ADDIS ABABA UNIVERSITY

FUCULTY OF MEDICINE

SCHOOL OF PUBLIC HEALTH

WHY PREGNANT WOMEN DELAY TO ATTEND PRENATAL CARE?

CROSS SECTIONAL STUDY ON TIMING OF FIRST ANTENATAL CARE BOOKING AT PUBLIC HEALTH INSTITUTIONS IN ADDIS ABABA

BY

ALEMAYEHU TARIKU JIMALO

A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF ADDIS ABABA UNIVERSITY, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS IN PUBLIC HEALTH

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Abstract

Background: The purpose of antenatal care is to improve pregnancy outcome for both the mother and the fetus. Antenatal care is more beneficial in preventing adverse pregnancy outcomes when it is sought early in the pregnancy and continued through to delivery. However, existing evidence from developing countries including Ethiopia indicate that few women seek ANC at early stage of their pregnancy.

Objective: The objective of this study is to assess timing of fist antenatal care booking and factors that influence the timing.

Method: A cross sectional study design was used to collect data from 630 pregnant women who were attending antenatal care service at 10 government health centers in Addis Ababa from March 1 to 30, 2008.

Result: The proportion of respondents who made their first antenatal care within the recommended time [before or at 12 weeks of gestation] was found to be 40.2%. The timing of antenatal care booking ranges from 1st month to 9th months of gestation. The mean timing was 4 months [SD 1.8]. Multivariate analysis revealed that respondents with parity zero, who said their pregnancy was planned and who received advice on advantage of early booking were more likely to book timely compared to others [OR= 1.860, 95% CI: 1.005, 3.441], [OR=1.918, 95% CI:1.105,3.328] and [OR=10.236, 95%CI: 4.580, 22.875] respectively. Past service utilization did not seen as predictors for timely booking.

Conclusions: Majority of pregnant mothers do not practice early booking of antenatal care provided that the service is accessible. In order to improve the situation, implementation of focused antenatal care, clear guidelines for the service, and the need for training service providers are important.

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Abbreviations

AAU	Addis Ababa University
AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal care
EDHS	Ethiopian Demographic and Health survey
FMOH	Federal Ministry of Health
HIV	Human Immunodeficiency Virus
SNNPR	Southern Nation and Nationalities Peoples Region
SPH	School of Public Health
STI	Sexually Transmitted Infection
WHO	World Health Organization
UNICEF	United Nations Children Emergency Fund

1. INTRODUCTION

1.1. Statement of the problem

Pregnancy is one of the most important periods in the life of a woman, a family and a society. ANC is special care for women during pregnancy through the public health services. The goal of ANC is to prevent health problems in both infant and mother and to ensure that each newborn child has a good start [1].

The purpose of ANC is to improve pregnancy outcome for both the mother and fetus. To achieve this objective, the service is organized into a booking [first visit] and a follow up clinic. The aims and objectives of the first visit are primarily to establish a rapport with the client and collect information to evaluate the state of health of the mother, and her preparedness for motherhood and chart the likely course of the pregnancy [4].

The traditional and being implemented model of ANC which is organized as a visit of every month up to 28 weeks of gestation, fortnight from 28 to 36 weeks of gestation, and weekly after 36 weeks of gestation is termed as risk approached [2,4].

The WHO recently recommended a reduction in the number of ANC visits because of evidence suggesting that having fewer ANC visits do not affect the outcomes of care [2]. The newly proposed, focused ANC recognizes that every pregnant woman is at risk for complications. In this model, four ANC visits are recommended for most pregnant women. Ideally, the first visit during first trimester; the second, close to week 26; the third around week 32; and the fourth and final visit between weeks 36 and 38 [2] .

ANC is more beneficial in preventing adverse pregnancy outcomes when it is sought early in the pregnancy and is continued through to delivery [1,2]. Different literatures recommend the first ANC visit should occur within the first three months of pregnancy [3].

The first visit offers the opportunity to the expectant mothers to assess personally, the services provided in the institution and to build up their impression about the establishment. Also, it presents an opportunity to service providers and administrators alike, to have an in-depth knowledge about the characteristic of the clients being served, and their needs. This provides the foundation for changes, which are made with the belief that improvement in service qualities would have an effect on the uptake of ANC services of pregnant women [5].

Pregnant women should be offered screening for HIV infection early in ANC because appropriate ANC interventions can reduce mother-to-child transmission of HIV infection. These enable the expectant mother to decide whether to share her HIV status with anyone and, if so, with whom. Choose to terminate her pregnancy where safe, legal and available. Choose to benefit from antiretroviral therapy where applicable and understand infant feeding options and choose that which is best in her circumstances. Learn more about HIV infection and its implications for her health, access support groups and health services that promote positive living and make choices about sexual behavior and future fertility [6].

Screening for syphilis should be offered to all pregnant women at an early stage in ANC because treatment of syphilis is beneficial to the mother and fetus. In pregnant women with early untreated syphilis, 70% to 100% of infants will be infected and one-third will be stillborn [5].

Pregnant women should be offered iron and folic acid supplementation early in pregnancy. This allows enough time for treatment if anemia if detected. Supplementation of pregnant women and those intending to become pregnant and who are at risk of nutritional deficiency with folic acid, before conception and up to 12 weeks of gestation, reduces the risk of having a baby with neural tube defects [anencephaly and spina bifida] [2,4,5] .

The severity of nausea and vomiting varies greatly among pregnant women. The majority of women with nausea and vomiting report symptoms within 8 weeks of their last menstrual period with over one-third of women reporting symptoms within 4 weeks of their last menstrual period. Hyperemesis gravidarum refers to pregnant women in whom fluid and electrolyte disturbances or nutritional deficiency from intractable vomiting develops early in pregnancy. Even though the condition is very rare, unless the pregnant mothers monitored and provided with basic information during this period they may exposed to usage of un-prescribed possible teratogenic drugs which may affect the growing embryos and the outcome of the fetus [4].

Individual interaction between the client and health care provider is an essential element of the new ANC model. Basic information like providing advice on safe sex, risk of acquiring or transmitting HIV or STIs without the use of condoms, stop the use of tobacco [both smoking and chewing], alcohol and other harmful substances, when to start and end breast-feeding, whom to call or where to go in case of bleeding, abdominal pain and any other emergency, or when in need of other advice and nutrition should be carried out during first visit [2].

While there are potential benefits to be gained from some of the elements of ANC, and these benefits may be most significant in developing countries where maternal morbidity and mortality levels among reproductive age

women are high, most sub-Saharan Africa are where women presenting for ANC are most likely to wait until the second trimester and third trimester [4].

According to EDHS, 2005, only 6 percent of women make their first ANC visit before the fourth month of pregnancy. The median duration of pregnancy for the first ANC visit is 5.6 months. The median duration of pregnancy for the first ANC visit is 4.2 months for urban women compared with 6.0 month for rural women.

In urban settings where the health services are physically access and ANC at the governmental health institutions are provided free of pay, only 32.4% of mothers seek the service before 16 weeks of gestation and 30.1% of pregnant mothers did not uptake the service at all. This is very much far from this figure in rural dwellers [3].

1.2. Significance of the study

Focused ANC is recommended as it is simple, cost effective and valuable compared to traditional risk approach ANC which was developed long a go. According to the focused ANC approach, only four visits are recommended for most pregnancies. Of the four visits the first which is recommended to be carried out at first trimester is important for good start of the pregnancy. The major importance of the first visit is the screening of mother for HIV/AIDS to prevent maternal to child transmission of the infection, screening of anemia and providing supplementation and screening of syphilis and managing if it is found.

Despite this assumption and fact, majority of pregnant women in developing country including Ethiopia, are booking late to utilize ANC during their second and third trimesters provided that the service is physically accessible and provided free of payments which compromise the objective of the service in many aspects.

Therefore, quality ANC service have a great importance in providing timely booking, awareness of risks and early seeking to care and birth preparedness. Finding out which factor determines the time of ANC booking is important for policy makers and program implementers. Identifying factors on specific timing of ANC in the area may contribute for generation of information.

1.3. Literature Review

1.3.1. Time of First ANC Booking

A key objective of maternal health care programmes has been to ensure that women present for ANC early in pregnancy in order to allow enough time for essential diagnosis and treatment regimens such as treatment of STIs and management of anemia [4].

Studies done on timing of first ANC visit are limited. However, few studies available from different area reported the specific timing of first ANC booking deferentially.

Study done in New Zealand to assess factors affecting ANC attendance by mothers and timing of first booking reported that 26.6 % of pregnant women initiated the care after 15 weeks of gestation [19]. In study done in Nigeria, to assess some characteristics of the booking visit reveals that the mean gestational age at first booking was 23.7 weeks with rage of 9 to 38 weeks [16]. Analysis on Kenyan Demographic and Health Survey, 1993, showed that the distribution of the timing of the first antenatal care visit is fairly normal, ranging from the first to the ninth month, with a mean of about 5 months [25].

Joint report from WHO and UNICEF on ANC in Developing Countries, pointed out that the pregnant women in Sub-Saharan Africa who have started first ANC within three months of pregnancy [During first trimester] are only about 20% which is list compared to other developing countries [4] .

In Ethiopia, according to EDHS, 2005, only 6 percent of women make their first ANC visit before the fourth month of pregnancy. The median duration of pregnancy for the first ANC visit was 5.6 months. The median duration of pregnancy for the first ANC visit was 4.2 months for urban women compared with 6.0 for rural women. In urban area where the health services are physically access and ANC at the public services are provided free of charge, only 32.4% of mother seek the service before 16 weeks of gestation [3] .

In a community based study done in Addis Ababa in 1992 reported that the proportion of women started their ANC checkup during the first trimester were only 26% [20] .

1.3.2. Factors contribute to patterns of maternal health utilization

Utilization of health services is a complex behavioral phenomenon. Empirical studies of preventive and curative services have often found that use of health services is related to the availability, quality and cost of services, as well as social structure, health beliefs and personal characteristics of the users [7].

Review of literature suggests that in developing countries, the use of modern health care such as maternal health services can be influenced by the socio-demographic characteristics of women, the cultural context, and the accessibility of these services [7].

1.3.2.1. Socio-demographic factors

a. Maternal age

Younger and older women are different in their usage of maternal health services. In general, younger women are more likely to use maternal health services [8]. In a cross-sectional survey of 7005 pregnant women from 28 districts in 14 states of India, reported that there is statistical significance in reduction of ANC utilization as age increases [9]. In contrary to the above, a study done in Bangladesh from prospective survey to assess maternal morbidity, reported that the older ages were more likely to use ANC [7].

In Ethiopia, finding form analysis of EDHS, 2000 and 2005, reported that maternal age is not a factor for utilization of ANC [3,10]. Another community based study conducted in Addis Ababa to assess pattern of ANC utilization and prefrence of place of delivery, reported that ANC attendance rate was lower among the younger women[20] .

b. Marital status

There is increased maternal health service utilization among married women [8]. In Ethiopia, finding form analysis of EDHS, 2000, identified that, there is a littlie difference among married and unmarried women on utilization of ANC in all nations but married women uses ANC services two-times more than unmarried women in urban areas.[10]

c. Maternal Education

Education is found to be the most determinant factor for of maternal health utilization.[4,8,28] A study done in Bangladesh from prospective survey to assess maternal morbidity, concluded that female education retains the net effect of maternal health use. Late booking is also associated with less educated mother [7].

