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St. Paul's Hospital Millennium Medical College

**LATE ANTENATAL CARE ATTENDANCE AND ITS ASSOCIATED FACTORS
AMONG PREGNANT MOTHERS ATTENDING PUBLIC HEALTH FACILITIES, IN
ILU ABA BORA ZONE, OROMIA REGION, SOUTH WEST ETHIOPIA**

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COLLEGE OF MEDICINE AND HEALTH SCIENCE

SCHOOL OF PUBLIC HEALTH

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AMONG PREGNANT MOTHERS ATTENDING IN ILU ABABOR PUBLIC HEALTH
FACILITIES, SOUTH-WEST ETHIOPIA**

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This thesis, by kelbessa Abdisa is accepted in its present form by the board of examiners as fulfilling for the Degree of Masters of General public health.

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LIST OF ABBREVIATION AND ACRONYMS

ANC – Antenatal care

AOR – Adjusted Odd Ratio

CI – Confidence level

EDHS – Ethiopian Democratic Health Survey

FANC – Focused antenatal care

FMOH – Federal Ministry of Health

GA – Gestational age

HC – Health center

HIV/AIDS – Human immune compromised Viruses

HP – Health Post

MCH – Maternal and Child Health

MMR - Maternal Mortality Ratio

NGO – None governmental Organization

NTD- Neural tube defects

RHB – Regional Health Bureau

SPHMMC – Saint Paul millennium medical college

SPSS – Statistical package for Social science

SRS – Simple Random sampling technique

SSC – Sub-Saharan countries

STI – Sexually Transmitted infection

WHO – World Health Organization

ZHD – Zonal health Department

ABSTRACT

Background: Antenatal care is a care given to pregnant women that used for prevention, early diagnosis, treatment for general medical and pregnancy related complications. The prevalence of late antenatal care attendance in Ethiopia remains high. Therefore, this study was aimed at assessing the prevalence of late antenatal care attendance and its associated factors among pregnant women attending in Ilu Ababor Zone public health facilities, Southwest Ethiopia.

Method: Facility based cross-sectional study design was conducted among 574 pregnant mothers in Ilu ababor from December 15/2021 to January 20/2022. Stratified multi stage sampling was used to select health facilities and systematic random sampling method was used during selection of Study subject. Pretested and structured interview questions were used to collect data. Data were entered into Epi-Data version 3.1 and exported to SPSS version 20 for analysis. Bivariate and Multivariable binary logistic regression were used to identify independent predictors of late antenatal care. Statistically significant was declared to be at p-value of ≤ 0.05 .

Result: The prevalence of late antenatal care attendance among respondents was 64.6%. Based on Multivariable logistic regression analysis; ruler residence: OR = 1.6 (95% CI: 1.5, 3.1), age ≤ 24 : OR= 1.23(95% CI: 1.13, 1.94), mother did not have formal primary education: OR = 1.62; (95% CI: 1.42, 7.23), mother did not know number of antenatal care recommended: OR = 1.6(95% CI: 1.26, 5.1), mother did not advised significance on antenatal care initiation: OR = 1.48(95% CI: 1.32, 14.3), were significantly associated at p-value of < 0.05 with late antenatal care booking.

Conclusion: the prevalence of late antenatal care attendance was high among respondents who visited at public health facilities in Ilu ababor zone. Respondent's age, residences, maternal education, number of antenatal care recommended and advised from significant other were associated factors of late antenatal care booking. Hence, provide complete information of health communication about ANC, continuous update of national protocol of antenatal care visits as per World health organization, design and implement new initiative that tested synergistically should be focused.

Chapter One: Introduction

1.1. Background

Because of Physiological change that occur during pregnancy, the mother and her baby encounter a life threatening the problems (1). To prevent or mitigate these problems, different maternal health care service was provided. One of the strategies aim to address maternal mortality in developing countries is the implementation of focused antenatal care (FANC). FANC is health care service delivered by skilled health profession between conception and onset labour to minimize or avoid possible risk of mortality and morbidity(2).

In the early 1990, traditional type of ANC model was developed. This model recommends, frequent visits and classifies the pregnant women into low and high risk by predicting the complication head of time. Later, this was replaced by FANC approach, which was recommended by Researchers in 2001, and adopted by World Health Organization in 2002 (3). The major goal of FANC is early identification of preexisting health problems and any complication arising during pregnancy, health promotion and disease prevention, birth preparedness and complication readiness and emergency planning (4).

In the FANC model, every pregnant woman is recognized as at risk complication and should have ANC visit with the first trimers of pregnancy. Based on the previous history of pregnancy, current pregnancy and general medical condition, the pregnant women are categorized into two groups. The first group is classified under basic component in which eligible pregnant women will receive routine antenatal care, and constitute about 75% of pregnant women. The second group is classified under specialized component, in which pregnant women need especial care on their health or risk factors. These groups constitute about 25% of all pregnant women initiating ANC service. For both group, FANC model recommends booking for service before 16weeks Gestation and should have at least four antenatal care visit unless complication rise (2).

Early antenatal care visit is the key to confirming optimum care and health care outcome for both women and their children(5) .

During early ANC visit we can correctly assess a gestational age (GA) to allow for accurate treatment of preterm labour, screen for genetic and congenital disorders, provision of folic acid supplementation to reduce the risk of neural tube defects (NTD), and screening and treatment for iron deficiency anemia and sexually transmitted infections. Besides, it's a key to deliver important health information on modifiable preexisting medical conditions (Like-Heart Disease, Diabetes Mellitus, Hypertensive disorders, HIV/AIDS) and give advice on modifiable lifestyle risks such as smoking, alcohol consumption, drug abuse, obesity, malnutrition, and occupational exposures (6–9). Furthermore, it 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 and an ideal time to counsel women about the benefits of child spacing (10,11).

Although there is limited evidence, the magnitude of late ANC booking and its associated factors were varied by country, region, and population, not only because of its real difference in occurrence but also due to differences in definitions of late booking (5,12–14).

In Ethiopia, according to some literatures; uncertainties about the timing for initiation of ANC, waiting for confirmation of the pregnancy, counseling on early initiation of ANC, having no ANC follow up in previous delivery, knowledge of ANC, advice significance others, residence, Maternal occupation, income, ethnicity, maternal age, marital status, maternal education status, Husband education status, women's employment, intention of pregnancy, pregnancy complication, gravidity, previous place of Delivery, decisional power of women to receive ANC, Family involvement, all identified as of associated factors for late booking for ANC (15,16).

1.2. Statement of the problems

Globally, about 10.7 million were died from 1990 to 2015 due to preventable cause of maternal death, even though several efforts have been done to reverse the problem. Maternal mortality Ratio (MMR) fell by 44%, from 385 per 100,000 live births in 1990 to an estimated 216 per 100,000 live births in 2015. Annually absolute number was decreased by 43% from approximately 532,000 in 1990 to an estimated 303,000 in 2015.

Developing countries contributed 99%, among these; Sub Saharan African alone contributed 66%, followed by Asian Countries 66000 of global maternal. High maternal mortality in Africa was varies, from 999 to 500 deaths per 100,000 live birth. the estimated life risk time of maternal mortality in high-income countries is 1 in 3300 when compared to 1 in 41 in low income countries (17).

Despite the efforts, still approximately 830 women in the world die due pregnancy related complication every day. The primary cause of death are hemorrhage, hypertension, infection and indirect cause related to interaction between preexisting medical condition and pregnancy(18).

Antenatal care provides essential prevention, detection, treatment and management of pregnancy related complication. Since 2016; WHO released new guideline, which replace previous four ANC visit (FANC) model. In this model, a minimum of eight Antenatal care visits is recommended during pregnancy. The first contact should be scheduled in the first trimesters to take place, with another contact is take place in the second trimesters (at 20 and 26weeks) and five contacts in the third trimesters (30, 34, 36, 38, 40) weeks of gestational age (19). However, this new antenatal care model is still not declared in Ethiopia. Moreover, four antenatal care visit in our country are not fully covered and majority are late in their first contacts (20).

Ethiopia is found at fourth level among the ten top countries with high maternal mortality, which accounts for nearly 58% of Global maternal deaths. in Ethiopia, MMR death was reduced from 990 per 100,000 live births in 2000 to 420 per 100,000 live births in 2013 (17). With the aim of improving maternal, child and neonatal health outcome, The Federal Ministry of Health (FMOH) has implemented a set of intervention, including ANC service, skilled birth attendance and post-natal care (21).

however, even though, the proportion of Mothers received Antenatal care from skilled provider during last their pregnancy increased from 27% in 2000 to 62% in 2016, almost about 37% of women had no ANC visit the and only 20% of women make their first ANC visit before 16weeks of pregnancy (19). The majority of women start their ANC visit by their 2nd or 3rd trimesters of pregnancy and prevalence late ANC visit is still remained high in different Regions of the country (14,22,23).

The recommended time to start first ANC visit varied throughout the World. In our context, the first ANC visit is ideally recommended to occur before 16weeks of pregnancy (1). When women start ANC lately, they have an increased risk of poor pregnancy outcome, maternal and neonatal mortality. Consecutively, pregnant women are missing out of the intended benefit of ANC service (15). Therefore, assessment of Late Antenatal care attendance and associated factors has major public health importance to come up with strategies that could intensify the quality of antenatal care service provision and timing of first ANC attendance both in given area of study and others sites, by identifying and filling research gap (Population gap, methodological gap and theoretical gaps) and perspective future indicated in the last ten years published paper on subject matter and related in most of our country and some of African countries through using different technique.

1.3. The Rational/Justification of the study

Every pregnant woman is at risk of pregnancy related complication. To hinder and allow early detection of problems; pregnant women should start early their ANC visit during within 16weeks of pregnancy. Despite the fact early antenatal care seeking is essential; the majority of pregnancy in Ethiopia initiate their First antenatal care seeking during the second and third trimesters of pregnancy provided that the service is physical accessible and free of charge. However, there is limited information regarding the magnitude of late antenatal care visit and its associated factors within whole health facilities in the study area.

Therefore, the information obtained from the study will be added or influence (revise and refine) to extending the existing body of knowledge toward in the area of maternal and neonatal health. So, the finding might help to enhance family and social support system for pregnant women in the communities, and provide important information to health policy makers and policy implementers on magnitude of late antenatal care visit and its influencing factors without compromising desired outcome of ANC, skilled birth attendance and postnatal care. The study result also will serve as source of data or base line information and an input for future advanced studies on study area.

Therefore, this study will assess the magnitude of late antenatal care booking and its associated factors among pregnant women in Ilu Ababor zone public health facilities.

2. CHAPTER TWO: LITERATURE REVIEW

2.1. Magnitude of focused antenatal care and its coverage

Globally, in 2013 only 58·6% of women receive ANC care before 12 weeks of gestation. But, in the same year the overall coverage in the developing regions was 48·1% compared with 84·8% in the developed regions and 24·0% in low-income countries compared with 81·9% in high-income countries(5).

African level view like study done in Cameroon indicated about 44% of women attend the service after 12 weeks of gestation (13). Similarly, study conducted in Nigeria showed 72.4 % of women were late at their first ANC service visit with a mean GA at the booking of 18.3 weeks.

In Ethiopia, in 2016 about 62% of pregnant women received ANC from a skilled health care provider compared to 28% in 2005 and 34% in 2011 EDHS finding and showed an improvement in the coverage of ANC by 35% over the last 15 years. At meantime, the proportion of women who received ANC within the first trimester has increased by three folds from 6% in 2000 to 20% in 2016. But this figure indicates a few, but insignificant improvements in early antenatal care (20).

