QUALITY OF ANTENATAL CARE AT JIMMA MEDICAL CENTER SOUTH WEST ETHIOPIA

Fanta Asefa, MD[1] , Gudina Fekadu, MD [2], Abonesh Taye, MSc[3]

ABSTRACT

BACKGROUND: Globally complications during pregnancy, childbirth and the post-natal period are the leading causes of death and disability among women of reproductive age. The causes of these deaths are mostly preventable through proper care during pregnancy. Despite adoption of this model by Ethiopia, there is low utilization of antenatal care and skilled personnel at delivery in addition to poor quality of antenatal care which result in high maternal and perinatal mortality rate. The main objective of this study was to assess quality of antenatal care and factors associated with satisfaction of mothers in Jimma Medical center.

METHODS: Hospital based cross sectional study was conducted among 358 mothers attending antenatal care in Jimma University Medical center, from April 01/2018 to May 31/2018. Systematic random sampling method with k-interval was used to trace the study participants.

RESULT: The mean age of study participant was 27.8 ±4.1. Three-fourth of the study participant-mothers started ANC visit after 16 weeks of gestational age. The study also showed that overall satisfaction of client was 58.1%. The likelihood of satisfaction from antenatal care service was higher among clients who started antenatal care visit before 16 weeks [AOR = 1.76 (95%CI =1.04-2.99)], routine investigation was done [AOR =6.1 (95% CI= 2.54-14.63)] and respectful [AOR= 2.15 (95% CI= 1.18-3.9)] are factors associated with quality of ANC.

CONCLUSION: This study showed that gestational age at start of antenatal care, routine investigation done, respectful, privacy and waiting time were independent predictors of client satisfaction.

KEYWORD: Quality antenatal care, satisfaction, Jimma medical center, Ethiopia

1 Department of Obstetrics and Gynaecology, Faculty of Medical Science, Jimma University, Jimma, Ethiopia

2 Dambidolo Hospital, Wollega, Ethiopia

3 Department of Nutrition and Dietetics, Faculty of Public Health, Jimma University, Jimma, Ethipoia

INTRODUCTION

Antenatal care (ANC) is the care provided by skilled health care professionals to pregnant women in order to ensure best health conditions for both mother and baby during pregnancy[1]. ANC is one of the central interventions for improving pregnant mother's outcome[2]. Evidences indicate that ANC services allow early recognition of pregnancy related risks and complications; and make certain access of services[3]. Visiting health facilities for ANC is the milestone for pregnant women in order to get advice, support[4] and that being guide to an increased utilization of emergency care services[5,6].

Maternal mortality is unacceptably high according to different data worldwide. The vast majority of these deaths (94%) occurred in low-resource settings, and most could have been prevented using basic interventions with low cost. All women need access to high quality care in pregnancy, and during and after childbirth. Maternal health and newborn health are closely linked[7]. Women die as a result of complications during and following pregnancy and childbirth. Most of these complications develop during pregnancy and are preventable or treatable. The major complications that account for nearly 75% of all maternal deaths are severe bleeding , infections (usually after childbirth), pre-eclampsia and eclampsia and unsafe abortion[8].

Poor women in remote areas are the least likely to receive adequate health care. This is especially true for regions with low numbers of skilled health workers, such as sub-Saharan Africa and South Asia. The latest available evidence suggest that in most high income and upper middle income countries, more than 90% of all births benefit from the presence of a trained midwife, doctor or nurse. The main factors that prevent women from receiving or seeking care during pregnancy and childbirth are poverty distance to facilities, lack of information, inadequate and poor quality services, cultural beliefs and practices. To improve maternal health, barriers that limit access to quality maternal health services must be identified and addressed at both health system and societal levels[9].

One of the key prime concerns of World Health Organization (WHO) is improving maternal health. The strategies includes addressing inequalities in access to and quality of reproductive, maternal, and newborn health care services; addressing all causes of maternal mortality, reproductive and maternal morbidities, and related disabilities; strengthening health systems to collect high quality data in order to respond to the needs and priorities of women and girls ensuring accountability[10]. WHO and working groups builds on the momentum generated by MDG 5 the Sustainable Development Goals (SDGs) establish a transformative new agenda for maternal health towards ending preventable maternal mortality; target 3.1 of SDG 3 is to reduce the global MMR to less than 70 per 100 000 live births by 2030[11]. The approximate global lifetime risk of a maternal death fell considerably from 1 in 73 to 1 in 180. Developing regions account for approximately 99% global maternal deaths in 2015.From 2013 report, Ethiopia did one among ten countries comprise 58% of the global maternal deaths with 420 deaths per 100,000 live births[11]. Maternal mortality rate among women age 15-49 is 1.14 maternal deaths per 1,000 woman-years of exposure. This rate is 15% lower than what is reported before 6 years[12].

