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MATERNITY HEALTH CARE SEEKING BEHAVIOR AND ASSOCIATED FACTORS AMONG REPRODUCTIVE AGE GROUP IN KURMUK DISTRICT WESTERN ETHIOPIA, 2018.

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A RESEARCH THESIS SUBMITTED TO INSTITUTE OF PUBLIC HEALTH COLLEGE OF MEDICINE AND HEALTH SCIENCES, UNIVERSITY OF GONDAR IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR MASTER OF PUBLIC HEALTH IN HEALTH PROMOTION AND COMMUNICATION.

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Gondar, Ethiopia

List of abbreviations

ANC: - antenatal care

APF: - Administration of Public Federal

BSc: -Bachelor of Science

CI: - confidence interval

DHS: - demographic health survey

EDHS: - Ethiopian demographic health survey

HMIS: - health management information system

HIV: -Human immune virus

ICPD: - International Conference on Population and Development

MCH: - Maternal and child health

PNC: - Postnatal care

UNICEF: - United nation children's fund

UN: -United nation

UNFPA: United Nations Fund for Population Activities

WHO: - world health organization

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Abstract

Background: Maternal health has been becoming a worldwide alarm. The great number of maternal mortalities, particularly in under-developing nations has-been due to a low level of maternity healthcare-seeking behavior. The lives of billions of women in reproductive age can be safeguarded through maternity health care services. Regular utilization of maternity health care services reduces maternal morbidity and mortality.

Objective: The objective of this study was to assess the maternity healthcare-seeking behavior among reproductive-age women (15-49) in Kurmuk district, Benishangul Gumuz region, western Ethiopia, February 2018.

Methods A community based cross-sectional study was conducted from February to June.2028. A total of 596 participants were recruited using a multi-stage sampling method. The sample size has been proportionally allocated to the size of each selected kebeles. Interviewer administered structured and pretested questionnaire has been used to collect the data. The data has been coded and entered into a computer by using EPI Info version 7 and then exported to SPSS version 20 for analysis. Finally, Bivariate and backward multivariable statistical methods were carried out to identify factors associated with maternal healthcare-seeking behavior.

Result: Maternity health care service seeking of women was found to be 54%, CI, 95% (49.7-57.7) for antenatal care, 34%CI 96 % (29.40.-37.1) for institutional delivery and 33.6% CI 95 % ((29.9-37.1)) had used postnatal care services. Women education [AOR: 3.51, 95%CI: (2.45-5.02)], mother occupation [AOR: 2.01, 95%CT: (1.21-3.33)] were statistically associated with ANC. Household monthly income [AOR: 2.12, 95% CI (1.34-3.33)] distance to health facility [AOR: 4.94, 95%CI, (3.324-7.51)]. Treatment preference place [AOR: 0.16, 95%CI :(0.09-0.29) were statistically associated with institutional delivery.

Conclusion Overall, maternal health care service seeking was found to be low in the study setting. Mother education and occupation were significantly associated with ANC service seeking, Household monthly income, distance from health facility, and treatment preference place was significantly associated with institutional delivery.

Keywords: -Maternity health care, Utilization behavior, Reproductive age, Ethiopia

1. Introduction

1.1. Background

Maternity health implies that people can have a responsible, satisfying, and safe sex life and that they can reproduce and the freedom to decide if, when, and how often to do so. Health seeking behavior is defined as an action undertaken by individuals who perceive themselves as having a health problem or to be ill to find an appropriate remedy[1].

Maternity Health Care seeking behavior is seeking the appropriate remedy of maternity health care services like Antenatal, delivery, and postnatal care[2]. Maternal health has been becoming a worldwide alarm because the lives of billions of women in reproductive age can be safeguarded through maternal health care services. Regardless of efforts that have been made to reinforce maternal health care services, maternal mortality is still high in most of the under developing countries [3]. The great number of maternal mortalities, particularly in under-developing nations has-been due to a low level of maternity healthcare-seeking behavior for instant in Ethiopia about one fourth (25%) 74.3% of women visited health facilities at least once for maternal service. Only 62, 28 and 17% of women in Ethiopia receive antenatally, delivery, and postnatal care from health professionals with a high maternal mortality ratio of 412/100,000 deaths yearly so this figure makes Ethiopia the major contributor to the global death of mothers[4].

The benefits of improving the healthcare-seeking behavior of mothers are tremendous, particularly, in settings where social services and public health resources are limited. ANC, Skilled delivery and PNC are a key component of reproductive healthcare which can help reduce maternal mortality by preventing pregnancies related deaths saving children's lives. It is a key to integrate maternal service in improving a wide range of health outcomes for women and children. It is an opportunity to provide interventions for improving maternal nutrition and to encourage maternal immunization and future family planning use. Improving the healthcare-seeking behavior of women is important because they are economic drivers and their health is critical to long-term, sustainable economic development. Healthy mothers lead to healthy families and societies, strong health systems, and healthy economies[5].

Different factors are related to the utilization of maternal health care services. Generally, the associated factors can be categorized as socio-economic and demographic factors such as; educational status of the mother[6], maternal age occupation mothers knowledge of danger signs, marital status, women's decision-making power, birth order, religion, household income, husbands educational Status, accessibility factors and factors related with maternal health care services[7].

Mother's knowledge of danger signs and decision-making power were reported as significant determinants of care utilization[8] but efforts to improve women's health are hampered due to poor maternal health-seeking behavior. Finding the reason behind this behavior is worth doing to design interventions for better utilization. As the maternal health care seeking behavior is a complex phenomenon which can be influenced by geo-cultural settings, it needs a contextual thorough investigation.