An institutional based study conducted in Tigray found about 85.67% women made their first visit after first trimester (14). Another study at Wollega and Debra Markos showed about 81.5% and 59.4% of pregnant women start their first visit after first trimester of pregnancy respectively (15, 24). Similarly study conducted in Gondar town reported, about 64.9% of pregnant mothers, made their first ANC visit late the recommended time with the mean time of contact being 4.5 ± 1.8 months of pregnancy (24).

Even though FANC is contributed to good pregnancy health outcome, their benefit in influencing outcome of pregnancy is largely depending on timing and quality of service. Women who books late for their ANC visit miss out intended benefit of FANC and encounter the negative effect like; lack of proper information, late identification and management of maternal and neonatal condition(4).

2.2. Factors associated with late initiation of ANC

2.2.1. Demographic and socio-economic factors

A. Maternal age: Maternal age is usually dominant to influence the timing of antenatal attendance. i.e., A study done in west Hararghe reveals, <26yrs pregnant were four times more likely to use ANC service in first trimesters when compared to their counterpart (25). Contrarily, cross-sectional study done in Wollega and D/markos reveals ≥ 25 yrs pregnant and more age groups were 1-3 more likely too late for their first ANC booking (14,26). Whereas extreme age groups of (<18yrs & >34yrs) were have few visit of 1st trimesters (27). But, other study reveals age group hasn't significantly associated with timing of antenatal booking (28). In contrary, study done from Thailand tells women <20yrs has 2.39 times the risk of Delay ANC service utilization compared to Adult pregnancy (29).

B. Residence: Because of Residence, timing of first ANC initiation can be affected. Study in S.Africa shows, rural women were more likely late for ANC visit as compared to urban women (51 versus 28) for first ANC (30). the 2016 EDHS shows, Ruler women had higher odd of late initiation of ANC visit compared with urban women (17% versus 44%) (20). but, study done in S.Africa, University Of Cape Town shows high proportion of urban women were lately attend ANC compared to rural women (32.6% versus 25.6) (31). Study in Wollega and Benchi maji zone shows, there is no association between late initiation of ANC service utilization and Maternal residence (26,32).

C. Marital status: Study in Malaysia showed unmarried women were more likely to attend their first ANC late compared to with married women (33). study in Tanzania reported unmarried women were three times more likely to late to book for Service (34) However, study in Tigray and Nageria showed marital status has no association with antenatal (35).

D. Family size: Report from Rwanda revealed; having many children was significantly associated with delayed initiation with of ANC with six children had higher odd of late ANC booking compared to those with 4-6 children (36).

E. Income: Cross-sectional study done in Malaysia revealed, those had respondents who had their own income were booked earlier than those who had not their income (33). But, study done in a Cameron, Financial constrain were reported as the most common reason for coming late at

first ANC contact. However, in another study, it was reported to have insignificant relation with late entry to ANC (32).

F. Maternal and Husband education status: A study at Cameroon, women attended secondary school were 6.5 times more likely to book for ANC earlier compared to with no formal education (37). Also other study from D/Markos, women at Tertiary education were two times more likely to attend their ANC service earlier compared to women with no formal education (38). Study in Zambia shows, those women whose partner received higher education level were two more likely to have an optimal ANC attendance (39). Also, study at Thailand and kembata Tambaro zone, showed, there is no association between husband higher status education and late initiation of ANC (29,40).

G. Maternal occupation: Cross-sectional Study in Addis Ababa showed, being a government employer decreased timely booking of ANC by 50% compared to being housewife (41). However, it was reported to insignificantly relate to late initiation of ANC (40).

2.2.2. Obstetric factors

A. Gravity: It was reported to be an insignificant factor by study conducted in Tanzania (34) but in 2016 Cross-sectional study Hospital based done in Myanmar reveals, Gravida two and above were 1.37 and 2.5 more likely to late at time of pregnancy respectively (6). Similar resulted is reported from study done at Wolayita Sodo and Addis Ababa (12,41), but, it was reported to be an insignificant factor by study conducted in Tanzania (34).

B. Previous utilization of ANC follow-up: In 2018 study found in Tigray reveals pregnant women with no history of ANC service utilization in their previous pregnancy were more likely to be late at first pregnancy ANC visit (16).

C. Type of pregnancy: Study conducted in Bahir-Dar reported that mothers who want her pregnancy were more likely to initiate ANC follow up earlier than their counterparty (42).

D. Previous pregnancy outcome and place of Delivery: Those women who had poor pregnant outcome in previous pregnancy were reported to decide enroll early in the current pregnancy (16).

2.2.3 Knowledge of women on ANC

A. Knowledge about the advantage of ANC : Women who had poor knowledge on the advantage of ANC and service were more likely to be late ANC booking at first visit (15).

B. Advice from significant others about ANC: Study conducted in Ethiopia showed, those participants who got advice from Health Extension workers TV/ radio were 5.1 times more likely to start ANC service early compared to other who got advice from other sources (37). Likewise, pregnant women who have been advised before initiation of ANC visit were more likely to enter to ANC visit early compared to mothers who did not received any advice (43).

D. Number of ANC recommended: Study done in Gondar that those Women's who perceived initiation of ANC visit in First Trimester were more likely to make Four and above visit than those who perceive and initiated ANC in the second and third Trimester (7)

2.2.4. Health care related factors

A. Payment for transportation and service

Study done in Cameron revealed, that odd of late ANC initiation were higher among participants living 10km away from Hospital (13). Time and cost that involved in transportation to receive the service were significantly associated with not only ANC use but also institutional delivery, postnatal and infant care service. (25). The odd of pregnant women who are supported by their Families were three time more likely to use ANC during first trimesters than those who were supported (25). This, contradict the report from Tigray, were husband involvement was no related timing of ANC booking (35).

Unmatched case control study conducted in selected public health facilities in Addis Ababa, those confirmed their pregnancy by missing period were 39% less likely booked later than those who confirmed their pregnancy by urine test (37).

2.3 Conceptual frame works

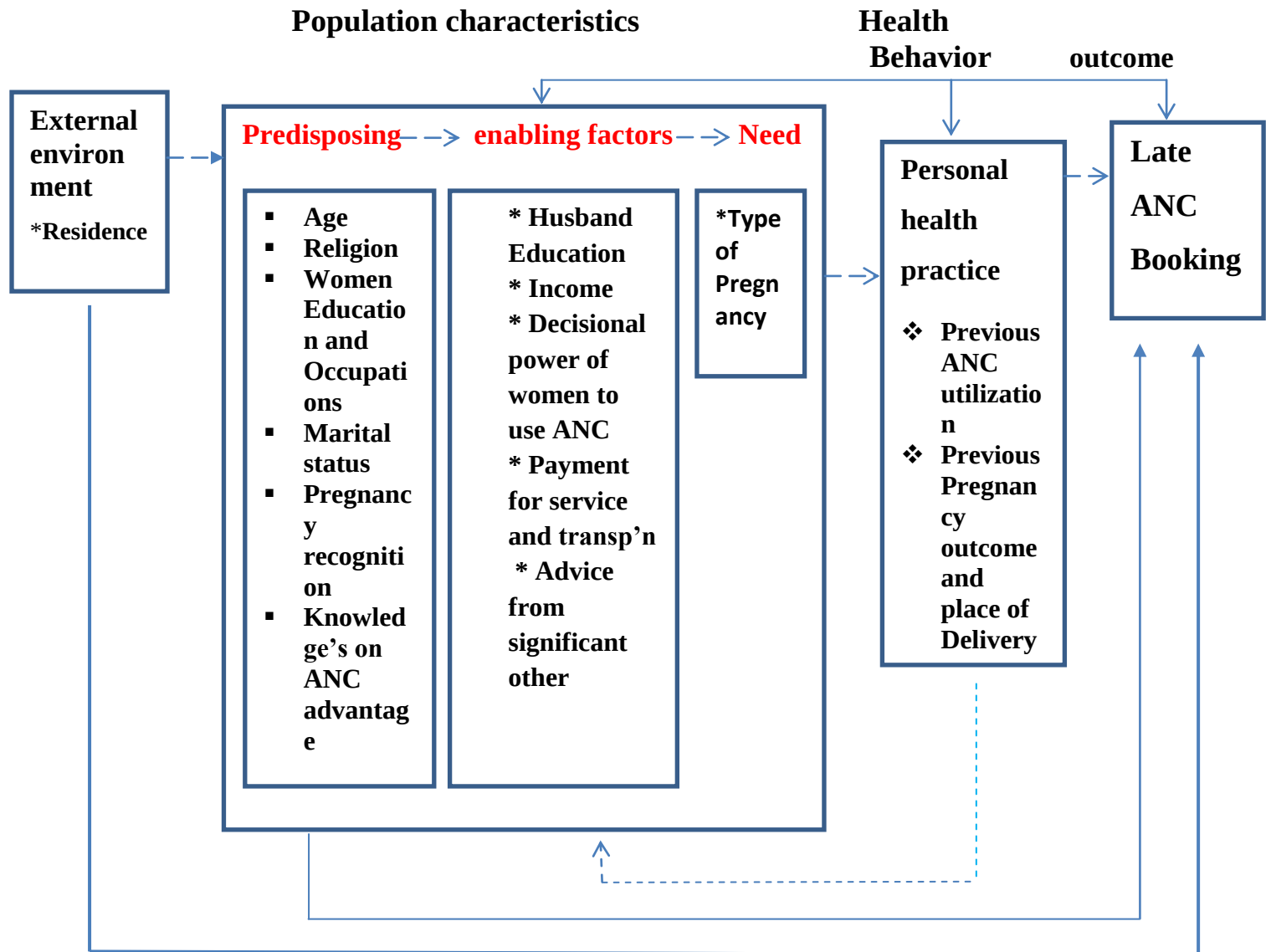


Figure 1: Conceptual framework on Late ANC attendance and its associated factors among pregnant women living in Ilu Ababor zone public health facilities, developed from literature.

Source: Adapted from Anderson 1995 behavioral model of health care use

Chapter Three: objective

3.1 General objective

- ✓ To assess the magnitude of late antenatal care attendance and its associated factors among pregnant women attending public health facilities in Ilu Ababor zone, in Southwest Ethiopia 2021/22.

3.2 Specific Objectives

- ✓ To determine the magnitude of late antenatal care attendance among pregnant women attending public health facilities in Ilu Ababor zone Southwest 2021/22
- ✓ To identify factors associated late antenatal care attendance among pregnant women attending public health facilities in Ilu ababor zone, in Southwest Ethiopia 2021/22.

Chapter Four: Method and Material

4.1 Study area and period

This study was conducted from December 15/2021 to January 20/2022 in Ilu ababor zone public health facilities.

Ilu Aba Bora zone is among 22 Zones in Oromia regional state in Southwestern of Ethiopia that located 600 km from Addis Ababa, and Mattu is Zonal capital city. The zone has 14 Administrative District with 25 urban and 276 kebeles. The total population of the zone is estimated to be 991,257 with a male to female ratio of 1: 1.06 according to data from MOH and Zonal planning health department in 2021. In addition, people of different ethnic groups with diverse cultural backgrounds and language inhabit the Zone.

Regarding the health institution in the Zone, there are two public Hospitals (one referral and one district Hospital) with 41 health centers (HC) and 276 health posts. Annually 34,397 pregnant women are expected to get the ANC service at different health facilities in the Zone.

4.2 Study design

An institutional based cross-sectional study design was used.

4.3 Source population

All pregnant women came for ANC visit at public health facilities in Ilu ababor zone.

4.4 Study population

All pregnant women who attended ANC clinic, in randomly selected public health facilities from December 15/2021 to January 20/2022.

