



SAINT PAUL'S HOSPITAL MILLENNIUM MEDICAL COLLEGE

**KNOWLEDGE AND ATTITUDE OF PREGNANT WOMEN ON THE BENEFITS OF
ANTENATAL CARE UTILIZATION, IN KOLFE HEALTH CENTER ADDIS ABABA,
ETHIOPIA**

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ADVISORS:

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Mr. TEMESGEN GELETA (BSC, MPH)

**A STUDENT RESEARCH REPORT TO BE SUBMITTED TO THE DEPARTMENT OF PUBLIC
HEALTH, SPHMMC, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
DEGREE OF DOCTOR OF MEDICINE**

SEPTEMBER 25, 2017

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Acronyms

ANC: Antenatal Care

CSA: Central Statistical Agency of Ethiopia

EDHS: Ethiopian Demographic and Health Survey

MOH: Ministry of Health

NGOs: Non-Governmental Organizations

OBGYN: Obstetrics and Gynecology

OPD: Out Patient Department

SPHMMC: Saint Paul Hospital Millennium Medical College

SPSS: Statistical Package for Social Science

UNICEF: United Nations Children's Fund

WHO: World Health Organization

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ABSTRACT

Background: Antenatal Care (ANC), is given different meanings by different scholars, among others the meaning that says, “Antenatal Care means care before birth and includes education, counseling, screening and treatment to monitor and to promote the wellbeing of the mother and fetus”. An estimated 515,000 women die of pregnancy-related causes, a rate of over 1,400 maternal deaths each year. The overwhelming majority of these deaths and complications occur in developing countries. Effective antenatal care (ANC), appropriate emergency treatment of complications and competent referral level encompass the most effective answers to reduction of maternal deaths. There are regional variations in antenatal care utilization rate basically due to differences in the availability of health care facilities, among the regions during 1985-1990, antenatal coverage rate for the whole Africa was 60% compared to 99% for developed countries. According to the 2011 Ethiopia demographic and health survey (EDHS) Antenatal care Coverage of Ethiopia was 43%.

Objectives: The overall objective of the study is to assess the knowledge and attitudes of pregnant women about the benefits of antenatal care utilization in Kolfe Health center Addis Ababa, Ethiopia.2009.

Methodology: Institution based Cross-sectional study design was conducted to assess the knowledge and attitude of pregnant women on the benefit of ANC utilization in Kolfe Health Center, Addis Ababa. Structured questionnaire was used with modification from other researches as presented in literature review. SPSS version 22 was used for data entry and analysis.

Result: The proportion of respondents with good knowledge was 60.3 percent with 95% confidence interval of 54.3 to 64.0 percent. The proportion of respondents with good attitude was 224(55.3%) with 95% confident interval of 50.4 to 59.5 percent. In both cases women who has partner support had higher likelihood of having good knowledge and attitude.

Conclusion: According to this study three out of five women were found to have good Knowledge of ANC and greater than half of the study participant had good attitude of ANC. Their knowledge on certain aspects of antenatal care was still poor. Partner support was found to significantly affect Knowledge and attitude of woman towards ANC

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1. Introduction

1.1. Background

Ante natal Care (ANC), is given different meanings by different scholars, among others the meaning that says, “Antenatal Care means care before birth and includes education, counseling, screening and treatment to monitor and to promote the wellbeing of the mother and fetus” (1). In short it is the care that a woman receives during pregnancy that helps to ensure healthy outcomes for women and newborn (1).

It is a key entry point for pregnant women to receive a multiple range of health services such as nutritional support and prevention or treatment of anemia; prevention, detection and treatment of malaria, tuberculosis and sexually transmitted infections (2). Antenatal Care is an opportunity to promote the benefits of skilled attendance at birth and to encourage women to seek postpartum care for themselves and their newborn. It is also an ideal time to counsel women about the benefits of child spacing (3).

However, Antenatal Care have such attractive benefits and strategies, according to the United Nations Millennium Development Goals, every year, at least half a million women and girls die as a result of complications during pregnancy, childbirth or the six weeks following delivery. Almost all (99%) of these deaths occur in developing countries. This shows that the Antenatal care activity is very weak in developing country. The main reasons that hinder the use of Antenatal Care are different from Country to Country. But the reason experienced in developing countries are nearly similar such as; hemorrhage, followed by eclampsia, infection, abortion complications and obstructed labor. Other issues are lack of knowledge and preparedness about reproductive health in the family, community and health provider (4).

To alleviate such factors, Antenatal Care is the most important method for detecting pregnancy problems in the early period. Because Antenatal care is the best mechanism to minimize maternal mortality, and give a good information for pregnant women about their birth and how to prevent related problems. The best and most advantage of Antenatal Care is to protect the health of women's and their infants as well as indicating the danger signals that may occur and needs to be further treated by advanced health professionals (5). A number of studies indicate that the Antenatal Care utilization rate is still low due to many factors that need to be examined such as socio demographic factors, knowledge of social support. They conclude that eliminating such factors is important to increase the women's participation in Antenatal Care (6). When we come to Ethiopia, although, access to health care services is improving, the country has faced challenges in increasing health care utilization and the proportion of women who give birth with the assistance of skilled attendants is the lowest in Sub-Saharan Africa (6).

1.2.Statement of the problem

An estimated 515,000 women die of pregnancy-related causes, a rate of over 1,400 maternal deaths each year. The overwhelming majority of these deaths and complications occur in developing countries. Effective antenatal care (ANC), appropriate emergency treatment of complications and competent referral level encompass the most effective answers to reduction of maternal deaths (2).

