between dependent and independent variables was assessed by using OR with 95% confidence intervals. Binary logistic regression analysis was conducted to identify the candidate variables for the final model and then, all variables with p-value less than 0.25 at binary were taken into multivariable logistic regression to outline the independent predictors of early post-natal care utilization. Variables with P-value of <0.05 at final model were considered as an independent predictors of the outcome variable. Finally results were presented using text, tables and charts.

Qualitative data

The qualitative data responses were coded, categorized, and then organized by content with thematic analysis. Ideas in the text were merged with their themes and a thematic analysis was performed manually. Finally, the results were presented in narration by making triangulation with quantitative findings.

Ethical consideration

Ethical clearance was obtained from Arba Minch University, College of Medicine and Health Science Ethical Review Committee. A formal letter was written to different administrative bodies and organizations to obtain permission to conduct the research in the settings. Finally, verbal informed consent was obtained from all study participants before interview.

RESULTS

Socio Demographic and Socio Economic Characteristics of Respondents

A total of 395 participants were interviewed making response rate of 92.7%. The mean age of study participants was 26.39 ± 5.82 standard deviation. Majority, 303 (76.7%) of the respondents were protestant, and Catholic followers account only 6 (1.5%). Majority 389 (98.5%) of the respondents were married, and unmarried accounts only 6 (1.5 %). Regarding place of residence 340 (86.1%) were rural and 55 (13.9 %) were urban residents. Majority, 209 (52.9 %) of the respondents were uneducated and secondary and above attended accounts only 52 (13.2%). Regarding maternal occupation, majority 272 (68.9 %) of the respondents were housewives and private employed accounts only 2 (0.5 %). Concerning husband Education, majority 238 (60.3 %) of the respondents were uneducated and Secondary and above attended accounts only 26 (6.6%).

Concerning average monthly income, majority 264 (67.6 %) of the respondents earned ≤ 500 birr and those who earned above 2500 birr accounts only for 23 (5.6%) (Table 1).

Table 1: Socio demographic characteristics of respondents, Malga district, Southern Ethiopia, 2017 (n=395).

Variable name and categories		Frequency	Percentage (%)
Age of the mother	15-19	47.0	11.9
	20-24	132.0	33.4
	25-29	87.0	22.0
	30-34	91.0	23.0
	35-40	38.0	9.6
Marital Status	Not Married	6.0	1.5
	Married	389.0	98.5
Religion	Orthodox	7.0	1.8
	Muslim	78.0	19.7
	Protestant	304.0	77.0
	Catholic	6.0	1.5
Place of residence	Urban	340.0	86.1
	Rural	55.0	13.9
Maternal Education	Uneducated	209.0	52.9
	Primary Education	134.0	33.9
	Secondary and above	52.0	13.2
Maternal Occupation	Unemployed/ House wife	272.0	68.9
	Self employed	117.0	29.6
	Government employed	4.0	1.0
	Private employed	2.0	0.5
Husband Education	Uneducated	238.0	60.3
	Primary Education	131.0	33.2
	Secondary and above	26.0	6.6
Husband Occupation	Unemployed /Farmer	222.0	56.2
	Self employed	158.0	40.0
	Government employed	11.0	2.8
	Private employed	4.0	1.0
Average monthly Income	≤ 500 birr	285.0	72.2
	501_1500 birr	63.0	15.9
	1501_2500 birr	25.0	6.3
	≥ 2500 birr	22.0	5.6

Maternal and Health care utilization related factors

Out of the total respondents, 37 (9%), 41 (10%), 145 (36.7%) and 175 (44.3%) of the respondents utilized ANC 1, ANC 2, ANC 3 and ANC 4 respectively (Fig.2).