Estimated pregnancy related mortality ratio (PRM) is 412 deaths per 100,000 live births according to EDHS. Thus, for every 1,000 live births in Ethiopia during the 7 years, approximately four women died during pregnancy, childbirth, or within 2 months after childbirth[13]. In Ethiopia the average annual decline of maternal mortality rate was 5% from 1990 to 2013. This figure was below the least expected 5.5% to achieve the targeted 75% decline between 1990 and 2015[11]. It is estimated that more than 40% of all pregnant women were not receiving early antenatal care in 2013[14].

WHO reports 83% of pregnant women received ANC at least once in the period 2007–2014 globally. However,

in the same report 64% had the recommended four or more ANC visits. Which suggest that large expansions in antenatal care coverage are still needed. In addition, despite increasing coverage of delivery by a skilled birth attendant both globally and in several regions, coverage is still only 51%[15].

Measuring the components of antenatal care is essential for assessing the quality of the services. Most of clients don't get information on about the progress, complication, danger signs, plan for complication & birth and other care information. Even low range information provision also has a variation on women's background characteristic[12,16].

Reducing maternal mortality crucially depends upon ensuring that women have access to quality care before, during and after childbirth. Necessary inputs for ANC service have a great impact on the service quality. Evidences suggest that there was lack of skilled personnel and necessary equipment supplies and drugs in most health facilities[12,17].

However, little is known about the quality of ANC service provided. Several studies conducted in Ethiopia investigated factors affecting ANC and they are conducted in primary health care[18-20]. This study attempted to address both perspective of quality care (technical and perceived) which is not labeled well in the study area.

METHODS

Study area and period:

Institution based cross sectional study was conducted among mothers attending antenatal care in Jimma Medical center (JMC), from April 01/2018 to May 31/2018. The center is one of the oldest public hospitals in the country located in Jimma town Oromia Regional State, Ethiopia. ANC service is provided five working days and on average 30-40 clients per day was seen in a facility.

Source and study population: The source population was all pregnant women attending ANC service and Health care providers who were working in maternal and child health Unit of JMC. The study populations were selected pregnant women attending ANC and service providers.

Sampling procedure and sample size: A total of 358 sample size was calculated by using single population proportion formula with an expected quality of the service 69.5% among pregnant women (21) with 5% margin of error 95% confidence level and adding 10% non-response rate. Systematic random sampling technique was used. On average of 35 mothers visit the center for ANC and there was 44 days for data collection. Every day minimum of 8 clients was interviewed to achieve the expected sample size with k interval of 4. Thirty-two health care providers were observed while they were examining pregnant women. Each health care provider was observed on five clients. Totally 160 clients were observed.

Data collection Methods: Data were collected by 10 trained nurses and General practitioners using pre tested semi-structured interviewer administered questionnaires. Checklist was used to observe service provision of health care providers. The principal investigator daily supervises the data collection process, check the completeness and consistence of data and hand over.

Data Analysis: Data were cleaned and checked for consistencies and completeness and entered in to EpiData version 4.1 and exported to SPSS version 20 for analysis. Descriptive statistics (mean ± SD, frequencies, proportions and tables) and binary logistic regression analysis was done.

Ethical consideration: Ethical clearance and permission were obtained from Research Review Board of Jimma University and offered to JMC and respective administrative officials. Information about the objective of the study, confidentiality and justice were explained for the participants during data collection. Informed verbal consent was obtained from each study participants.

RESULT:

A total of 358 participants were included in to this study with 100% response rate. The mean age of

study participant was 27.8 ±4.1. Majority (97.2%) of respondents were married and housewives account for (41.1%) followed by government employee (19.6%). (See table1).

Table 1: Socio-demographic and economic characteristics of pregnant women attending ANC at JMC, Jimma, South western Ethiopia, 2018.