Every minute, at least one woman dies from complications related to pregnancy or child birth that means 529 000 women a year. In addition, for every woman who dies in childbirth, around 20 more suffer injury, infection or disease approximately 10 million women each year. Studies reveal that the cause of maternal mortality in developing countries is mostly due to poor accessibility to maternal health service, poor referral to appropriate antenatal and delivery care unit, and inadequacies of available care. These studies suggested that most of the maternal deaths were preventable with improved coverage of antenatal care, safe delivery and postpartum care. There are regional variations in antenatal care utilization rate basically due to differences in the availability of health care facilities, among the regions during 1985-1990, antenatal coverage rate for the whole Africa was 60% compared to 99% for developed countries (7).

Based on EDHS 2011 report, in Ethiopia the maternal mortality rate has been estimated to be 676 per 100,000 live births. This is one of the highest rates in the World. In addition, women's reproductive health problems are a timely and serious matter of concern, for any health professionals, the government as well as the society (8). Antenatal Care related problem parameters are very sensitive because it has directly related with maternal morbidity and mortality, and loss of fetus. It is a necessary component of maternal health in order to identify complications. According to the 2011 Ethiopia demographic and health survey (EDHS) Antenatal care Coverage of Ethiopia was 43%. Regular Antenatal Care visits can provide some benefits for the women such as a care provider that can result in reducing complications during pregnancy the absence of this activity affects millions of mothers in the rural as well as urban areas (8).

Many women from different studies have mentioned that women are embarrassed when visiting an ANC. With improved knowledge about the benefits of ANC and the importance of a positive attitude toward it, these women will come to understand that ANC is a medical procedure and interventions will do much to save their lives and improve their children's health. In this way they will be motivated enough to overcome their reluctance. In many ways, changing attitudes and behavior are the most challenging tasks, but are also the least costly. Proper educational campaigns and the improved dissemination of information are investments for the long -term.

Most previous studies done on knowledge and attitude of women toward ANC were community based done on general women of child bearing age. Little has been known about knowledge and attitude of women who are currently using ANC services. Therefore, this study will help to know how much percentage of women came to benefit from this very important service of women's health, know about it and have good attitude about ante natal care services.

1.3. Significance of the study

Having positive attitude and good knowledge is the most valuable precondition for any healthy behavior including ANC service. Therefore, knowing about prevalence of women who has positive attitude and good knowledge and identifying the associated factors in a given society has important contribution in addressing maternal health need of the women. The aim of this study was to assess the knowledge and attitude of pregnant women regarding the benefits of Antenatal care utilization in Kolfe health Center Addis Ababa, Ethiopia. This study was intended to extract out the knowledge and attitude of pregnant women on the benefits of ANC utilization during antenatal visit. The findings of this study will serve as a reference for giving intervention accordingly by the health care providers and others who are concerned; for conducting further researches; the findings of this study will have special importance for health care providers because it will serve as base line for filling gaps of the actual practices on antenatal care.

2. Literature review

To combat the major maternal health problem and tackle unwanted outcomes of pregnancy, antenatal care (ANC) is the only and most important method in detecting and treating pregnancy related problems in its earliest period (6, 7, 8). ANC is a critical element for reducing maternal mortality, and for providing pregnant women with a broad range of health promotion and preventive health services. (4, 6, 7). One of the most important functions of ANC is to offer health information and services that can significantly improve the health of women and their infants. ANC is also an opportunity to inform women about the danger signs and symptoms for which immediate assistance should be sought from a health care provider (9). Antenatal care (ANC) is an important determinant of safe delivery. Although certain obstetric emergencies cannot be predicted through antenatal screening, women can be educated to recognize and act on symptoms leading to potentially serious conditions (4, 11).

2.1. Knowledge of women towards antenatal care

Health knowledge is considered to be one of the key factors that enable women to be aware of their right and health status in order to seek appropriate health services. Study conducted in different part of the world has discovered that level of knowledge of mothers toward ANC is important for utilizing ANC service. The level of knowledge of pregnant mother also varies in deferent part of the world (5).

An institutional based cross sectional study conducted in north central Nigeria to investigate knowledge and utilization of ANC service has revealed that 87.7% of women in child bearing age were aware of the benefits of antenatal care out of which 25.9% had fair knowledge about the activities carried out during the antenatal care services, 69.9% had good knowledge while only 4.2% had poor knowledge (10, 5). Similarly, a study that was conducted in Tunisia to investigate mothers' knowledge about preventive care indicated that 95% of women knew the importance of antenatal examination (4). Different to these findings a cross-sectional study conducted using two-stage cluster sampling at 24 selected villages in the Kham District, Nagoya, Japan found that most of the respondents 73.9%, lacked sufficient knowledge towards ANC (11). In another cross-sectional study conducted in Metekel zone, North West Ethiopia, 65.6% of women interviewed knew at least half of the knowledge questions on ANC and so labeled as knowledgeable (12). A study conducted on barriers to utilization of focused antenatal care among pregnant women in Ntchisi district in Malawi has shown that almost all (96%) participating women had at least some knowledge of FANC, also 85% of the participating women agreed that FANC would enable them to receive vaccines, supplements and malaria prophylaxis. Knowledge on antenatal care among women attending ANC services in selected health center, Addis Ababa, Ethiopia, 2015 revealed that

majority (96.8%) of the women know that pregnant women need to go for antenatal check-up, however, only 40.2% know that the first antenatal check-up should be done in the first three months.

2.2. Attitude of women towards antenatal care

Attitude is person's affective feelings of like and dislike. So, attitude refers to expectant mother's affective feelings of like and dislike to antenatal services. Thus, the pregnant women's personal experience to antenatal services can be positive or negative.