4.5 Eligible Criteria (Inclusion and Exclusion criteria)

4.5.1 Inclusion Criteria

Pregnant mother who attended their ANC 1st visit at selected health facility.

4.5.2 Exclusion criteria

Pregnant women who came to the selected health facilities, after attended their 1st ANC visit at other health facility, because those women's GA at 1st visit may not be known.

4.6 Sample Size determination

Required sample size for the first objective (dependant) is estimated using open-Epi version for Statically software using single population proportion formula $n = (Z\alpha/2)^2 (P)(1-P)/d^2$ with the following assumption, n = required sample size, Z = 1.96 at 95% confidence interval, margin of error(α) = 5%(0.05), P= prevalence of late initiation of ANC visit, 78.28% taken from facility based cross-sectional study, early initiation of antenatal care and associated in Southern Ethiopia (22) and $n = (1.96)^2 * (0.7828) * (0.2172) / (0.05)^2 = 261$ then by considering 10% non-respondent rate and 2 design effect (261 + 10% NR*2DE) the final sample size became 574 study subjects.

To determine the required sample size for the second specific objective, various factors, which significantly associated with outcome variable, were considered at 95% CL, power of 80%, and ratio of 1:1 by using open Epi version three statistical software programme for double population proportion formula and calculated as shown below for selected variable.

Table.1. Sample size determination using double population proportion formula for study conducted on Late ANC attendance and its associated factors among pregnant women attending in Ilu Ababor public health facilities

Variable	CI	Late initiation of ANC in exposed group (%)	AOR	Nf: By considered 10% NR	References	Remark
Maternal age	95%	77.49%	3.09	260	(26)	1 st maximum sample size
Residence	95%	21.2%	2.8	176	(38)	4 th maximum sample size
Perceived right time to start ANc	95%	61%	2.34	260	(32)	2 nd maximum sample size
Intention of pregnancy	95%	25%	2.4	227	(42)	3 rd maximum sample size

Where AOR= Adjusted odd ratio, NR= none response rate, NF= final sample size

Generally, sample size was calculated for first and second objective and largest sample was taken from calculated first objective which was 261 by adding 10% nonresponse rate and 2 design effect, which final sample size is 574 study subjects.

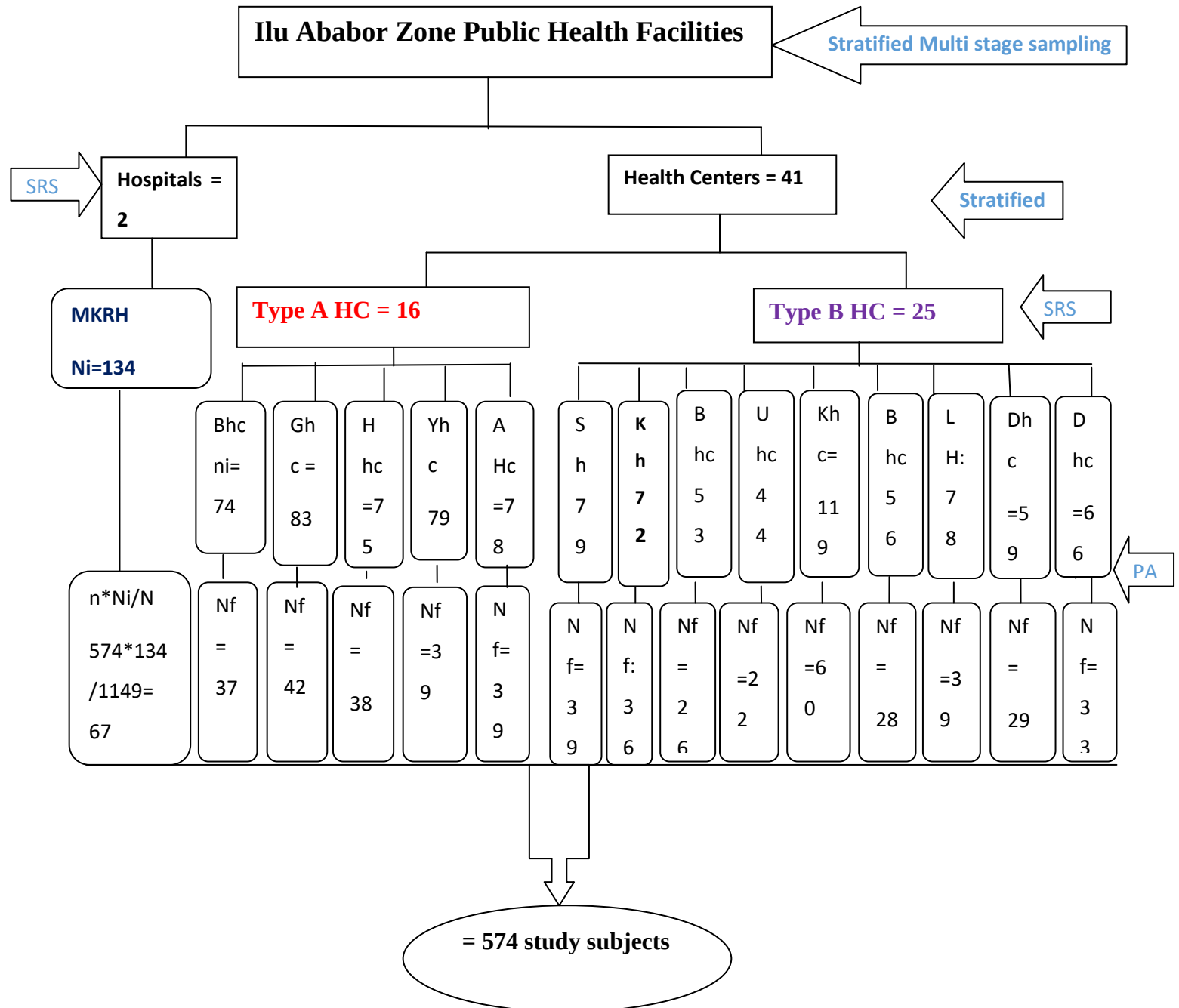
4.7 Sampling Procedure

All government health facilities in Ilu ababor zone; that provide ANC service were included in this study and grouped into two as public Hospital and health centers. Then stratified multi stage sampling method was used during the selection of health centers. then for the purpose of logistic feasibility and improving representativeness, one Hospital and 14 Health centers after the stratification of health centers into two Type A (Health center serving urban population and his catchment) and Type B (Health center serving remote ruler population and his catchment; which means five Type A health centers were randomly selected among type A health centers in the zone and nine type B health centers were randomly selected among type B health centers in the zone.

After that, proportional allocation to population size (PPS) technique was used to assign sample size for each health facility based on their monthly average of new ANC visit enrollment.

Lastly, subjects was taken by systematic random sampling (i.e. $K_{th} = N / \text{sample size} \Rightarrow 1149/574 = 2$ which means $K_{th} = 2$), thus every 2nd client was come for first ANC visit service was recruited as study units by selecting number one ANC visitors randomly and start data collection in each health facilities until the total sample size for this study is obtained. The steps of selection are shown below in the figure.2

Steps of sample selection



Key words: H=Hospital, Hc= Health center; MKRH=Mattu karl Referral hospital, Bhc=Bure HC, GHC=Gore HC, HHC=Hurumu HC, YHC= Yayo HC, AHC=Alge HC, SHC=Suphe HC, KHC=Kamise HC, BHC=Burusa HC, UHC=Uka HC, KHC= Kidame HC, BHC= Birbirs HC, LHC= Lalo HC, DHC= Dorani HC, DHC=Dupa hc

Figure 2. Schematic Presentation of Sampling Procedure

4.8. Data collection methods

Data were collected through interview pregnant women after confirmation of informed consent. Fifteen BSC health professionals who speak Oromifa and Ahmaric language fluently was assigned to data collection outside their working organization. One day training was given for data collector and supervisor on tools and procedures. The question was included the socio demographic characteristic, obstetric factors, knowledge of women on ANC, health care factors, and history of current pregnancy. The questionnaire was developed in English and translated into Oromifa, then translated back into English by language expert to ensure its consistency. Items and tools to collect data were adapted from existing literature toward (based on) objective of the study. Oromic version of questionnaire was used to collect data from Respondent at health facilities. Supervision of data collectors was done at each Health facilities during the study period by Principal investigator and Supervisor.

4.9. Study variable

4.9.1. Dependent variable

Late antenatal attendance (yes, no)

4.9.2. Independent variable

- **Socio demographic factors:**

- ❖ maternal age
- ❖ Residence
- ❖ Marital status
- ❖ Religion
- ❖ ethnicity
- ❖ Family size
- ❖ maternal education
- ❖ Maternal Occupation
- ❖ Family income

Obstetric history:

- ✓ Gravidity
- ✓ Previous utilization of ANC follow up
- ✓ previous place of Delivery
- ✓ history of abortion and still birth
- ✓ type of pregnancy
- ✓ experience of previous obstetric complication
- ✓ Type of Complication
- ✓ danger signs of pregnancy
- ✓ Means of pregnancy Recognition.

Health care factors:

- ✚ Payment for checkup
- ✚ Transportation cost
- ✚ Decision power of women to use ANC service

Knowledge related factors:

- ❖ the importance of ANC
- ❖ advice from significant others about ANC initiation
- ❖ Number of ANC visit recommended
- ❖ Reason given by respondents for specific time of first ANC visit

4.10. Operational definition

Late antenatal care attendance: pregnant women are considered late ANC booking at first visit when they come to health facilities after 16 weeks of Gestational age (1).

Knowledge: pregnant women perceived about the timing ANC initiation and the importance of ANC visit service.

Every knowledge question spontaneously answered correctly was recorded one (20%) whereas every knowledge question spontaneously answered incorrectly was recorded zero mark. There were 5 knowledge questions. The total scoring ranging from 0-5 obtained by each participants was added up and was calculated to classify into good knowledge and poor knowledge (43).

Good knowledge: Those pregnant women who answered knowledge question greater than 60% (43)

Poor Knowledge: Those pregnant women who answered knowledge question less than 60% (43).

4.11. Data Quality control

In order to maintain the quality of data, questionnaire was pretested on pregnant women attending ANC at Bedelle Health center before the beginning of study period. After pretest some modification, was improved the quality of meanings. About 5% of sample size was used for pretest purpose and data obtained from pretest was excluded from the main study. Before data collection, training was provided by using standard tool (for fifteen BSC health professional and speak Oromifa and Amharic language fluently was assigned to data collection outside their working organization.

The data collection tool was first prepared in English and then translated to Oromifa. Then the new version of tolls was translated back into the original one by language expert to evaluate its consistency. Final edit version, of questionnaire was used to collect actual data from respondents with close follow up. After proper data collection, the assigned supervisor and principal investigator regularly monitor and check the completeness and consistence of data. Subsequent to fitting data collection, data was carefully entered, cleaned, coded, and analyzed by epi data and SPSS version 20. To assure data quality, the investigator was performed systematic data cleaning procedure on both categorical and continuous variables. To check for unexpected and

extreme value out point occurred, the investigator was sort variables and clean the data. Finally, the investigator verified variables with respective check list and further cleaning by selecting 10% from the total participants.

4.12. Data processing and analysis

Data was coded, entered, cleaned and checked by Epi data statistical software version 3.1 the exported to SPSS version 20 for Analysis. After categorizing and defining variables, descriptive analysis was carried out for each predictor variable and table and figure was used to present the frequency and percentage of data.