Moreover, the inconsistency of findings of various researches about the relationship between maternal health care seeking behavior and associated factors necessitates this research[9]. Thus, this study aimed to assess the maternal health-seeking behavior and its associated factors among rural women of reproductive age in Kurmuk district, western Ethiopia.

1.2. Statement of the problem

Recently, maternity health-seeking behavior and their autonomy have emerged as a focal point of investigations and interventions around the world[8].

Globally women seek maternity care 86 % of ANC1, 62% ANC4 visit with skilled health personnel respectively. In regions with the highest rates of maternal mortality, such as Sub-Saharan Africa and South Asia, fewer women received at least four antenatal visits 52% and 46 %respectively[1]. Regarding institutional delivery about 22% of birth take place at home[3]. This translated into nearly 31 million unattended births worldwide. Coverage of skilled birth attendance across regions ranges from 99% in Eastern Europe and Central Asia and Western Europe to 52 % in West and Central Africa. The above problems were largely, responsible for the annual deaths of an estimated 303,000 mothers in 2015[10].

Similarly, 85 percent of women giving birth at home in Malawi and 70 percent of women giving birth at home in Zambia received no PNC at all, according to the most recent DHS country data[11, 12]. This problem also happened in Ethiopia, because more than 2 in 3 women (70%) report having at least one of the specified problems in accessing health care. Among these problems, getting money for advice or treatment was the leading issue (55%), followed by the distance to a health facility (50%), not wanting to go alone (42%), and getting permission to go for treatment 32%. Likewise EDHS 2016 illustrate that Pregnancy-related mortality ratio was 412 deaths per 100,000 live births which still the highest rang, 62% of women seek antenatal care for a skilled provider at least once, 26% of births are delivered in a health facility 28% of births are assisted by a skilled provider and 17% of women have PNC follow up[13].

Regionally according to Benishangul Gumuz regional health bureau 2009 HMIS report shows that 53 % of women seek ANC Care for a skilled provider at least once and 24% of births are delivered in a health facility, and 24% of women receive a postnatal checkup within 2 days of birth. Maternal deaths are caused by a wide range of complications in pregnancy, childbirth, or the postpartum period. Most of these complications develop because of the pregnancy itself, and some occur where pregnancy has aggravated an existing disease[14].

Very little analysis has been carried out to understand maternity healthcare-seeking behavior of the indigenous society in the Bertha community and most of the maternal mortality and home deliveries are often under-reported. This study aims to understand the antenatal, delivery, and postnatal services offered by providers and subsequent care-seeking behavior among Bertha (Benishangul) tribe indigenous community in Benishangul Gumuz Region kurmuk district in Ethiopia. There are no studies conducted in Benishangul Gumuz especially in Bertha indigenous community concerning ANC, delivery, and PNC seeking behavior except research conducted in 2012 on specific ANC utilization in Assosa district Assosa town considering only residence, ethnicity, education, and religion as influencing factor but this research looked at health-seeking behavior across religion, ethnicity, education, Social class and culture of rural Bertha community.

1.3. Review of Literature.

Universal health coverage is not possible without universal access, but the two are not the same[2]. This captures people's willingness to seek services. Acceptability is low when patients perceive services to be ineffective or when social and cultural factors such as language or the age, sex, ethnicity, or religion of the health provider discourage them from seeking services[2].

Antenatal Care seeking

Antenatal care refers to the regular medical and nursing care-seeking recommended for women during pregnancy[15].

Globally 86 percent of pregnant women seek antenatal care with skilled health personnel at least once, only three in five (62 percent) seek and receive at least four antenatal visits. In regions with the highest rates of maternal mortality, such as sub-Saharan Africa and South Asia, even fewer women seek at least four antenatal visits 52%and 46%, respectively[1].

Factors Affecting ANC seeking behavior

A survey conducted in rural Harmony in2015 and Kenya from 1900--2010 show that Women who had a behavior of seeking ANC visit, higher education and knowledge about pregnancy danger sign were more likely to seek institutional delivery as compared to their counterparts but the research of Ghana 2013 on maternal health-seeking behavior especially to increase uptake of ANC Some enabling factors like introduction of virtually free maternal health services under the delivery exemption policy has created new forms of health-seeking behavior among women[6, 16, 17].

Women who gave more (six and above) child were 89% less likely to seek ANC service as compared with who had one. Women who knew pregnancy complications were by far utilized ANC services as compared to the counter parts[6].

Similar factor analysis conducted in Malawi 2013 and research conducted in Ghana 2016 on the determinant of health-seeking behavior during pregnancy identified factors that influence health care seeking behavior in pregnancy included location, time, obstetric condition, and socio-cultural determinant for low ANC utilization.

Results show that, age was marginally related to the number of visits, with those between 11-20 and 26-45 having more visits than those between 20-25 years. Parity was significantly inversely associated with the number of visits to those with first pregnancy and was more likely to have visited ANC for more than 4 times compared to those who have ever had pregnancies[12, 17]. But research conducted in Benin argued that education level, in general, did not appear to influence the number of visits to the ANC clinic but those with secondary level education were more like to make more visits to ANC. There were no statistical differences in the utilization of ANC between the categories of gravidity marital status, tribe, mother's or father's occupation, and religion[15].