According to Akpan-Nnah (2011), 68(56.7%) women were classified as those with negative attitude towards the benefits of focused antenatal care while 52(43.3%) women had positive attitude towards the benefits of focused antenatal care. In JhalMagsi District of Balochistan province of Pakistan community-based survey on provision and utilization of routine antenatal care has described that attitude towards ANC at government health facilities was mostly negative 57.7%. In another cross-sectional study conducted using two-stage cluster sampling at 24 selected villages in the Kham District of Xiengkhouang Province, Nagoya, Japan, 61.9% of study participant had harbored a negative attitude towards the ANC (16). Previous studies in rural areas of the developing world have shown an association of specific attitudes with utilization of and access to health services. The attitude towards ANC at government health facilities was significantly associated negatively with ANC and shows low utilization of ANC. Studies have reported negative attitudes as a major barrier to ANC utilization (17). Based on Kham District of Xiengkhouang Province, Nagoya, Japan, women who had a positive attitude were 3.0 times more likely to receive ANC services than those who had a negative attitude. Other studies in Indonesia has also reported similar finding in which respondent's attitude was a critical factor in encouraging pregnant women to receive ANC service (17). Level of education has a significant influence on the attitude of pregnant women to antenatal services. Pregnant women with basic education usually manifest positive attitude (18). Pregnant Mothers with secondary and tertiary education qualification had positive attitude to antenatal services while the attitude to antenatal services by pregnant women with no formal education and primary education showed negative (16).

According to the study conducted in Nigeria attitude of pregnant women towards antenatal services was positive. It reveals attitude of pregnant women with secondary school and tertiary education was positive while pregnant women with no formal education and primary educations were negative respectively (13). According to a study done on Knowledge and Attitude towards antenatal care among women attending ANC services in selected health center, Addis Ababa, Ethiopia, 2015 have shown that 55.3% have good attitude and 44.7% have poor

3. Objective of the study

General objective

Objective of the study is to assess the knowledge and attitude of pregnant women about the benefits of antenatal care utilization in Kolfe Health center Addis Ababa, Ethiopia.2017

Specific objectives

- To identify the pregnant women's knowledge about antenatal care utilization.
- To assess pregnant women's attitude towards the use of antenatal care.
- To determine the factors associated with knowledge and attitude of pregnant women on antenatal care utilization.

4. Methodology

4.1. Study area and period

The study was conducted in Kolfe Health Center Addis Ababa, the capital city of Ethiopia with total population of more than 3 million. There are ten sub cities and 116 woredas. The city has 6 hospitals and 84 health centers under Addis Ababa regional health bureau, 5 specialized referral hospitals, 2 defense forces referral hospital and 1 Federal police hospital under respected government organizations. In addition, there are 2 hospitals, 3 health centers and 31 different level clinics established by nongovernmental organization (NGOs). There are also 30 private Hospitals and more than 700 different level private clinics in Addis Ababa city administration. The study was carried out among women attending ANC in Kolfe Health Center in April 12 2017 to May 12 2017.

Study design

Institution based Cross-sectional study design was conducted to assess the knowledge and attitude of pregnant women on the benefit of ANC utilization in Kolfe Health Center, Addis Ababa.

Source population

All pregnant women who visited the health center for the purpose of antenatal care service from 12 April 12 to May 12 2017.

Study population

All pregnant women attending ANC in kolfe health center was randomly selected to be included in the study.

Inclusion and exclusion criteria

Inclusion criteria

- Pregnant women who had at least one previous ANC visit during their current pregnancy.
- Pregnant women who are willing to participate.

Exclusion criteria

Clients that are too ill to participate in an interview and first visit will be excluded from the study.

Sample size determination

Sample size is calculated using single population proportion:

$$n_0 = (Z_{\alpha/2})^2 * P (1-P) / d^2$$

$$n_0 = (1.96)^2 * 0.59(1-0.59) / (0.05)^2$$

$$n_0 = 371$$

Where,

- n = Sample size
- Z = standard statistical value, under normal distribution curve, with significance level at 5% ($Z_{\alpha/2} = 1.96$)
- P = proportion of pregnant women with good knowledge which is 0.59.

Since the average mothers coming for ANC follow during 2 months is 600 women ($N=600$). Then the corrected sample size using the correction formula is

$$n = n_0 / (1 + n_0 / N)$$

$$n = 371 / (1 + 371 / 600)$$

$$n = 229.24 + 22.9 \text{ w/c is non } 10\% \text{ non-respondent rate}$$

$$n = 252$$

Sampling procedure

Using systematic random sampling method, pregnant antenatal clinic attendees was selected on each clinic days for one month. To identify the interval, the average number of women expected per day in the health center was divided by the number of women to be interviewed per day. The first woman was selected by lottery method and then every 4th woman visiting the health center was selected for the study.

The immediately next woman was used if the woman was interviewed previously or she refused to participate in the study.

Study variables

Dependent variable:

- Knowledge of pregnant women about ANC utilization
- Attitude of pregnant women about ANC utilization

Independent variables:

- Women and partner socio economic factors (religion, ethnic group, marital status, educational level)
- Socio economic information and media exposure (occupation, source of income, monthly income, husband support)
- Obstetric history (parity, Gravida, age at first delivery, Place of most recent delivery)
- Previous health care service utilization (those mothers who were received antenatal care for their most recent pregnancy in the health facility)

4.2.Operational definitions

Knowledgeable: 18 questions were asked for the knowledge part, each correct answer was given one mark and no mark given for wrong answer and women who answer correctly ≥ 9 questions is considered to be knowledgeable.