Late antenatal care was determined in terms of time to enter at first visit of antenatal care and later dichotomized as “late” and “early”. The association between outcome (late antenatal care) and independent variable was assessed by logistic regression model. Bivariate analysis and crude odd ratio at 95% confidence interval (CI) was used to see association between each independent variable and outcome by using binary logistic regression, independent variable with p-value of <0.25 was included the multivariate analysis to control for confounding factors.

Multi-collinearity was checked considering collinearity diagnostic value of (VIF, correlation coefficient & condition index) to see the linear correlation among the independent variable by using standard error (SE). The fitness of the model was tested by Hosmer-Lemeshow’s goodness-of-fit test model coefficient with an enter method. The adjusted odd ratio along with 95% CI was estimated to identify the factors associated with late antenatal care using multivariable logistic regression analysis and the level of significant was declared to be at a p-value <0.05 .

A total of 16 variables adopted from Ethiopian Demographic &Health Survey (EDHS) that shows ownership of durable assets of households were used. Since the number of variables are >12 , principal component analysis was used. First variables were analyzed through iteration by considering the assumptions to gain latent factors that explain variability in the data and the cumulative variance was 68%, next the score was ranked in to quintile.

4.13. Ethical Consideration

Ethical clearance and letter permission was obtained from Sphmmc School of public health review board. Health institution included in the study was asked for permission using formal letter that released from Sphmmc School of public health, Oromia Regional health bureau, Ilu ababor zonal health department and respective districts health office. Written informed consent was obtained from each study participants after explaining study objectives. Participants of respondents were on the voluntary bases. Participants were informed based that the information to be collected was anonymous and withdrawal from the interview those unhappy during interview and only those who having willing was interviewed. Confidentiality of response was maintained through the Research process. Privacy and cultural norms of respondents was respected. No names were used on the sheet; however, the question was serial for the purpose of data entry.

4.14. Dissemination of the results

The result of this study was submitted to Sphmmc School of public health, in order to make it available in the institution. In addition, the result of the study will submitted to Oromia Regional Burea, Ilu ababor zonal health department, and other concerned NGO that currently mentoring Family health programme in the Region, specifically on study area.

CHAPTER FIVE: RESULTS

5.1. Socio demographic and Economic character of Respondents

Five hundred and sixty six (566) participants were involved in the study with a response rate of 98.6%. Among the participants three hundred and sixty six (64.6%) were started antenatal care after sixteen week of Gestational age. Nearly half (49%) of participant are aged between 25 to 35 years and the mean age of the respondent was 27.17 ± 4.56 (SD). Greater than half (55.7%) of the respondents were from rural. Four hundred and sixteen (73.5%) of the respondent were Oromo in ethnicity and more than one-third (37.1%) of mothers were Muslim religion followers. Two hundred eighteen (38.5%) of mothers have attended primary education. Majority of mothers (87.9%) and (63. 1%), were married and their livelihood depends on farming respectively. More than half (52.3%) of the respondents family size were four and less than one-fourth (24.7%) of mother wealth status falls in the third class (middle class).

Table.2 socio-demographic characteristics of the respondents by timing of first ANC Visit at selected health facilities in Ilu ababor zone, Southwest Ethiopia, 2021/2020 (N=566)

Variables	Categories	ANC Booking time		Frequency	percent
		Late (%)	Early (%)		
Age	≤24	131(55.3%)	106(44.7%)	237	41.8
	25-35	134(48.9%)	140(51.1%)	274	48.4
	≥36	25(45.5%)	30(54.5%)	55	9.7
Residence	Rural	182(57.9%)	132(42.1)	314	55.4
	Urban	99(39.1%)	153(60.9%)	252	44.6
Marital Status	Single	5(33.3%)	10 (66.6%)	15	2.7
	Married	196(39.4%)	302(60.6%)	498	87.9
	Divorced	17(47.2%)	22(52.7%)	36	6.5
	Other*	6(33.2%)	11(64.7%)	17	2.9
Religion	Orthodox Christian	86(46.0%)	101(54.0%)	185	32.6
	Muslim	95(45.3%)	115(54.7%)	210	37.1
	Protestant	61(36.5%)	106(63.5%)	167	29.6
	Other “	1(25%)	3(75%)	4	0.7
Ethnicity	Oromo	118 (27.8%)	306(72.2%)	424	74.9
	Amharic	36(45.5%)	43(54.5%)	79	13.9
	Tigre	21(46.6%)	24(53.4%)	45	7.9
	Other ""	7(38.8%)	11(61.2%)	18	3.3
Maternal Education	No formal education	79(63.7%)	45(36.3%)	124	21.9
	Primary education	124(56.8%)	94(43.2%)	218	38.5
	Secondary	89(54.9%)	73(45.1%)	162	28.7
	Diploma & above	30(48.3%)	32(51.7%)	62	10.9

Husband Education	No formal education	54(49.1%)	56(50.9%)	110	19.4
	Primary education	48(21%)	180(79%)	228	40.2
	Secondary	62(38.8%)	98(61.2%)	160	28.2
	Diploma & above	28(41.5%)	40(58.5%)	68	12.0
Maternal Occupation	Farmer	173(48.5%)	183(51.5%)	356	62.8
	Civil servant	44(44%)	56(56%)	100	17.6
	Merchant	3(42.8%)	4(57.2%)	7	1.2
	House wife	39(39.7%)	59(60.3%)	98	17.3
	Un employed	1(33.4%)	2(66.6)	3	0.5
Family Size	1-3	100(46.7%)	114(53.3%)	214	37.8
	4	115 (38.3%)	186(61.7%)	301	53.1
	>5	25(49%)	26(51%)	51	9
Wealth index	Lowest class	76(60.8%)	49(39.2%)	125	22
	Second class	48(42.1%)	66(57.9%)	114	20.1
	Middle class	71(50.7%)	69(49.3%)	140	24.7
	Fourth class	52(47.7%)	57(52.3%)	109	19.2
	Highest class	34(43.5%)	44(56.5%)	78	13.7

“ - **Waqefata** and Catholic , ''' - kefa, Gurage, kembata, Wolliata, Sidama and Hadiya

Other* - Separated and Widowed

A. Timing Of first ANC visit in Ilu Ababor zone 2021/2022

The proportion of participants who made their first ANC visit at or before 16weeks Gestational age were 200 (35.4%) whereas 366 (64.6%) were those respondents who were attended after 16weeks of Gestational age. first ANC booking ranges from first to eight months of Gestation.

The mean timing was 18.5 weeks (SD $\pm$ 5.8).

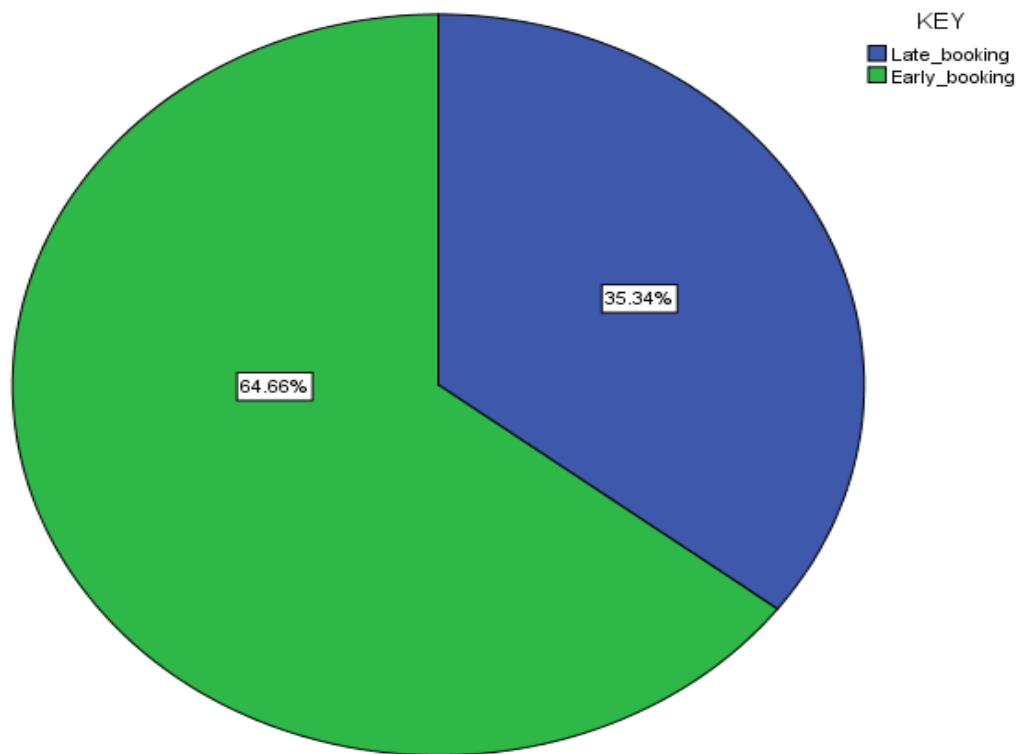


Figure 3: Magnitude of first Antenatal care visit timing in Weeks of Gestational for Pregnant women attending ANC clinic in Ilu Ababor zone

5.2. Obstetric Factors

Majority of the Respondents (93.9%) have history of live birth on their previous pregnancy whereas few of them (7.9%) has history of abortion. most of the participants (92%) have history of previous antenatal care visit. currently among the respondents of the study, 290(51.3%) were Received antenatal care visit service one times. About less than one fourth (22.9%) of mothers were noticed at least one danger symptom on their recent pregnancy. The commonest symptom (13.7%) was persistence vomiting.

Table.3 Obstetrics characteristics of the respondents by timing of first ANC Visit at selected health facilities in Ilu ababor zone, Southwest Ethiopia, 2021/2020 (N=566)

Variable	Category	ANC booking Time		Frequency	Percent
		Late	Early		
Gravidity	Still birth	16 (47%)	18 (53%)	34	6
	Live birth	231 (43.6%)	301(56.4%)	532	94
History of abortion	Yes	22(48.8%)	23(51.2%)	45	7.9
	No	221(42.5%)	300(57.5)	521	92
Type of abortion	Spontaneous	12(38.7%)	19(61.3%)	31	5.4
	Induced	6(42.8%)	8(57.2%)	14	2.4
Previous history ANC visit	Yes	281(53.9%)	240(46.1%)	521	92
	No	28(62.3%)	17(37.7%)	45	7.9
Number of current ANC visit	1	123(42.5%)	179(57.5%)	290	51.3
	2-4	70(27.1%)	187(72.9%)	257	45.3
	>4	8(42.2%)	11(57.8%)	19	3.4
Health facility birth	Yes	142(30.8%)	318(69.2)	460	81.2
	No	45(42.4%)	61 (57.6%)	106	18.7
Planned pregnancy	Yes	182 (34.6%)	344 (65.4%)	526	92.9
	No	12 (30%)	28(70%)	40	7.0
Significance of unplanned pregnancy	Yes	11(45.8%)	13(54.2%)	24	4.2
	No	177(32.6%)	365(67.4%)	542	95.7

Variable	Category	ANC Booking time		Frequency	Percentage
		Late	Early		
History of obstetric complication	Yes	77(46.6%)	88(53.4%)	165	29.2
	No	191(47.6%)	210(52.4%)	401	70.8
Type of complication	Excessive vaginal bleeding	10(35%)	19(65%)	29	17.5
	Prolonged labor	14(35.8%)	26(64.2%)	40	24.3
	Retained placenta	(41.4%)	10(58.6%)	17	10.41
	Mal-presentation	8(35.3%)	15(64.7%)	23	13.9
	Early rupture of membrane	15(30.6%)	34(69.4%)	49	24.8
	Other "	3(42.8%)	4(57.2%)	7	4.2
Danger symptom on Current pregnancy	YES	58 44.6%)	72(55.4%)	130	22.9
	NO	136(31.1)	300(68.9%)	436	77.1
Type of danger Symptoms	Persistence vomiting	8(34.7%)	15(65.3%)	23	17.6
	Leg swelling	13(43%)	17(57%)	30	23.07
	Vaginal bleeding	6(37.5%)	10(62.5%)	16	12.4
	Severe Head ache	(46.2%)	14(53.8%)	26	20.0
	Blurring of vision	12(37.5%)	20(62.5%)	32	24.7
	Other "	1(33.4%)	2(66.6%)	3	2.3
Date of First ANC visit booking	< 4months		200	200	35.3
	≥4months	366		366	64.7

Other ‘’ - Loss of consciousness, Fetal death,

Other" – morning sickness

5.3. Knowledge Factors

Among the participants of the study three hundred Forty (60%) had good knowledge about Antenatal care service. More than half of the participants were responded the right time for initiation of first antenatal care visit equal as or greater than sixteen weeks.