Characteristics	Categories	Frequency	Percent
Age	<20	4	1.1
	20-34	327	91.3
	≥35	27	7.6
Marital status:	Married	340	97.2
	Divorced/ widowed/single	10	2. 8
Religion	Muslim	162	45.2
	Orthodox	131	36.6
	Protestant	59	16.5
	Other	6	1.7
Educational status of Mothers	No formal education	96	26.8
	Primary school	85	23.7
	Secondary school	103	28.8
	College/university	74	20.7
Ethnicity:	Oromo	146	40.8
	Amara	107	29.9
	Gurage	31	8.6
	Dawuro	20	5.6
	Kafa	33	9.2
	other**	21	5.9
Occupation	Housewife	147	41.1
	Government employee	70	19.6
	Merchant	62	17.3
	Daily laborer	27	7.5
	Unemployed	20	5.6
	Student	13	3.6
	Other***	19.6	5.3
Place of Residence:	Urban	267	74.6
`	Rural	91	25.4
Family monthly income:	<1039 birr	24	6.7
	1039-1662birr	27	7.5
	1662-3324 birr	153	42.7
	3324-10,803 birr	143	39.9
	≥10,803 birr	11	3.1

Majority (62.3%) of mother's gravid status ranges from two to four. About three fourth of the study participant mothers started ANC visit after 16 weeks of gestational age and more than half had visited two to three visits. More than half (61.5%) of pregnancies were planned (See table2). The study finding indicates that majority

Table 2: Obstetric Profile of Pregnant Women Attending ANC at JUMC, Jimma, Southwestern Ethiopia, 2018.

Characteristics	Categories	Frequency	Percent
Gravidity	1	99	27.7
	2-4	223	62.3
	≥5	36	10
Parity	Para 0	123	34.3
	Para 1-4	224	62.6
	Para ≥5	11	3.1
Gestational age at start of ANC	< 16 weeks	95	26.5
	≥16 weeks	263	73.5
Number of visit	1st visit	104	29.1
	2-3 visit	186	51.9
	≥4 visit	68	19
Pregnancy status	Not planned	138	38.5
	Planned	220	61.5

of the routine laboratory investigation recommended for pregnant mother per guide line was conducted even though sometimes there is service interruption. Nonetheless hematocrit, blood group, Rh factor and HIV are tests which are conducted at most in about (97%) while VDRL, HBSAg, and urine are carry for about (88%) of clients (see fig: 1). Regarding service
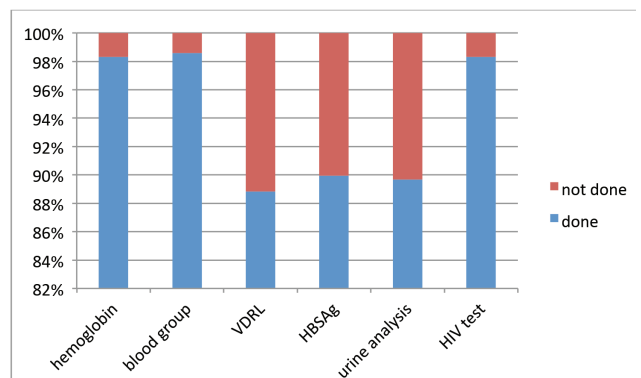

Figure 1: Routine investigation done for women attending ANC at JUMC, Jimma, Southwestern Ethiopia, 2018

provision for pregnant mother large number more than (90%) get examined by skilled personnel, but the health promotion part which focus on preventive care is not as to the standard only (36.5%) mothers told about birth preparedness. Forty six percent of mother heard about the way of communication in case of emergency for help (see table3).

Table 3: Service provided for pregnant women attending ANC at JUMC, Jimma, Southwestern Ethiopia, 2018.

Characteristics	Categories	Frequency	Percent
Examination	General examination	354	98.9
	Weight	346	96.6
	Blood pressure measurement	350	97.8
	General physical examination	351	98.0
	Obstetric examination	350`	97.8
Health information on:	Health promotion	138	38.5
	Danger sign	260	72.6
	Nutritional need	264	73.7
	Contraception and family planning	96	26.8
	Personal hygiene and general care	148	41.3
	Importance of rest	181	50.6
	STI and HIV/AIDS prevention	128	35.8
	Neonatal care	154	43.0
	Birth preparedness	130	36.3
	Importance of SBA	159	44.4
	Place of birth	194	54.2
	Items needed for the birth	207	57.8
	To save money	178	49.7
	A way to communicate with source of help	165	46.1
	Support during and after birth	144	40.2
	Blood donors in case of emergence	103	28.8

On the subject of infrastructure and service provision at ANC department there were five separate consultation rooms equipped with necessitate materials, but only two rooms has hand washing facility ,never the less there is no screening for clients (see table: 4).