In Ethiopia, finding form analysis of EDHS, 2000, identified that, 72% of mothers with at least secondary school education received ANC compared to 45% and 21% of mothers' with primary and no education respectively [10]. The EDHS, 2005 and community and family survey conducted in SNNPR to assess maternity care utilization, also reflected the above situation [3, 11]. On the other hand study done in Addis Ababa, did not show significant association of ANC utilization and educational status of the mother [20].

d. Occupation

In Bangladesh 35.4% of women who involved in grateful gain of work utilized ANC compared to 25.3% of mothers who did not work [7]. In Ethiopia, finding form analysis of EDHS, 2000, described that, work status of mother did not show any statistical differences in utilization of ANC [10].

e. Ethnic and Religion

There was significant variation in the utilization of maternal health care by religion. In Ethiopia, according to review of EDHS, 2000, revealed that Orthodox/Catholic, Muslim, and Protestant women exhibit greater use of maternal health care services than women who follow traditional beliefs. Orthodox/Catholic and Muslims are 50% and 30% respectively more likely to receive ANC than the traditional beliefs [10]. According to the study conducted on factors affecting ANC utilization in Addis Ababa, ethnicity is highly

correlated with ANC attendance. This study reported that pregnant women with Tigries ethnicity are more likely to attend ANC than others but the reason was not explained. [20]

f. Family income

Household economic status has influence on maternal health service utilization [7]. In Bangladesh, women whose husbands involved in business/services have positively associated with utilization of ANC 33.4% than those husbands involved in agricultural and labor activities [7]. In another qualitative study conducted in cape Town, South Africa, the reason given for delay to ANC was financial constraints in which mother delay to accumulate user's fee. [14]

According to EDHS, 2005, women with highest wealth quintiles use ANC five times greater than women with lowest wealth quintiles [3]. The finding from Addis Ababa is also similar with the above finding [20].

g. Residence

Being an urban or rural residence can significantly determine the use maternal health. Generally urban dwellers are more likely utilize ANC than the rural [4]. In Ethiopia, finding form analysis of EDHS, 2000, identified that, place of residence was found one of the determinant factors for maternal

health service utilization. Addis Ababa and other urban women are ten times and four times respectively use ANC service more likely than women in rural areas [10]. The Ethiopian Demographic Health Survey, 2005, and other community based survey at SNNPR, also found there are great differences in utilization of ANC services and slight differences in timing of booking among urban and rural residences [3, 11].

h. Access to service

Many literature supports access to health service significantly increase maternal health service utilization [8, 9, 10, 11]. The exception is the study conducted in India that concluded maternal health utilization has no association with accessibility [9].

1.3.2.2. Obstetrics History

a. Parity

Parity is also found associations with maternal health utilization. There is significant reduction in maternal health service utilization and early booking with increase parity [12, 13]. Study done in Bangladesh, reported that parity seems U-shaped [7]. There is an increase in utilization of ANC at begging and high parity but decline at the medium numbers of parity.

According to EDHS, 2005, 34% of mothers with first birth order use ANC service compared to 22% of six and high birth order [3]. A community based survey in SNNPR, reported that parity is one of the factors for utilization of ANC and consistent with the above ideas in urban areas but not in rural cases [11]. Another study in Addis Ababa, reported that as parity increase there is a decline in ANC utilization [20].

b. Mothers child birth experience

Mother's previous experience of undesired birth outcome is also one of the positive determinants for maternal health service utilization and early booking [7]. While study done in India revealed that ANC utilization has no association with previous birth outcome [13].

1.3.2.3. Past Experience

a. Pervious utilization of service

Pervious utilization of care is thought to be one of the factors for utilization of maternal health care [7]. But other reviewed literature did not reported pervious uses of the service as a factor for maternal health service utilization and/or early or late booking of ANC.

b. Perceived quality of service

The perception of quality of care is a factor to utilize health services [24]. Study conduct in South Africa reported that about 32% claim as the interaction with care provider during ANC is poor, they were given littlie information about the status of infant and when they expected to deliver. In this study the reason for delay to attending ANC was spending time searching for an alternative place to attend ANC because of fears of poor care at health institution [14].

c. Cost of maternal service

Financial constraints were also seen as a factor for late booking of ANC in different literatures [12, 15].

1.3.2.4. Awareness of care and Knowledge on pregnancy related complication

a. Awareness of Care

Awareness of care during pregnancy has positive association with utilization of ANC [9]. In one study conducted in Ibadan Nigeria, 41.4% of mothers who seek care timely reported as they are perceived benefit of the care [17]. In another study reason for seeking ANC during first trimester by teenagers were reported as wanted pregnancy test and being felling ill [15].

b. **Knowledge on pregnancy related complication**

Knowledge on pregnancy related complications has positive association with early utilization of ANC [9]. Mothers who were experienced a life-threatening condition use ANC early two times more likely than the others [13]. In Nigeria, one study reported that 24.1% of mothers provide reason for timely booking was due to the occurrences of complications in the previous pregnancies [17].

1.3.2.5. Other factors

a. **Influence of husband/spouse and significant others**

In study conducted in Nigeria, the decision to seek maternal health is done by the husband alone in 52% of mothers who participated in the study [16]. In another study in Nigeria, reason for delay to seek ANC was reported by 17.2% of mothers was husband's denial of care.[12] On the other hand, another study conducted in Nigeria revealed that the reason for timely booking of ANC by 34.5% of respondents was physician recommendation [17].

b. **Pregnancy related factors**

A qualitative study conducted in South Africa on 103 pregnant women to identify health care seeking practice reported that, most women booked later in their second or third trimester expressed the reason for delay as pregnancy

being unwanted, difficulty getting transport during busy times on the farms or an unwillingness to book early because of not wanting to be pregnant [26].

In another study, reason given for delay to seek ANC was unrecognized symptoms of pregnancy, denying being pregnant, and fear of parents' response to the pregnancy [15].

1.4. Conceptual Framework

To conceptualize this study, Andersen and Newman socio-behavioral model framework of health services utilization was used. This framework was first developed in the 1960s and has since gone through four phases. Developed in the 1990s, the framework below represents the fourth phase [18].

According to this model, individual's access to and use of health services is considered to be a function of three characteristics. These are predisposing factors [The socio cultural characteristics of individuals that exist prior to their illness], enabling factors [The logistical aspects of obtaining care] and need factors [The most immediate cause of health service use, from functional and health problems that generate the need for health care services].

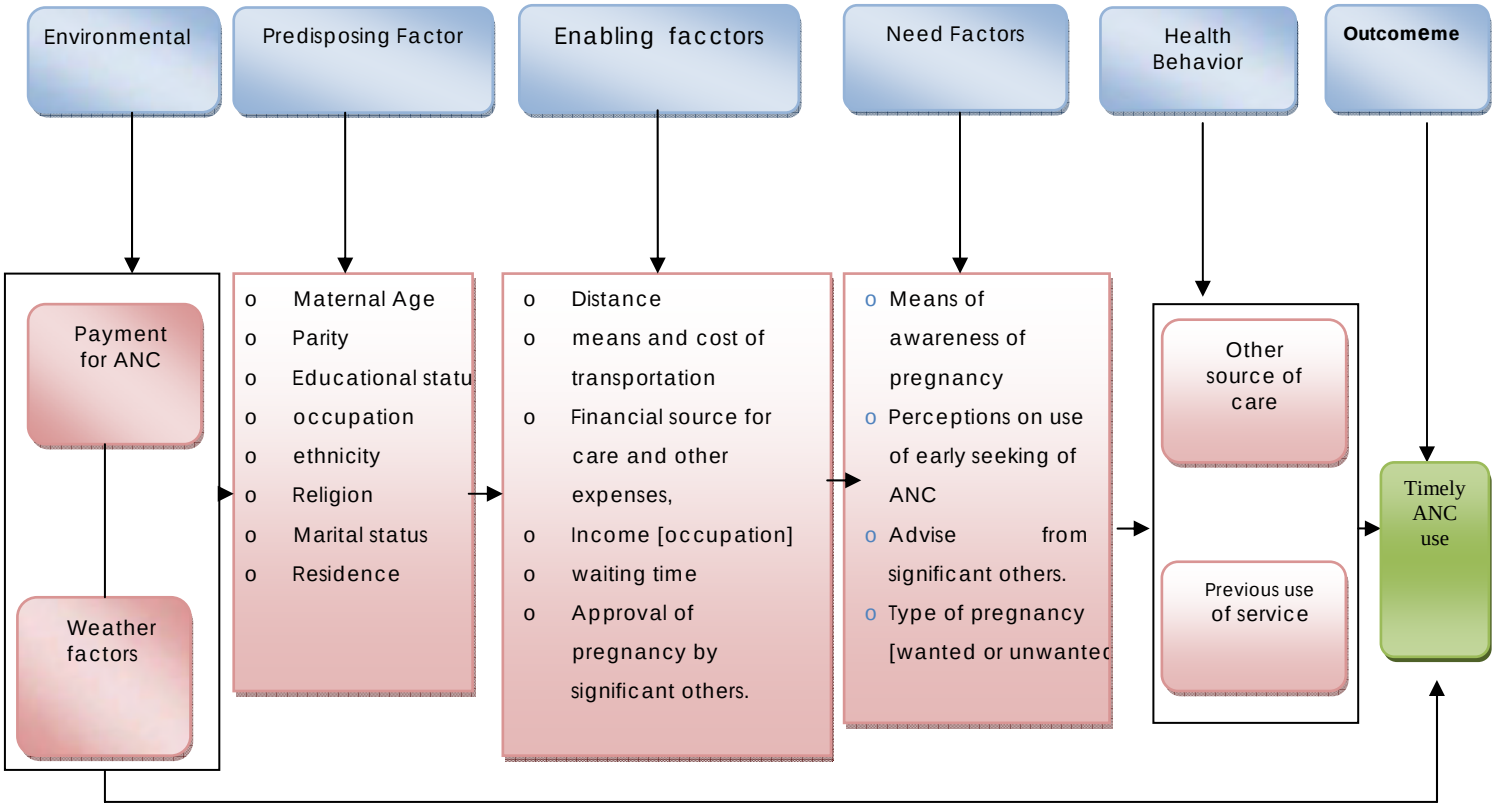

Fig 1: Conceptual framework for timely use of ANC [Adapted from Anderson 1995]

2. OBJECTIVES

2.1. General Objective

The general objective of this study is to assess timing of fist ANC booking and factors that influence timing of first booking.

2.2. Specific Objectives

1. To assess time of first ANC booking.
2. To describe the socio-demographic characteristics of pregnant women by time of first ANC booking.
3. To assess factors those contribute to timely booking of first ANC visit.

3. Materials and Methods

3.1. Study area, Design, Period and Source Population

Study setting: This study was conducted in 10 selected health centers from Addis Ababa City Administration government health institutions. Addis Ababa is a capital city of Ethiopia with estimated population of about three million. The city is divided in to ten sub cities. According to data from FMOH, 2005/6 Health and Health related Indicators, there are about 29 hospitals, 29 health centers, 8 health stations and 116 health posts owned by public and private. Of the above health institutions, 5 hospitals, 24 health centers and 8 health posts are governmental. The ANC coverage of the City Administration is about 88% which is the highest in the country.

Study design: facility based cross sectional study design was used to collect data from 630 pregnant women.

Study period: the duration of the project was from October, 2007 to June, 2008 and the data collection period was from March 1st to March 30th, 2008.

Source population: All pregnant women in Addis Ababa City Administration and using public health centers for ANC.

Study subjects [participants of the study]: Pregnant women attending ANC at selected health centers and found during data collection period and service providers the health centers.

3.2. Sample size determination

The sample size was calculated using single population proportion based on the following assumptions:

- ✓ Since there is no prevalence specific to Addis Ababa on timing of first ANC visit, a prevalence of 50% was taken to estimate the sample size.
- ✓ Significant level was calculated at 95% confidence interval
- ✓ Margin of sampling error tolerable was assumed to be [4%]

$$n = \frac{[Z\alpha/2]^2\, p\, [1-p]}{d^2}$$

Where:
n = Minimum sample size
$Z\alpha/2$ = Z value at 95% CI [1.96]
p = Estimated prevalence rate in 50% [0.50]
d = Margin of error tolerated is 4% [0.04]

$$n = \frac{[1.96]^2 . 0.50[1-0.50]}{[0.04]^2} \Longrightarrow n = 600$$

- ✓ 600 samples with 5% contingency [total of 630 samples] were included this study.

