HARAMAYA UNIVERSITY

COLLEGE OF HEALTH AND MEDICAL SCIENCES

SCHOOL OF POSTGRADUATE STUDIES

MAGNITUDE OF TOBACCO USE AND ASSOCIATED FACTORS AMONG PREGNANT WOMEN ATTENDING ANTENATAL CARE AT PUBLIC HEALTH FACILITIES IN HARAR TOWN AND DIRE DAWA ADMINISTRATION, EASTERN ETHIOPIA: A MIXED METHODS STUDY

MPH THESIS

BY

WINI ABDI (BSc)

College:	**Health and Medical Sciences**
School:	**Public Health**
Program:	**Epidemiology**
Major Advisor:	**Mr. Assefa Tola (MPH, Assistant professor)**
Co-advisor:	**Dr. Shiferaw Letta (Ph.D., Assistant professor)**

August, 2025

Haramaya University, Harar, Ethiopia

Magnitude of Tobacco Use and Associated Factors Among Pregnant Women Attending Antenatal Care at Public Health Facilities in Harar Town and Dire Dawa Administration, Eastern Ethiopia: A Mixed Methods Study

A Thesis Submitted to the School of Public Health,

Postgraduate Program Directorate

HARAMAYA UNIVERSITY

In Partial Fulfilment of the Requirements for the Degree of

MASTER IN PUBLIC HEALTH EPIDEMIOLOGY

by

Wini Abdi

August, 2025

Haramaya University, Harar

APPROVAL SHEET

HARAMAYA UNIVERSITY
POST GRADUATE PROGRAMS DIRECTORATE

I hereby certify that I have read and evaluated this Thesis entitled "Magnitude of Tobacco Use and Associated Factors Among Pregnant Women Attending Antenatal Care at Public Health Facilities in Harar and Dire Dawa Administration, Eastern Ethiopia: A Mixed Methods Study, prepared by Wini Abdi under my guidance. I recommend that it be submitted as fulfilling the thesis requirement.

Mr. Assefa Tola (MPH, Assistant professor) _____ _____

Major Advisor Signature Date

Dr. Shiferaw Letta (Ph.D., Assistant professor) _____ _____

Co- Advisor Signature Date

As a member of the Board of Examiners of the MPH Thesis Open Defense Examination, I certify that I have read and Evaluated the Thesis prepared by Wini Abdi and examined the candidate, I recommend that the thesis be accepted as fulfilling the Thesis requirement for the degree of Master of Public Health in Epidemiology.

_____ _____ _____

Chairperson Signature Date

_____ _____ _____

Internal Examiner Signature Date

_____ _____ _____

External Examiner Signature Date

Final approval and acceptance of the Thesis is contingent upon the submission of its final copy to the Council of Graduate Studies (CGS) through the candidate's department or school graduate committee (DGS or SGS).

STATEMENT OF THE AUTHOR

I certify that this thesis is entirely my own work by signing below. I prepared, collected, analyzed, and put my thesis together while adhering to the ethical and technical standards of study. Any academic material cited in the thesis has been acknowledged. This thesis has been submitted in partial fulfillment of master of public health degree requirements at Haramaya University. I hereby sincerely affirm that this thesis has not been submitted to any other institution, anywhere, for the purpose of receiving an academic degree, diploma, or certificate. This can be briefly quoted without obtaining special permission as long as the source is properly and fully acknowledged. When the proposed use of the material is in the interest of research, the Head of the School may grant requests for permission for lengthy quotes from or reproduction of this thesis in whole or in part. However, in all other cases, consent from the thesis's author is required.

Name_____ Signature: _____Date: _____School: _____

BIOGRAPHICAL SKETCH

I was born and raised in Harar Town, Ethiopia. I completed my schooling in Harar, from kindergarten to preparatory education, at SOS Hermann Gmeiner School, graduating in 2016 G.C. I pursued a degree in Public Health at Bethel Medical College in Addis Ababa, where I graduated in 2021 G.C. After graduation, I was employed at a private clinic in May 2021.

DEDICATION

I dedicate this thesis to God Almighty, my creator, my strong pillar, my source of inspiration, wisdom, and knowledge. I also dedicate this work to my family, who have always encouraged me and ensured that I give it everything I have to finish what I started. I am deeply grateful for your love and support. Thank you.

ACKNOWLEDGEMENTS

I want to thank Haramaya University, College of Health, and Medical Sciences for providing the opportunity to design this study. My deepest gratitude goes to my advisors, Mr. Assefa Tola and Dr. Shiferaw Letta for their valuable comments, technical assistances, and helpful support throughout the development of this research thesis. My appreciation goes to Harari and Dire Dawa Administration Regional Health Bureaus and their public health facilities for providing the background information on the study area. Lastly, I would like to thank the data collectors and supervisors for their dedication and hard work in making this study possible. My sincere gratitude goes to the study participants for their time and valuable contributions.