Table 4: Provider Performance observations on ANC services on pregnant women attending ANC at JUMC, Jimma, Southwestern Ethiopia, 2018

ANC Observation checklist	Performed N (%)	Not performed N (%)
ECheck for the availability of washing facilities	47(29.4)	113(70.6)
Greets and calls client by her name and introduce her /himself	142(88.	7)18(11.3)
Reviews clinic record before starting the session	129(80.	6)31(19.4)
Determines weeks of gestation, & progress of pregnancy	149(93.1)	11(6.9)
Take pulse rate, blood pressure, temperature and Measured weight (vital sign)	154(96.3)	6(3.7)
Examine skin, conjunctivae, legs for edema and other	143(89.4)	17(10.6)
Palpates uterus and perform maneuvers to detect fetal position and situation	139(86.9)	21(13.1)
Routine investigation ordered	146(91.3)	14(9.7)
Informs mothers about her and fetus's health condition	160(100)	
Orients women for the place of delivery	84(52.5)	76(47.5)
Told the client about danger sign	146(91.3)	14(9.7)
Prescribed iron and folic acid	113(70.6)	47(29.4)
Advise on personal hygiene, rest and general care	73(45.6)	87(54.4)
Danger of unprescribed medicine during pregnancy	19(11.9)	141(88.1)
Advise on breast feeding, neonatal vaccination	23(14.4)	137(85.6)
Prepare and save money for emergency cases	88(55)	72(45)
Advise client family or partner on preparation for emergency	27(16.9)	133(83.1)
Communicate with client and gives her feedback	129(80.6)	31(19.4)
Record of findings (history, physical finding, laboratory)	146(91.2)	14(8.8)
Schedules the next appointment on women's convenience	160(100)	

About (83.2%) of pregnant mothers are convinced that they treated respectfully and majority (61.7%) of the clients waiting time was more than one hour. Sixty two percent of clients prefer to give birth in JMC because they believe the medical center is better equipped compared to other service provision areas (see table: 5).

Table 5: Interpersonal aspects of pregnant women attending ANC at JUMC, Jimma south western Ethiopia, may 2018.

Variable	Frequency (n=358)	Percent (%)
Respectful:		
No	60	16.8
Yes	298	83.2
Privacy:		
No	271	75.7
Yes	87	24.3
Confidential:		
No	116	32.4
Yes	242	67.6
Waiting time:		
≤60 minute	137	38.3
>60 minute	221	61.7
Mean waiting time	72.5 minutes	
Consultation time:		
≤ 30 minute	290	81
>30 minute	68	19
Time spent:		
Short	75	21
Appropriate	226	63.1
Very long	57	15.9
Payment for service:		
Expensive	9	2.5
Appropriate	15	4.2
Minimum	334	93.3
Preference of place of delivery:		
Here (JUMC)	311	86.9
Other health facility	47	13.1
Why Here (JUMC):		
It is near to my house	92	29.6
I like the health care provider	9	2.9
Health care providers provides good care	4	1.3
Better medical equipment's are Available	195	62.7
I usually give birth in this specific place	11	3.5
Explain the result of examination:		
No	46	12.8
Yes	312	87.2

The mean score of client satisfaction during ANC service received was 44.35.Over all 208(58.1%) of the respondents were satisfied or scored greater than or equal to the mean satisfaction score and the rest150 (41.9%) were dissatisfied (See table 6).

The finding of the study showed that clients who started ANC before 16wks were 1.8 times more Level of satisfaction on each item (n=358)

Table 6: Level of satisfaction of pregnant women attending ANC at JUMC, Jimma, Southwestern Ethiopia, 2018.

