

Timing of First Antenatal Care Visit and associated Factors among Pregnant Women Attending Antenatal Clinics in Halaba Kulito Governmental Health Institutions, 2015

Mekdes Kondale^{1*}, Tarekegn Tumebo², Teklemariam Gultie¹, Tariku Megersa¹, Haregwein Yirga¹, Anteneh Azimarew¹ and Beruk Getahun²

¹Department of Midwifery, College of Medicine and Health Sciences, Arba Minch University, Ethiopia

²Department of Midwifery, Arba Minch Health Sciences College, Southern Ethiopia

Abstract

Introduction: Pregnancy is a very important event from both social and medical points of view. Therefore, pregnant women should receive special care and attention from the family, community and from the health care system. Antenatal care is a key entry point for pregnant women to receive a broad range of health promotion and preventive health services. Thus, the objective was to assess timing of first antenatal care visit and associated factors among pregnant women attending antenatal care in Halaba Kulito Town governmental health institutions, Halaba Special districts.

Methods and materials: Institution based cross sectional study was conducted from March 18-April 16, 2015. Systematic sampling technique was employed to select the study subjects. A total of 249 women were participated in the study. Data were collected using semi-structured questionnaire; entered in and cleaned using SPSS version 20. Bivariate logistic regression was carried out and independent variables which have effect on the outcome variable were determined at 95% confidence interval with p-value less than 0.05 was considered as significant variables.

Result: The study indicated that 27.1% of the respondents started antenatal care follow up timely (≤ 12 weeks). The median duration of pregnancy at first antenatal care visit was 4.3 month (18.3 weeks). Mothers whose age 26 and below (COR 4.04, 95% CI: 1.51, 5.50), previous antenatal care use (COR 3.33, 95% CI: 1.59, 6.99), having decision power on current antenatal care use (COR 3.12, 95% CI: 1.45, 6.30), urine test as means of pregnancy recognition (COR 5.18, 95% CI: 2.74, 9.81), mothers' perceived right time (COR 2.48, 95% CI: 1.01, 6.09) and getting information when to book (COR 2.55, 95% CI: 1.33, 4.87) have shown significant association with timely booking.

Conclusion: The proportion of pregnant mothers who practiced timely booking is low and therefore every effort should be made to organize and implement community based information education and communication on antenatal care and its right time of commencement at all level.

Keywords: Antenatal care; Timing; Halaba Kulito

Introduction

Pregnancy is a very important event from both social and medical points of view. Therefore, pregnant women should receive special care and attention from the family, community and from the health care system [1]. Antenatal care (ANC) is defined as the complex of interventions that a pregnant woman receives from organized health care services. Its purpose is to prevent, identify and treat conditions as well as help a woman approach pregnancy and birth as a positive experience. In addition, ANC is an essential link in the house to hospital care continuum and helps assure the link to higher levels of care when needed [1,2].

The major goal of focused antenatal care is to help women maintain normal pregnancies through: health promotion and disease prevention, early detection and treatment of complications and existing diseases, birth preparedness and complication readiness planning. Focused ANC protocol is designed as a job aid for ANC providers. It includes revised forms and checklists needed to identify those women that can follow basic care and those women with special health conditions and/or are at risk of developing complications that needs a special care [3-5].

Pregnancy related causes are among the top reasons for death in women of reproductive age in almost all developing countries [2].

Globally, more than half a million women are still dying annually as a result of complications of pregnancy and childbirth [6]. 99% of

these occur in developing countries of which 50% occurred in Sub Saharan Africa (SSA) [7]. However, there is nothing inevitable about these deaths. With the appropriate care, maternal mortality is in fact a very rare event. In industrialized countries, there are on average nine maternal deaths per 1,00,000 live births, whereas this figure can be as high as 1000 or more per 100 000 live births in the most disadvantaged countries [6]. Thus a woman in Africa may face a lifetime risk of death during pregnancy and childbirth as high as one in 26, compared with only one in 7300 in developed regions [8].