The result on factor affecting ANC seeking behavior in Benishangul Gumuz 2012 was same with that of rural Haromaya like the place of residence, ethnicity, maternal education, religion, availability of TTBA, availability of health professional providing delivery service, knowledge on (ANC and delivery service), Attitude towards (ANC, delivery service, PNC, and maternal health service), availability of delivery service, availability of transportation service and distance of health facility showed significant association with ANC service seeking[18].

Skilled delivery care-seeking

Safe delivery is the most important feature of maternity health care. Adequate maternal care is required during the antenatal and post-natal period. Slight negligence at this period can cause death or lifelong distress for both mother and child. Globally in 2016, about one in five delivering mothers were not seeking institutional delivery this translated into nearly 31 million delivering mothers do not seek institutional delivery care worldwide. Coverage of mothers seeking skilled birth attendance across regions ranges from 99 percent in Eastern Europe and Central Asia and Western Europe to 52 percent in West and Central Africa[2]. The mixed study conducted in Bangladesh Dhaka 2014 on health Care Seeking Behavior during Delivery Time among the Women of Slums in Dhaka the result show that fifty percent of adolescent women (aged less than 19 years) and 57% young adult women (20-29 years) delivered their babies at delivery centers and hospitals compared to only 38% of elderly women aged 30 years and above.

Conversely, proportionately more of the elderly women delivered at home compared to younger women. 58% of older women compared to (25% to 28%) of younger women. As expected women's level of education is positively related to institutional delivery[14]. It is found that as the level of education rises, delivery in health facilities also rises likewise study conducted in rural Haromaya show only or few of less than one–third, 28.7% of women were seeking institutional delivery with skilled health professionals but Research conducted on and Health Care Seeking behavior in Bangladesh found regional variation, wealth index, Mother's education, Mothers who exposed to television and Women's economic decision making autonomy to be significant for receiving institutional delivery[6, 19].

Factors Affecting Skill delivery seeking behavior

According to a qualitative study conducted in Zimbabwe 2016 on barriers towards delivery services while free of charge found that indirect costs, primarily from transport and medication, were strong barriers to care-seeking among pregnant women[11]. The same study on associated factors regarding institutional delivery in rural Haromaya 2015, religion, educational status of the women, birth order, knowledge of pregnancy complications, and ANC visit showed a significant association. Women Muslim religion followers were 80% less likely to seek institutional delivery as compared with their counter religion follower's women[6].

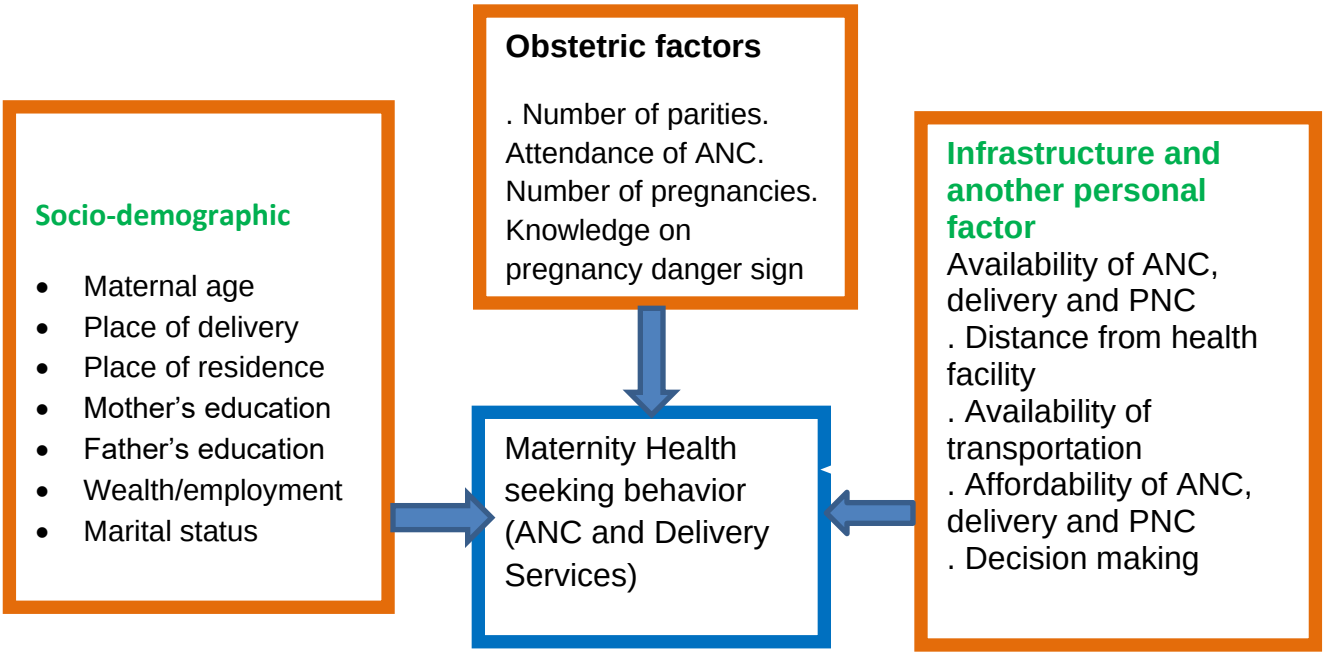

Figure 1 Conceptual framework for assessing maternity healthcare-seeking behavior among reproductive age mothers in Kurmuk district Feb-March 2018

1.4. Justification of the study

Previous few studies undertaken in Benishangul Gumuz did not address some maternity health-seeking behavior. Also, there is a difference in the study setting and time between other studies done and this study. This study site is also interesting because the desired outcome is very low compared with sister districts in the Bertha zone. The study output will contribute its part to the policymakers, to the health care providers and the beneficiaries (women of Reproductive age) at large

2 Objectives

2.1. General objectives.

The general objective of this study is to assess the maternity health-seeking behavior among reproductive-age women (15-49) in Kurmuk district, Benishangul Gumuz region, western Ethiopia, February 2018.