3.3. Sampling and Sampling procedure

In this study 10 health centers one from each sub city was selected based on their client flow. In case of equal client flow, one health center was selected using a simple random sampling method. The sample size was assigned to each health center equally [63 per health center] as the number of clients served by the health centers in a day is more or less similar. At selected health institutions, study subjects were recruited for the study at ANC service when they come for follow-up or to begin the service. All the cases that have willing to participate during the study period were taken until the required sample size was obtained.

To complement the quantitative information an indepth-interviw using interview gude tools was conducted on respondets who have booked too early and too late. Four health care providers were also assessed for the service components and schedule of ANC visit that they have been providing.

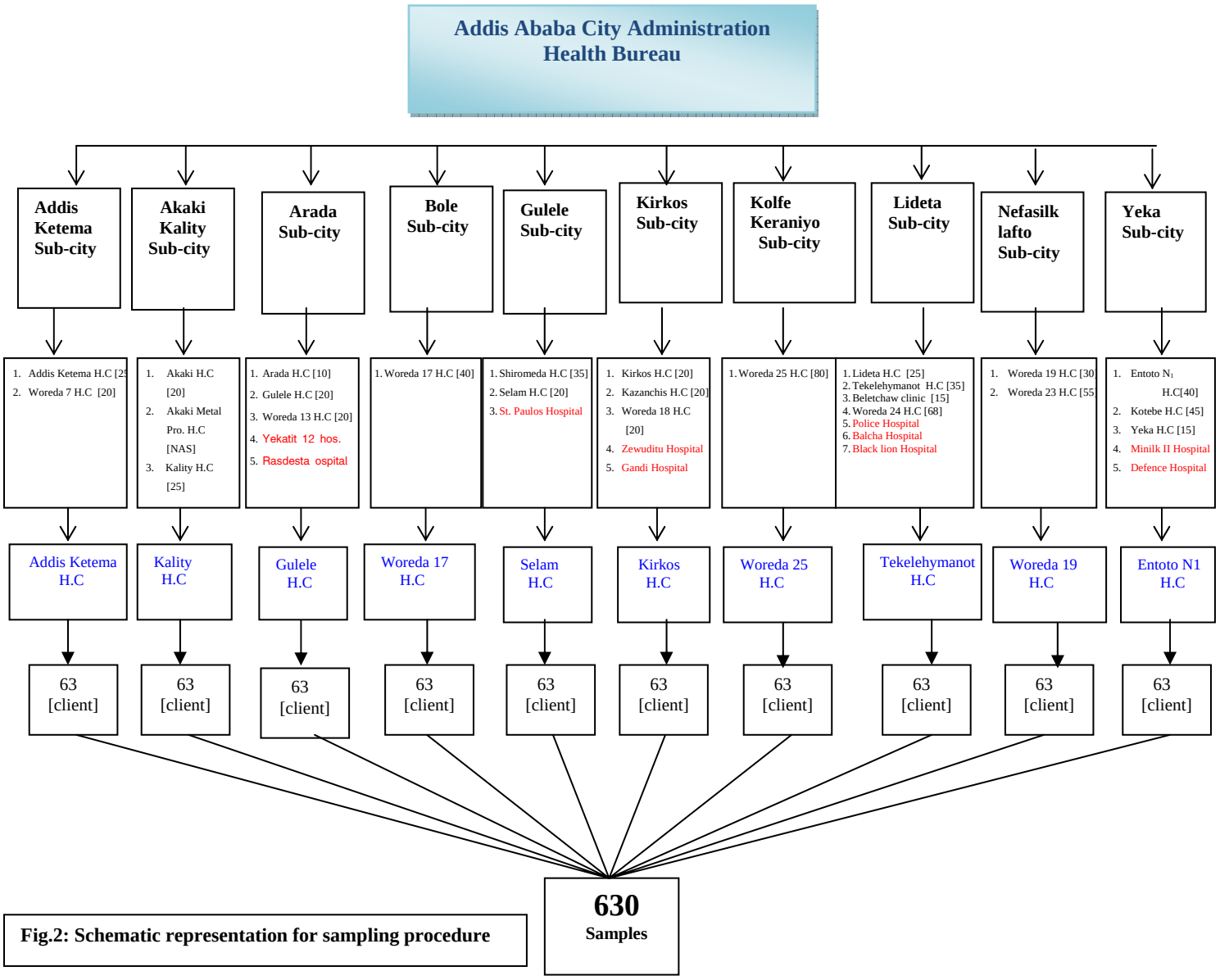

Fig.2: Schematic representation for sampling procedure

3.4. Variables

Variables in this study were identified based on Andersen and Newman socio-behavioral model framework of health services utilization. The use of models in research on utilization of health services attempts have been made to organize the different determinant factors into one explanatory concept. Andersen's socio-behavioral model is a prediction model. Prediction models provide insight by predicting levels of utilization and by describing patterns. They do not, however, explain why the process occurs. In Andersen's model three different categories of variables that influence the use of health care services are distinguished: predisposing, enabling, and need factors. [18] Since timing of first ANC booking is pattern of the ANC health service utilization, the selected variables were organized based on this model as follows.

Dependent Variable

Timing of first ANC booking

Independent Variable

Predisposing Factors: The socio-cultural characteristics of individuals that exist prior to their utilizing service [Maternal Age, Educational status, occupation, marital status, ethnicity, Religion, parity, attitudes toward the care, how the pregnant valued the care, and knowledge concerning and towards the service].

Enabling Factors: The logistical aspects of obtaining care [distance from health institution, means and cost of transportation and financial source for care and other expenses, income, availability of health personnel and facilities, and waiting time, acceptability and approval of pregnancy by the mother and significant others]

Need Factors: The most immediate cause of health service use, from functional and health problems that generate the need for health care services. [Awareness of pregnancy, perceptions on use of early seeking of ANC, any advice from significant others].

3.5. Operational Definitions

Delay in ANC: women who came for ANC after 12 weeks of gestation. This reference is taken from the last menstrual period of the pregnant women [2].

Service charges: include what the pregnant women paid to have ANC service including charges for consultation, Diagnostic services and prescribed drugs.

Waiting time: Was considered as the time when the client arrived at the health facility through the services until the exit. The standard waiting time is 90 minutes. This waiting time is for ANC linked HIV testing [37].

3.6. Data collection and management

Data collection tool: The data collection tool was translated in to local language [Amaharic]. The second version of the toll was retranslated in to the original one to evaluate its consistency. Edited final version of questionnaire was used to collect data from respondents. Few mothers who booked too early and too late were included to in-depth interview to support the quantitative data. Four health care providers from four selected health centers were also participated on interview, how they provide ANC particularly for early booking time and what packages of care are made available if the mother book during first trimester.

Training: Training of data collectors on information about the research objective, data collection tools and procedures, and interview methods was conducted for one day.

Pretest: Pretest of tools was done at one health center which is not part of this study before conducting main study on about 5% of the sample. The lessons obtained from the pre test were included in the final tool.

Data collectors: The data were collected using trained female nurses, one at two sites. The female nurses were not employee of the health center. They were not appeared with uniform. This is preferred for facilitation of

interaction between the respondents and data collectors which is important to generate accurate information.

Data collection: the data collection was conducted at selected health centers during the data collection period using edited version of data collection tool. A schedule for daily and weekly performance was assigned. The data collectors interviewed pregnant women waiting after they completed their daily visits. The pregnant women provided information to data collectors after they asked for willingness and signed consent to participate in the study at private setting around the ANC unit. The purpose of data collection and the importance of the study as well as the significance of true information were told to the participants in order to maximize the respondent rate and to generate quality data.

Supervision: Supervision of data collectors were made two times at each health canters by the principal investigators. The collected data was carefully checked for completeness as well as consistencies. Any confusion on the data collection procedure and/or responses was handled timely.

3.7. Data Processing and analysis

Quantitative Data

Each completed questionnaire was assigned a unique code. The data entry was made by the principal investigator to minimize errors. The data generated was analyzed using Statistical Package for Social Science [SPSS] for windows [version 15]. Analysis of data was done using two step logistic regression [bivariate and multivariate] to see the effect of the independent variables on the dependent variable by controlling confounders. This statistical method is preferred because the dependent [outcome] variable is dichotomous, that is timely or late seeking of ANC and the independent variables are metric or categorical. Statistical significance was evaluated at 95% levels of significance. Descriptive statistics was also applied as necessary.

Qualitative Data

The qualitative data generated from the respondents and service providers were collected using structured interview guide and transcribed immediately after the data collection. The collected data was summarized under the main schematic areas.

3.8. Ethical Consideration

An ethical clearance was obtained before conducting this research form three areas. These are School of public health ethical committee, Faculty of Medicine and Addis Ababa City Administration health bureau research committee. The health centers included in this study were asked permission using formal letters from the university, Addis Ababa City Administration Health Bureau and Respective Sub city health departments. Participants were provided with clear information and asked if they are willing to participate or not. Only those who were willing to participate were involved. Written Informed consent was obtained from clients who were participated in the study. Confidentiality of responses was maintained throughout the research process. Personal privacy and cultural norms was respected properly.

3.9. Dissemination of the result

After the data were analyzed and conclusions and recommendations were drawn, 3 copies of the result will be submitted to the School of Public Health, AAU, in order to make it available to those who need it in the University; 1 copy will be submitted to the MOH; 1 copy will be submitted to the A.A. Health Bureau; and the extract of the article will be sent to local journals for possible publication.

4. Result

4.1. Response Rate by Health Institutions

Out of 630 pregnant women initiated to be included in this study, 612 [97.1%] have responded to the interview. The rest 18 [2.9%] did not respond to the interview and or they did not specify the gestational age when they started the ANC [Table 1].

Table 1: Number of respondents by health facility, Addis Ababa, 2008

Health Institution	Sample	Responded	Response Rate [%]
Addis Ketema HC	63	60	95.2
Woreda 17 HC	63	63	100.0
Entoto N1 HC	63	62	98.4
Kaliti HC	63	61	96.8
Tekelehaymanot HC	63	59	93.7
Woreda 19 HC	63	61	96.8
Gulele HC	63	63	100.0
Kirkos HC	63	61	96.8
Selam HC	63	59	93.7
Woreda 24 HC	63	63	100.0
Total	**630**	**612**	**97.1**

4.2. Socio-demographic characteristics of the respondents by timing of ANC visit

Out of 612 respondents who responded to the interview 59 [9.6%] were in the age group of 15 – 19 years, 223 [36.4%] were in the age group of 20-24 years, 217 [35.5%] were in the age group of 25-29 years, 75 [12.3%] were in the age group of 30 – 35years and the rest 38[6.2%] were age group above 35 years. The median age of respondents was 25 year ranging from 17 to 40 years.

The Ethnic composition of the respondents was Amahara, Guragie, Oromo, Tigre, Silte and Others, 250 [40.8%], 165 [27.0%], 118 [19.3%], 38 [6.2%], 23 [3.8%], 18 [2.9%] respectively. Respondents of Orthodox religion were found to be 428 [69.9%] followed by Muslim, Protestant, and Catholic. Majority 528 [85.2%] were married or in union. The majority of educational status of most respondents were Primary and Secondary school 242 [39.5%] and 198 [32.4%] respectively [Table 2].