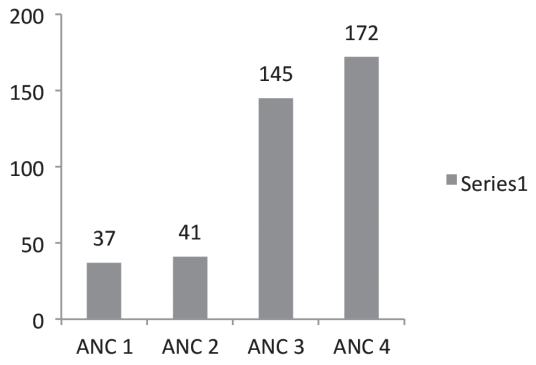

Figure 2: Bar chart showing ANC follow up among respondents in Malga district, Southern Ethiopia 2017

Regarding place of delivery, 146 (36.96%) of respondents gave birth for their last child at health facility. About 170 (43%) of respondents have previous experience of EPNC service utilization. Regarding decision making about utilization of health services, only 91 (23%) of respondents have a power to decide to seek health services. About 180 (45.57%) of the respondents received health education about both antenatal care and postnatal care services and also 83 (21%) informed about importance of early postnatal care service utilization. In addition, 116 (29%) of respondents were knowledgeable about importance of early postnatal care service utilization. About 253 (64%) of the respondents have no transportation access to reach health facility and majority, 286 (72%) of the respondents travel more than or equal to 2 hours to reach health facility (Table 2).

Table 2: Maternal and health care service utilization related factors of the study respondents in Malga district, Southern Ethiopia 2017

Variable	Category	Frequency	Percentage
Place of delivery	Home	249	63.04
	Health facility	146	36.96
Experience of EPNC	Yes	170	43
	No	225	57
Decision making power	Mother	91	23
	Family members	304	77
Health education on ANC and PNC	Yes	180	45.57
	No	215	54.43
Information on EPNC	Yes	83	21
	No	312	79
Knowledgeable on EPNC	Yes	116	29
	No	279	71
Transportation access	Yes	142	36
	No	253	64
Time to travel to health facility	< 2 hours	109	28
	> 2 hours	286	72

Barriers to utilize early post-natal care services

The FG discussants were asked if they had awareness about EPNC. The mother group was mentioned that, they have awareness about EPNC and its benefits and all mothers had positive attitude towards PNC services. The benefits mentioned by them include; health checks, immunization service, contraception and counseling services. The father group FG discussants had no awareness about EPNC utilization rather; they focused on health center delivery.

Focus group discussant father responded that .... "We are not aware about EPNC follow up and our intention is about health center delivery. Due to mountainous topography, distance, inaccessible and poor ambulance services in our health center, most women couldn't access EPNC...." (38 years-old father, Guguma kebele).

IDI with health care professional revealed that .... "Health care professionals give much emphasis on provision of information on immunization rather than EPNC".... "HEWs do not use family health guide to teach the mother and do not follow ORPA steps. Even though they use the family health guide, they might have knowledge gaps on use of materials properly. Mothers who live with Grandmother and father-in-law couldn't utilize health services, so that elder family members have a great role on mothers' care and they are resistant to change...." (26 years-old health professional, Guguma Health center).

The cultural practice, beliefs and norms were the main barriers that affect utilization of early post-natal care. The focus group discussant mothers responded that.... "Having any health care services even on a day to day base following delivery is very important, in practice it is very difficult due to the inherited practice we acquired. in Sidama culture it's not allowed for a delivered mother to go out until 40 days. The culture is locally called 'hashucho gira gesha', due to fear of evils sprit; mother have safety pin or locally called 'merfe kulf' on her close or holding knife even when going out for toilet. For this reason, mothers prefer to get post-natal care services after 40th day...." (28 years-old mother, Guguma kebele).

Another discussant mother added that... "I am a mother of four children and I have got immunization service from health center at 45 days after blessing my babies by church leaders. In our locality mothers first take her child for blessing by church leaders before going to anywhere after delivery...." (30 years- old mother, Guguma kebele).

IDI with HEWs reveled that home delivery, delivery notification, accessibility, distance and work over load were important factors that can affect EPNC services utilization.

Interviewed HEW responded as.... "I have served for 7 years and provided EPNC in better way for mothers who delivered at health center and nearby health facility than those who delivered at home". She also added that... "Currently providing early PNC for mothers delivered at home is a tough work due to failure to notify by the family of postnatal women and when we go for PNC provision after we have informed through HDAs, some family members responded as she slept ....." In addition, she responded that... "HEWs under take16

packages and other additional tasks. Due to this case, we couldn't manage all post-natal care for the mothers early but we try our best and visit them any time...." (28 years-old health extension worker, Guguma kebele).