2.2. Specific objectives

1. To determine the magnitude of maternity healthcare-seeking behavior among reproductive-age women (15-49) in Kurmuk district, Benishangul Gumuz region, western Ethiopia, Feb-March 2018.

2. To identify factors associated with maternity health-seeking behavior among reproductive-age women (15-49) in Kurmuk district, Benishangul Gumuz region, western Ethiopia, February 2018.

3. Method and materials

3.1. Study area and period

The study has been carried out in the rural part of Kurmuk district, Assosa Zone, Benishangul Gumuz region, western Ethiopia. The district is found 782 km west of Addis Ababa, the capital of Ethiopia. According to the information obtained from the district health office, the total populations of the district 22994 of whom 11688 are men, 11305 are female. Form them 5530 are in the age group of 15-49 years. There are 14 rural and 2 semi-urban kebeles in the district. Among all the residents, 2604 of them live in semi-urban whereas the remaining 20383 are residing in the rural part of the district. There are one health center sand 11 health posts providing health care services.

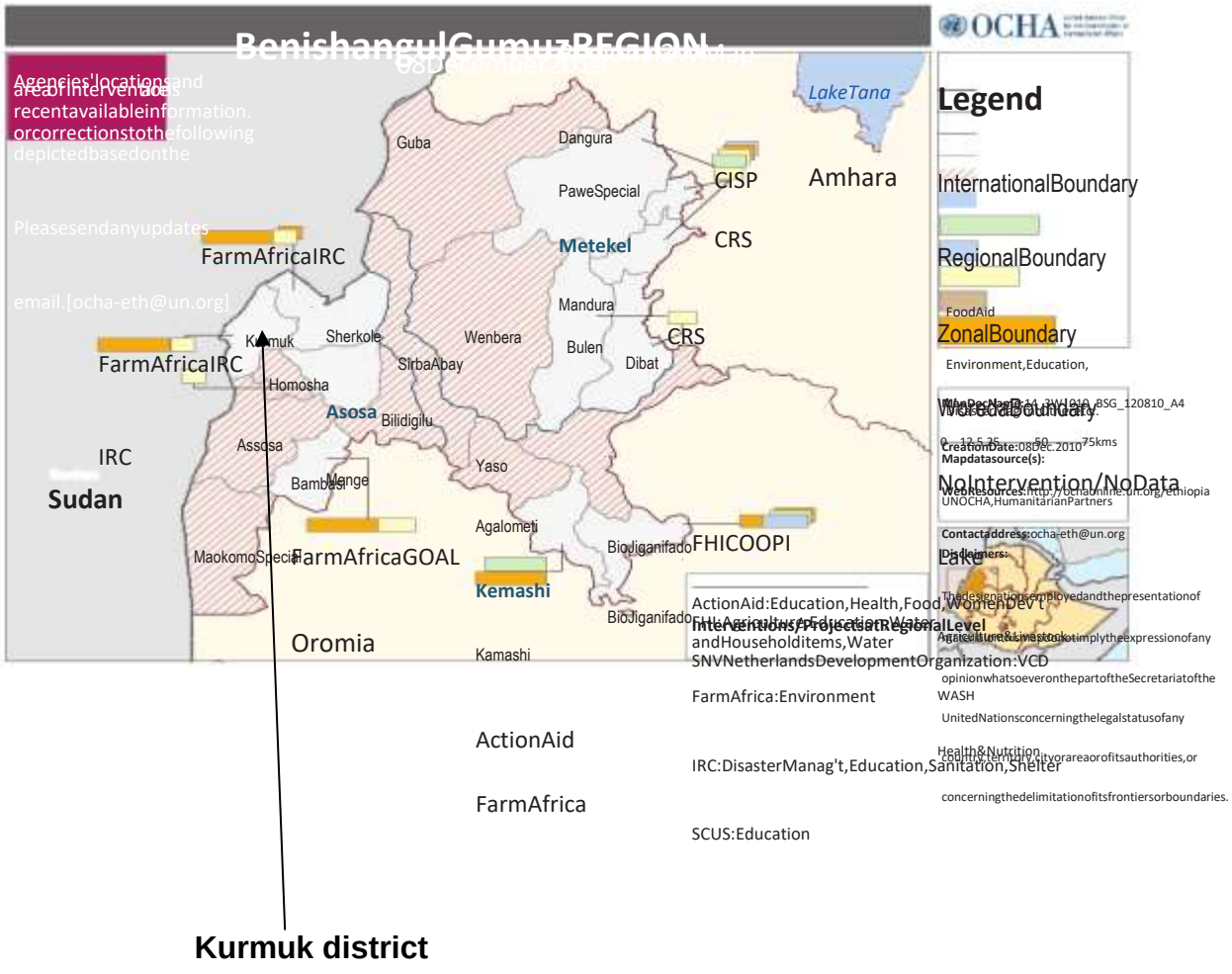

Figure 2: Illustration Map of Benishangul Gumuz

3.2. Study Design and period

A community-based cross-sectional study was carried out from Feb-March 2018 for data collection.

3.3. Study Variables

Outcome variable: -was maternity healthcare-seeking behavior of (ANC and Institutional delivery).