Table 2: Socio-Demographic characteristics of respondents by time of booking, Addis Ababa, 2008

Variable	*Booking within time[12 weeks of gestation and before]*	*Booking late [After 12 weeks of gestation]*	*Total*
	Number [%]	Number [%]	Number [%]
Age in years: N= 612			
15 – 19	17[2.8]	42[6.9]	59[9.6]
20 – 24	101[16.5]	122[19.9]	223[36.4]
25 – 29	83[13.6]	134[21.9]	217[35.5]
30 – 34	31[5.1]	44[7.2]	75[12.3]
35 – 39	13[2.1]	22[3.6]	35[5.7]
40 - 45	1[0.2]	2[0.3]	3[0.5]
Ethnic N= 612			
Amahara	108[17.6]	142[23.2]	250[40.8]
Oromo	51[8.3]	67[10.9]	118[19.3]
Guragie	57[9.3]	108[17.6]	165[27.0]
Tigre	16[2.6]	22[3.6]	38[6.2]
Silte	8[1.3]	15[2.5]	23[3.8]
Others	6[1.0]	12[2.0]	18[2.9]
Religion: N=612			
Orthodox	174[28.4]	254[41.5]	428[69.9]
Muslim	51[8.3]	93[15.2]	144[23.5]
Protestant	20[3.3]	17[2.8]	37[6.0]
Catholic	1[0.2]	2[0.3]	3[0.5]
Marital status: N=612			
Single [Not married]	12[2.0]	15[2.5]	27[4.4]
Married and live together currently	208[34.0]	313[51.1]	521[85.1]
Cohabitation	23[3.8]	34[5.6]	57[9.3]
Ever married but separated or widowed	3[0.5]	4[0.7]	7[1.1]
Educational level [Grade completed]: N= 612			
Illiterate [can not read & Write]	33[5.4]	65[10.6]	98[16.0]
Illiterate [Can Read and Write]	14[2.3]	23[3.8]	37[6.0]
Primary [1-8]	91[14.9]	151[24.7]	242[39.5]
Secondary [9-12]	90[14.7]	108[17.6]	198[32.4]
Diploma and Above	18[2.9]	19[3.1]	37[6.0]
Occupation: N= 612			
Employed [wedge]	98[16.0]	124[20.3]	222[36.3
House wife	137[22.4]	230[37.6]	367[60.0]
Others	11[1.8]	12[2.0]	23[3.8]
Household income per month: N = 519			
Less than 400.00 ETB [Below Q1]	70[13.5]	94[18.1]	164[31.6]
400 – 1000 ETB [Q1 – Q3]	103[19.8]	153[29.5]	256[49.3]
Above 1000 ETB [Grater than Q3]	45[8.7]	54[10.4]	99[19.1]

4.3. Timing of first ANC visit

The proportion of respondents who made their first ANC within the recommended time [before or at 12 weeks of gestation] are 246 [40.2%] while those who booked late [after 12 weeks of gestation] were 366 [59.8%]. The timing of first ANC booking ranges from 1st month to 9th months of gestation. The mean timing was 4 months [SD=1.8] [Fig 3 and 4].

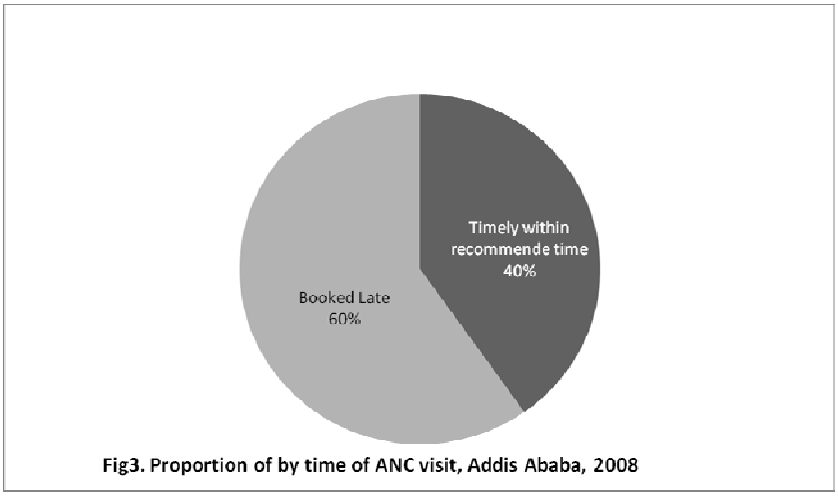

Fig3. Proportion of by time of ANC visit, Addis Ababa, 2008

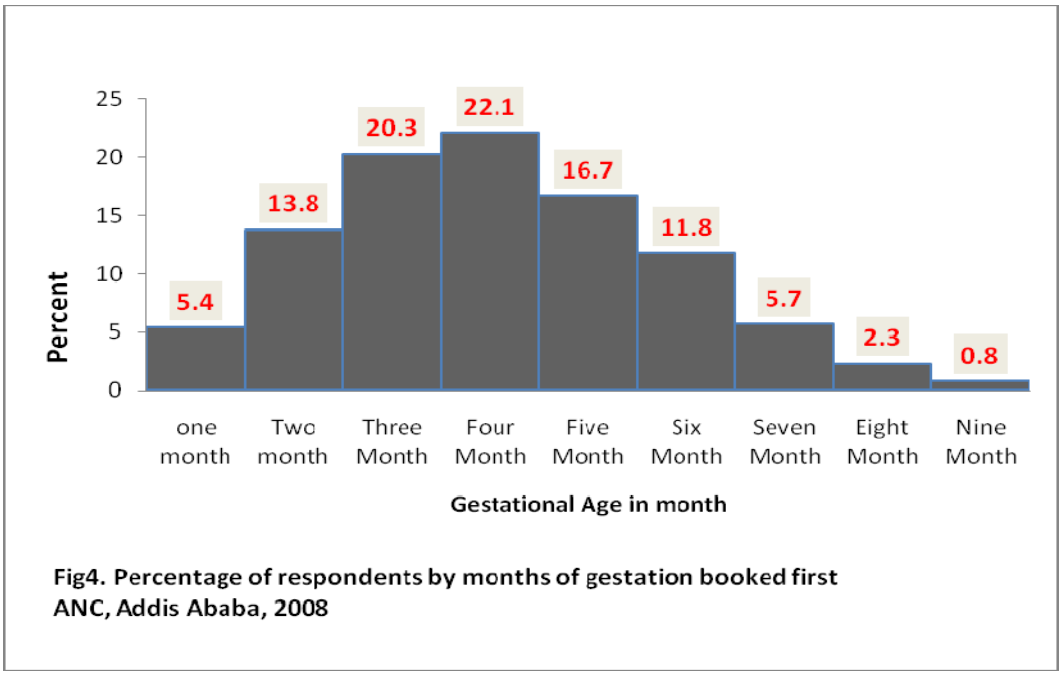

Fig4. Percentage of respondents by months of gestation booked first ANC, Addis Ababa, 2008

4.4. Obstetric history and timing of first ANC visits

Three hundred forty six [56.5%] of respondents were parity zero, while the rest 266 [43.5%] were parity one and above. One hundred twenty seven [20.8%] of respondents had history of at least one abortion and the rest 485 [79.2%] had no a history of abortion. Concerning the types/causes of the abortions among the 124 pregnant women who had at least one abortion, 64 [51.6%] of the abortions were self induced 57 [46%] were spontaneous, and 3 [1.6%] had history of both types [Table 3].

Table3: Number of respondents by obstetric history and timing of first ANC, Addis Ababa, 2008

Variable	*Booking within time[12 weeks of gestation and before]*	*Booking late [After 12 weeks of gestation]*	*Total*
	Number [%]	Number [%]	Number [%]
Parity: N=612			
No parity	168[27.5]	178[29.1]	346[56.5]
One or more Parity	78[12.7]	188[30.7]	266[43.5]
Abortion N = 612			
Had no history of abortion	192 [31.4]	293[47.9]	485[79.2]
Had history of abortion	54[8.8]	73 [11.9]	127[20.8]
Type of Abortion: N= 124			
Had history of at least one spontaneous abortion	21[16.9]	36[29.0]	57[46.0]
Had history of at least one induced abortion	30[24.2]	34[27.4]	64[51.6]
Had history of both spontaneous and induced abortion	1[0.8]	2[1.6]	3[2.4]
History of death of child N= 608			
Had history of at least one child death	6[1.0]	15[2.5]	21[3.5]
Had no history of child death	239[39.3]	348[57.0]	587[96.5]

4.5. Knowledge and perception of ANC service utilization and timing of first ANC visit

Five sundered seventy nine [94.6%] of respondents perceived and rated that the importance of ANC for the health of the mother and fetus as highly important, others 31[5.1%] rated as medium and few respondents responded as the ANC has less importance to the health of mother and fetus.

Four hundred eighty five [75.2%] perceived that the correct time of ANC booking was before 12 weeks of gestation, 115 [18.8%] perceived the correct time ANC booking was after 12 weeks of gestation while 12 [2%] did not know the correct time of ANC booking.

Nine [1.5%] respondents perceived that only one visit of ANC was necessary, 147[24%] perceived two to three visits of ANC were necessary, 247 [40.4%] perceived that four to six visits of ANC were necessary and 209 [32.4%] perceived that more than six ANC visits are necessary [Table 4] .

Table 4: Knowledge and perception of ANC service utilization and timing of first ANC, Addis Ababa, 2008

Variable	*Booking in time[12 weeks of gestation and before]*	*Booking late [After 12 weeks of gestation]*	*Total*
	Number [%]	Number [%]	Number [%]
Perception of impotence of ANC for the health of the mother: N = 620			
Highly important	235[38.4]	344[56.2]	579[94.6]
Medium	11[1.8]	20[3.3]	31[5.1]
Less	0[0.0]	2[0.3]	2[0.3]
Perception of importance of care for the health of the fetus: N=620			
Highly important	235[38.4]	342[55.9]	577[94.3]
Medium	9[1.5]	21[3.4]	30[4.9]
Less	2[0.3]	3[0.3]	5[0.8]
Perceptions on timing of first care: N = 600			
Before and at 12 weeks of gestation	220[35.9]	265[43.3]	485[79.2]
After 12 weeks of gestation	21[3.4]	94[15.4]	115[18.8]
Does not know the time of booking	5[0.8]	7[1.1]	12[2.0]
Perceived Number of ANC Visits per pregnancy: N = 612			
Only one ANC visit is enough	4[0.7]	5[0.8]	9[1.5]
Two to three visits are enough	54[8.8]	93[15.2]	147[24.0]
Four to six visits are enough	97[15.8]	150[24.5]	247[40.4]
More than 6 visits are required	91[14.9]	118[19.3]	209[34.2]

4.6. Past history of ANC service utilization and timing of ANC visit

Among 275 respondents who had history of previous pregnancy, 254 [92.4%] had experience of ANC for the pregnancy preceding the current while the others 21 [7.6%] did not have past experiences.

Out of 222 respondents who responded to the timing of first visit for pregnancy preceding the current pregnancy, 100 [44.8%] had their previous visit before or at 12 weeks of gestation while the rest 123 [55.2%] had their first visit after 12 weeks of gestation [Table 5] .

Table 5: Past history of ANC service utilization and timing of first ANC, Addis Ababa, 2008

Variable	*Booking in time[12 weeks of gestation and before]*	*Booking late [After 12 weeks of gestation]*	*Total*
	Number [%]	Number [%]	Number [%]
Pervious experience of ANC for recent pregnancy preceding the current: N = 276			
Yes	81[29.3]	174 [63.0]	255[92.4]
No	3[1.0]	18[6.5]	21[7.6]
Time of ANC booking for pervious pregnancy: N = 222			
Booked before 12 or at weeks of gestation	47[21.2]	53[23.8]	100[44.8]
Booked after 12 weeks of gestation	22[9.9]	100[45.0]	122[55.2]

One hundred twenty nine [50%] respondents who attended ANC for the pregnancy preceded the current reported that they spent less than 2 hours, [27.1%] spent 2-4 hours and 59 [22.9%] spent greater than 4 hours for first visit. Majority of respondents 215 [83.3%] responded that the waiting time for repeated visits were less than 2 hours, 32 [12.4%] were 2-4 hours, and 11 [4.3%] were greater than 4 hours.

Payment for the ANC service preceding the current pregnancy was found as 236 [91.5%] paid for the service and 22 [8.5%] did not paid. The reason for maximum payment ever paid during the service was reported that 187 [79.2%] for investigations [laboratory and ultrasound], 6 [2.5%] for drug, 43 [18.3%] for investigation and drug. Ninety-three [39.4%] paid about 10.00ETB or less, 57 [24.2%] paid 10.00 to 20.00ETB, 56 [23.7%] paid about 21.00 to 50.00ETB and 30 [12.7%] paid more than 50.00 ETB. Only few 12 [5.2%] reported that they missed investigations or drug for the reason of shortage of money and drugs and ultrasound were found the missed investigations [Table 6].