More than one fourth of respondents were described as four and above antenatal care are recommended during pregnancy. Majority of Mothers (86.2%) were, got advice on antenatal care.

Table.4 Knowledge characteristics of the respondents by timing of first ANC Visit at selected health facilities in Ilu ababor zone, Southwest Ethiopia, 2021/2020 (N=566)

Variable	Category	ANC booking Time		Frequency	Percentage
		late	Early		
Knowledge on ANC service	Good Knowledge			340	60
	Poor Knowledge			226	40
Importance of ANC	Fetus	50(46.7%)	57 (53.3%)	107	18.9
	Me	24(40.6%)	35 (59.4%)	59	10.5
	Both	124(34.4%)	237 (65.6%)	361	63.8
	Do not know	13(33.4%)	26(66.6%)	39	6.8
Recommended number of ANC visit	1-3	182(47.7%)	199(52.3%)	381	67.3
	> 4	91(60.6%)	59(39.4%)	150	26.5
	Do not know	22(62.8%)	13(37.2%)	35	6.2
Importance of ANC For birth preparedness	YES	141(45.3%)	170(54.7%)	311	54.9
	NO	113(46.8%)	128(53.2%)	241	42.6
	Do not know	3(21.5%)	11(78.5%)	14	2.5
Advised from significant other about ANC initiation	Yes	201(41.2%)	287(58.8%)	488	86.3
	No	49(62.8%)	29(37.2%)	78	13.7

Reason for late booking at first ANC

Among those Respondents 389(68.7%) of them were perceived the initiation of ANC as appropriate time to start early. Less than one third 135(23.8%) of respondents were started Antenatal care service lately due to illness. nearly about eight percent 42(7.4%) of the respondents was started ANC visit service due to assure pregnancy, busy with other works, from their previous experiences, because of unplanned pregnancy.

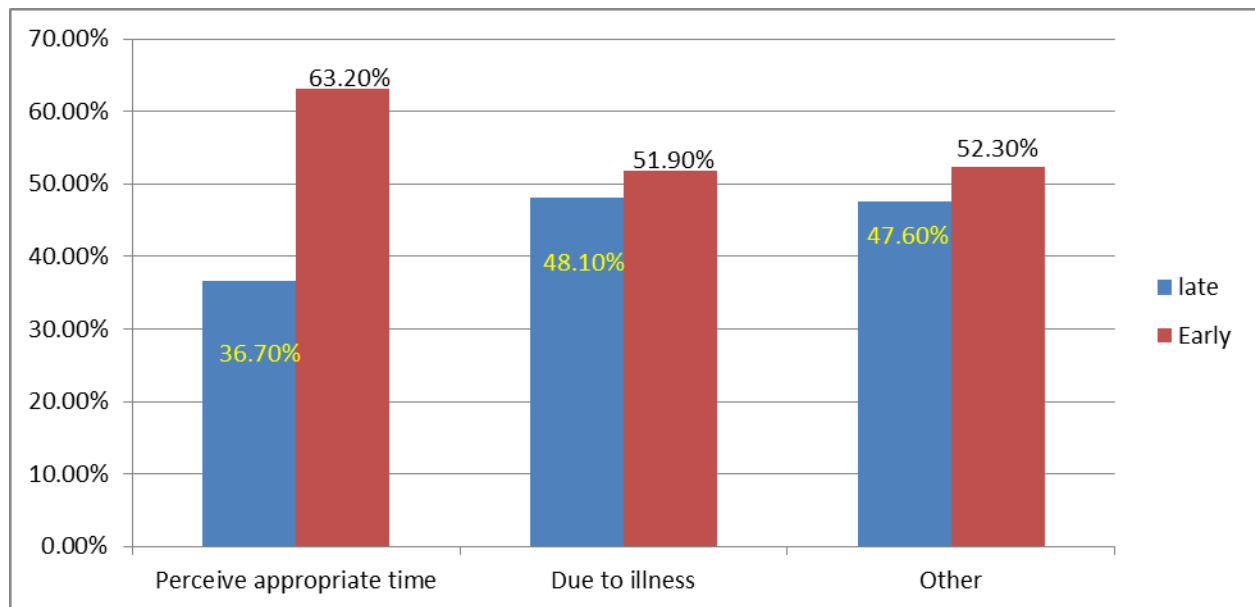


Figure 4: Reason of Antenatal care initiation of pregnant women attending ANC clinic in Ilu Ababor zone from December 15/2021 to January 20/2022.

5.4. Health Related Factors and others

Among the respondents nearly (97%) of them were not paid for antenatal care service whereas less than half (44.6%) were Paid for transport. Two hundred Thirty (40.6%) of the Respondent's Gestational age was confirmed by health personal in the first trimesters.

Table.5 Health related factors and other characteristics of the respondents by timing of first ANC Visit at selected health facilities in Ilu ababor zone, Southwest Ethiopia, 2021/2020 (N=566)

Variable	Category	ANC booking time		Frequency	Percentage
		Late	Early		
Paid for service	No	188 (34.2%)	361 (65.8%)	549	96.9
	Yes	6 (35.2%)	11 (64.8%)	17	3.0
Paid for Transportation	Yes	61(24.2%)	192(75.8%)	253	44.6
	No	133(42.5%)	180(57.5%)	313	55.3
Gestational age confirmed by Health personnel	First trimester	50(37.8%)	82(62.2%)	132	23.3
	Second Trimester	68(33.3%)	136(66.7%)	204	36.0
	Third Trimesters'	76(34%)	154(66%)	230	40.6
Decision for ANC attendance	Husband	51(48.1%)	55(51.9%)	106	18.7
	Me	89(45.6%)	106(54.4%)	195	34.4
	Both	100(42.1%)	137(58.9%)	237	41.8
	Other "	12(42.8%)	16(57.2%)	28	4.9
Perceived Pregnancy	Missed a period	163(43.6%)	210(56.4%)	373	66.1
	HCG test	71(43.3%)	93(56.7%)	164	29.1
	Other "	9(31.1%)	20(68.9%)	29	4.8

Other" – Mother, Father and Neighborhood, Other " - sign like nausea, missed period more than once

5.5. Factors associated with Late ANC booking

Bivariate and Multivariable analysis were done to identify independent variables that significant association with late antenatal care booking time (first visit). After adjusting for potential confounders; the results from Multivariable logistic regression implies that, residence [AOR: 1.6; 95% CI: (1.5, 3.1)], age [AOR: 1.23; 95% CI: (1.13, 1.94)], maternal education [AOR: 1.62; 95% CI: (1.42, 7.23)], number of ANC recommended [AOR: 1.6; 95% CI: (1.26, 5.1)], advised from significance others about ANC initiation [AOR: 1.48; 95% CI: (1.32, 14.3)], are variables which are significantly associated with late antenatal care booking at 95% CI and p value of 0.05.

In this study, odds of being rural residents were 1.6 times more likely to late ANC attendants than urban residents, OR = 1.6 (95% CI: (1.5, 3.1)).

pregnant women those age groups less than and equal to 24yrs were 1.23 times more likely to start lately ANC attendance as compared to those age group of 36yrs and greater that, OR= 1.23 (95% CI: (1.13, 1.94) .

Odds of being respondents of no formal education status were 1.6 times more likely to late first antenatal care as compared to respondents those who have diploma and above education status, OR=1.62(95% CI: (1.42, 7.23)).

Odd of being not know about number of ANC recommended were 1.6 times more likely to late first ANC visit than those respondents who perceived number of ANC recommended as 1-3 times during pregnancy, OR=.1.6(95% CI: (1.26, 5.1)).

On the other hand, advised on significant ANC initiation was significantly associated factor for late antenatal care. Odd of not advised on significant ANC initiation were more than one times more likely to late than those pregnant mother advised on significant ANC initiation, OR=1.48; (95% CI: (1.32, 14.3)).

Table 6: Factors associated with timing of first ANC visit at selected health facilities in Ilu Ababor Zone, 2021/2022(N=566)

Variables	Categories	ANC Booking time		COR(95% CI)	AOR (95%CI)	AOR
		Late (%)	Early (%)			P- value
Residence	Rural	182(57.9%)	132(42.1)	2.15 (1.84,2.23)	1.6(1.5, 3.1) **	0.025
	Urban	98(39.1%)	153(60.9%)	Ref		
Age	≤24	131(55.2%)	106(44.7%)	1.4(0.31, 0.77)	1.23(1.13, 1.94)**	0.004
	25-35	134(48.9%)	140(51.1%)	1.14 (0.14, 0.40)	0.35(0.20, 0.82)	
	≥36	25(45.4%)	30(54.5%)	Ref		
	No	31(75.6%)	10(24.4%)	3.9(3.92 ,14.3)	2.8 (1.12, 9.37)**	
Maternal Education	No formal education	79(63.7%)	45(36.2%)	1.87(0.15, 6.72)	1.62(1.42, 7.23)**	0.002
	Primary education	124(56.8%)	94(43.2%)	1.4 (0.94, 3.76)	0.64(0.28, 1.71)	
	Secondary	89(54.9%)	73(45.1%)	1.3(0.15, 6.72)	1.2 (0.42, 5.23)	
	Diploma& above	30(48.3%)	32(51.7%)	Ref		

Variable	Categories	ANC Booking time		COR (95% CI)	AOR (95%CI)	AOR
		Late Booking	Early Booking			P-value
Wealth index	Lowest class	76(60.8%)	49(39.2%)	2 (0.07, 0.85)*	1.72 (0.23, 17.2)*	0.201
	Second class	48(42.1%)	66(57.8%)	0.9 (1.93,5.2)	0.73 (0.09, 3.43)	
	Middle class	71(50.7%)	69(49.2%)	1.3 (0.57, 2.05)	0.72(0.28, 1.46)	
	Fourth class	52(47.7%)	57(52.3%)	1.1(1.93,5.2)	0.9 (1.09, 3.43)	
	Highest class	34(43.5%)	44(56.4%)	Ref		
Previous history of ANC visit	Yes	281(53.9%)	240(46.1%)	Ref	Ref	0.062
	No	28(62.2%)	17(37.7%)	1.4 (0.98, 2.12)	1.3 (0.06, 2.79)*	
	≥16 Week	210(66.6%)	105(33.3%)	3.0(1.34, 3.98)	2.39(1.61, 3.1)**	
Number of ANC recommended	1-3	182(47.7%)	199(52.3%)	Ref	Ref	0.001
	≥4	91(60.6%)	59(39.3%)	1.6(0.52, 1.57)	1.48 (0.12, 1.79)	
	Don't know	22(62.8%)	13(37.2%)	1.8 (0.94, 7.6)	1.6 (1.26, 5.1)**	
Advised from significant other about ANC initiation	Yes	201(41.1%)	287(58.8%)	Ref	Ref	0.006
	No	49(62.8%)	29(37.2%)	2.4 (0.52, 1.57)	1.48(1.32, 14.3)**	

Note: * variables at $p < 0.25$,

COR: Crude odds ratio and

AOR: Adjusted odds ratio, Ref: Reference

** Significant predictors at $p < 0.05$,

Chapter Six: Discussion

The 2016 new model of WHO recommends, a minimum of eight contacts for essential and quality health care service of ANC which should began from first trimester of pregnancy (19). By using cross-sectional study design, this study was aimed to assess the magnitude of Late antenatal care booking and associated factors. According to the finding of the study, three hundred sixty six (64.6%) of pregnant women had started their first antenatal care after 16weeks of Gestational age. Generally, age, residence, educational status, heard about ANC, number of ANC recommended, appropriate time of ANC initiation, and advised from significant other had significant association of late antenatal care booking after other confounding factors has taken into account.