Independent-variable: -Socio-demographic, obstetric, Infrastructure, and other Personal factors, health system factors, and Health worker's behavior.

3.4. Source population:

All reproductive age women who gave at least one birth in rural villages of Kurmuk district.

3.5. Study population

The study population was all eligible reproductive age group who gave birth in the last one years and residing in the rural villages of Kurmuk district for at least 6 months.

3.6. Inclusion criteria

All reproductive age women who gave birth in the last one year irrespective of their alive child at the time of study and residing in study district for at least 6 months were included in the study

3.7. Excluded criteria

Those who were critically ill could not talk or listen and mothers who gave birth beyond one year were excluded from the study.

3.8. Sampling size determination and sampling procedure

The sample size of this study was calculated using a formula for estimating a single population proportion. Taking a proportion of maternal health-seeking behavior p=79 % [6]. The maximum allowable error (4%), n=398, adding a non-response rate of 10%, and 1.5 design effect the final sample size was 656. This figure was calculated as follows

$n = ((Z\alpha/2)2Xpq/d2) +10\%$At CI 95%, $Z\alpha/2$

=1.96 and maximum error 4% in this d was (0.04)2

p = Taking proportion of MHSB p=79% [6]. This is 0.79

q= will be 1-p then which equals to 0.21 is

When it was calculated ((1.96)2(0.79x 0.21)/(0.04)) = 398 x1.1 non-response rate x1.5 design effect =656

Finally using population correction formula

$$n_f = \frac{n_0}{1 + \frac{n_0}{N}}$$

656
1+656/5530 =596 participants

Table 1. Factor calculation for assessing maternity healthcare-seeking behavior among reproductive age mothers in Kurmuk district Feb-March 2018

Data from Women's Autonomy and Reproductive Healthcare-Seeking Behavior in Ethiopia 2013							
Variables	Power	Exposed to	%outcom	%outcom e in	OR	Design effect	Sample size
ANC seeking							
Educational status	80	1	21	39	2.4	1	124
Occupational status	80	1	29.3	48.1	2.23	1	130
Birth order	80	1	13.6	41.8	4.56	1	92
Institutional delivery seeking							
Religion	80	1	27.6	46.5	2.02	1	114
Place of residence	80	1	12.8	42.6	0.19	1	72
ANC visit	80	1	18.3	46.9	0.25	1	102

3.9. Sampling techniques

The study had recruited a multi-stage sampling method to select the study participants. From 16 kebeles in the district 5 of them were selected by lottery method. The sample size was proportionally allocated to the size of each selected kebeles. The sampling frame of households was obtained from each kebeles EPI registration book. A household

in selected kebeles was selected using a simple random sampling technique. Closed households during data collection were revisited three times at different times. The next nearest households were included for unsuccessful visits. The eligible women were randomly selected when more than one woman is in a single household.

The Proportionate allocation was done by the formula: $n_i = \frac{n}{N} \times N_i$