Table 6: Past Service related variables and timing of first ANC, Addis Ababa, 2008

Variable	*Booking in time[12 weeks of gestation and before]*	*Booking late [After 12 weeks of gestation]*	*Total*
	Number [%]	Number [%]	Number [%]
Waiting time for the recent pregnancy [first Visit] N= 258			
Less than 2 hrs	41[15.9]	88[34.1]	129[50.0]
2-4 hrs	19[7.4]	51[19.8]	70[27.2]
Greater than 4 hrs	21[8.1]	38[14.7]	59[22.8]
Waiting time for the recent pregnancy [second Visit]:N=258			
Less than 2 hrs	65[25.2]	150[58.1]	215[83.3]
2-4 hrs	13[5.0]	19[7.4]	32[12.4]
Greater than 4 hrs	3[1.2]	8[3.1]	11[4.3]
Payment for ANC Visit: N=258			
Yes	76[29.5]	160[62.0]	236[91.5]
No	5[1.9]	17[6.6]	22[8.5]
Reason for payment: N=236			
For Investigation [Laboratory &	63[26.7]	124[52.5]	187[79.2]
ultrasound]	2[0.8]	4[1.7]	6[2.5]
For Drug only	11[4.7]	31[13.6]	43[18.3]
For Investigation and Drug			
Maximum Payment per visit: N= 236			
< 11:00ETB	32[13.6]	61[25.6]	93[39.4]
11 – 20 ETB	18[7.6]	39[16.5]	57[24.2]
21 – 50 ETB	18[7.6]	38[16.1]	56[23.7]
Greater than 50 ETB	8[3.4]	22[9.3]	30[12.7]
Test not done due to lack of money: N=233			
Yes	6[2.6]	6[2.6]	12[5.2]
No	68[29.2]	153[65.7]	221[94.8
Tests not done due to lack of money: N=12			
Drug	2[16.7]	1[8.3]	3[25.0]
Ultrasound	4[33.3]	4[33.3]	8[66.7]
Others	0[0.0]	1[8.3]	1[8.3]

4.7. History of current pregnancy and timing of first ANC visit

Two hundred thirty-four [38.2%] of the respondents reported that they confirm their pregnancy when they missed one to three menses while the others 378 [61.8%] alerted their pregnancy when they missed menses for more than three times and other signs like changes on breast and nipple structure.

Five hundred ten [83.3%] of the respondents were first informed their pregnancy to their husbands, 31 [5.1%] to their friends, 23 [3.8%] to their mothers, 17 [2.8%] to their sisters and the rest 31 [5.1%] did not tell to any one before ANC booking.

Three hundred eighty-one [62.3%] of respondents reported that their pregnancies were planned while 231 [37.7%] of respondents reported that it was unplanned. Out of 231 pregnant women who responded that the pregnancy were unplanned, 104 [45%] were reported as the pregnancy was unwanted and 88 [89.4%] of the respondents who have responded as the pregnancy was unwanted were wanted abortion. Some respondents reported that their first visit to the health center was to search for abortion service [Table 7].

Table 7: History of current pregnancy and timing of first ANC, Addis Ababa, 2008

Variable	*Booking in time[12 weeks of gestation and before]*	*Booking late [After 12 weeks of gestation]*	*Total*
	Number [%]	Number [%]	Number [%]
Means to confirming pregnancy: N= 612			
Missed period [1 to 3 menses]	75[12.3]	159[26.0]	234[38.2]
Missed period more than 4 and Other means [nausea, change in nipple, etc]	171[27.9]	207[33.8]	378[61.8]
To whom pregnancy was reported first? N=612	211[34.5]	299[48.9]	510[83.3]
Husband	13[2.1]	10[1.6]	23[3.8]
Mother	3[0.5]	14[2.3]	17[2.8]
Sister	9[1.5]	22[3.6]	31[5.1]
Friend	10[1.6]	21[3.4]	31[5.1]
Not reported to any one			
Is the current pregnancy planned? N= 612			
Yes	173[28.3]	208[34.0]	381[62.3]
No	73[11.9]	158[25.8]	231[37.7]
If the pregnancy unplanned is that wanted after conception? N= 231			
Yes	46[36.2]	81[63.8]	127[55.0]
No	59[56.7]	45[43.3]	104[45.0]
Have you wanted abortion? N=104			
Yes			
No			
Did you look for abortion? N=231			
Yes	35[15.2]	69[29.9]	104[45.0]
No	38[16.5]	89[38.5]	127[55.0]

4.8. History of current ANC utilization and timing of fist ANC visit

Four hundred three [66%] of respondents responded that they were received advise on ANC use before first booking while 208 [34%] did not receive advise from any one before first booking. Majority [56.1%] received advice from their husbands, followed by friends, mothers, sisters, community health workers and other individuals. Three hundred thirteen [77.5%] respondents reported that they were informed when to book from their advisors and the rest 91 [22.4%] reported that their advisors did not include when to book ANC.

Among 313 respondents who were informed when to be booked ANC, 220 [70.3%] were informed the correct time was before 12 weeks of gestation while the rest 93 [29.7%] where informed the correct time was after 12 weeks of gestation. The reason for the specific timing of first ANC was reported as perceived correct time, pervious experience of timing, time constraints, unplanned pregnancy, unaware of pregnancy, due to disease, and to confirm pregnancy, because of stable pregnancy [negligence] and the rest without specific reason by 252 [41.8%], 62 [10.3%], 66 [10.9%], 50 [8.3%], 53 [8.8%], 24 [4%], 39 [6.9%], 22 [3.6%] 35 [5.8%] respondents respectively [Table 8, Fig 5] .

Table 8: History of current ANC visit and timing first ANC booking, Addis Ababa, 2008

Variable	*Booking in time[12 weeks of gestation and before]*	*Booking late [After 12 weeks of gestation]*	*Total*
	Number [%]	Number [%]	Number [%]
Received advise on ANC: N = 612			
Yes	157[25.7]	246[40.4]	403[66.0]
No	89[14.5]	120[19.4]	209[34.0]
Received Advice on ANC from: N= 403			
Husband/Spouse	101[25.1]	125[31.0]	226[56.1]
Friend	34[8.4]	78[19.4]	112[27.8]
Mother	12[3.0]	16[4.0]	28[6.9]
Health professional	5[1.2]	10[2.5]	15[3.7]
Sister	3[0.7]	12[3.0]	15[3.7]
Other	2[0.5]	5[1.2]	7[1.7]
Advice includes time of booking? N=403			
Yes	125[31.0]	187[46.4]	312[77.4]
No	32[7.9]	59[14.6]	91[22.6]
Advise time: N = 313			
Advised to seek care before 12 weeks of gestation	117[37.4]	103[32.9]	220[70.3]
Advised to seek care after 12 weeks of gestation	8[2.6]	85[27.2]	93[29.7]
Reason for booking for this specific time: N=603			
Perceived correct time	139[23.1]	113[18.7]	252[41.8]
Due to disease	20[3.3]	4[0.7]	24[4.0]
To assure pregnancy	33[5.5]	6[1.0]	39[6.5]
Pervious experience & as advised	15[2.5]	47[7.8]	62[10.3]
Time constraints	10[1.7]	56[9.3]	66[10.9]
Unplanned pregnancy	6[1.0]	44[7.3]	50[8.3]
Un aware of pregnancy	11[1.8]	42[7.0]	53[8.8]
Because of stable pregnancy	1[0.2]	21[3.5]	22[3.6]
Others	6[1.0]	29[4.8]	35[5.8]

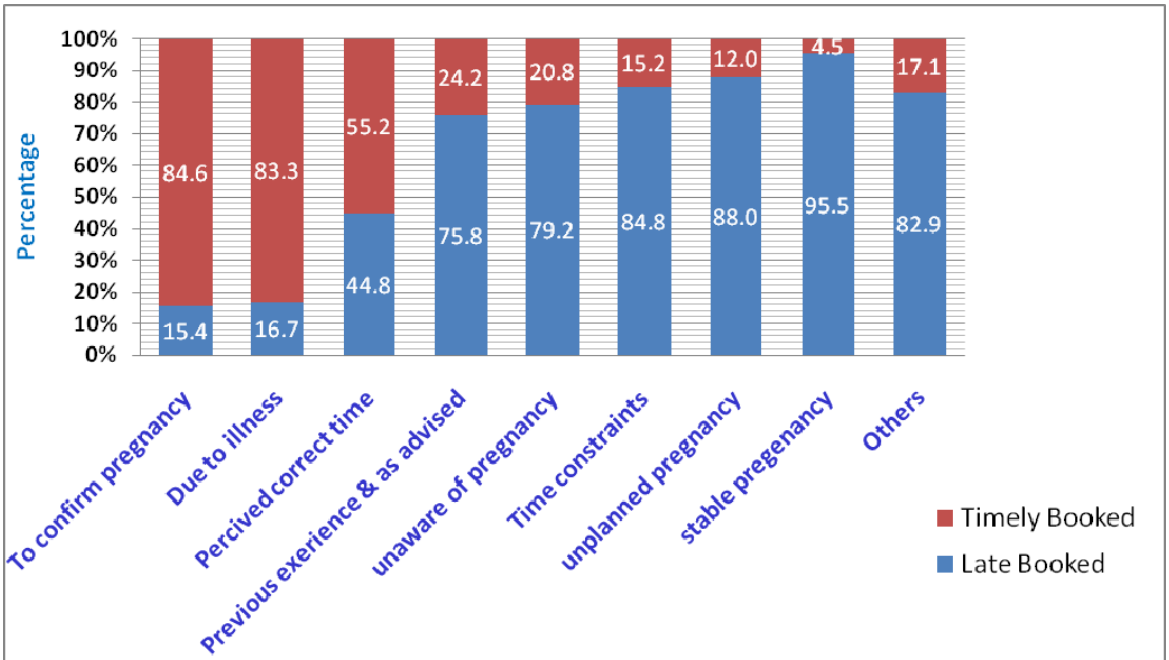

Fig.6. Reason for specific timing of first ANC, Addis Ababa,2008

Bivariate analysis showed that respondents with secondary school and above, parity zero, who perceived that the correct time of ANC booking is within 12 weeks of gestation, who were booked first ANC within the recommended time for the past pregnancy preceding the current, pregnancy was planned, and who received advise on timely booking were more likely to book first ANC within recommended time compared to others [OR = 1.473, 95% CI [1.057, 2.051], [OR = 2.275, 95%CI 1.623, 3.189, [RO = 3.225. 95% CI 2.022, 5.143], [OR= 4.031, 95% CI 2.199,7.389], [OR = 1.800, 95% CI 1.728, 2.538], and [OR=12.069, 95%CI 5.579, 26.109] respectively [Table 9].

Multivariate analysis showed that respondents with no parity, pregnancy were planned and received advise on booking time were more likely to booked ANC within the recommended time compared to others OR =1.860, 95% CI 1.005, 3.441], OR= 1.918 95% CI 1.105, 3.328]and OR= 10.236, 95% CI 4.580,22.875] respectively [Table 9].