The result of the study was greater than finding from the study done on late ANC initiation; study that under taken in Thailand, factors associated with time to start ANC service after 12weeks of GA was prevalence rate of 49.6% (29). Similarly the result of the study was greater than report from the case public health centers in Ethiopia where the magnitude of late initiation was 60.5 % (23). This can be explained due to, difference in definition of late antenatal care booking in both context, low health service seeking behavior, environmental characteristics, low literacy rate, inadequate health information among study population.

As compared to the 2016EDHS (Ethiopian Democratic Health Survey) of Late ANC booking (80%), the magnitude of late attendance in the study done was lower (20). in the same way finding from the study was less than proportion of late antenatal care and associated factors done in 2016 of Kembata Tembaro zone was 68.5% (40).This could be due to several organized efforts has under taken (health promotion and expansion of health facilities) and health utilization behavior of the communities toward the programme after 2016 .

On the other hand, The finding of this study also indicates closely in line with the systematic review and meta-analysis conducted in Ethiopia; on prevalence of delayed initiation and associated late ANC booking 64% (15). the finding of this study was similar to health facility based cross-sectional study conducted in Gondar town which the prevalence of late antenatal care booking was 64.9% (24). This could happen because of related level of behavioral change (perception and awareness or information, value and belief) they had in utilization of health care.

According to the finding, education status was found to be significantly associated with delayed initiation of first ANC visit. Those mothers who had no formal education status were 1.62 times (CI: 1.42, 7.23) more likely to delay than respondents those who have Diploma and above Education status. This is consistent with study done in Cameron and D/Markos town (13,38). It could be because; due to unachieved any level of education of participants in the study. Having advanced educational rank and intellectuality is the most important aspect of capacity that associated to improve health seeking or utilization behavior (i.e. lifestyle and Fertility) and in other various socio economic factors and perspectives.

According to this study, respondents whose ages are less than and equal to 24yrs were 1.23 times (1.13, 1.94) more likely to start lately ANC booking as compared to those age group of 36yrs and above. This study finding was contradicted with study conducted in unmatched case control done in west Hararghe reveals, <26yrs pregnant were four times more likely to use ANC service in first trimesters when compared to their counterpart (25). Also the finding of the study was contradicted with study done in East Wollega reveals, mothers who aged 25 years and above were less likely to initiate than those less than aged 25yrs (26) . The possible justification for this scenario could be the level of knowledge, experiences, power and confidence of making decision for practice is increasing with age, though younger women has different source or access of information than older age women. Other pertinent reason could be, young women may perceive pregnancy to be normal health condition or to not be sequences concern that needs seeking health care.

The finding also showed the significant association between residence and late ANC booking. Among respondents who reside in ruler were 1.6 times (CI: 1.5, 3.1) more likely to delay than those pregnant mother living in urban to initiate ANC timely. Among all respondents 99(39.2%) of urban and 182(57.9%) ruler residents were started ANC after 16weeks of Gestational age. Study in S.Africa shows , rural women were more likely late for ANC visit as compared to urban women (51 versus 28) for first ANC (30). the 2016 EDHS shows, ruler women had higher odd of late initiation of ANC visit compared with urban women (44% versus 17%) (20). this finding also in agreement with study done in 2018 in Debra Markos, that ruler mother were attend ANC later and used fewer visit (38). the possible reason might be adequate source of information, better education status, alternative health care facilities of urban mothers than ruler mothers.

The study also reveals that the statically significance between number of ANC recommended and late antenatal care booking. Those pregnant women's who didn't know number of ANC visit service recommended during pregnancy were 1.6 times (CI: 1.26, 5.1) more likely to delay than those who perceived number of ANC recommended as 1-3 during pregnancy. This finding was inconsistent with study done in Gondar, that those women's who perceived number of initiation of ANC visit in first trimester were more likely to make four and above visit than those who perceive and initiated ANC in the second and third trimester (7). The possible reason for this result might be due to the fact that disparity of appropriate information and educational status of participants in both Studies set up.

According to this study showed there is significant association between advised from significant other about ANC initiation and late antenatal care booking. among participants of the study those who didn't advised on ANC visit Initiation were 1.48 times (CI: 1.32, 14.3) late as compared to those who had advised from significant other on first ANC service visit. The result of this study was contradicted with studies that have done in Bule hora district of cross-sectional study in Public health facilities (43). The possible reason behind this fact might be the inaccurate, incredible and inappropriate information toward right time to start antenatal care visit service. Source of information was strongly associated with timely initiation. Participants those who got truthful information from different sources were likely to initiate ANC booking early as compared to those who don't got information.

6.1 STRENGTH AND LIMITATION OF THE STUDY

6.1.1. Strength of the study

The study was excluded those who were pregnant women's of health care profession (provider) in selected health facility because ideally the participants slightly improved in representativeness.

6.1.2 Limitation of the study

Even though the study were includes urban and ruler respondents in proportion way, the association observed may not be causal enough or it doesn't generalizable due to health facility based study and study design used. Additionally, the respondents answer there what's desirable so that the study prone to socially desirable bias. Again recall bias might be there since the

Gestational age of pregnancy is based on mother's memory, cooperation and communication of Subjects (that can either over or under report) and this might have inaccuracy of GA.

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATION

7.1. CONCLUSION

The finding of this study indicated the magnitude of late antenatal care booking were high among respondents who visited at public health facilities in Ilu ababor zone. Respondent's age, residences, maternal education, number of antenatal care recommended and advised from significant other were late antenatal care booking identified predictors that fundamentally increases late antenatal care booking.

7.2 Recommendation:

7.2.1. Health Post in Ilu Ababor Zone

- ✚ Provide complete Communication for behavioral and social change.

7.2.2. To Whole Health centers, Hospitals, and District Health office in Ilu Ababor zone

- ❖ Efficiently implement the linkage of between Health centers and Health post.
- ❖ Practically addressing community involvement, along pregnant women on ANC issue.
- ❖ Address adequate health education at all level of service of care.

7.2.3. To Ilu Ababor ZHD, Oromia RHB and MOH

- Continuous update of national protocol of ANC visits as per WHO recommendation.
- Design and implement new initiative that tested synergistically to promote and encourage timely antenatal care visit.
- Emphasis information education communication to create community awareness regarding to first ANC booking and advantages in sustainable way.
- Collaborate to invite different stake holders who can able to support antenatal care.

7.2.4 Future Research

- The study was conducted using cross-sectional study design but for the future the study finding may be an input for advanced studies like qualitative approach.

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APPENDIX A. English version of Information sheet and consent form of participants

Information sheet

Good morning/afternoon my name is _____, iam working as a data collector for the study being conducted in the health facilities by _____ who is studying for his Master Degree in General public health at Addis Ababa, Saint Paul Millennium medical college. I kindly request you to lend me your attention to explain to you the study and how you have been selected as study participants.

Study title: Late antenatal care attendance among pregnant women and associated factors, attending Public health facilities in Ilu ababor zone, South West Ethiopia 2021/2022.

Purpose: Assess the magnitude of Late antenatal care attendance and its associated factors among pregnant women attending Public health facilities in Ilu ababor Zone, Southwest Ethiopia, 2021/2022.

Procedure and Duration: First, I selected you to take party in my study as includes all new ANC visit pregnant Mothers. The interview questionnaire will be taken within 20-25 minutes. i will be interviewing the pregnant Mothers using a questionnaire to provide me with a pertinent data that used for my study. There are a total of 50 questions to answer where I will fill the questionnaire by interviewing the mother.

Risk and Benefit: The risks of being participating in the study are minimal, only few couples of Minutes have taken from Mothers time. There would not be any direct payment for being involved in this study. However, the finding from this study would, which solely based on the information you provide, may reveal important information for local health planners to solve problems pregnancy and pregnancy related complication.

Confidentiality: All information that you provide us, will kept confidential. There will be no information that will identify participants in particular. So that the questionnaire will be coded to exclude your name on, the questionnaire and the consent will not be accessible to third party. The finding of the study is General to Ilu ababor Zonal Health Department and will not reflect particular info about individual person.

Rights: Participant in the study will be voluntary. You have right to declare to participate or not participate in the study. Also if you decide participate you have the right to withdraw from the study at any time you want. You do not have answer any question that you do not want to answer.

Contact address: If you have, any question or enquire about study at any time or procedure, do not hesitate to contact or speak to principal investigator through:

Mobile cell phone [0912343362/0949006037](tel:0912343362/0949006037)

E-mail address: kelbekiya@gmail.com

Sphmmc IRB through:

Telephone: [0112732639](tel:0112732639)

E-mail address: irb@sphmmc.edu.et

P.O.B: [1271](tel:1271)

Gulele Sub city, AA, Ethiopia

Informed consent

I have read (was read time) the participants of information sheet. I have clearly understand the purpose of Research, the procedure, Risk, the benefit, issue of confidentiality, the Right of participants, and contact address of any enquiries. I have been given the opportunity to ask question about things that may have been unclear. I have informed that participants have the rights to withdraw from any study at any time or not to answer any question that they do not want to answer it. Therefore, I declare my voluntary consent to participate in the the study with my initial (signature) as indicated below. Are you willing to participate in the study?

1. No (say thank you)
2. Yes (continuing interview)
2. Participant's signature _____ date ____/____/2021/22
3. Interviewer's name and signature _____ date ____/____/2021/

Appendix B: English version of Questionnaire

The Questionnaire is set assess the magnitude of late antenatal attendance and its associated among pregnant women attending public health facilities in Ilu Aba bor Zone Southwest Ethiopia from December 15/2021 to January 20/2022.