Attitude on antenatal care: There are 12 statements with 5-point Likert Scale agreement options to measure the attitude level which was given 1 to 5 marks. The attitude score is further being divided to two levels which are good attitude and poor attitude using the mean attitude score.

Data collection instrument and method

Questionnaire adopted from other researches was used. The data was collected by the interns assigned at Kolfe Health Center and myself by face-to-face interview.

Data quality control

Five percent of the questionnaires were pretested for clarity and consistency of the questions in SPHMMC regular GYNE OPD a week prior to the actual data collection.

Data processing & analysis

SPSS version 22 was used for data entry and analysis. After cleaning the data, frequencies and percentages were calculated for all variables which are related to the objectives of the study. Odds ratio with 95 % confidence interval was computed to assess the presence and degree of association between dependent and independent variables. P-value less than 0.05 are considered significant. Moreover, logistic regression analysis was also being employed to control the possible confounding effect and assess the separate effects of the variables.

Ethical consideration

Ethical clearance was obtained from St. Paul's Hospital Millennium Medical College department of public health to Kolfe Health Center. All the study participants were informed about the purpose of the study and their consent was obtained before interviews. The information given by each respondent will be kept confidential.

Plan dissemination

The dissemination of the finding does not refer to specific respondent but the general source population. The Final Paper will be submitted to department of public health in SPHMMC and other concerned bodies through reports and publication on an appropriate journal.

5. Result

Demographic characteristics of the respondents

Out of 252 calculated sample size a total of 252 pregnant women who were attending antenatal care services in Kolfe health center starting from April 12 2017 up to May 12 2017 agreed to participate in this study making response rate 100%. The mean age for the study subject was 25 (+ 5.07) majority 166(61.5%) of them being greater than 25 years of age. The majority 237(94.0%) were married and 123(44.8%) had primary educational level (grade 1-8). The largest number of the respondents 181(71.8%) were housewives followed by merchants 42(16.7). 112 (44.4%) of the women were followers of orthodox Christianity. Regarding their ethnic group 113(44.8%) of them were from Oromo followed by Amhara which accounts for 52(20.6%) of the study participants. 216 (85.7%) of the women had reported as they have seen, heard or read about ANC in the past three months. And 128(50.7%) of the women has said that they get any support they need related to ANC from their partner. (Table1).

Table 1: socio-demographic characteristics of women attending ANC services in Kolfe H.C Addis Ababa Ethiopia, 2017

Character	Frequency	Percentage
Age		
15-19	8	3.2%
20-25	89	35.3%
26-30	74	29.4%
>=31	81	32.1%
Religion		
Orthodox	112	44.4%
Muslim	89	35/2%
Protestant	51	20/2%
Others	7	2.8%
Ethnicity		
Amhara	52	20/6

Oromo	113	44.8%
Tigre	7	2.8
Gurage	45	17/9%
Others	37	14.7%
Marital status		
Married	237	94%
Divorced	8	3-2%
Widowed	7	2.8%
Educational level		
Can't read and write	59	23.4%
Grade 1-6	113	44.8%
Grade 7-12	63	25%
Diploma and above	17	6.7%
Occupation		
Merchant	42	16,7
Government employee	29	11.5
House wife	181	71.8
Income		
I don't know	84	33.3
500-1500	16	6.3
1500-3000	42	16.7
3000 and above	110	43.7
Information		
Yes	216	85.7%
No	36	24.3%
Partner support		
Yes	128	50.7%
No	124	49.3%

Reproductive history

Regarding history of previous pregnancies, from 252 women who responded to the questionnaire 148(58.7) of them reported as they have been pregnant before. From these 148 women 80(54%) of them had been pregnant for less than or equal to two times. A total of 157 women (62.3%) had visited health facilities for ANC services after their third month of pregnancy. Related to place of the most recent delivery 184(73%) of them delivered at health center and 15(6%) of them the delivery was at home with the main reason for this being precipitated labor. Regarding postnatal visit 99(39.3%) had postnatal checkup. (Table 2).

Table 2: reproductive history of pregnant women attending ANC service in KOLFE H.C, Addis Ababa Ethiopia 2017

CHARACTERSTICS	FREQUENCY	PERCENTAGE (%)
Previous pregnancy		
Yes	148	58.7
No	104	41.3
No of pregnancy(N=148)		
<=2	80	54
>=3	64	46
No of children(N=148)		
<=2	72	48.6
>=3	56	37.8
Years between delivery(N=148)		
<=2	80	58.7
>=3	104	41.3
GA at first visit(N=252)		
1-3 months	105	38.7
After 3 months	157	62.3

Place of recent delivery		
Home	15	6
Health center	184	73
Hospital	53	21
Post-natal visit		
Yes	99	39.3
No	153	60.7

Knowledge on antenatal care utilization

Table 3 shows women's responses to the question on knowledge regarding antenatal care. There were 18 questions on knowledge, each correct answer was given one mark and no mark was given for wrong answer. In this study, the knowledge score of the respondents ranged between 7 and 17 with the mean of 13.01 (SD=3.976) and median of 13.0 (Interquartile Range, IQR=5). The score was normally distributed. The knowledge score was further divided to two levels which are good knowledge and poor knowledge using the mean knowledge score as the cutoff point. The proportion of respondents with good knowledge was 60.3 percent with 95% confidence interval of 54.3 to 64.0 percent. Further analysis of the questions on knowledge revealed that majority (94.4%) of the women knows that pregnant women need to go for antenatal check-up. However, only 45% know that the first antenatal check-up should be done in the first three months and 32.1% of the women know how many times pregnant woman needs to come for antenatal follow up throughout her pregnancy.