On another Kebele, interviewed HEW responded as.... "Family guidance association appointed women groups who worked closely on issue related to maternal health which promote our kebele's institutional delivery and facilitate EPNC utilization. Of course we couldn't have handled early all delivered mothers due to work over load, wide geographic coverage, lack of transport access and distance...." (26 years-old health extension workers, Sintaro kebele).

IDI with health extension workers about community side barriers revealed that.... "if mothers after delivery go back for health care services without any health problems; the community believe that she is mentally ill and questioned on her family. The conditions are very ashamed for mothers and her family" said by nodding the head...." (26 years-old health extension workers, Sintaro kebele).

Prevalence of early post-natal care utilization

The prevalence of early postnatal care service utilization in the study area is 89 (22.5%). Among these, 71 (17.97%) of participants had got within 24 hours following delivery, whereas 18 (4.55%) within 24 to 48 hours of postpartum period (Fig. 3).

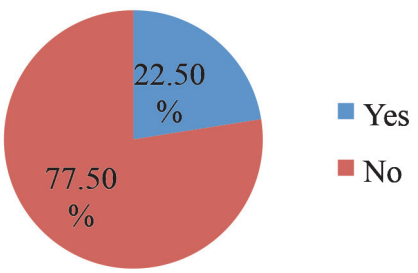

Figure 3: Prevalence of early post natal care service utilization among respondents in in Malga district, Southern Ethiopia 2017

Multivariable logistic regression analysis showing factors associated with early post-natal care service utilization

Maternal education, ANC follow up, Place of delivery, Time taken to reach health facilities, and decision making power of mothers were found to be statistically significant predictors of early postnatal care service utilization.

Mothers who have attended secondary and above level of education were seven times more likely to utilize early postnatal care service compared to uneducated mothers (AOR: 7.04, 95% CI: 2.42, 20.49). Similarly, mothers who had got four ANC follow up during their last pregnancy were nearly four times more likely to utilize early postnatal care service compared to those who had less number of ANC follow up (AOR= 3.94, 95% CI: 1.18, 13.23).

On other hand mothers who delivered at health facilities were four times more likely to utilize early postnatal care service (AOR: 4.07, 95% CI: 2.48, 6.68) compared to those who delivered at home. Mothers who had decision making power on utilization of health service were nearly four times more likely to utilize early postnatal care service compare to those who did not have decision making power (AOR = 3.84, 95% CI: 1.19, 7.82), mothers who had previous EPNC experience were 2.1 times more likely to utilize early postnatal care service compared to those who did not have the experience (AOR = 2.11, 95% CI: 1.11, 4.00)

Regarding the time taken to reach Health institution, mothers who travel for less than two hours to reach Health facilities were four times more likely to utilize early PNC service compared to those who traveled two or more hours (AOR= 4.24, 95% CI: 1.82, 9.91) (Table 3).

Table 3: Multivariable Logistic Regression showing factors associated with Early PNC Service Utilization in Malga, district, Southern Ethiopia, 2017.

Variables	Categories	Early PNC Utilization		COR(95%CI)	AOR(95%CI)
		Yes	No		
Place of residence	Rural	72	268	1	1
	Urban	17	38	1.67 (0.89,3.12)	0.74 (0.28, 1.95)
Maternal Education	Uneducated	36	173	1	1
	Primary	20	114	0.84 (0.47, 1.53)	0.88 (0.38, 2.04)
	Secondary and above	33	19	8.35 (4.28, 16.29)	7.04 (2.42, 20.49)**
ANC follow up status	One times	5	32	1	1
	Two times	5	36	0.89 (0.24, 3.35)	0.75 (0.15, 3.76)
	Three times	8	137	0.37 (0.12, 1.22)	0.27 (0.07, 1.12)
	Four times	71	101	4.49 (1.67, 12.11)	3.94 (1.18, 13.23)**
Place of Delivery	Home	33	216	1	1
	Health Facility	56	90	4.82 (1.81, 12.86)	4.07 (2.48, 6.68)**
Previous EPNC service	No	39	186	1	1
utilization Experience	Yes	50	120	1.99 (1.23, 3.20)	2.11 (1.108, 4.00) **
Decision Making Power	Family members	45	259	1	1
	Mother	44	47	5.39 (3.21, 9.05)	3.84 (1.882, 7.82)**
Health Education about					
ANC and PNC	No	41	174	1	1
	Yes	48	132	1.54 (0.96, 2.48)	0.58 (0.27, 1.24)
Information about EPNC	No	53	259	1	1
	Yes	36	47	3.74 (2.21, 6.33)	2.31 (0.87,6.16)
Knowledgeable on	No	52	227	1	1
EPNC Services	Yes	37	79	2.05 (1.25, 3.35)	1.19 (0.57, 2.49)
Time taken to reach	> 2hrs	20	89	1	1
health facility	< 2hrs	69	217	1.42 (0.81, 2.47)	4.24 (1.82, 9.91)**
Transport Accesses	No	35	218	1	1
	Yes	54	88	3.82 (2.34, 6.25)	0.36 (0.11, 1.23)