Where-

n =total sample size to be selected

N =total population

N_i = total population of each stratum

n_i =sample size from each stratum

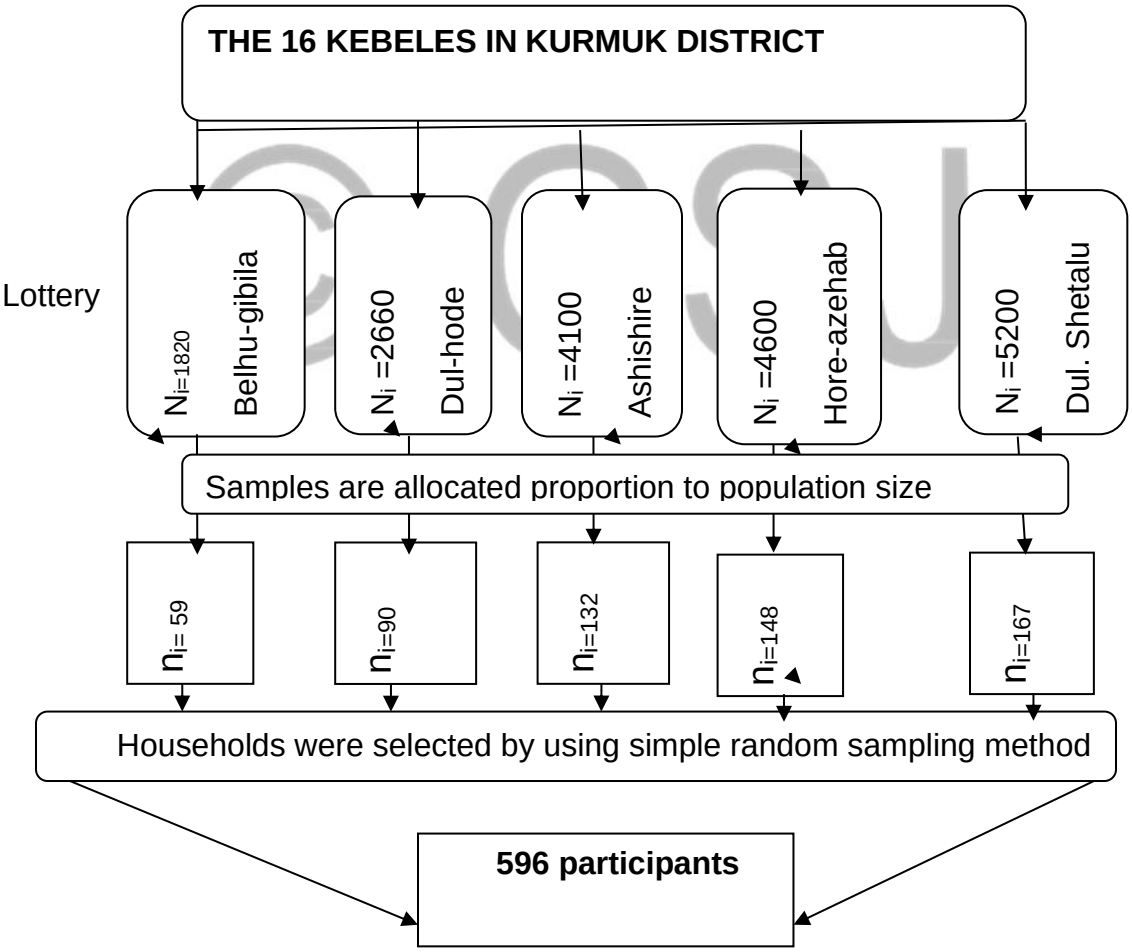

Figure 3 . schematic presentation for assessing maternity healthcare-seeking behavior among reproductive age mothers in Kurmuk district Feb-March 2018

3.10. Operational definition

Maternity health care seeking behavior: Health or care-seeking behavior has been defined as any action undertaken by individuals who perceive they have a health problem or to be ill for finding an appropriate remedy. This is based on an explanatory model that represents a coherent picture of specific cultural

Features that affect people's health behavior. The explanatory model of a particular illness consists of signs and symptoms by which the illness is recognized; presumed cause of the illness and prognosis established. These are in turn interpreted by individuals and or significant others and on labeling the problem, proceed to address it appropriately through recommended therapies

Antenatal care- Care provided to improve the health of the pregnant woman and her baby by monitoring the progress of the pregnancy and detecting and managing any problems. In this study, antenatal care is considered as the immunization of Tetanus toxin, measuring the weight of the pregnant mother, risk assessment, assessment of pregnancy status, iron tablet supply, breastfeeding advice, care-seeking behavior during pregnancy and delivery period, advice on nutrition, health education and safe delivery

Institutional delivery-delivery in public or private hospitals, clinics, and health centers, attended by skilled attendants (midwifery, nurses, doctors, and health officers).

Postnatal care: PNC involves the care of the mother and baby for 40 days following birth and provides the opportunity to assess the mother for any medical, mental, emotional and social issues, and early assessment of risk factors and physical problems in the baby. In this study, postnatal care is considered as the service after delivery on breastfeeding, measuring the weight of baby, vaccination of baby, treatment for childhood diseases, and advice of contraceptive use.

3.11. Data collection method

A structured and pretested questionnaire was used to collect the data via face to face interview technique. The questionnaire adopted after reviewing different literature. The questionnaire prepared in English and translated to the Amharic but the question was forwarded for those who can’t read by the bertha language which is underdeveloped yet, and then to be checked by other individuals for consistency. Ten diploma holder nurses

and those who are fluent in speaking Bertha language was recruited and supervised by two **B**.Sc. nurses and the investigator has been involved in supervision during data collection

3.12. Data Quality Control

To ensure the quality of the data training was given to the data collectors and supervisors on basic skills, ways of obtaining consents, and objectives of the study by the principal invigilator. The pretest was done for 5% of the sample size in unselected kebeles. The definition of concepts and terms was made clear with a common language of the district to avoid ambiguity. The principal investigator has done on-site supervision during the data collection period and reviews all filled questionnaires during the next morning of each data collection to identify incomplete and incoherent responses.

3.13. Data processing and analysis

Each completed questionnaire was checked for completeness before data entry. Then the data was coded and entered into a computer by using EPI Info version 7 and then data was exported to SPSS version 20 for analysis. Descriptive statistics were carried out to describe the study participants according to different characteristics. Binary logistic regression models were fitted to each; ANC, place of delivery, and PNC, (P-value<0.25) were entered into multiple logistic regression using 'Enter' to identify the association of factors. Odds ratios (OR) with 95% confidence intervals were calculated. Statistical significance was accepted at the 5% level ($p<0.05$). Results were summarized and presented by tables,

5. Ethical clearance

The research proposal for this study was submitted to the Regional research ethical committee. The ethical board of the University of Gondar has approved the proposal and they provided the research with an introduction letter which was introduced to the local administrative representatives. The study was carried out after getting permission from the ethical clearance committee of the University of Gondar College of medicine and health Science Institute of Public health.

Then, data was collected after getting written consent from Benishangul Gumuz's health Beau. Informed consent was obtained from all study participants. Each respondent was informed about the objective of the study and privacy during the interview was insured.

6. Dissemination of the research finding.

The findings of the study were submitted to the University of Gondar College of medicine and health science institute of public health. It was also communicated to the Assosa Zonal Health Department, Benishangul Gumuz regional health Beau. Efforts will be made to publish the finding in peer-reviewed journals.

4. Result

Socio-economic and demographic characteristics of women

From a total sample of 596 respondents, the response rate of the study was 100 percent. About two hundred fifty-six of respondents were in the range of age25-35(43 %) and all of the respondents (five hundred ninety-six) were Muslim (100%) and five hundred ninety-four were Berta/Benishangul/ ethnic group (99.7%). About three hundred forty-one (57.2%) of respondents were unable to read and write and four hundred seventy-nine were unemployed (80.4%). The majority of respondents 590(99%) were married. Almost all of the respondents were living in rural 580(97.3).

Regarding the monthly income of households, the majority of respondents 456(76.5%) had household monthly income less than1620 ETB per month in Table2.