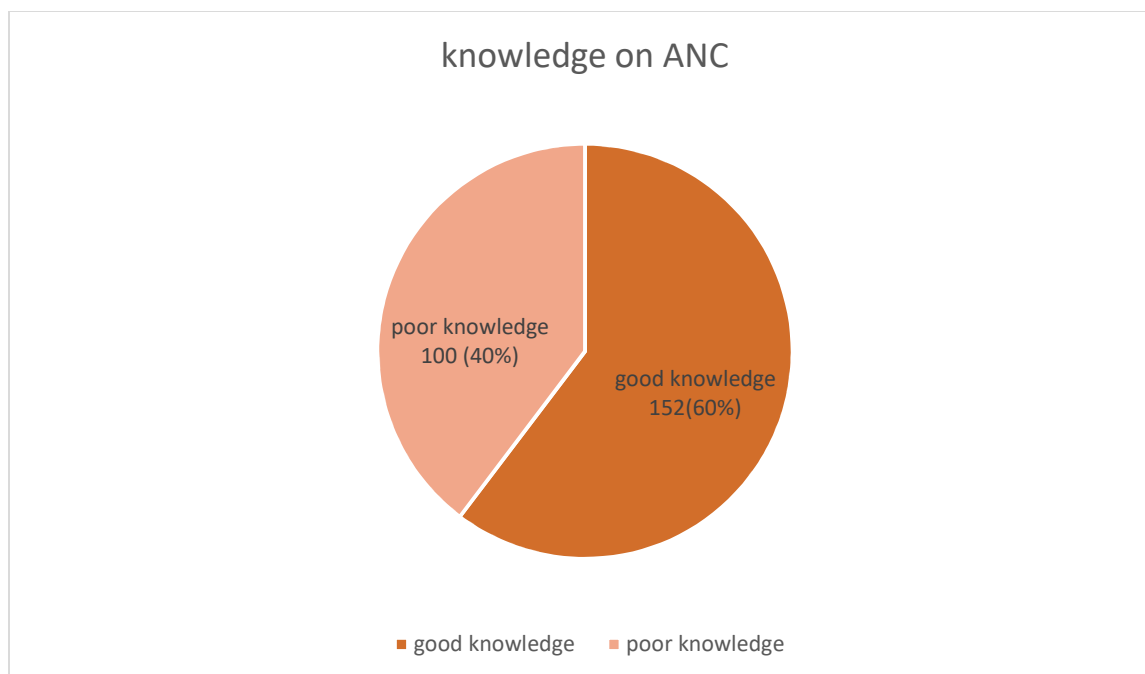


Figure 1 knowledge on ante natal care among pregnant women attending ANC servives in Kolfe Health Center Addis Ababa Ethiopia from April 12 2-17 up to May 12 2017

Table 3: knowledge on ante natal care among pregnant women attending ANC servives in Kolfe Health Center Addis Ababa Ethiopia from April 12 2-17 up to May 12 2017

Knowledge on antenatal care	Number of women with correct answer	Percentage (%)
Do pregnant women need to go for antenatal check-up?	238	94.4%
If yes is it required to go for ANC even if there is no complication during Px	173	68.7
Should first antenatal check-up be done in the first 3 months?	115	45.
Does pregnant woman need to come for antenatal check-up four times throughout her pregnancy? (Is her answer correct? Correct if she answered YES)	81	32.1
Is it necessary to give TT vaccination during pregnancy?	248	98.4
If yes, is it five times that TT vaccination should be given? (Is her answer correct? Correct if she answered YES)	78	31

Does pregnant woman need vitamin supplement?	216	86.5
Is it necessary to take iron tablet during pregnancy?	216	85.7
Do pregnant woman need to take extra food as compared to non-pregnant state?	165	65.5
Does pregnant woman need to undergo the following test during her ante natal check-up?		
Blood screening for HIV infection?	251	99.6
Blood screening for hemoglobin level? PROBE: pregnant woman need to check her hemoglobin to know whether she is anemic or not.	192	76.2
Blood pressure examination? PROBE: to know whether she has pregnancy induced hypertension, preeclampsia or not, pregnant woman need to check her blood pressure.	218	86.5
Blood sugar level? PROBE: pregnant woman should check her blood sugar level, to know if she has diabetes or gestational diabetes or not.	206	81.7
Can high blood pressure affect the fetal growth?	82	36.5
Does pregnant woman need to undergo urine test?	217	86.1
Do diabetic women have higher risk of having big babies?	85	33.7
Is ultrasound scan safe for the fetus?	170	67.5
Where is the ideal place a pregnant woman should deliver her baby? (Is her answer correct? Correct if the woman says at health institution)	247	98

Attitude on antenatal care utilization among pregnant women attending ANC services in kolfe H.C

There were 12 statements with 5-point Likert Scale agreement options to measure the attitude level which were given 1 to 5 marks. For the purpose of this paper, the response to the option for strongly agree and agree were reported cumulatively so as the response to strongly disagree, neutral and disagree. The minimum possible score was 13 and the maximum possible score was 75. Result shows that the attitude level of the women ranged from 13 to 65 with the mean score of 48.1 (SD=9.4) and median of 49 (IQR=10). The score was normally distributed. The attitude Score was further divided to two levels which are good attitude and poor attitude using the mean attitude score. The proportion of respondents with good attitude was 224(55.3%) with 95% confident interval of 50.4 to 59.5 percent. For the individual question, it was noted that there was a good response to the statement on allowing doctors to check my blood pressure where 83.0% of the respondents agreed to it.