1.Date of interview (Date/month/Year) ____/____/____			
2.Code Number of Questionnaire _____			
3.Name of Health Institution _____			
4.Name of Data collectors signature _____			
5.Name of Supervisor Signature _____			
Part one: Demographic and Socioeconomic Variables			
S/N	Questions	List of Option/Response	Go to Q
101	Age	1. ≤24 2. 25-35 3. >35	
102	Residence	1.Urban 2.Rular	
103	Marital status	1. Single 2. Married 3. Divorce 4. Others(Specify)_____	
104	Your Educational status	1.No formal Education 2.Primary Education (1-8) 3.Secondery Education (8-12) 4. Diploma and above	
105	Husband Education status	1.No formal Education 2.Primary Education (1-8) 3.Secondery Education (8-12) 4. Diploma and above	
106	Maternal Occupation	1.Civil Servant 2. House wife 3. Merchant 4. Farmer 5.unemployed	

107	Religion	1. Orthodox 2. Muslim 3. protestant 4. Other(Specify)_____	
108	Ethnicity	1.Oromo 2.Ahmara 3.Tigre 4.Other(Specify)	
109	House Family Size	1. 1-3 2. 4-5 3. >5	
110	Wealth Index	1. Lowest class 2. Second Class 3. Middle class 4. Fourth class 5. Highest Class	

Party Two. Obstetrics History

201	How many times did you give birth? Including the current.	1.child alive 2.Stll birth	If 1 st pregnan Go to Q301
202	Did you have history of previous Abortion?	1.yes 2.No	If 2 to Q. 205
203	If your answer is yes for Q.203, what type of abortion?	1. Spontaneous 2. 2. Induced	
204	Is this pregnancy planned?	1. Yes 2. No	
205	Have you ever attended ANC for the Previous pregnancy?	1. Yes 2. No	
206	How many times did you attend ANC Visits for the most recent Pregnancy?	1. 1 2. 2-4 3. > 4	
207	Have you ever give birth in health facilities for the most recent pregnancy	1. Yes 2. No	If 2 go Q301

208	Did you have any complications during previous pregnancy labour and deliveries?	1. Yes 2. No	If 2, go Q301
209	If yes, for Q 213, can you mention Some of them? (More than one answer is possible)	1. Excessive Vaginal bleeding 2. Prolonged labor (>12 hrs.) 3. Retained placenta (>1hr) 4. Mal-presentation 5. Fetal death 6. Early rupture of membrane 7. Other (please specify) _____	Put tick mark for spontaneous response
210	Do you have danger sign on recent Pregnancy?	1.Yes 2. No	
211	If yes for Q.209, can you mention Some of them? (More than one answer is possible)	1. Persistence vomiting 2. Leg swelling 3. Vaginal bleeding 4. Severe Head ache 5. Blurring of vision 6. Others (Specify)---	
112	Date of First ANC booking	1. < 4months 2. ≥ 4months	
Part three. Knowledge of about ANC			
301	For whom ANC is important?	1. Fetus 2.Me 3.Both 4.Don't know	If 2,to Q401
302	Did anyone advised you about ANC	1. Yes 2.No	
303	Why have you decided to start ANC follow up at this this time (more than one answer is possible)	1. Perceive it is an appropriate time 2. Due to illness 3. Others [specify] _____	
304	How many ANC visit should pregnant women attend the entire period of Pregnancy	1. 1-3 2. ≥ 4 3. Do not know	
305	Importance of ANC for birth Preparedness	1. YES 2. NO 3. Do not know	
Part four: Health care related problems			
401	Is there any payment you were asked for a check-up or service?	1. Yes 2. No	

402	Have you paid for transportation from home to facility?	1. Yes 2. No	
Part Five: History of Current Pregnancy/others			
501	Duration of pregnancy confirmed by health care provider	1. First Trimester 2. Second Trimester 3. Third Trimester	
502	How did you know your Pregnancy (More than one answer is possible)	1. Missed period once 2. HCG 3. other	
503	Who decides to attend ANC Care?	1. Me 2. Both 2. Others specify_____	

Part 6: Wealth index status of late antenatal care booking

S/N	QUESTION	RESPONSE			CODE
601	Does any member of your house hold own agricultural land?	1.Yes 2. No(skip to Q 403)			
602	If you say yes, how many (local units) of agricultural land do members of your house hold own?	_____			
603	Does your house hold own any livestock, herds, other farm animals or poultry?	1. YES 2. NO(skip to Q 405)			
604	If you say yes, please specify which of the following animals do in your house hold own?		Yes	no	
		Milk cows	1	0	
		oxen or bulls	1	0	
		Horses,	1	0	
		donkeys, or	1	0	
		Mules?	1	0	
		Goats?	1	0	
		Sheep?	1	0	
605	Does your house hold have		Yes	no	
		Electricity	1	0	
		A radio	1	0	
		A television	1	0	

		A mobile telephone	1	0	
		A non-mobile telephone	1	0	
		A refrigerator	1	0	
		A table	1	0	
		A chair	1	0	
		A bed with cotton/sponge/spring material	1	0	
606	What type of fuel does your house hold usually use for cooking?	Electricity	1	0	
		Natural gas	1	0	
		Biogas	1	0	
		Kerosene	1	0	
		Charcoal	1	0	
		Wood	1	0	
		Straw/shrubs/grass	1	0	
		Agricultural crops	1	0	
		Animal dung	1	0	
		No food cooked in HH	1	0	
		Other specify	1	0	
607	Do you have separate room for cooking?	1. Yes 2. No			
608	What is the main material of the floor of your house	1.Natural floor 2.earth/sand 3.wood 4.cement/ceramic tiles 5.other specify			
609	What is the main material of the roof of your house?	1.Iron/aluminum steel 2.Grass 3.Plastic 4.Other specify			
610	What is the main material of exterior walls of your house	1.Leaf/grass 2.Wood and mud 3.Plastic sheets 4.Card board 5.Wood 6. Other specify			
611	What is your households' main source of water?	1.Pipe 2.Protected 3.Unprotected 4. Other specify....			
612	Where is that water source Located?	1.In own dwelling 2.In own yard /plot 3.Elsewhere			

613	Does your household have private Latrine?	1.Yes 2.no (skip to section 5)	
614	If yes, what is the type of your Household latrine?	1.Flush or pour flush latrine 2.Ventilated improved pit latrine 3.Pit latrine with slab 4.Pit latrine without slab/open pit 5. Other specify	
615	Do you share this toilet facility with other households?	1.Yes 2.No	
616	If yes with how many households do you share your toilet?	1.1-2 2.> 3	
THANK YOU FOR YOUR COOPERATION! ...			

Unkaalee, walii galtee fi agarsiiftuu marsariitii

Qorannoo fi qo’annoo Haadhoolii Ulfa tajajila Da’umsa dura turani jalqabani fi sababawaan biroo kana waajjin hidhata qaban hanga ykn amma isaa adda baasuuf qophaa’eedha waan ta’ef irratti hirmaachuuf ni barbaadduu?

Seensa: Akkam ooltan/bultan, ani maqaan koo Addee/obbo_____kan jedhamu, yeroo amma kana raga kana sassaabuf dhabbaata kana keessatti, obbo Qalbeessaa Abdiisaa kan jedhaman yeroo amma kana Magaalaa Finfinneetti Sphmmc tti Digrii isaani lamaffaa barumsa Maastersii fayyaa hawaasa waligala barachaa kan jiran, waraqaa qorannoo Eebbaa isaani hojjecha jiranif kan ooludha. Akkuma hundi keenya beeknu mootummaan Itiyoophiyaa muxannoo taj. Da’umsa dura turani jalqabun miidhaa inni qabu irratti hubannoo uumuudhaan fi barsiisuun akkasumas odeeffannoo wayitawaa hawwaassaaf kennun ciminan hojjechaa jira. Firii qabeessummaa muxannoo fi haala **hordoffi da’umsa dura dafani jalqabu** irratti Ministeera eegumsa fayyaa(MOH) projektotni adda addaa tajajila saganta hojii keessatti caaseesun kennama jiru. Haaluma kanan haadhoolin waa’ee hordooffii da’umsa turani jalqabu irratti muxannoo waliigalaa, amalleefaannoo /rawwatama fi to’achuuf dhiibbaa akka qaban ni amanama. Milkaa’ina dhumaa mirkaneessuudhaaf kutaan hawaasa hundi tarkanfilee fi muxannoo hordooffii da’umsa dura yeroon jalqabu haadhoolii ulfaaf barbaachisaa dha.

Mata duree Qorannoo kana: Haadhoolii ulfa tajajila hordooffii da’umsa dura turani jalqabani fi sababawaan gara gara hidhata kana waajjin qaban, hanga ykn amma isaa adda baasuuf qorannoo Godina Iluu Abbaa Booraa, Mootummaa naannoo Oromiyaa, Kibbaa dhihaa Itiyoophiyaatti bara kana 2021/2022 dhihaatedha.

Kaayyoo: Kaayyoon guddaan qorannoo fi qo’annoo kanaa kutan hawaasa Haadhoolii ulfa tajajila hordooffii da’umsa dura turani jalqabani fi sababawaan ykn maddaa rakkoo kan waajjin hidhata qaban amma ykn hanga isaa adda baasu fi madaalama haadhoolii ulfa irraatti muxannoo walii galaa, gochama/rawwatama akkasumas haala xin-sammuu hubachuu dha.

Dura duba fi haala sa’atii: Duran dursee ani kanin si filadhef, akkuma haadhoolii ulfa hunda isaani warraa hordooffii tajajila da’umsa dura yeroo jalqabaf dhufan gaafadhu waan ta’ef. Gaafannoon Koo daqiiqa 25 qofa xumura. Kanin gaafadhuf Haadhoolii ulfa taj. dura jalqabaf

dhufan, af-gaaffii barreefaman gaafachun qorannoo kiyyaaf tumsa kan naf ta'udha. Waluma galatti gaaffii 50 kan af-gaaffii barreefaman si gaafadhu bakka ta'uf maloti kan galudha.

Kanneen armaan gadii kan guuttan taanan isin fudhatamoo ni taatu: Namni kamiyyuu kan gaaffilee gaafatame guutuu kan danda'u/taatu

- Qorannoo qaqabamaa kanaa xumursiisuuf fedha kan qabu/qabdu
- Umuuriin wagga 18 fi isaa ol kan ta'e/taate
- Biyyi jireenyaa isaa/ishee Itiyoophiyaa kan ta'u/taate
- Afaanota shan keessaa yoo xiqqaate tokko Amaarifa, Afaan Oromoo, ittiin walii galuu kan danda'u/dandeessu.

Fayidaalee fi Rakkoo argamuu danda'an:

Qo'annoo kana irratti hirmaachuun haala beekumsa, ilaacha fi gochama/raawata keessanii fi hawwaasaa hubachuuf kan garggaaru yoo ta'u tarkaafiilee hordooffii da'umsa dura turani jalqabu fi sababawaan amma jiran jijjiiruuf yookaan foyyeessuuf bu'aa qaba jedhamee ni tilmaamama.kanaf amma sa'atii keessan daqiiqaa 25 aarsaa akka nuf gootan jecha, argannoomn qorannoo yaada isin nuf kennitan irratti hunda'e murtee qaama ilaalatuf qofa ykn Qajelcha fayyaa Godinaf fi kutaa karoora isaanif qofa kennama, kunis odeeffannoo waa'ee nama dhuunfa kan haamannee ta'u isin beeksifna.

Ibsaalee of-dhoksuun fi iciitiidhaan ibsamani:

Isin waliin kan odeeffannoo walii hirre kamiyyuu iciitiidhaan qabama, kanaafuu Maqaa dhuunfaa, lakkofsa eenyummeessaa, bakka hojii addaa yookaan bakka jireenyaa nu hin barbaachisu. Haata'u malee SPHMMC – IRB (Boordii Qorannoo dhaabbataalee) , sanadoota to'annoo abbaa tayitichaaf yeroo barbaachisanitti argachuu ni dandeessu.

Qaama qorannoo kanaa ta'uuf yeroo murteesitan hayyama keessan nuu kennuun barbaachisa dha. Haata'u malee qorannoo fi qo'annoo kanaa keessaatti “ hirmaachuu dhiisuuf” yookaan “Adda kutuuf” mirga guutuu qabdu.