Table 2: Socio-economic and demographic characteristics of the mother in reproductive age in Kurmuk district, west Ethiopia Feb-March 2018

Variable	Number	Percent
Age		
1-24	207	34.7
25-35	256	43.0
>35	133	22.3
Religion		
Muslim	596	100
Ethnicity		
Berta/Benishangul	594	99.7
Other	2	0.3
Marital status		
Married	590	99.0
Unmarried	5	.8
Widowed	1	.2

Residence		
urban	16	2.7
rural	580	97.3
Educational status of mother		
able to read and write	255	42.8
Unable to read and write	341	57.2
Occupation of mother		
un employee	479	80.4
Employee	117	19,6
Household income in ETB		
<1620	456	23.4
>=1620	140	76.6

Obstetric factors

Three hundred twenty-one (54%) of women visited health facilities at least once for antenatal care. Only eighty-two (13.8%) had four and above antenatal care visits. Only 203 (34%) of women had attended institutional delivery with skilled health professionals. Moreover, 200 (33.6%) of women utilized PNC service.

Infrastructure factors

Four hundred thirty-three (72.7%) of the respondents live out of 10 Kilometers radius from the health facility and 491(82.4%) of respondents get transportation to health facilities. Only one fourth 148(24.8%) of mothers decide on their own to seek health.

Table 3: Infrastructure and other personal factors among mothers in reproductive age in Kurmuk district Feb-March 2018.

Variables	Number	Percent
ANC visit		
Yes	321	54
No	275	46
ANC frequency		
Not utilized	275	46
1	254	42.6
2-4	43	7.2
>4	24	4.2
Delivery service		
Institution	203	34
Home	393	66
PNC visit		
No	396	66.4
Yes	200	33.6
Transport availability		
Yes	491	82.4
No	105	17.6
Distance from the health facility		

less than 10 KM	163	27.3
>10KM	433	72.7
Decision making for service		
my self	148	24.8
husband and relative	373	62.6
another family	75	12.6

Factors associated with maternity health care seeking behavior

Three different models were fitted to assess maternity health care service utilization. The first model was fitted to assess factors associated with antenatal care service seeking behavior. In binary logistic regression household income, mother`s occupation, mother`s education, transport availability, and treatment preference place were significant at P-value less than 0.25 and were candidates to be fitted to multivariable-logistic regression. In multivariable logistic regression mother`s education and mother`s occupation was significantly associated with antenatal care service seeking behavior. But household income, transport availability, and treatment preference place were not significant after the multivariable-logistic regression was fitted.

Women who could write and read were about 3.5 [AOR: 3.512, 95%CI: (2.45-5.02)] more likely to seek antenatal care services than women who were unable to read and write. Unemployed women were two times [AOR: 2.01, 95%CI: (1.21-3.33)] more likely to seek antenatal care service compared to employed women in Table *4.*

Table 4: Factors associated with antenatal care utilization among mothers in reproductive age in Kurmuk District, western Ethiopia Feb- March 2018

Explanatory variables	ANC		COR	AOR
	No	Yes		
Household income				
<1620	228	228	1	1
>=1620	53	87	0.609(0.42-0.94)	0.905(0.78-1.86)
Age of mother				
1-24	54	153	0.08(0.049-1.208)	0.92(0.99-1.93)
25-35	118	138	0.18(0.020-1.80)	0.2(0.32-1.56)
>35	109	24	1	1
Education of mother				
Able to read and write	153	102	2.56(2.76-5.54) **	3.512(2.45-5.02) **
unable to read and write	128	213	1	1
Transport availability				
yes	60	45	1.62(0.712-1.7)	1.23(0.74-2.023)
No	221	270	1	1

mother occupation				
un-employed	240	239	1.86(1.66-4.34)	2.01(1.21-3.33) **
employed	41	76	1	1
Treatment preference Place				
traditional healing	133	286	0.09(0.56-1.15)	0.071(0.47-1.07)
health institution	148	29	1	1

The second model has fitted for institutional delivery accordingly; household monthly income, mother occupation, treatment preference place transport availability, and distance to health facility were candidates based on their P-value less than 0.25 and fitted to multi-logistic regression. Of these factors' treatment preference place and distance to a health facility and household income showed a significant association. But mother occupation and transport availability were not statistically significant after the multi-logistic regression was fitted.

A woman who does have monthly income less than 1620 ETB is 88% [AOR: 0.12, 95% CI (0.35-0.86)] less likely to give birth at health institution compared with women who have monthly income more than 1620 ETB. Women who live within a radius of less than ten KM had nearly five times [AOR: 4.94, 95%CI, (3.324-7.51)] more likely to give birth in health institutions compared to those women live 10 KM far apart from health institution. Women who prefer to seek service from traditional healers had about 83% [AOR: 0.166, 95%CI :(0.095-0.29) less likely to attend institutional delivery compared with those seeking service from health institution Table *5.*

Explanatory variables	Institutional		COR	AOR
	Yes	No		
Household income				
<1620	141	315	0.56(0.20-0.92) **	0.12(0.35-0.86) **
>=1621	62	78	1	1
Transport availability				
No	30	75	0.74(0.71-1.799)	0.28(0.72-2.27)
Yes	173	318	1	1
Mother occupation				
Unemployed	174	305	1	1