(Note: ** = Statistically significant association at p-value of <0.05).

DISCUSSION

This study revealed that early postnatal care service utilization is 22.5 %. This is slightly higher than the study conducted in Pradesh, India (19%)12 and Ethiopian demographic and health survey, 2016 (17%) (1). This difference might be attributed to the time gap between the studies, socio-demographic differences and health service accessibility. The current study finding is lower when compared with the study findings study conducted in Debre Markos town of Amhara region (33.5%)13 and study conducted in Nepal (40.9%)14. This difference might be attributed to the difference in approaches of implementing Early PNC service provision along with the difference in socio-economic status, geographical barriers, accessibility of services,

information and health education between countries. In other hands, the current study result is similar with the study conducted at Arsi Zone, Aseko district (21.4%)15 and study conducted Amhara region, in Jabitena district (20.2%)16.

This study revealed that Maternal education, Place of delivery, decision making power of the mother, time taken to reach health facility, ANC follow up and previous early postnatal care utilization experience of the mother are an independent predictors of early PNC service utilization.

Those mothers who attended secondary and above level of education were seven times more likely to utilize Early PNC service compared to uneducated mothers, which is consistent with study conducted in Amhara region Jabitena district16, EDHS, 2016 report1, study conducted in Dembecha district of Amhara region17, study conducted in Pradesh, India12 and study conducted in Nepal14. This is due to the fact that, educated women can get adequate information about maternal health services including importance of early postnatal care by reading different books, pamphlets, leaflets and other. In addition, educated women are economically better than uneducated women that help them to access Medias like radio and television.

In this study, place of delivery was one of the predictors of the outcome variable. Mothers who gave birth at health facility were four times more likely to utilize early PNC service than those who delivered at home. This finding is consistent with the study conducted in Aseko district of Arsi zone15, study conducted in Jabitena district of Amara region16, study conducted in Debre Markos of Amhara region13, EDHS, 2016 report1, study conducted in Rwanda18, study conducted in Nepal14 and Study in Pradesh, India12. The possible explanation for this association can be attributed to the fact that, women who gave birth at health institution have greater opportunity for health education related to early postnatal care services immediately after delivery and thus get access to learn about importance of early postnatal care, complications during postnatal period and importance of postnatal care not only for themselves, but also for their newborn.

IDI with health extension workers support the association between early postnatal care service utilization and place of delivery as .... "I have served for 7 years and provided early PNC in better way for mothers who delivered at health center and nearby health facility than those who delivered at home". ... "currently providing early PNC for mothers delivered at home is a tough work due to failure to notify by the family, when postnatal women are available and when we go for PNC provision after we have informed through HDAs, some family members respond that she slept, and also.... HEW under take16 packages and other additional tasks. Due to this case, we couldn't provide early postnatal care for all post-natal women....." (28 years-old health extension worker, Guguma kebele)

In this study, women who had decision making power on utilization of health care services had nearly four times more likely to utilize early postnatal care service compared to those whose decision making power was vested with other family members. This finding is consistent with a study conducted in Oromia region Arsi Zone Aseko district15, study conducted in Gonder Zuria district19, study conducted in Rwanda18 and study conducted in Amara region Jabitena district16. This association may be due to the fact that, women who can decide by themselves about their health services can get health services at any time, make necessary preparation to seek health service and also may have an awareness about complications during postnatal period than those for whom decision to seek health service is made by other family members.