Ethiopia as one of the sub-Sahara country maternal care is extremely poor. According to EDHS 2011 only 34% of women who gave birth in the five years preceding the survey received antenatal care from a skilled provider, One woman in every five (19%) made four or more antenatal care visits during the course of her pregnancy, The

***Corresponding author:** Mekdes Kondale, Department of Midwifery, College of Medicine and Health Sciences, Arba Minch University, Ethiopia, Tel: 251926160903; E-mail: mekdes.kondale@amu.edu.et

Received March 16, 2016; **Accepted** March 25, 2016; **Published** April 25, 2016

Citation: Kondale M, Tumebo T, Gultie T, Megersa T, Yirga H, et al. (2016) Timing of First Antenatal Care Visit and associated Factors among Pregnant Women Attending Antenatal Clinics in Halaba Kulito Governmental Health Institutions, 2015. J Women's Health Care 5: 308. doi:10.4172/2167-0420.1000308

Copyright: © 2016 Kondale M, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

median duration of pregnancy at the time of the first antenatal visit is 5.2 months. About half of mothers (48%) had their last live birth protected against neonatal tetanus, only 10% of births in the past five years were delivered by a skilled provider and only 7% of women received postnatal care in the first two days after their last delivery in the two years before the survey. Moreover, besides its poor care provision and infrastructure, attitude of women to utilize the services are poor in which more than six women in every ten (61%) stated that a health facility delivery was not necessary during the survey, and three in every ten (30%) stated that it was not customary [5].

According to EDHS 2011, only 11% of women make their first ANC visit before the fourth month of pregnancy. The median duration of pregnancy at the first visit is 5.2 months, while urban women made the first ANC visit earlier (4.4 months) than rural women (5.5 months) [5]. Therefore, Timely ANC is generally acknowledged to be an effective method of preventing adverse outcomes of pregnancy. Thus this study aimed to assess timing of first antenatal care visit and associated factors among pregnant women attending ANC clinic in Halaba Kulito town, governmental health institutions, 2015.

Methods and Materials

Study area

The study was conducted in Halaba Kulito town which is the administrative center of Halaba special Woreda, Southern Ethiopia. The town is located at 315 km from Addis and 90 km from Hawassa, capital of southern Ethiopia. The town lays an altitude of 1726 meters above sea level and its average temperature is 25-300°C. The town has 5 kebeles and the total population of the town is 37,689 of which 19844 (52.65%) females. The town has one health center and one primary hospital.

Study design and period

Institution based cross sectional study design using qualitative method of data collection was employed to assess the timing of first ANC visit and factors affecting it from March 18-April 16, 2015.

Population

All Pregnant women who have been attended ANC clinic in Halaba Kulito town government health institutions were the source population for this study. Randomly selected pregnant women who have been attended ANC clinics at the government health institution at Halaba Kulito town were considered as the study population from actual interview conducted and data gathered during the data collection period

Sample size

The sample size was calculated by using single population proportion formula $n = (Z \alpha/2)^2 P (1-P)/d^2$ with the assumption of the Proportion of mothers who had the first ANC visit timely is 35.4% a similar study in Gondar [9] at 5% level of significance ($\alpha = 0.05$) and 5% margin of error. The final sample size was adjusted by adding 10% response rate was 386. For the fact that the study population is believed to be small we use correction formula thus, $386 / (1 + (386/700))$ and the final sample size was 249.

Sampling procedure

Yearly performance report of the health institutions the year before the study period was taken as reference to estimate the client load in each health institution. Based on the information proportion to sample for each institution under the study was allocated. Therefore, 60% (149)

of the sample size was allocated to health center and the rest to hospital. Since pregnancy is common status of all women and they receive the same focused ANC service, Systematic random sampling technique was used and every third pregnant mother was selected for an exit interview. The first study subject was determined by randomly.