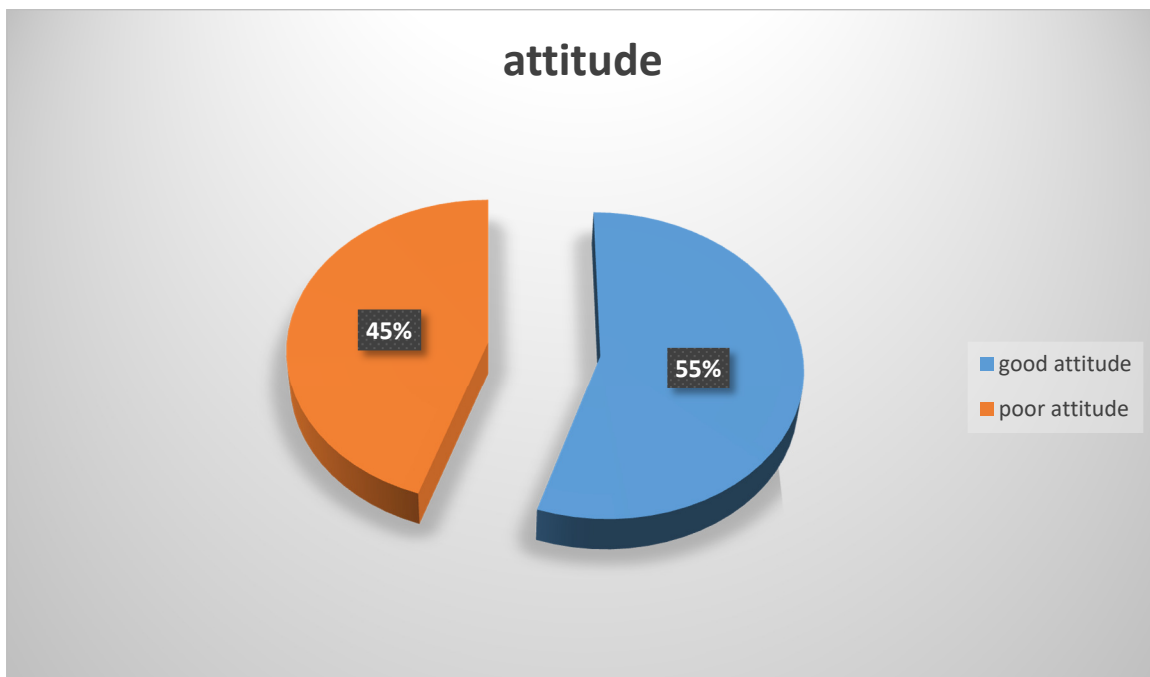


Figure 2: Attitude towards antenatal care among women attending ANC services in Kolfe H.C, Addis Ababa, Ethiopia, 2017

Factors associated with knowledge and attitude of women

The same factors were used during binary and logistic regression to identify factors that are associated with knowledge and attitude of the women who came the health center for ANC checkup.

During binary regression educational status, partner support and health facility visit for ANC during most recent pregnancy were found to be associated with attitude of the women.

Accordingly, compared to women who has studied grade 9 and above those who studied grade 7 and less are 0.54 times less likely to have good attitude [COR 0.54 (0.37, 0.81)]. Similarly women who visited health facilities for ANC purpose during most recent pregnancy were 0.37 times less likely to have good attitude about ANC services [COR 0.37(0.14, 0.94)]. On the other hand women who get support from their partner were 2.14 times more likely to have good attitude [COR 2.14(1.43, 3.20)].

During multiple logistic regression (variables assumed to affect the knowledge and attitude of ANC utilization are selected to enter the logistic regression) women who get support from their partner were 2.18 times more likely to have good attitude [AOR 2.18(1.19, 3.97)]. Women with grade 7 and less and those who visited health facilities for the purpose of ANC during their previous pregnancy were less likely to have good attitude [AOR 0.51(0.27, 0.98)] [AOR 0.28(0.10, 0.82)]. Table 4.

Table 4 factors associated with attitude of women attending ANC services in Kolfe H.C Addis Ababa Ethiopia 2017.

characteristics	Good attitude		Poor attitude	COR (95% CI)	AOR (95% CI)
Age 15-25	71(55.3%)		57(44.7%)	1.06(0.70, 1.60)	1.91(0.79,4.64)
Age >25	68(55%)		56(45%)	1.00	1.00
Less than grade 7	82(47.4%)		90(52.6%)	0.54 (0.37,0.81)*	0.51(0.27,0.98)*
Grade 8 & above	49(62%)		31(38%)	1.00	1.00
Partner support yes	84(65.6%)		44(35.4)	2.14(1.43, 3.20)*	2.18(1.19,3.97)*
Partner support no	58(47%)		66(53%)	1.00	1.00
Health facility visit for ANC during your last pregnancy	yes	114(52%)	106(48%)	0.36(0.14,0.94)*	0.28(0.10,0.82)*
	No	24(75%)	8(25%)	1.00	1.00

* Significant at $p < 0.05$

When we see factors that are associated with knowledge of the women about ANC services by using similar variables used during attitude, partner support was found to be significantly associated in binary regression. Women who get support from their partner were 3.9 times more likely to have good knowledge [COR 3.9(2.57, 6.11)]. When we control for other variables, this variable remain to be significantly associated. Women with partner support were 7 times more likely to have good knowledge compared to those who had no support from their partner [AOR 7(3.5, 14)]. And other variables are not found to be significantly associated.