Table 9: Association of factors with timely booking of first ANC, Addis, 2008

VARIABLE		Time at first visit		Crude OR	Adjusted OR
		Booked Timely	Booked Late	OR[CI]	OR[CI]
EDUCATIONAL LEVEL	Primary and Below	138[22.5]	239[39.0]	1	1
	Secondary and above	108[17.6]	127[20.9]	1.473 [1.057,2.051]*	1.000 [0.582,1.718]
OCUPATION	Employed [wages]	98[44.1]	124[55.9]	0.743 [0.535, 1.033]	0.736[0.427, 1.268]
	Unemployed	148[37.9]	242[62.1]	1	1
PARITY	No Parity	168[27.4]	178[51.5]	2.275[1.623, 3.189]**	1.860 [1.005, 3.441]*
	Parity one and above	78[29.1]	188[30.7]	1	1
MEANS OF CONFORMING PREGNANCY	Missed menses less than 3 months	75[12.3]	159[26.0]	1	1
	Missed menses more than 3 months and other means	171[27.9]	207[33.8]	1.751 [1.245 , 2.463]*	1.262[0.713,2.234]
PERCEPTION ON TIME OF BOOKING	Perceived before 12 weeks	220[35.9]	265[43.3]	3.225 [2.022 , 5.143]**	1.577[0.745,3.336]
	Perceived after 12 weeks	26[4.2]	101[16.7]	1	1
TYPE OF PREGNANCY	Planned	173[28.3]	208[34.0]	1.800[1.278 – 2.537]*	1.918[1.105, 3.328]*
	Unplanned	73[11.9]	158[25.8]	1	1
ADVISSED WHEN TO BOOK FIRST ANC	Advised to book before 3 months of gestation	117[37.4]	103[32.9]	12.069 [5.579 – 26.111]**	10.236 [4.580, 22.875]**
	Advised to book after 3 months of gestation	8[2.6]	85[27.2]	1	1
PAST EXPERIENCE OF TIMING	Booked within 3 months	47[21.2]	53[23.8]	4.031 [2.199, 7.389]**	1.577 [0.745, 3.336]
	Booked after 3 months	22[9.9]	100[45.0]	1	1

* [P< 0.05] ** [P < 0.001]

4.9. Result from Qualitative data

4.9.1. Finding from In-depth Interview of pregnant women

To support the finding from the quantitative data, 20 pregnant women who had been booked too early [10] and too late [10] were asked on three important questions: Why they preferred the time they preferred, what services they were provided at the first visit when they were booked before 12 weeks of gestation, and what information they were provided during first visit.

Majority of the respondents included in the qualitative data reported that they came early to the health facilities to confirm pregnancy by laboratory test. Few of them reported that they came to seek abortion as soon as they suspected their pregnancy. A women claim that she started booking at first month of her pregnancy, because she faced problem during the past pregnancy.

"My aim is continuing my education. I am working as housemaid to help my self. I became pregnant unintentionally. I don't know what I can do if the pregnancy continues to birth. I don't know where I am going to keep the baby. I came here to check if they can help me with abortion. If that is not possible here, I will search for another place for abortion" [A 28 years old unmarried, no parity , booked ANC at 2 months of her pregnancy]

Another woman said: "I started this checkup as soon as I missed my period. But in the pregnancy preceded the current, I started ANC checkup at 4 months of gestation. I gave birth at seven months of gestation in hospital. My baby was very small. He cannot suck. He was kept in a warm room for two days. But eventually he passed away. I started this visit early because I fear the past happenings. I will continue through out" [A 26 years old, married, parity one who booked first visit at one month of gestation].

Respondents who were booked too late for the ANC stated that they delay to seek care for different reasons. The major reasons were negligence and time constraints. Others also argue that the reason for delay was due to appointment that the health facilities made in the previous pregnancy which was mainly around five months. Few of them point out the reason for such delay was because they were not aware that they became pregnant.

"I gave birth 11 months back. I am using contraceptives. I haven't seen my menses since I gave birth. I came here to check weather it is pregnancy or not. Finally they told me that I am pregnant. They also informed me that the pregnancy is about 7 months. This is why I am late to start checkup early" [A 32 years old, married, parity three, who booked first visit at 7 months of gestation].

Another woman described why she booked late as follows: "I attended ANC for the past two pregnancies. I experienced that when I came early as soon as I aware my pregnancy, the health workers appointed me to come back after five months of gestation. But I don't know why? I experienced this problem two times. That is why I came at my sixth months of gestation" [A 29 years old, married, parity two, who booked her first visit at 6 months of gestation].

Almost all pregnant women who came to the health facility before 12 weeks of gestation reported that they receive only urine test to confirm pregnancy.

"I started this checkup as soon as I missed my period and they ordered me to have urine test. After the pregnancy was confirmed, they appointed me to come back after 4 months. I did not receive any further investigations" [A 26 years old, married, parity 1 who booked first visit at one month].

Majority of respondents claimed that the health workers were not providing them with important information like when to book, nutrition, signs of danger conditions etc.

"The health care providers are not telling us basic information. They did not inform me what type of food I should eat, what type of drug should I not use. But some experienced women are willing to inform others. The discussion is made mainly at waiting room. The beginners are very much worried. They should be informed very well" [A 24 year old, married, parity one who booked at three months of gestation].

4.9.2. Finding from health ANC providers

Nurses who were in charge of ANC service at four health facilities included in this study was assessed based on the following questions: [1] Time schedules for ANC visit and [2] Service packages available for the attendant when they came early before 12 weeks of gestation.

All health providers responded that the time schedules are every month for pregnancy less than 28 weeks, fortnight from 28 to 36 and every week for gestational age beyond 36 weeks.

Almost all respondents reported that the services that are available for pregnant women who booked early is only urine test to assure pregnancy and providing appointment after 18 weeks of gestation. This appointment time was preferred for the reason that it is appropriate time to hear fetal heartbeat. One provider reported that HIV testing is also recommended after urine test is done.

"I am providing ANC based on the knowledge I learned during my basic training. The schedules of visit are what I know and also practice here before my assignment. It is every month until 28 weeks of gestation, every two week after 28 until 36 weeks of gestation and every week after 36 weeks. If the mother came too early before 4 months of gestation, we will appoint her to come back after 18 weeks of gestation. This appointment time is preferred as it is time to hear fetal heart beat. We don't have any guideline or training to provide better service" [A nurse who have been working at health center for the past 7 year and assigned at ANC two years a go"].

5. Discussion

In this study, only about one-third of respondent have started their ANC within the recommended time and the rest two-third were booked late. The timing of first booking ranged from 1st month from last menstrual period to 9 months of gestation. The proportion of women who came for their first ANC within recommended time is significantly lower than that of the New Zealand [19]. This might be due to socio-demographic differences between Ethiopia and the New Zealand.

The proportion of respondent who visited ANC before 12 weeks of gestation was found higher compared to analysis of trends from 1990 to 2001, by WHO and UNICEF in Sub-Saharan Africa, EDHS, 2005 and a study done in Addis Ababa [3, 4, 20]. This might be due to the time variation of the study and reports in case of the analysis of trend from 1990 to 2001 for sub-Saharan Africa and study done in Addis Ababa.

Compared to the report from the EDHS, 2005 for urban women, the variation might be due to better access to information of the Addis Ababa population compared to the other urban dwellers [3].

The mean gestational age at which the pregnant women starts the first booking and its distribution are more or less comparable with the study done in Nigeria, Kenya, EDHS,2005 with slight variations [3, 16, 25].

Age of respondents in this study ranges from 17 years to 40 years with median of age of 25 years. This pattern of age distribution in this study matches the age of fertility described on EDHS, 2005 [15-49 years] with slight differences. Maternal age is not seen as a statistically significant factor for timely booking of ANC. This finding is similar with that of the EDHS, 2000 and 2005 but different from study done in India, Bangladesh and Addis Ababa [3,7,9,10].

Bivariate analysis revealed that, pregnant women with secondary education are more likely to book ANC within recommended time compared to primary and lower in education. This finding is similar with the studies done in Bangladesh, EDHS, 2002 and 2005 which states as female education have a positive effect for maternal health service utilization. [3,4,7,8,12]

In this study it was found that as parity increases the chance of early booking will decrease. Respondents with no parity were about two times more likely to be booked ANC within the recommended time compared to respondents with parity one and above. This finding is similar with studies done in Nigeria and Mozambique as well Addis Ababa [3,11,12,13,20]. But there is a slight different

with that of Bangladesh which was reported that parity and time of booking were found as U-shaped [7].

The proportions of respondent with history of at least an abortion [induced and/or spontaneous] were 20.8% and with history of child death were 4%. Respondents who have history of still birth were 1.8%. Past obstetrics out come did not showed statistically significant relation with early booking in this study which was found similar with the study done in India but contrary with study done in Bangladesh [7, 9]. This might be due to small proportion of spontaneous abortions and related birth outcomes that may not reveal differences. On the other hand, information collected from in-depth interview suggested that undesired birth outcome experiences was seen as a factor for early booking. The finding from in-depth interview is similar with that of study done in Bangladesh [7].

Perception of the mothers about importance of ANC for the health of the mother and her fetus was found high. Bivariate analysis showed that respondents who perceive that the correct time of ANC booking was within 12 weeks of gestation were more likely to be booked early within recommended time compared with respondents who perceive the correct time of ANC booking was after 12 weeks of gestation. This finding is in line with the reviewed literature and general truth that individuals with positive

perception on importance and available service are more likely to use the service [7].

Among respondents who had history of previous pregnancy, majority had experience of ANC for the pregnancy preceding the current. The ANC utilization in the past pregnancy preceding the current is comparable with ANC utilization reported in EDHS, 2005 for Addis Ababa [3].

The proportion of respondents who had their first visit within the recommended time in the previous pregnancy preceded the current was 45%. Compared to the proportion of respondents without past experience, there is slight decrease in booking time of first ANC within the recommended time 45% in the experienced Vs 37% without past experience. But the difference was not statistically significant. Had it been the service being provided encouraged timely booking of ANC, the proportion of timely booking in ANC experienced respondent could have been statistically significant. This might indicate that the ANC service that has been provided so far did not inform the pregnant women who have been using the service on the appropriate time of booking or the information might be misleading. This finding is also supported by finding from qualitative data.

Majority of respondents claimed that they confirm their pregnancies when they missed four or more menses. About [38%] respondents reported as their

pregnancy was not planned or unintentional. Majority of them informed as they became pregnant to their husband or spouse. Statistical analysis showed that, those respondents with planned pregnancy were found to be more likely visiting within the recommended time compared to respondents with unplanned pregnancy. This finding is quite inline with study done in South Africa which stated unwanted and unaware of pregnancy are factor for delay to seek ANC timely. [14].

On the other hand respondent who have recognized or suspected their pregnancy by missing more than four menses and other means of assuring pregnancy are booked within recommended time compared to those who suspect their pregnancy by missing few menses. This might be occurred when pregnant mother visited early to health center for confirming pregnancy was considered as the first ANC. This is also supported by finding from in-depth interview which suggested that majority of respondents who have visited ANC early were responded that for confirming pregnancy.

In this study, most of respondent reported that they received advice on ANC before being booked. Majority of respondents who were advised on the service were told when to book. Among respondents who have informed when to book ANC, 70.3% reported as they were informed to be book within 12 weeks of

gestation. Statistical analysis showed that respondents who were informed to be booked within 12 weeks of gestation were more likely to book within the recommended time compared to respondents who were informed to book after 12 weeks of gestation. These finding is similar with the study conducted in Nigeria which suggest that pregnant women who were advised by physicians booked early than others [16]. This suggested that proper information and advice on pattern of ANC utilization is important to book early than other factors.

Descriptive statistics showed that pregnant mothers with reasons of perceived correct time, due to disease at early gestation and confirming pregnancy were more seen to be booked early than reasons reported as time constraints, unplanned pregnancy, unaware of pregnancy, because of no problem which was found as reasons for the late bookers. This finding is also similar with other studies [15,26].

Limitation and strength of the study

Limitation of the study

This study has considered all pregnant women attending ANC at the governmental health institutions during the study period. The Governmental health centers are preferred because it is the first contact and easily accessible to the community for preventive health care aspects. Despite these assumptions other pregnant women may visit private clinics and hospitals for ANC. There could be socio-demographic differences to those pregnant mothers visiting other health institutions. This study is limited to address pregnant women those attended ANC other than the public health centers.

Validity of the study

The sample size was calculated in order to maximize the number of pregnant women included in the study. The Health centers were selected from each sub-city. The needs for including all sub-cities are due to the socio-demographic differences among the sub-cities. The selection of health centers from each sub-city is based on client flow. All pregnant women found during the data collection period were included regardless of exclusion criteria. Pregnancy does not have seasonal variation. The response rate was 97%. Therefore, selection bias is minimal.