Data collection and analysis

The data collection tool was first prepared in English after reviewing related literatures and then translated to Amharic language. Exit interview technique was used to collect data with semi-structured and pretested questionnaire. Data were collected by four midwives and supervised by the principal investigators. Data collectors were trained for one and half day. The collected data were entered and analyzed using SPSS Version 20. Descriptive statistics and binary logistic regression was carried out to describe the variables and to determine their relationship with the outcome variable. Odds ratio with 95% CI (confidence interval) at $P < 0.05$ was used to determine the significant level of association between independent and outcome variables.

Ethical consideration

The study was approved by the ethical review committee of the College of Medicine and Health Science, Arba Minch University. Informed oral consent was obtained from the study participants after detailed explanation was given about the objective, risk and benefit of the study. Mothers were interviewed in private place, and all the information collected from the respondents was kept confidential.

Result

Socio demographic characteristics of the study participants

From 249 selected participants, two hundred twenty five of them were involved in the study and this would make the response rate of 91%. Of these, one hundred forty four (64%) were aged 20-34 years with median age of 26 years. Nearly half of the participants (46.6%) were Halaba by ethnicity and 103(45.7%) were Muslim. The majorities (96.5%) of participants were married and nearly half of total study participants have (48.2%) attended primary school (Table 1).

Obstetrics characteristics of the study population

Nearly 60% of the study participants have been pregnant more than ones' and about 61.7% of them had ANC visit previously. Urine test and missing period were used as means of pregnancy recognition by 59.6% and 40.4% of the pregnant mothers respectively. 63% of the respondents had decision power on current ANC use. In this study 61(27.1%) of the respondents started their ANC follow up timely). The timing of first ANC visit ranged from four weeks to thirty two weeks with median gestational age during the first ANC visit being 18.3 weeks. Nearly three fourth of the study participants started their ANC late and about 11(4.8%) of mothers booked in late third trimester (after 30 weeks). Regarding the perceived right time of the pregnant mothers on first ANC visit, 9.7% of the respondents answered that the right time to be the first three months of pregnancy were as 85% still perceiving the right time to be beyond three months. Another 5.3% of them didn't know the right time to commence their first ANC visit (Table 2).

Determinants of timely booking for ANC

The result of this study indicated that mothers whose age was ≤ 26 were four times more likely to commence ANC within 12 weeks of pregnancy compared to their counter parts (COR 4.04, 95%CI: 1.51, 5.50). Similarly previous ANC use and having decision power on current ANC use among mothers were significantly associated with

Variable	Number (=225)	%age	
Maternal age	<20	8	3.6
	20-34	144	64
	35-49	73	32.4
Marital status	Single	3	1.3
	Married	217	96.5
	Others	5	2.2
Religion	Muslim	103	45.7
	Protestant	93	41.3
	Orthodox	27	12.1
	Other	2	0.9
Ethnicity	Halaba	105	46.6
	Kambata	88	39.1
	Others	32	14.3
Educational status	No formal education	71	31.5
	Primary	108	48.2
	Secondary and above	46	20.3
Occupation	House wife	151	67.1
	Private business	63	28
	Employed	11	4.9

Table 1: Socio-demographic characteristic of pregnant women who attended ANC clinics at Governmental health institutions of Halaba Kulito town, southern Ethiopia, 2015.

Variable	Number(=225)	%age	
Parity	Nul-para	91	40.4
	Para one and above	134	59.6
Previous ANC follow up No=134	Yes	81	61.7
	No	43	38.3
Means of pregnancy recognition	Missed period	134	59.6
	Urine test	91	40.4
Decision on current ANC follow up	Yes	142	63.1
	No	83	36.9
Get information when to book	Yes	131	58
	No	94	42
Timing of first ANC booking	≤12 weeks	61	27.1
	≥12 weeks	164	72.1
Get information when to book	Yes	131	58.2
	No	94	41.8