Item	Strongly unsatisfied	Unsatisfied	Uncertain	Satisfied	Strongly satisfied	Mean
Greeting in good and friendly way	5 (1.4)	33 (9.2)	40(11.2)	254(70.9)	26(7.3)	3.73
Waiting time was fair	3(0.8)	57(15.9)	40(11.2)	241(67.3)	17(4.7)	3.59
Waiting area was adequate & with seats	9(2.5)	59(16.5)	44(12.3)	240(67.0)	6(1.7)	3.49
Privacy maintained	12(3.4)	62(17.3)	73(20.4)	204(57.0)	7(2.0)	3.37
The provider was easy to understand	2(0.6)	17(4.7)	35(9.8)	294(82.1)	10(2.8)	3.82
The cost incurred for the service was fair	2(0.6)	11(3.1)	24(6.7)	254(70.9)	67(18.7)	4.04
Provide and perform the procedure with clean lines and sanitation	4(1.1)	37(10.3)	53(14.8)	257(71.8)	7(2.0)	3.63
Clinic has clean latrine & adequate water supply	5(1.4)	61(17.0)	69(19.3)	223(62.3)	-----	3.42
Feel you received full information about ANC	5(1.4)	15(4.2)	63(17.6)	272(76.0)	3(0.8)	3.71
Want to continue ANC visits in JMC	2(0.6)	12(3.4)	28(7.8)	313(87.4)	3(0.8)	3.85
Recommend your relatives & others to attend ANC in JMC	2(0.6)	8(2.2)	38(10.6)	308(86.0)	2(0.6)	3.84
How did you rate your satisfaction on service you get	2(0.6)	7(2.0)	33(9.2)	315(88.0)	1(0.3)	3.85

likely to be satisfied as compared to their counterparts [AOR=1.76(95%CI=1.04-2.99)]. Likewise clients whom routine investigation was done were 6.1 times more likely to be satisfied than for whom routine investigation was not done [AOR=6.1(95%CI=2.54- 14.63)]. Comparably clients who were treated respectfully were 2.1 times more likely to be satisfied compared to their counterparts (See table: 7).

Table 7: Multiple logistic regression model predicting the likelihood of being satisfaction of pregnant women attending ANC at JUMC, Jimma, Southwestern Ethiopia, 2018

Characteristics	Category	SatisfiedN (%)		COR (95%CI)	AOR (95%CI)
		No	Yes	1.602	1.76(1.04, 2.99)**
GA at start of ANC	< 16 weeks	32(8.9)	63(17.6)		
	≥16 weeks	118(33)	145(40.5)	1	1
Number of visit	1st visit	53(14.8)	51(14.2)	1	1
	2-3 visit	76(21.2)	110(30.7)	1.50	1.01(0.58,1.74)
	≥4 visi	21(5.9)	47(13.1)	2.33	1.58(0.77,3.26)
Routine investigation	Not done	26(7.3)	8(2.2)	1	1
	Done	124(34.6)	200(55.9)	5.24	6.1(2.54,14.63)**
Health information	No	101(28.2)	119(33.2)	1	1
	Yes	49(13.7)	89(24.9)	1.54	1.581(0.9,2.54)
Respectful	No	33(9.2)	27(7.5)	1	1
	Yes	117(32.7)	181(50.6)	1.89	2.15(1.18,3.90)**
Privacy	No	124(34.6)	149(41.6)	1	1
	Yes	26(7.3)	59(16.5)	1.89	1.84(1.07,3.18)**
Confidential	No	54(15.1)	62(17.3)	1	
	Yes	96(26.8)	146(40.8)	1.33	1.37(.84,2.25)
Waiting time	≤60 minute	45(12.6)	92(25.7)	1.85	2.05(1.28, 3.29)**
	>60 minute	105(29.3)	116(32.4)	1	1
Time spent	Short	30(8.4)	45(12.6)	1.55	1.80 (0.84, 3.86)
	Appropriate	91(25.4)	135(37.7)	1.54	1.50 (0.79,2.84)
	Very long	29(8.1)	28(7.8)	1	1

** Significant at <0.05 Hosmerlemshewu's goodness of fit test=0.986

DISCUSSION

This is one of the few studies to examine both technical and perceived quality of ANC in a low resource setting. We find that ANC quality is fair in terms of providing recommended ANC services. Most women receive basic ANC services such as blood pressure and urine test at least once during pregnancy much better than other settings[22-25], but there are pregnant mother who did not receiving these consistently at every visit as recommended by World Health Organization (WHO) guide line[26-27]. In the domain of communication the women are not given enough information during ANC about their care; for this reason they do not understand the purpose of examinations. In this study most women felt respected by their health care providers, which is inspiring. However, 16.8% women did not feel respected which indicates the presence of room for improvement[22,28]. Client satisfaction of antenatal care service in this study was found to be 58.1% which is almost consistent with the study from health center in Jimma town, but lower than studies conducted in Ambo town 89% and higher than study conducted in Bahirdar 52.3% and Demba Gofa woreda, Gamo Gofa Zone 21.5%[21,22,23,25], the disparities could be due to difference in the study setting. The very low figure reported from Gamo zone might be related with limitedness of service provider. Few clients report they don't feel their privacy is maintained because there are examination rooms missing screen, though