The interviewers were female nurses, who were different from the service providers. The pregnant women were made aware that only honest answers contribute to the service quality. Name of the respondents were not recorded to avoid any suspicion. Most events on the questionnaire were unlikely to be forgotten. Gestational age of mother at the time of booking was asked in months to make it conducive. This could reduce information bias. In-depth interview to few respondents and health care providers was conducted to supplement the quantitative data.

Therefore, this finding could be representative of ANC users of the Addis Ababa City Administration governmental health center which comprises majority of the segments of the pregnant population.

6. Conclusions and Recommendations

6.1. Conclusions

1. Perceptions of respondents on importance of ANC for the health of mother and fetus were found high.
2. Majority of the mothers did not practice timely booking of first ANC provided that the services are physically and financially accessible.
3. Almost all health facilities were using the traditional schedule and risk approach ANC.
4. Information provided to pregnant women on time of booking and follow-up visits were not clear and not encouraging mothers to book timely.
5. Pervious ANC utilization is not a positive predictor for timely booking.
6. Most of the reasons given by those who booked timely were for confirming pregnancy, illness, and perception of appropriate time.
7. The reasons for late booking were reported as previous experience, provider advice, time constraints, unplanned pregnancy, unawareness of pregnancy and negligence.
8. Parity was found as the most predisposing factor to seek ANC timely compared to other factors for early booking.
9. Advise from significant others and type of pregnancy was found the most statistical significant need factor for early booking.
10. The need for abortion is also found high concerning the unwanted pregnancies.

Therefore, the conclusion from this study is physical and financial accessibility alone can not assure effective service utilization of ANC. The need for proper advice and information on timely booking from service providers and community level and/or health institution is very important for the effective utilization of the service.

6.2. Recommendations

1. Focused ANC should be implemented in all health institutions in order to minimize client flow, unnecessary visits, and to assure quality ANC provision.
2. The FMOH and/or Addis Ababa City Administration Health Bureau should develop a detailed and clear guideline.
3. The need to clear information on general aspects of ANC to the expectant mother should be established.
4. Training on simple and effective way of providing ANC should be given to health care providers.
5. Since there is high number of pregnant woman who are delaying to book ANC before reaching health facility, reaching them should be considered.
6. There should be further quantitative and qualitative studies focusing on quality of ANC.

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Annexes

I. Data collection tools

i. Information sheet:

Good morning, Good afternoon, good evening [According to its convenience]. My name is _____ I came from faculty of Medicine, Addis Ababa University. I am here to gather information about ANC follow up of mothers, so I want to ask you some questions. Would you mind if I take some minutes with you? Your name will not be included in the information, I promise to keep the confidentiality of your reply. It takes us about 30 minutes. Though it seems long time the study helps to improve the ANC service for all pregnant women. As a result, I kindly request you to participate in genuinely answering the interview.

I agree to participate	I don't agree to participate
☐	☐

ii. Consent form:

I have been briefly informed about the study and I clearly understood the objective. Since it doesn't affect my personal life, I don't need any remedy. Consequently, I here approve my consent to take part in the study as an interviewee with my signature.

Signature _____

Date _____

Questionnaire

Questionnaire

Number

Date: _____
Health Institution: _____
Interviewer: _____

No	Questions	Responses	Code
Socio-demographic variables			
1.	Age	_____years	
2.	Ethnic	1. Amahara 2. Oromo 3. Guragie 4. Tigre 5. Silte 6. Others [Specify]_____	
3.	Religion	1. Orthodox 2. Muslim 3. Protestant 4. Catholic 5. Others [specify]_____	
4.	Marital status	1. Single [Never married] 2. Married and live together currently 3. Cohabitation 4. Separated, divorced or widowed	
5.	Educational level [Grade completed]	1. Illiterate [can not read and write] 2. Illiterate [able to read and write] 3. Primary [1-8] 4. Secondary [9-10] 5. College diploma and above	
6.	Occupation	1. Employed [wedge] 2. Employed self 3. House wife 4. Others[specify]_____	
7.	Transportation cost that you paid for coming & back to this health service	1. No pay for transportation 2. if pay, Specify in ETB:_____	
8.	Household [family] income per month	_____ETB/Month	

No	Questions	Responses		Code
Obstetric history				
9.	Gravida including abortions	1. Number of Pregnancies:_____ 2. Number of abortions _____		
10.	If there is abortion	1.Number of Spontaneous:_____ 2.Number of Induced:_____		
11.	Para [Number of Births]	1. Number of children alive_____ 2. Number of children died:_____ 3. Number of still birth_____		
Knowledge of ANC				
12.	How do you rate the importance of ANC for your health?	1. Highly important 2. medium 3. Less 4. Do not know		
13.	How do you rate the importance of ANC for the fetus?	1. highly important 2. medium 3. Less 4. Do not know		
14.	When do you think it is appropriate time to begin the ANC after amenorrhea?	1. _____ months		
15.	How many time do you think a women need to go for ANC an a health facility during pregnancy	1. One Visit 2. Two to Three Visits 3. Four to Six Visits 4. More than Six Visits 5. Others [Specify]:_____		
Past history of service utilization				
16.	Have you ever attended ANC?	1. Yes 2. No		
17.	If yes, for Q 16,for which pregnancy you attended?	1st pregnancy	1. Yes 2. No	
		2nd pregnancy	1. Yes 2. No	
		3rd pregnancy	1. Yes 2. No	
		4th pregnancy	1. Yes 2. No	
		5th pregnancy	1. Yes 2. No	
18.	If you attended ANC before this pregnancy, At what months you started the service for the recent pregnancy?	_____ months		

No	Questions	Responses		Code
Past Service related Variables				
19.	What is the maximum waiting time you spend to complete checkup?	1. For the first Visit _____hrs 2. For the repeat Visits _____hrs		
20.	Is there any payment you were asked for checkup?	1. Yes 2. No		
21.	If yes for Q 20, for what services you paid?	1. For consultation [card and Examination] 2. For laboratory 3. For ultrasound 4. For drugs 5. Other [specify]_____		
22.	If you paid for any service charge, what is the maximum money you paid for a visit?	1. less than or equal 10.00 ETB 2. 11.00 - 20.00 ETB 3. 21.00 – 50.00 ETB 4. Greater than 50.00 ETB		
23.	Is there any missed investigation in previous, due to shortage [inadequacy] of money?	1. yes 2. No		
24.	If yes for Q 23, what?	1. consultation [card and Examination] 2. laboratory 3. Ultrasound 4. drugs 5. Other [specify]_____		
25.	Rate the following items of service in terms of your satisfaction	1. Staff approach	1. Highly satisfied 2. Satisfied 3. Medium 4. Not satisfied 5. Highly not satisfied	
		2. laboratory	1. Highly satisfied 2. Satisfied 3. Medium 4. Not satisfied 5. Highly not satisfied	
		3. Waiting time	1. Highly satisfied 2. Satisfied 3. Medium 4. Not satisfied 5. Highly not satisfied	
		4. Privacy	1. Highly satisfied 2. Satisfied 3. Medium 4. Not satisfied 5. Highly not satisfied	
		5. Charge of service	1. Highly satisfied 2. Satisfied 3. Medium 4. Not satisfied 5. Highly not satisfied	

No	Questions	Responses		Code
History of current pregnancy				
26.	How do you know your pregnancy?	Missed period once	1. Yes 2. No	
		Missed period twice	1. Yes 2. No	
		Missed period three and more	1. Yes 2. No	
		Physiological changes	1. Yes 2. No	
		Other signs like nausea	1. Yes 2. No	
		By examination [urine test]	1. Yes 2. No	
		Other [specify]	_____	
27.	Is this pregnancy planned?	1. Yes 2. No		
28.	If this pregnancy is planned, did the plan include your husband?	1. Yes 2. No		
29.	If this pregnancy is not planned, was it wanted by you after conception?	1. Yes 2. No		
30.	If this pregnancy is not planned was it wanted by your husband after conception?	1. Yes 2. No		
31.	To whom did you tell you become pregnant for the fist time?	1. your Husband 2. your Mother 3. your Sister 4. your Friend 5. Other [specify]_____		
History of current ANC				
32.	Before your first attendance of the ANC, was there any one who advised you to come?	1. Yes 2. No		
33.	If yes for Q 32, to above question, from whom you get advise?	1. Community health workers 2. Husband 3. Mother 4. Sister 5. Friend 6. Other[specify]_____		
34.	If you were advised to attend ANC by some one, Did he/she informed you when to start?	1. Yes 2. No		
35.	If you are advised on the time to start ANC, When does he/she advise you to start?	_____months after Amenorrhea		
36.	In the present pregnancy, when did you start the follow up?	1. After _____months of amenorrhea 2. I don't know the exact months		
37.	Why you decide to start [begin] the follow up at this time?	1. I perceive it is appropriate time 2. From my previous Experience 3. Busy time 4. Economic factor [money constraints] 5. Because of unplanned pregnancy 6. Others [specify]_____		
38.	After your first visit, when did the Health workers appointed you for the second follow-up	_____ months of the first visit		
39.	If your pregnancy were unplanned or unwanted, did you want to under take abortion?	1. Yes 2. No		

This is all what I want to ask you. Thank you for spending your time and valuable information you gave us. Do you have any question that I can address for you?

_____

_____

_____

Guide questions for Interview (limited to selected client)

For Pregnant women

1. Why you prefer this specific time to book?
2. What type services including tests you were provided?
3. What information you were received during first visit?

For ANC providers

1. What is the Available schedule for ANC in this service?
2. What are the available service for a pregnant women booked timely before 12 weeks of gestation?

የመረጃና የፈቃደኝነት ማረጋገጫ

ሀ. የጥናቱ መረጃ

እንደምን አደሩ፣ እንደምን ዋሉ፣ እንደምን አመሹ [እንደ አስፈላጊነቱ]

እኔ ስሜ _____ እባላለሁ፡፡ የመጣሁት ከአዲስ አበባ ዩኒቨርስቲ የህክምና ፋክልቲ ነው፡፡ ከወሊድ በፊት የሚደረግ የጤና ክትትልን በሚመለከት አነስተኛ ጥናት ለማድረግ መረጃ እየሰበሰብኩ በመሆኑ አንዳንድ ጥያቄዎችን ላቀርብልዎ እፈልጋለሁ፡፡ ስምዎት ከመረጃው ጋር አይካተትም፤ የሰጡኝን መረጃ ሁሉ በሚስጥር እንደምጠብቅልዎ ቃል እገባለሁ፡፡ ይህንንም ለማድረግ ከእኔ ጋር ወደ ግማሽ ሰዓት እንቆያለን፡፡ ይህ ጊዜዎትን የሚይዝ ቢሆንም መላውን ሴቶች ሊጠቅም የሚችል የአገልግሎት ጥራት ማሻሻያ ለማድረግ የሚያግዝ በመሆኑ እንዲተባበሩኝ እጠይቅዎታለሁ፡፡ የተወሰኑ ደቂቃዎች ባነጋግርዎ ፈቃደኛ ነዎት?