Table 2: Obstetrics characteristics of pregnant women who attended ANC clinics at Governmental health institutions of Halaba Kulito town, southern Ethiopia, 2015.

timely commencement for ANC (COR 3.33, 95%CI: 1.59, 6.99 and 3.12, 95%CI: 1.45, 6.30) respectively. Mothers who used urine test as means of pregnancy recognition were nearly five times more likely to book for ANC within recommended time compared to those who used missing period. Likewise mothers' perceived right time and getting information when to book have significant association with timely booking (COR 2.48, 95%CI: 1.01, 6.09 and 2.55, 95%CI: 1.33, 4.87) respectively. Whereas, no association was observed between timey Commencement of ANC and variables like marital status, religion, maternal educational status, maternal occupation and parity (Table 3).

Discussion

Even if it is recommended that every pregnant mother should start ANC booking in the first three months of pregnancy (<=12 weeks) [1], the finding in this study shows that only 27.1% of mothers were registered for ANC at right time and the rest 72.8% booked late. Thus, in this study, the proportion of pregnant mothers who booked within the recommended time is low compared with the finding from Gondar [9]. This discrepancy could be due to the difference in socio-cultural status of the study participants and time gap at which study

was conducted. But the finding in this study was higher compared with the finding from national study [5] explaining the fact that participants in national study are majorly rural residents with expected late or no entry to ANC. Likewise finding in this study is higher than the finding from similar study conducted in some African countries [10,11]. This discrepancy could be explained by socio cultural difference of the study population and difference in study period.

The mean Gestational age at which pregnant mothers booked the first ANC in this study was 18.3 weeks (4.3 months). This is nearly comparable with findings from Gondar [9] and Addis Ababa [10] that suggested the mean gestational age at first ANC booking 4.5 months and 4 months respectively. The possible explanation for this comparable finding could be current implementation of new focused ANC approach that is being implemented throughout the country enforcing commencement of first ANC within four months of pregnancy.

In this study, mothers aged 26 years and below were about four times more likely to start ANC within recommended time than those whose age was above 26 years. This finding is in line with study conducted in Gondar [9] and Addis Ababa Ethiopia [10] and other African countries [1] in identifying factors for ANC visit. The reasons for this could be due to women of older age consider delayed booking for ANC not as a problem since they might have faced many birth experiences. This could alternatively be explained as younger pregnant

Explanatory variables	Timing of ANC commencement		COR	95% CI	P-value	
	≤12 weeks	>12 weeks				
Maternal age	≤26	39	50	4.04	1.51 -5.50	<0.001
	>26	22	114	1		
Marital status	In marriage	59	158	1.12	0.21 -5.70	0.4
	Out marriage	2	6	1		
Religion	Christian	27	94	1		
	Muslim	34	70	0.16	0.93 -3.45	0.04*
Educational status	No formal education	23	85	1		
	Primary and above	38	79	0.56	0.30 -1.02	0.03*
Parity	Nullipara	29	62	1.49	0.8 -2.69	0.09*
	Multipara	32	102	1		
Previous ANC use	Yes	46	35	3.33	1.59 -6.99	<0.001
	No	15	38	1		
Means of pregnancy recognition	Missing period	19	115	1		
	Urine test	42	49	5.18	2.74 -9.81	<0.001
Decision on current ANC use	Yes	49	93	3.12	1.54 -6.30	<0.001
	No	12	71	1		
Mothers occupation	Non employed	37	114	1		
	Employed	24	50	1.48	0.80 -2.73	0.1
Get information when to book	Yes	45	86	2.55	1.33 - 4.87	0.001
	NO	16	78	1		
Perceived right time to book	≤12 weeks	10	12	2.48	1.01 - 6.09	0.02
	>12 weeks	51	152			

*= no statistically significant association

Table 3: Associations between Timing of first ANC commencement and explanatory variables among pregnant women who attended ANC clinics at Governmental health institutions of Halaba Kulito town, southern Ethiopia, 2015.

mothers are new generations and might have better educational status than older ones, they will easily understand health issues.