Table 5 Factors associated with knowledge of women attending ANC services in Kofe H.C Addis Ababa Ethiopia 2017

characteristics	Good knowledge		Poor knowledge	COR (95% CI)	AOR (95% CI)
Age 15-25	77(60%)		51(40%)	1.04(0.68, 1.58)	1.89(0.69, 5.16)
Age >25	72(58%)		52(42%)	1.00	1.00
Less than grade 7	98(56.9%)		74(43.1%)	0.83 (0.56, 1.23)	1.11(0.56,2.23)
Grade 8 & above	49(62%)		31(38%)	1.00	1.00
Partner support yes	98(76.7%)		30(23.3%)	3.9(1.43, 3.20)*	7(3.5,14)*
Partner support no	58(47%)		66(53%)	1.00	1.00
Health facility visit for ANC during your last pregnancy	yes	132(60%)	88(40%)	1.79(0.76, 4.21)	0.59(0.58,4.37)
	No	18(55.5%)	14(45.5%)	1.00	1.00

*** Significant at p<0.05**

6. Discussion

Appropriate knowledge and attitude is vital in ensuring sustainable acceptance of antenatal services among women. This study revealed that 60.3 percent of the respondents have good knowledge regarding the antenatal care. This finding is almost similar with cross-sectional study conducted in Metekel zone, North West Ethiopia, in which 65.6% of women interviewed knew at least half of the knowledge questions on ANC and so labeled as knowledgeable [8]. This finding was higher than result of study done by Yang, Yoshitoku and his colleagues, in Khan District, Xiengkhouang province Nagoya, Japan, stating that prevalence of good knowledge among mothers who received ANC care being 45.5% [14]. Similarly prevalence of good knowledge was lower 44.2% in Jempol, Nigeria Semilan[19]. In another hand finding was lower than study done in South-West Nigeria in which over all knowledge was reported to be 74.6%. And again another study from north central Nigeria reported good knowledge of 69.9% [20]. This deference may be due to difference in study population and instruments used to measure knowledge.

The result on attitude towards ante-natal care showed that 55.3% of the interviewed women had good attitude. This is also supported by Rosalia and Muhammed (2011) in their study on attitude towards ANC which revealed positive respondent's attitude was 53.8% [19]. Result from cross sectional study conducted in IkotEkpene south east of Nigeria, in attitude towards ANC was not in agreement with the above findings when the study discovered that majority of the respondents 56.7% showed negative attitude towards ANC [21]. In another study on antenatal care services among women in Khan District, Xiengkhouang province, Nagoya, Japan, showed that 62.2% of ANC receivers had good attitude towards ANC services [14]. The disparity between the two results may be attributed to the fact that traditional ante-natal care gives them the opportunity to have regular contacts with their doctors and also seeing other clients with help to allay their anxiety. In this study only 45% Of the women had knowledge of that first antenatal check-up has to be done in the first 3 months of pregnancy. Similarly, 55.5 % of women agreed or strongly agreed as they will go for antenatal booking before the third month of their pregnancy. And only 32.1% and 31% of them mentioned correctly the minimum recommended number of ANC visit and responded how many times injection tetanus toxoid (TT) should be given during pregnancy respectively. Although study participants were women attending ANC service and they probably had received iron folic acid tablet, slightly greater than half of them correctly answered how iron folic acid has to be taken during pregnancy. Similar finding was obtained from study done in an urban area of Imphal East, India in which 55.2%, 34.2% and 54.1% of the women interviewed knew correctly the minimum ante-natal checkup during pregnancy, injection (TT) should be given during pregnancy and knew correct doses of

folic acid needed during pregnancy respectively [9]. These finding might give insight as there is still need for more effort for improving the women's knowledge on this important contributors of maternal health.

It is believed that women's education is important for understanding health messages and to be able to make decisions regarding their health and care. The findings on determinant factors shown that, although significant association was not found between educational status and knowledge of the women, attitude was found to be affected by education status. As education level decrease the probability of having good knowledge also decreases.

This finding is in line with study conducted in Nsukka local government area of Enugu state, Nigeria [7]. Education not only transforms, but also empowers women and improves their self-esteem. It is expected that educated women are more likely to be aware about their health status and seek health knowledge and this will contribute on positive attitude of the women.

Partner support during pregnancy and ANC visit was found to be significant determinant of both knowledge and attitude of mother towards ANC. Women with partner support had better knowledge and attitude. Previous exposure and utilization of ANC services may help in clearing myths about the service and help to appreciate the advantage of using the services. But, these mothers who were not well treated and fail to receive the care they wanted to get or they think they should get, they will go home with less satisfaction and similar poor service might be expected by these mothers. Accordingly, in this study it was found that women who had visited health facilities during their previous pregnancies were likely to have positive attitude for attending antenatal care services.

7. Strength and limitation of the study

Strength of the study

- There was high response rate

Limitation of the study

The sample used not adequate to represent the total population.

As the study is conducted in one health center in Addis Ababa only, generalization of this finding to the city may be difficult.

As the study was conducted among women currently attending ANC care from the health center social desirability, bias may not have been completely eliminated.

8. Conclusion and recommendation

Conclusion

According to this study three out of five women were found to have good Knowledge of ANC and greater than half of the study participant had good attitude of ANC. Their knowledge on certain aspects of antenatal care was still poor. Partner support was found to significantly affect Knowledge and attitude of woman towards ANC. In both cases women who has partner support had higher likely hood of having good knowledge and attitude. Compared to women with educational status greater than secondary school those with less than elementary school were less likely to have good attitude. And also women who visited health facility for ANC during her most recent pregnancy were likely to have good attitude.

Recommendation

Women empowerment through education as well as involvement of husbands during information and education about antenatal care utilization are recommended.

Information, education and communication on ANC must be intensified in order to reach all segments of the population by the health care providers.