The above association was supported by the finding of IDI with health care professional stated that .... Family member play a key role in allowing early PNC care service utilization. Especially those families who live with Grandmother and grandfather couldn't utilize health services including postnatal care, because, those mothers cannot allowed to seek health services, unless permitted by their grandmothers and grandfathers. So, elder family members have a great role on mothers'

health care seeking and even if information is given for them, they are resistant to change...." (26 years-old health professional, Guguma Health center). This result was supported by qualitative study conducted in Ethiopia20 and FMoH blended module for Health extension workers[11].

Regarding the time taken to arrive at health facility, Mothers who travel on foot for less than two hours were four times more likely to utilize EPNC compared to those who traveled for greater than or equal to two hours, which is consistent with study conducted in Gonder Zuria district of Amhara region19, Dembecha district of Amhara region17 and study conducted in Aseko district of Arsi zone15. This may be due to the fact that, being closer to health facility can help mothers to access health information and reduces transportation costs that can help them to utilize the service.

The association between time taken to reach health facility and early postnatal care service utilization was also supported by FGD results of father group that responded as .... "we are not aware about EPNC follow up and our intention are about health center delivery even which cannot be utilized by women in most cases due to mountainous topography, distance, inaccessibility and poor ambulance services in our health center...." (38 years-old father, Guguma kebele). This result was supported by study done in Gonder Zuria19 and FMoH blended module for Health extension workers[11].

In this Study mothers who had four Ante natal care follow up were nearly four times more likely to utilize early postnatal care service compared to those with no ANC follow up, which is consistent with the findings of study conducted in Gonder Zuria19, EDHS, 2016 report1 and study conducted in Nepal14. This may be attributed to the fact that, women who utilized Antenatal care four or more times have an opportunity to get health information about importance of institutional delivery and early postnatal care service utilization. In addition they can also get information about complications of post natal period and the importance of seeking health service as early as possible.

Regarding community perception, community has poor perception towards early postnatal care at health center if mother go back for the service. Results of IDI with health extension workers reveals that,.... "after delivery, if mothers go back for health care services/checkup without any health problems; the community believe that she is mentally ill and questioned on her family and give them a little respect. As a result, the conditions are culturally very ashamed for mothers and her family'' said by nodding her head...." (26 years-old health extension workers). Culturally in most parts of rural Ethiopia, the period before the umbilical cord stump falls off is understood to be a period when the baby is particularly vulnerable to harm by jealous or malevolent people and spirits, and the baby is usually secluded inside (20). This finding can also be supported by many studies conducted in Ethiopia and other developing countries [(21-24)].

STRENGTH AND LIMITATION OF THE STUDY

Strength of the study

The study was conducted using mixed method, in which the quantitative supplemented by qualitative that helps to dig out the deep insights of the community at large.

LIMITATION OF THE STUDY

Cross sectional nature of the study makes it difficult to establish cause effect relationship.

CONCLUSION AND RECOMMENDATION

The study revealed that, 22.5% of study mothers utilized early postnatal care services in the district. Maternal education, Place of delivery, decision making power of the mother, time to travel to health facility, ANC follow up and previous early postnatal care service utilization were independent predictors of early Post-natal care. Qualitative part of study revealed that Sidama cultural practice, beliefs of blessing child by church leader, community perception toward EPNC visit on mother come back to HC, HEWs work over load, quality of health care provision and delivery notification were barrier for Early PNC service utilization.

The respective responsible bodies should address the following recommendations to enhance early post-natal care service utilization in the study area:

- **For district health office**
  The district health office should give much emphasis to address independent predictors that influence the utilization of early Post-natal care services like; maternal education, place of delivery, decision making power of the mother, transportation access, ANC follow up of the mothers.
- **For district education office**
  Women empowerments through continues education program need to be strengthened since educated mothers more utilize early post natal care and other maternal health services.
- **For health workers and HEWs**
  The health care workers should have to give much emphases on strengthen ANC follow up, Institutional delivery, enhancing mother's decision making power ,and reducing distance related factors through delivering Community based care services.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest regarding publication of the manuscript.

AUTHORS' CONTRIBUTION

GK and GG: Involved in generating the concept of this research paper, proposal writing, designing, analysis, write-up, preparation of scientific paper, and manuscript preparation; MK: Involved in approval of the final manuscript; AT: supported in proposal writing, designing, analysis, and approval of the final manuscript. All authors read and approved the final manuscript.

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