Finding in this study indicated that pregnant mothers who confirmed their pregnancy by urine test were about five times more likely to commence ANC within first trimester of pregnancy. Similar association was also found in study conducted in Gondar [9] and Addis Ababa [10]. This could be for the fact that urine is done in health institution and mothers are initiated to start ANC at the time they come to confirm pregnancy.

Another Statically significant association was observed between pregnant mothers' perception of right time to start ANC and timely booking for ANC. Respondents who perceived the right time to be within 12 weeks were nearly 2.5 times more likely to start ANC timely than those who perceived the right time beyond 12 weeks of pregnancy. This finding is also supported by the study done in other parts of Ethiopia [9,10].

Finding observed in this study indicated that mothers who decided to use ANC by themselves were three fold more likely to be book early in the first trimester than those who don't have the power to decide. Possible explanation could be women's ability to decide on their health matters helps them to utilize health service at appropriate time and the finding is also supported in study done in Indonesia [12] and Nepal [13] which suggested that respondents whose ANC use option is decided by husband and mother- in laws had delayed ANC booking .

Conclusion

In this study the proportion of pregnant mothers who practiced timely booking of first ANC is low. Age of mother ≤ 26 , previous ANC use, having decision power on current ANC use, pregnancy recognition via urine test, perceived right time ≤ 12 weeks and getting information when to book were statically significant factors for timely booking of ANC, therefore the health office should strengthen and maintain local information dissemination network on antenatal care and its right time of commencement Community based information education and communication on ante natal care and its right time of commencement should be organized and implemented.

Acknowledgement

We would like to thank Arba Minch University for providing us financial support to conduct this study. Our heartfelt thank goes to for the data collectors and study participants without whom this study would be real.

References

1. World Health Organization (2010) Mother-Baby Package, Geneva.
2. WHO, UNICEF, UNFPA, WORLD Bank (2010) Maternal mortality, Geneva.
3. Hill K, Thomas K, Zahr CA, Walker N, Say L, et al. (2007) Estimates of maternal mortality worldwide between 1990 and 2005. *Lancet* 370: 1311-1319.
4. Millennium Development Goals Report (2008).
5. Central statistical Authority and ORC Macro (2011) EDHS. Addis Ababa Calverton, Maryland, WSA.
6. Jody RL, Amy SE (2012) A critical analysis of maternal morbidity and mortality in Liberia, West Africa. *Midwifery* 28: 67-72.
7. Shegufta SS, Alain BL, Barkat U (2011) Accounts of severe acute obstetric complications in Rural Bangladesh *BMC Pregnancy and Childbirth* 11: 76.
8. Katrien B, Fred L, Koen P (2011) Predisposing, enabling and pregnancy-related determinants of late initiation of prenatal care. *Matern Child Health J* 15: 1067-1075.
9. Temesgen W, Solomon M, Abdela A (2014) Timing and factors associated with first antenatal care booking, a cross sectional study conducted in Gondor town, BMC pregnancy and child birth 14: 287.
10. Tariku A, Melkamu Y, Kebede Z (2010) Previous utilization of service does not improve timely booking in antenatal care: Cross sectional study on timing of antenatal care booking at public health facilities in Addis Ababa Ethiop *J Health* 24: 226-233.
11. Anna E, Hanneke M, Frank O (2006) Use of antenatal services and delivery care among women in rural western Kenya: a community based survey, *Reproductive Health* 3: 2.
12. Erlindawati S, Chompikul J, Isaranurug S (2008) Factors related to the utilization of antenatal care service among pregnant women at health centers in Aceh Besar district, Nanggroe Aceh Darussalam province, Indonesia. *Journal of Public Health and Development* 6: 99-108.
13. Sulochana D, Edwin RT, Jane S (2011) Antenatal care among women in rural Nepal. *Online J Rural Nurs Health Care* 11: 2.