Proper training of health care providers about ANC should be done by the respective health institutions

Community health practitioners, public health educators and social workers should plan appropriate technique to modify the attitude of some pregnant women on the concept of antenatal services.

Awareness creation should be made through mass media campaigns highlighting on topics like when to start ANC, minimum number of visit expected to attend, advantage of TT vaccine and other components of ANC services.

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Annex i: consent form

Introduction: my name is Dr. Mohammed Mohamoud, I am doing a research about the knowledge and attitude of pregnant women on the benefits of ante natal care utilization. I am going to ask you some questions that are not difficult to answer. Your name will not be written in this form and will never be used in connection with any of the information you tell me. We would appreciate your help in responding to this survey questions. The interview will take less than 30 minutes. Are you be willing to participate

[Indicate by ticking the appropriate responses]?

Yes-----, no-----

Signature of the interviewer certifying that the informed consent has been verbally taken-----

Annex ii: questionnaire:

To assess the knowledge and attitude of pregnant women on the benefits ante natal care utilization

Part one: socio demographic factors

No	QUESTION	ANSWERS AND CODES
101	How old are you?	_____ In completed Years, I don't remember____0
102	What is Your religion?	Orthodox_____1 Muslim_____2 Protestant_____3 Others(specify)____4
103	To which Ethnicity do you belong?	Amhara_____1 Oromo_____2 tigre_____3 Gurage_____4 Others(specify)____5
104	What is your marital status	Never married_____1 Married_____2 Divorced_____3 Widowed_____4 Others(Specify)____5
105	What is your educational level	Can't read and write____1 Grade 1-6_____2 Grade7-12_____3 Diploma and above____4 Others(specify)____5
106	What is your occupation?	Merchant_____1 Governmentemployee____2 Housewife_____3 Student_____4 Privateemployee____5 Others(specify)____6

107	What is your estimated monthly income?	500-1000 birr 1500- 3000 3500 and above I do not know
108	In the past three months, have you seen, heard or read anything about the importance of attending ANC at health facility on radio or television or on the newspaper or anywhere else?	Yes_____1 No_____2 I don't remember_____0
109	In what ways did your husband support you in attending ANC?	_____

Part two: obstetric information and health care service utilization

No	Question	Answer and code
201	How many times have you been pregnant?	_____
202	How many children do you have?	_____
203	How many years between your deliveries in average?	_____in months
204	What was your age at first delivery?	_____in years
205	At what gestational age was your first visit?	_____in months I don't remember__0
206	Place of Last delivery	Home_____1 Health center____2 Hospital_____3 Others(specify)____4
207	If it is home, why?	No nearby health facility_____1 No transportation__2 Precipitated labor____3 Lack of money_____4 No partner for help__5

		I don't want to go healthfacility_____6 Otherspecify_____7
208	Did you take the baby to health institution? For check up in the first one month? (postnatal checkup)	Yes_____1 No_____2 I don't remember_____0

Part three: Assessing the knowledge on ante natal care

No	Question	Response	
		Yes_____1	No_____2
301	Do pregnant women need to go for antenatal check-up?	1	2
302	If yes is it required to go for ANC even if there is no complication during pregnancy?	1	2
303	Should first antenatal check-up be done in the first 3 months?	1	2
304	Does pregnant woman need to come for antenatal check-up four times throughout her pregnancy? (Is her answer correct? Correct if she answered YES)	1	2
305	Is it necessary to give TT vaccination during pregnancy?	1	2
306	If yes, is it five times that TT vaccination should be given? (Is her answer correct? Correct if she answered YES)	1	2
307	Does pregnant woman need vitamin supplement?	1	2
308	Is it necessary to take iron tablet during pregnancy?	1	2
309	Do pregnant woman need to take extra food as compared to non-pregnant state?	1	2

	Does pregnant woman need to undergo the following test during her ante natal check-up?		
310	Blood screening for HIV infection?	1	2
311	Blood screening for hemoglobin level? PROBE: pregnant woman need to check her hemoglobin to know whether she is anemic or not.	1	2
312	Blood pressure examination? PROBE: to know whether she has pregnancy induced hypertension, preeclampsia or not, pregnant woman need to check her blood pressure.	1	2
313	Blood sugar level? PROBE: pregnant woman should check her blood sugar level, to know if she has diabetes or gestational diabetes or not.	1	2
314	Can high blood pressure affect the fetal growth?	1	2
315	Does pregnant woman need to undergo urine test?	1	2
316	Do diabetic women have higher risk of having big babies?	1	2
317	Is ultrasound scan safe for the fetus?	1	2
318	Where is the ideal place a pregnant woman should deliver her baby? (Is her answer correct? Correct if the woman says at health institution)	1	2

Part four: Assessing Attitude towards antenatal care

No	Question	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
401	Early antenatal booking is good for my pregnancy	1	2	3	4	5
402	I will go for antenatal booking before the third month of my pregnancy	1	2	3	4	5

403	I believe that vitamin supplement is good for the fetus	1	2	3	4	5
404	I believe alcohol drinking will affect fetal growth	1	2	3	4	5
405	I should go for antenatal checkup if I am pregnant	1	2	3	4	5
406	Antenatal follow up is good to monitor mother's and fetus' health	1	2	3	4	5
407	I will allow the doctor to take my blood for screening	1	2	3	4	5
408	I will allow the doctor to check my blood pressure	1	2	3	4	5
409	I will check my blood sugar level if I am pregnant	1	2	3	4	5
410	I am willing ultrasound scan done during my pregnancy	1	2	3	4	5
411	I plan to deliver in the health facilities	1	2	3	4	5
412	I will do early preparation for the delivery	1	2	3	4	5