.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS ..... *i*

LIST OF TABLES ..... *iv*

LIST OF FIGURES ..... *vi*

LIST OF ABBREVIATIONS AND ACRONYMS ..... *vii*

ABSTRACT ..... *i*

1. INTRODUCTION *1*

1.1. Background **1**

1.2. Statement of the Problem **3**

1.3. Significances of the Study **4**

1.4. Objective of the Study **5**

1.4.1. General objective 5

1.4.2. Specific objectives 5

2.LITERATURE REVIEW *6*

2.1. Magnitude of Tobacco Use among Pregnant Women **6**

2.2. Factors Associated with Tobacco Use among Pregnant Women **7**

2.2.1. Sociodemographic Factors 7

2.2.2. Obstetric and Medical Factors 8

2.2.3. Behavioral and Socio-Cultural Factors 9

2.3. Conceptual Frame Work **10**

3. METHODS AND MATERIALS *12*

3.1. Study Area and Study Period **12**

3.2. Study Design **12**

3.3. Population **13**

3.3.1. Source population 13

3.3.2. Study population 13

3.4. Inclusion and Exclusion Criteria **13**

3.4.1. Inclusion criteria 13

3.4.2. Exclusion criteria 13

3.5. Sample Size Determination **13**

3.6. Sampling Procedure/Technique **15**

3.7. Data Collection Methods **18**

3.7.1. Data Collection Instruments/ Tools 18
3.7.2. Data collectors and supervisor 18
3.7.3. Procedure of Data Collection 19
3.8. Variables 20
3.8.1. Dependent variable 20
3.8.2. Independent variables 20
3.9. Operational Definitions 20
3.10. Data Quality Control 21
3.10.1 For Quantitative Data 21
3.10.2 For Qualitative Data 21
3.11. Methods of Data Analysis 22
3.11.1 Quantitative Analysis Data Processing 22
3.11.2 Qualitative Data Processing and Analysis 22
3.12. Ethical Considerations 23
3.13. Plan for Information Dissemination 23
4 RESULTS 24
4.1. Sociodemographic characteristics of the study participants 24
4.2. Maternity and pregnancy conditions 25
4.3. Medical and behavioral related factors 26
4.4. Magnitude of tobacco use 27
4.5 Factor associated with tobacco use during pregnancy 29
4.7. Results of Qualitative Study 31
5. DISCUSSION 34
6. CONCLUSIONS and RECOMMENDATIONS 36
6.1 Conclusion 36
7.2 Recommendations 36
7. REFERENCES 38
8. APPENDICES 44
8.1: Information sheet and voluntary consent form for the Head of public health Facility 44
7.2. Information Sheet and Informed Voluntary Consent Form For Competent Adults: Ages ≥18 Years (English version) 47

8.3. Information Sheet and Informed Voluntary Consent Form For Competent Adults: Ages ≥18 Years (Amharic Version).....49

8.4. Information Sheet and Informed Voluntary Consent Form For Competent Adults: Ages ≥ 18 Years (Afan Oromo Version). 52

8.5. Information Sheet and Informed Voluntary Consent Form For Minors Age < 18 Years (English version).....55

8.6 Information Sheet and Informed Voluntary Consent Form For Minors Age < 18 Years (Amharic Version).....58

8.7 Information Sheet and Informed Voluntary Consent Form For Minors Age < 18 Years (Affan Oromo Vresion).....61

8.8. Questionnaire for Quantitative.....64

8.9. Amharic Version Questionnaire 68

8.10. Afaan Oromo Version Questionnaire.....74

8.11. Semi-Structured Questionnaire For Qualitative Study For Tobacco User Pregnant Women.....80

8.12. Semi-Structured Questionnaire For Qualitative Study For Tobacco User Pregnant Women (Amharic Version).....81

8.13. Semi-Structured Questionnaire For Qualitative Study For Tobacco User Pregnant Women (Afaan Oromo Version) 82

8.11. Curriculum vitae (CV) 84

LIST OF TABLES

Tabel 1:Sample size for the second objective, factors associated with magnitude of tobacco use is computed by OpenEpi using two-population proportions formula considering the