Employee	29	88	0.58(0.36-0.914) *	0.784(0.47-1.37)
Education of mother				
Able to read and write	97	158	1	1
un able to read and write	106	235	0.73(0.22-6.60)	0.10(0.23-6.21)
Age of the mother				
1-24	63	144	4.4(1.13-5.34)	0.023(0.012-1.23)
25-35	128	128	10.0(0.23-11.70)	0.012(0.011-12.145)
>35	12	121	1	1
distance to health facility				
<10 KM	101	62	5.28(3.59-7.78) **	4.94(3.324-7.51) **
>=10KM	102	331	1	1
Treatment preference place				
traditional healing	183	236	6.08(0.099-9.27)	1.66(0.095-1.29)
health institution.	20	157	1	1

Table 5: Table 6: Factors associated with institutional delivery care among mothers in reproductive in Kurmuk District, western Ethiopia, and Feb-March 201**8**

Discussion

This research found that maternal health care service utilization in the rural setting is low. According to the results of this study, the number of women who visited health facilities at least once during their recent pregnancy for antenatal care was 54% 95% CI (49.7-57.7) and only 13.8%, 95% CI: (11.1-16.6) of the women visited health facilities at least 4 times for antenatal care service utilization. This study is similar with the study conducted in rural Haromaya ANC, ID, and PNC were 64%,28% and 22%respectivly [6] and also in line with EDHS 2016 which illustrate that Pregnancy-related mortality ratio was 412 deaths per 100,000 live births which still the highest rang, 62% of women seek antenatal care for a skilled provider at least once, 26% of births are delivered in a health facility 28% of births are assisted by a skilled provider 17% of women have PNC follow up[13].

However, compared to other countries the ANC utilization in the study area was low. Nearly 78% of respondents received ANC more than four times in India [22] and study done in two Africa countries; Kenya 35%and Malawi 37% were higher than these findings [12, 23, 24]. Regarding the timing of the first ANC visit, our result has shown that one third (30.7.1%) of women went to health posts for ANC in the second trimester of

their pregnancy whereas, about one fourth (25.8%) of them visited health facility during the first trimester. This was higher than the previous study done in the Assosa Zone of west Ethiopia that reports as 10.4 visits in the 1st trimester [18].

The current study reported that participants who had attended institutional delivery were 34% CI :(29.4.-37.1) which were slightly higher than EDHS 2016. The study result is consistent with similar studies done in Ethiopia[6]. This result is also slightly higher than EDHS 2016 which stated that 28% of births are assisted by a skilled provider in 2016.

The result showed postnatal health care service in the study setting was 33.6% CI (29.9-37.1) which was also very low. This was lower than the study done in Dembecha district, Northwest Ethiopia 34% [25]. This could be explained in three reasons, low institutional delivery in the study setting, low antenatal health coverage, lack of knowledge about the importance of the service, due to distance and lack of knowledge about the importance of the service.

Regarding factors associated with maternity health-seeking behavior, our study found that education and occupation of women contributed to their antenatal health care service seeking behavior in maternal health care service. women who able to read and write were more likely to seek antenatal health care supported by[7, 26] illustrating that, education is likely to enhance women's autonomy and they are near to information and would have good knowledge. This similarity maybe because of the similarity in the socio-economic level.

Mother occupation was found significantly associated with maternal health-seeking behavior of women, especially antenatal care service. It was investigated that utilization of antenatal care and postnatal care service declined in the case of Employed women which is in line with [6] Specified that women who had employees may have no time to attend postnatal care service which can be expressed as time constraints. This study differs from the study in Nepal and cross-sectional study in India on which antenatal care utilization was influenced by mother occupation rather than a mother with the occupation are more utilized antenatal care. The explanation of the difference may be due to cultural differences, socioeconomic status, geographical factors, heterogeneity of study population [21, 22].

Women with income less than 1620 ETB were less likely to give birth in health institutions which is line with the study conducted [14] in Dhaka. The possible explanation to this result is when women became economically empowered to decide about themselves, develop self-confidence and this self-confidence made them seek institutional delivery more likely than other mothers who are not economically empowered. But in contrary to this finding in another study in Kenya, there was no significant difference between the wealth score among mothers who delivered at home and those who delivered in health institutions [27]. Women those live in distance from health facility within the nearest distance and accessing health service within a short time could give birth in a health institution. The possible explanation is that accessibility of health services is an important determinant of the utilization of maternal health care services in developing countries including Ethiopia. This is supported by a study conducted in Assosa zone and Dembecha zone [18, 25]

But mothers who seek service and help from traditional healers were less likely to give birth in the health facility. This finding agrees with previous studies done by[24] and [16, 28, 29]. This similarity may be because of nearly the same socioeconomic level and underdevelopment of modern medicine among sub-Saharan African countries. It is understood that household income and health service accessibility were likely to enhance women's service utilization and they are more attracted and empowered when they are economically confident on their own and when health service accessibility was improved.

4.1. Limitations

This study may have been prone to recall bias, and it does not show temporality. This study didn't consider the role of the husband for maternal health service.

4.2. Conclusion

Overall, maternal health care service seeking was found to be low in the study setting. Mother education and occupation were significantly associated with ANC service seeking,

Household monthly income, distance from a health facility, and treatment preference place were significantly associated with institutional delivery.

4.3. Recommendation

We recommend

1 ministry of health

- To work closely and to recognize traditional healers
- Continues and sustainable awareness creation on maternity healthcare-seeking.
- Health coverage and service accessibility
- Working continuously effectively and collaboratively with stakeholder on women education and women income generation activity

2 regional health Beau

- Fee waves all maternal service including transportation
- Working with regional education Beau and women affair in improving maternal care service.
- Redesigning women affirmative action in women recruitment giving attention and focus on health service pocket and hard to reach areas

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