Hayamaamaa dha **Addaan kutuun barbaada** **Hirmaachuu hin barbaadu**

Qo'annoo kana waliin kan walqabatuuf gaaffilee kamiyyuu yoo qabaattan teessoo armaan gadiin ergaa:

- Maqaa guutuu qorataan gameessaa: Qalbeessaa Abdiisaa Guddiisaa
- Teessoo lakkoofsa bilibila : +251912343362
- Teessoo imeelii(Email): kelbekiya@gmail.com

Dhimma komii fi mirga keessaniif tessoo Dhabbataa Qorannoo Sphmmc armaan gadiitti ergaa

1. Sphmmc-IRB
2. Lakko.bilbilaa: [0112732639](tel:0112732639)
Yokiin: +[251118685503/15](tel:25111868550315)

Marsariitii: irb@sphmmc.edu.et, **P.O.B: 1271**

Translated questionnaires from English to Oromifa

Odeeffannoo ragaa uumataa dhimma- dhuunfaa hiika Afaan Oromoo

Gaafannowwaan Qorannoo waa'ee Haadhoolii ulfa turani hordooffii tajajila Da'umsa dura jalqabani fi sababawaan gara garaa ijoo kana waajjin hidhata qaban, amma ykn hanga isaa addaa baasuuf sadarka Dhaabbilee fayyaa hawaasaa Godina Iluu Abbaa Booraa, mootummaa naaannoo oromiyaa, Kibbaa dhihaa Itoophiyatti bara 2021/22 qophaa'ee dha.

1. Guyyaa af-gaaffii (guyyaa/ji'a/bara) _____ / _____ / _____			
2. Lakk. Koodii gaaffii _____			
3. Maqaa dhaabbataa fayyaa _____			
4. Maqaa nama raga sassaabu _____ Mallattoo _____			
5. Maqaa Supervizaraa _____ Mallattoo _____			
Kutaa tokko: Demograafii fi hawwas-dinagdee			
lakk	Gaaffii	Tarree filannoo	dhiisi
101	Umrii	1. ≤ 24 2. 25-35 3. > 36	
102	Bakka Jireenya	1. Magaalaa 2. Badiiyaa	
103	Haala Gaa'ila	1. Kan Heerumte 2. Qofa 3. Kan hiikte 4. Kan biroo(ibsa)_____	
104	Sad. barumsa kee	1. Barumsa idilee hin qabu 2. sad, 1ffaa(1-8) 3. Sad. 2ffaa(8-12) 4. 3ffaa (Diploma, University Degree) fi ol	
105	Sad. barumsa Abbaa mana	1. Barumsa idilee hin qabu 2. sad, 1ffaa (1-8) 3. Sad. 2ffaa (8-12) 4. 3ffaa (Diploma, University Degree) fi ol	
106	Hojii kee	1. Siviil Sarvaantii 2. Giifti mana 3. Daldaala 4. Qotee Bulaa 5. kan biroo(ibsi)_____	
107	Amanta	1. Orthodox 2. Musliima 3. Proteestantii 4. kan biroo(ibsi)_____	

108	Qomoo	1. Oromoo 2. Ahmaaraa 3. Tigree 4. Kan biroo	
109	Bayy'ina Maatii	1. 1-3 2. 4-5 3. >5	
110	Sadarkaa Qabeenyaa	1. Kutaa hawaasa gad aana 2. Kutaa hawaasaa giddu 3. Kutaa hawaasaa lammaffaa 4. Kutaa hawaasaa sadarkaa 4ffaa 5. Kutaa Hawaasaa ol aanaa	
Kutaa 2. Seenaa Ulfaa			
201	Al- meeqa Deessee jirta?	1. Bayy'ina ijoollee jirani 2. Bayy'ina ijoollee du'ani	
202	Kana dura Ulfaa baastee beekta?	1. Eeyyee 2. Lakki	2 yoo ta'e gara 205 darbi
203	Gaaffii 203'f, eeyyee yoo ta'e, Ulfaa baasuu gosa kami ture?	1. Battalaa 2. Sii'eessuu	
404	Ulfi kee kun karoorani?	1. Eeyyee 2. lakkii	
205	Ulfa isaa kanaf hordooffii gootee beekta?	1. eeyyee 2. lakki	Yoo 2 ta'e gara 207
206	Gaaffii 205'f eeyyee, yoo ta'e, Hordooffii torban meeqa irratti jalqabde?	1. Tokko hanga sadii 2. Afurii fi isaa ol 3. Hin beeku	
307	Mallattoo balaa tasaa ulfaa beekta?	1. eeyyee 2. lakki	
208	Gaaffii 309'f Eeyyee yoo ta'e, muraasa maqaa nuf waami	1.Bulgaafachuu yeroo dheeraa	Eeyyee lakkii
		2.Dhiitoo miillaa	Eeyyee lakkii
		3.Dhangala'uu dhiigaa	Eeyyee lakkii
		4.Mataa dhukkubii gar- malee	Eeyyee lakkii

		5.ija dura marsuu	eeyyee	lakkii	
		6.kan biroo (ibsi)---	eeyyee	lakki	
209	Kana dura Dhabbataa fayyatti deessee beekta?	1.eeyyee 2.lakkii			2 yoo ta'e gara 301
210	Da'umsa/ciininsuu darbe irratti miidhaan si mudatee ture ?	1. Eeyyaa 2. lakkii			2 yoo ta'e gara 301 darbi
211	2011'f, Eeyyee yoo ta'e, mal mal akka ta'an nutti himta tokko ol	1. Dhiigni gar maleen dhangala'uu 2. Ciininsuu dheeraa (>12 hrs.) 3. Oobaatii hafe (>1hr) 4. Mucaan gar malee dhufu 5.Mucaan Gadaameesaa keessatti du'u 6.Bishaan mataa dursee dhangala'uu 7.Kan biroo (ibsi)			
212	Yeroo ulfaa/ ji'a ulfaa hogeessan tilmaamee	1. Ji'a sadii gadii 2. Ji'a Sadii olii			
Kutaa 3. Hubannoo Tajajila Da'umsa dura					
301	Taj. Da'umsa Eenyuuf gaariidha?	1. Mucaaf 2. Laman keenyaaf 3. Hin beeku			2 yoo ta'e gara 401 darbi
302	Haati ulfaa tokkoo tajajila hordooffii da'umsa duraa al meeqa fudhachu qabdi?	1.1-3 2. ≥ 4 3. Ani hin beeku			
303	Hordooffiin da'umsa dura qophii da'umsaf ni gargaara jettee yaada?	1. eeyyee 2. lakkii 3. Hin beeku			
304	Sa'atii kanati tajajila hordooffii jalqabu maliif barbaaddee (deebi tokko ol ni danda'ama	1.yeroo sirridha jedhe waanan hubadheef 2. waanan dhukkubsadhef 3.kan biro (ibsi)			

Kutaa afur. Rakkoo kenninsa tajajila fayyaa waliin hidhatu			
401	Hordooffii goote turtef gatii gaafatamte qabda turte?	1.Eeyee 2. lakkii	
402	Geejiba mana hanga Dhabbata fayyaatti kaffalte turte?	1. Eeyee 2.Lakkii	
Kutaa shan: Seenaa Ulfaa amma			
501	Umrii turban ulfa Hordooffii jalqaba irratti	1.Ji'a sadii 2. Ji'a sadan lammaffa 3.ji'a sadan marsaa 3ffaa	
502	Ulfaa ta'u kee haala kamiin barte (deebi tokko ol ni danda'ama)	1.Marsaan lagu hafun 2. fIncaan labraatoorii ilaalun 3.Kan biro(ibsi) _____	
503	Namni biro akka ati tajajila jalqabdu si gorsamtee turte?	1.Eeyee 2.lakkii	
504	Tajajilaa Hordooffii akka jalqabdu eenyuutu murteesse?	1.Ana 2.nu laman 3. Kan biroo	

Kutaa-6: Haala Dinagdee Haadhoolii turani tajajilaa Da'umsa dura jalqaban

T.lakk	Gaaffannoo	Deebii			koodii
601	Maatii keessaan keessa namni qabiyyee lafa qabu jira?	Eeyyee lakki (gara 403)			
602	Eeyyee yoo jette qabiyyee heektaran hangam ta'a?	_____			
603	Man keessani horii mana, horsiisa ykn qonnaa fi Kannen akka Hidaaqoo jiru?	1. YES 2.NO(skip to Q 405)			
604	Eeyyee yoo jettan kaneen keessa kam faa'ii adda baasa?		eeyyee	lakk	
		Sa'aa Aannaanii	1	0	
		Sangaa qonnaa	1	0	
		Fardaa	1	0	
		Harree	1	0	
		Gaangee	1	0	
		Re'ee	1	0	
		Hoolaa	1	0	
		Lukkuu	1	0	

605	Mana keessan keessa kan qabdu		Yes	no	
		Eleektriiki	1	0	
		Raadiyoo	1	0	
		Televizhiini	1	0	
		Bilbila harkaa	1	0	
		BilbilaMana	1	0	
		Bilbila hin jiru	1	0	
		Bilbili man hin jiru	1	0	
		Refireejetaraa	1	0	
		Minjaala	1	0	
		Teessoo	1	0	
		Siree	1	0	
		Spoojii	1	0	
606	Gosa ykn maddaa Aaniisaa kam fayyaadamtu nyaataa bilcheesuuf?	Kooreentii ibsa	1	0	
		Boba'a uumaama	1	0	
		Biogaasii	1	0	
		kiroosinii	1	0	
		Cilee	1	0	
		Qoraan	1	0	
		Kaboota loonii	1	0	
		Baala ykn mukaa Omishaa	1	0	
		Faandii horii garagaraa	1	0	
		Mana keessatti nyaatni hin tolfamu	1	0	
		Kan biro ibsi	1	0	
607	Mana jireenyaa hoorii irraa adda bahee qabdu?	1.eeyyee 2.lakkii			
608	Lafti mana keessaani keessa malii	1.Kn uumaama 2.biiyyoo/Cirraacha 3.Mukaa 4.Simiintoo 5.kan biroo (ibsi)			

609	Irrii man keessani keessan malii?	1.Ireenii/Shiiboo Alumineemi 2.Margaa 3.Pilaastika 4.kan biro(ibsi)	
610	Alli mana keessani(Dhabbiin jala)isaa maal irraa hojjetame	1.Margaa 2.Mukaa 3.Pilaastiika 4.Boordii mukaa irraa 5.Mukaa soqaarra 6. kan biro(ibsi)	
611	Maddi bishaani mana keessani malii?	1.Boonoo 2.burqaa gabbataa 3.Laga 4. kan biro ibsi	
612	Bishaan kun eeszsatti argama?	1.Mooraa mana jireenyaa keessa 2.Lafa jireenyaa keessan keessa 3.bakka biroo	
613	Mana Fincaanii dhunfaa qabdu?	1.Eeyyee 2.lakkii (dardi 5)	
614	Eeyye, yoo jettan mana fincaanii gosa kamii?	1.Dhiiqannaa kan qabu 2.M/fincaanii fooyyaa'aa 3.m/fincaanii slaabii qabu 4. m/fincaanii slaabii kan hin qabne 5. kan biro ibsi	
615	Nama biro waajjin itti fayyadamtu?	1.Eeyyee 2.Lakkii	
616	Eeyye yoo ta'e nam meeqaa waajjin itti fayyaadamtu?	1.1-2 2.> 3	
Yaada nuuf kennitanif galatooma! ...			

Statement of Declaration

I, hereby undersigned agrees to accept responsibility for the scientific, ethical and Technical conduct of the research Project and for provision of required progress Reports as per terms and conditions of the Research and Publication Directorate Or /and School of Public Health of St Paul's Hospital Millennium Medical College.

Name of Student: Kelbessa Abdisa



Date: 14/04/2022 Signature

Name of Primary Advisor: Fana Adugna (Mph, Rh)

Signature: _____

Name of Co-Primary Advisor: Getachew Tilahun (MPH, MSC)

Signature _____