privacy maintaining is one component there is a need to give attention in provision of required equipment's in all examination room. The current study revealed that 8 in 10 clients were provided tetanus toxoid vaccine(TT vaccine) and Iron/ folic acid and only one fifth of clients got deworming medication which is in conflict with WHO and the National protocol recommendation of routine iron supplementation and TTV for all pregnant women[1,27].The finding was comparable with study done at Bahirdar and Chencha District, Gamo Gofa Zone[22,29], the possible justification for non-compliance could be lack of updated guidelines, standards and protocols on ANC service package. This study revealed that clients whose privacy was maintained were 1.8 times more satisfied than those whose privacy was not maintained. This finding was in line with study done in Bahirdar but lower than study done in Chencha District, Gamo Gofa Zone which showed that mothers whose privacy was kept were about two times and six times more likely to be satisfied than those whose privacy was not kept respectively[22,23,29] this might be explained by to fearfulness to discuss about their reproductive history in the presence of other person in the ANC room during consultation. The study find outs that guidelines, standards and protocols on ANC and other related care services were neither displayed nor present at the clinic, which may lead to non-compliance to procedures affecting pregnancy outcome.

This study also showed that the level of satisfaction of the study participants were significantly associated with their timing of first ANC visits for present pregnancy, clients who started ANC visit before 16 weeks were 1.8 times more likely to be satisfied as compared to those who started ANC visit after 16 weeks. Similarly study done in Bursa district, Sidama zone showed that those women who had started first visits of ANC after 4 months of pregnancy were less likely to be satisfied than who started before 4 months of pregnancy[30]. Clients who get respect from their care givers were 2 times more likely to be satisfied as compared to their counterpart. Similarly, study done in Kenya on factors

affecting ANC showed that greeting clients was found to be a strong determinant in satisfaction levels and indeed the findings indicated that the ANC women who were greeted were seven times more satisfied than those who were not greeted[31]. Clients whose waiting time was less than 60 minutes were 2 times more likely to be satisfied as compared to those who waiting times were greater than 60 minutes. The finding was similar with study done in Kenya were shorter waiting time was strongly associated with increased client's satisfaction[32].

CONCLUSION

The finding highlighted the need to improve ANC services utilizing National and WHO protocol recommendations on routine care provision. Some investigation show heterogeneous impression where some of the investigation done regularly while missed for some clients. Attention should be given to the supplying of adequate information about ANC, privacy keeping, minimizing waiting time and availing hand washing equipment and water for care providers in all room of ANC. The study demonstrated that long waiting time and non-availability of guide lines at the work site.

LIMITATION

Firstly, the measures of ANC quality are based on self-report recall bias might be the potential limitation. Since care providers are observed this may cause observation bias due to prior knowledge and using observation only to address well the technical aspect of quality of care is another potential limitation of the study. Despite these limitations, this study makes valuable contributions to existing research on ANC quality in Ethiopia and other low resource setting, special for Jimma Medical center.

CORRESPONDING AUTHOR:

Fanta Assefa, MD
Department of Obstetrics and Gynecology, Faculty of Medical Sciences, Jimma University, Jimma, Ethiopia
Email: fanta026@yahoo.com

REFERENCES

1. WHO-team. WHO recommendations on Antenatl care for a posative pregnancy experince. Trong 2016.

2. Bank TW. Trends in Maternal Mortality : 1990 to 2013. 2013;

3. Access O. Antenatal care in practice : an exploratory study in antenatal care clinics in the Kilombero Valley ,. 2011;1–11.

4. The Partnership for Maternal & Child Health. Opportunities for Africa ' s Newborns. 2010;250.

5. Ro M, Liljestrand J, Esse B. Priorities in emergency obstetric care in Bolivia maternal mortality and near-miss morbidity in metropolitan La Paz. 2009;1210–7.

6. WaldmannIII MLMSCFCLGCS, Gueller E. Severe Maternal Morbidity and Near Misses in a Regional Reference Hospital Morbidade Materna Grave e Near Misses em Hospital de Referência Regional. 2011;14(2):310–22.