ፈቃደኛ ነኝ ☐ ፈቃደኛ አይደለሁም ☐

ለ. የፈቃደኝነት ማረጋገጫ

የምርምር ጥናቱ ክፍል የሆኑ መረጃዎችና ሂደቶች ተብራርተውልኛል፡፡ እኔም በተብራራልኝ መንገድ ተረድቻለሁ፡፡ ምርምሩ ምንም አደጋ የማያስከትል በመሆኑ ለሚያደርጉት ተሳትፎ የካሳ ክፍያ አይኖረውም፡፡

ስለዚህ በዚህ የምርምር ጥናቱ ላይ ለመሳተፍ ፈቃደኛ መሆኔን በፊርማዬ አረጋግጣለሁ፡፡

ፊርማ _____

ቀን _____

መጠይቅ **የመጠይቅ ቁጥር**

ቀን _____
የጤና ድርጅቱ ስም _____
የጠያቂ ስም [ኮድ] _____

ተ.ቁ	ጥያቄ	መልስ	ኮድ
	አጠቃላይ መረጃ		
1	እድሜ	_____ ዓመት	
2	ብሔረሰብ	1. አማራ 2. ኦሮሞ 3. ትግሬ 4. ጉራጌ 5. ሌላ [ይገለጽ] _____	
3	ሐይማኖት	1. ኦርቶዶክስ ክርስቲያን 2. ሙስሊም 3. ካቶሊክ ክርስቲያን 4. ፕሮቴስታንት ክርስቲያን 5. ሌላ [ይገለጽ] _____	
4	የጋብቻ ሁኔታ	1. ፈጽሞ ያላገባ 2. ያገባና አሁን አብሮ የሚኖር 3. አብሮ በመኖር የሚደረግ ግንኙነት 4. ያገባና አብሮ የማይኖር [የፈታ፣ በሞት የተለየ]	
5	የትምህርት ደረጃ	1. ያልተማረ /ማንበብና መፃፍ የማይችል/ 2. ያልተማረ /ማንበብና መፃፍ የሚችል/ 3. አንደኛ ደረጃ [1-8 ክፍል] 4. ሁለተኛ ደረጃና [9-12 ክፍል እና ሰርተፍኬት] 5. ዲፕሎማ እና ከዚያ በላይ	
6	የሥራ ሁኔታ	1. ደመወዝተኛ [ተቀጣሪ] 2. በግል የሚሰራ 3. የቤት እመቤት 4. ሌላ [ይገለጽ] _____	
7	ወደዚህ ጤና ድርጅት ለመድረስና ለመመለስ የከፈሉት የገንዘብ መጠን በብር	1. ምንም አልከፈልኩም 2. የከፈሉ ከሆነ የገንዘብ መጠን_____ ብር	
8	የቤትዎ የወር ገቢ በገንዘብ ሲተመን ምን ያክል ነው?	_____ ብር	
	አጠቃላይ የወሊድ መረጃ		
9	ስንት ጊዜ አርግዘዋል? [የአሁኑን ጨምሮ]	1. እስከ ወሊድ የደረሰ የእርግዝና ብዛት _____ 2. የውርጃ ብዛት _____	
10	ውርጃ ካጋጠመዎት	1. በራሱ ጊዜ የወጣ ብዛት _____ 2. እርስዎ ያስወረዱት ብዛት _____	
11	ስንት ልጆች አልዎት?	1. በሂወት ያሉ ብዛት _____ 2. ከተወለዱ በኋላ የሞቱ ብዛት _____ 3. ሞተው የተወለዱ ብዛት _____	

ተ.ቁ	ጥያቄ	መልስ		ኮድ
የቅድመ ወሊድ [የነፍሰጡር] ምርመራ ክትትል እውቀት				
12	የቅድመ ወሊድ [ነፍሰጡር] ምርመራ ለጤናዎት አስፈላጊነቱን እንዴት ይገነዘቡታል?	1. በጣም አስፈላጊ ነው 2. በመጠኑ አስፈላጊ ነው 3. በጣም አነስተኛ ነው		
13	የነፍሰ ጡር [የቅድመ ወሊድ] ምርመራ ለሽሉ [በማህፀንዎ ውስጥ ላለው ልጅ] አስፈላጊነቱን እንዴት ይገነዘቡታል?	1. በጣም አስፈላጊ 2. በመጠኑ አስፈላጊ 3. በጣም አነስተኛ ነው		
14	የነፍሰ ጡር /ቅድመ ወሊድ/ ምርመራ ወርአበባዎ ቀርቶ መቼ ቢጀመር ጥሩ ነው ብለው ያስባሉ?	_____ ወር		
15	በአንድ የእርግዝና ወቅት ስንት ጊዜ ተመላልሰው ምርመራ ቢያደርጉ በቂ ነው ብለው ያስባሉ?	_____ ጊዜ		
የአገልግሎት አጠቃቀም ታሪክ				
16	የቅድመ ወሊድ [የነፍሰጡር መርመራ] ተከታትለው ያውቃሉ?	1. አዎ 2. አላውቅም		
17	የነፍሰጡር ምርመራ ተከታትለው የሚያውቁ ከሆነ የትኛውን እርግዝና ነው?	የመጀመሪያ እርግዝና	1. አዎ 2. አይደለም	
		ሁለተኛ እርግዝና	1. አዎ 2. አይደለም	
		ሦስተኛ እርግዝና	1. አዎ 2. አይደለም	
		አራተኛ እርግዝና	1. አዎ 2. አይደለም	
		አምስተኛ እርግዝና	1. አዎ 2. አይደለም	
18	ከዚህ እርግዝና በፊት የነበረውን እርግዝና የቅድመ ወሊድ ተከታትለው ከሆነ ክትትሉን የጀመሩት ወር አበባዎ ቀርቶ በስንት ግዜ ነው?	_____ ወር		
የአገልግሎትአጠቃቀም መረጃዎች [ከዚህ ቀደም ለነበረው እርግዝና]				
19	ለቅድመ ወሊድ ምርመራ ሲመጡ ምርመራውን ለማድረግ የሚፈጅብዎት ጊዜ ምን ያህል ነበር?	_____ ሰዓት		
20	ለነፍሰ ጡር /ቅድመ ወሊድ/ ምርመራ የሚከፍሉት ገንዘብ ነበር?	1. አዎ 2. የለም		
21	መልስዎ አዎ ከሆነ ለምን ጉዳይ ነበር የከፈሉት?	1. ለካርድ 2. ለላብራቶሪ 3. አልትራሳውንድ 4. ለመድኃኒት 5. ሌላ [ይገለጽ] _____		
22	ለነፍሰጡር /ቅድመወሊድ/ ምርመራ የከፈሉት ገንዘብ ካለ በአንድ ምርመራ ከፍተኛው የከፈሉት ገንዘብ ምን ያህል ነው?	1. ከ10 ብር በታች 2. ከ11-20 ብር 3. ከ21-50 ብር 4. ከ50 ብር በላይ		
23	ጥረት ምክንያት ያላደረጉት ምርመራ አለ?	1. አዎ 2. የለም		
24	በገንዘብ እጥረት ምክንያት ያላደረጉት ምርመራ ካለ የትኛውን ነው ያላደረጉት	1. ለካርድ 2. ለላብራቶሪ 3. አልትራሳውንድ 4. ለመድኃኒት 5. ሌላ [ይገለጽ] _____		

ተ.ቁ	ጥያቄ	መልስ		ኮድ
25	የሚከተሉትን የአገልግሎት አሰጣጥ በእርስዎ የእርካታ መጠን ይግለፁት	1. የባለሙያዎች አቀራረብ	1. በጣም ረክቻለሁ 2. ረክቻለሁ 3. መካከለኛ ነኝ 4. አልረካሁም 5. በጣም አልረካሁም	
		2. የላብራቶሪ ምርመራ	1. በጣም ረክቻለሁ 2. ረክቻለሁ 3. መካከለኛ ነኝ 4. አልረካሁም 5. በጣም አልረካሁም	
		3. ምርመራው የሚፈጀው ግዜ	1. በጣም ረክቻለሁ 2. ረክቻለሁ 3. መካከለኛ ነኝ 4. አልረካሁም 5. በጣም አልረካሁም	
		4. ገበና አጠባበቅ	1. በጣም ረክቻለሁ 2. ረክቻለሁ 3. መካከለኛ ነኝ 4. አልረካሁም 5. በጣም አልረካሁም	
		5. የአገልግሎት ክፍያ	1. በጣም ረክቻለሁ 2. ረክቻለሁ 3. መካከለኛ ነኝ 4. አልረካሁም 5. በጣም አልረካሁም	
የአሁኑ እርግዝና መረጃዎች				
26	ማርገዝዎትን በምንድን ነው ያወቁት?	1. የወር አበባ መቅረት [መምጣት ከነበረበት አንድ ወር መዘግየት]	1. አዎ 2. አይደለም	
		2. የወር አበባ መቅረት [መምጣት ከነበረበት ሁለት ወር መዘግየት]	1. አዎ 2. አይደለም	
		3. የወር አበባ መቅረት [መምጣት ከነበረበት ሦስት ወርና ከዚያ በላይ]	1. አዎ 2. አይደለም	
		4. የሰውነት ለውጥ [የጡት ጫፍ መለወጥ የመሳሰሉት]	1. አዎ 2. አይደለም	
		5. ማቅለሽለሽና የመሳሰሉት	1. አዎ 2. አይደለም	
		6. የሽንት ምርመራ በማድረግ	1. አዎ 2. አይደለም	
		7. በሌላ መንገድ [ይገለጽ]	_____	
27	ይህ እርግዝናዎ ያቀዱት ነበር?	1. አዎ 2. አይደለም		
28	ይህ እርግዝናዎ ያለእቅድ ከሆነ ከተረገዘ በኋላ በእርስዎ ይፈለግ ነበር?	1. አዎ 2. አይደለም		
29	ይህ እርግዝናዎ ያለእቅድ ከሆነ ከተረገዘ በኋላ በባለቤትዎ ይፈለግ ነበር?	1. አዎ 2. አይደለም		
30	መጀመሪያ ማርገዝዎትን ያበሰሩት [የነገሩት] ለማን ነው?	1. ለባለቤትዎ 2. ለእናትዎ 3. ለእህትዎ 4. ለጓደኛዎ 5. ለሌላ [ይገለጽ] _____		

ተ.ቁ	ጥያቄ	መልስ	ኮድ
የአሁኑ የቅድመ ወሊድ ክትትል መረጃዎች			
31	የቅድመ ወሊድ /ነፍሰጡር/ ምርመራ አስፈላጊነት ለዚህ ምርመራ ወደ ጤና ድርጅት ከመምጣትዎ በፊት ስለ ጥቅሙ ምክር የሰጠዎት ነበር?	1. አዎ 2. የለም	
32	የቅድመ ወሊድ /ነፍሰ ጡር/ ምርመራ አስፈላጊነት ተመክረው ከሆነ ምክሩን የሰጠዎት ማነው?	1. የህብረተሰብ ጤና ሰራተኞች 2. ባለቤትዎ 3. እናትዎ 4. እህትዎ 5. ጓደኛ 6. ሌላ /ይገለጽ/ _____	
33	ምክር የሰጠዎት ሰው መቼ ምርመራ ማድረግ [መጀመር] እንዳለብዎት ነግርዎታል?	1. አዎ 2. አልነገረኝም	
34	የነፍሰጡር ምርመራ መቼ ማድረግ እንዳለብዎት ነግሮዎት ከሆነ ወር አበባዎ ቀርቶ መቼ መጀመር እንዳለብዎት ነው የነገረዎት?	ከ _____ ወር በኋላ	
35	የአሁኑን የነፍሰጡር ምርመራ ክትትል ወር አበባዎ ቀርቶ ከስንት ወር በኋላ ነው የጀመሩት?	ከ _____ ወር በኋላ	
36	በዚህን ጊዜ ምርመራ ለማድረግ ለምን ፈለጉ?	1. ትክክለኛ የምርመራ ጊዜ በመሆኑ 2. ከበፊቱ በዚህ ጊዜ ምርመራ ስለማደርግ 3. ጊዜ ስለሌለኝ 4. በገንዘብ ችግር 5. እርግዝናው የታቀደ ባለመሆኑ 6. ሌላ [ይገለጽ] _____	
37	ለመጀመሪያ ጊዜ ለምርመራ ከመጡ በኋላ ሁለተኛውን ክትትል ከመቼ ወር በኋላ እንዲመጡ ነው የተነገርዎት?	ከ _____ ወር በኋላ	
38	ይህ እርግዝናዎ ያለእቅድ እና ያለፍላጎት ከሆነ ለማስወረድ አስበው ነበር	1. አዎ 2. አይደለም	

ጊዜዎትን ሰውተው ይህንን ጠቃሚ መረጃ ስለሰጡኝ በጣም አመሰግናለሁ።።

ሌላ አስተያየት ካለዎት ሊነግሩኝ ይችላሉ።።

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