7. Mortality T. TRENDS IN 2000 to 2017 TRENDS IN MATERNAL MORTALITY : 2000 TO 2017. 2017.

8. Say L, Chou D, Gemmill A, Tunçalp Ö, Moller A, Daniels J, và c.s. Global causes of maternal death : a WHO systematic analysis. 2006;323–33.

9. WHO. Strategies toward ending preventable maternal mortality (EPMM).

10. Who WHO. Goal 3 Ensure healthy lives and promote well-being for all at all ages Table of Contents. 2020. 1–50 tr.

11. WHO. Trends in Maternal Mortality : 1990 to 2015. 2015;

12. CSA AA. Ethiopian demographic healthy survey. 2011.

13. Survey H. Ethiopia. 2016.

14. STATICS WH. Monitoring Health for the Sustainable Development goals. 2018.

15. Global Health Observatory. World Health Statistics series ,health -related millennium development goals. 2015.

16. Mwilike B, Nalwadda G, Kagawa M, Malima K, Mselle L, Horiuchi S. Knowledge of danger signs during pregnancy and subsequent healthcare seeking actions among women in Urban Tanzania : a cross-sectional study. 2018;1–8.

17. Jamison DT, Breman JG, Musgrove P. Disease Control Priorities in Developing Countries.

18. Aliy J, Mariam DH. Determinants of equity in utilization of maternal health services in Butajira , Southern Ethiopia. 2010;900(13).

19. Bahilu T, Tewodros B, Mariam AG, Dibaba Y. Original article factors affecting antenatal care utilization in yem special woreda , southwestern ethiopia.

20. Birmeta K, Dibaba Y, Woldeyohannes D. Determinants of maternal health care utilization in Holeta town , central Ethiopia. 2013;1–10.

21. Abate TM, Salgedo WB, Bayou NB. Evaluation of the Quality of Antenatal Care (ANC) Service at Higher 2 Health Center in. 2015;(January).

22. Yabo AN,Gebremicheal MA, Chaka EE.Assessment of Quality of Antenatal Care (ANC) Service Provision Among Pregnant Women in Ambo Town Public. 2015;4(3):57–62.

23. Chemir F, Alemseged F, Workneh D. Satisfaction with focused antenatal care service and associated factors among pregnant women attending focused antenatal care at health centers in Jimma town , Jimma zone , South West Ethiopia ; a facility based cross-sectional study triangulated with qualitative study. BMC Res Notes [Internet]. 2014;7(1):1–8. Available at: BMC Research Notes

24. Mekonnen N, Berheto TM, Ololo S, Tafese F. iMedPub Journals Quality of Antenatal Care Services in Demba Gofa Woreda , Gamo Gofa Zone , Rural Ethiopia. 2017;1–17.

25. Ejigu T, Woldie M, Kifle Y. Quality of antenatal care services at public health facilities of Bahir-Dar special zone , Northwest. 2013;

26. Freedman LP, Ramsey K, Abuya T, Bellows B, Ndwiga C, Warren CE, và c.s. Defining disrespect and abuse of women in childbirth : a research , policy and rights agenda. 2014;(March):915–7.

27. On R, Federal O, Republic D, January H. managment protocol on selected obstetricstopics. 2010.

28. Dey A, Shakya HB, Chandurkar D, Kumar S, Das AK, Anthony J, và c.s. Discordance in self-report and observation data on mistreatment of women by providers during childbirth in Uttar. 2017;1–13.

29. Gebremariam A, Dirar A. Quality of antenatal care service in public health facilities of chencha district , gamo gofa zone , southern Ethiopia. 2017;4(1990):57–64.

30. Tesfaye T, Mekonnen H, Negesa L. Maternal Antenatal Care Service Satisfaction and Factors Associated with Rural Health Centers , Bursa District , Sidama Zone , Southern Ethiopia : A Cross- sectional Study Journal of Women ' s Health Care. 2017;6(2).

31. Jepngetich H, Baliddawa J, Kipkulei J. Factors affecting ANC women ' s satisfaction with communication skills of health care providers. 2013;2(3):2188–96.

32. Do MAI, Wang W, Hembling J, Ametepi P. Quality of antenatal care and client satisfaction in Kenya and Namibia. 2017;29(February):183–93.