following assumptions: a 95% confidence level, 5% significance level and 10% non-response rate (Table 1). 14
Table 2: Sociodemographic characteristics of pregnant women attending antenatal care at public health facilities in Harar Town and Dire Dawa Administration, Eastern Ethiopia(n= 780) 24
Table 3: Maternity and pregnancy conditions of pregnant women attending antenatal care at public health facilities in Harar Town and Dire Dawa Administration, Eastern Ethiopia (n=780) 25
Table 4: Medical and behavioral related factors of pregnant women attending antenatal care at public health facilities in Harar Town and Dire Dawa Administration, Eastern Ethiopia(n=780) 26
Table 5: Tobacco use related questions of pregnant women attending antenatal care at public health facilities in Harar Town and Dire Dawa Administration, Eastern Ethiopia (n=780) 28
Table 6:Factor associated with tobacco use among pregnant women attending antenatal care at public health facilities in Harar Town and Dire Dawa Administration, Eastern Ethiopia. 30

LIST OF FIGURES

figure 1: Conceptual framework for the magnitude of tobacco use and associated factors among pregnant women attending ANC at public health facilities in Harar and Dire Dawa towns, eastern Ethiopia, 2023. Developed by the investigator reviewing different litratures.(Abdeta & Hunduma, 2021; Liu et al., 2013; S. S. R. Pasupuleti et al., 2021). 10

Figure 2: schematic presentation of the sampling fream for Magnitude of tobacco use and associated factors among pregnant women attending antenatal care at public health facilities in harar and dire dawa towns.SGH=Sabean general hospital LHC=Legehare Health center, GHC=Goro health center, GKHC=Gende kore Health center, JGH = Jugol General Hospital AHC=Amir nur Health Center, JHC =Jineala health center. 17

LIST OF ABBREVIATIONS AND ACRONYMS

ANC	Antenatal Care
AOR	Adjusted Odds Ratio
CI	Confidence Interval
CSA	Central Statistics Authority
DDAHB	Dire Dawa Administration Health Bureau
EDHS	Ethiopian Demographic Health Survey
FCTC	Framework Convention on Tobacco Control
FMOH	Federal Ministry of Health
HC	Health Center
HRHB	Harari Regional Health Bureau
IHRERC	Institutional Health Research Ethics Review Committee
IUGR	Intrauterine Growth Retardation
LBW	Low Birth Weight
KAP	Knowledge, Attitude and Perception
KII	Key Informants Interview
LMIC	Low and Middle-Income Countries
SDGs	Sustainable Development Goals
SES	Socio Economic Status
SHS	Second Hand Smoking
SPSS	Statistical Package for Social Sciences
SSA	Sub Saharan Africa
WHO	World Health Organization

ABSTRACT

Background: Tobacco use during pregnancy is one of the most important modifiable risk factors that can seriously and adversely affect the health of both women and their newborns. However, there is limited information on the magnitude of tobacco use and its associated factors among pregnant women in Ethiopia, particularly in the context of the specific study setting.

Objective: To assess the magnitude of tobacco uses and associated factors among pregnant women attending antenatal care at selected public health facilities at Harar Town and Dire Dawa City Administration, eastern Ethiopia from June 15 – August 15, 2024.

Method: An explanatory mixed-methods study was conducted among 796 pregnant women attending ANC at seven public health facilities in Harar Town and Dire Dawa. The quantitative cross-sectional survey used a pretested Kobo Toolbox questionnaire and was analyzed in Stata-MP v17 ($p < 0.05$). The embedded qualitative component included 15 tobacco-using women purposively selected for in-depth interviews, which were transcribed, translated, coded, and analyzed thematically.

Results: This study revealed that the magnitude of tobacco use during pregnancy among women attending antenatal care was 12.05% (95% CI: 9.9, 14.5). Urban residence (AOR = 8; 95% CI: 2.2–32.1), lack of tobacco-related advice during ANC (AOR = 6.1; 95% CI: 2.5–14.8), chronic comorbidities (AOR = 3.7; 95% CI: 1.6–8.5), khat chewing (AOR = 11; 95% CI: 3.5–40), and prior tobacco use (AOR = 13; 95% CI: 6.5–28) were significantly associated with tobacco use. Qualitative themes included habitual smoking, stress-related coping, limited awareness of the harms of tobacco, family and social normalization, peer influence, and environmental cues, all of which highlighted the contexts that sustain tobacco use during pregnancy.

Conclusion: This study highlights a high magnitudeof tobacco use among pregnant women attending ANC and its key risk factors, including urban residence, chronic comorbidities, khat chewing, and prior tobacco use. Tobacco-related counseling during ANC helps reduce use, emphasizing the need for routine screening and culturally sensitive cessation support to protect maternal and newborn health.

Keywords: Tobacco Use, Associated Factors, Pregnant Women, Antenatal Cares, Ethiopia

1. INTRODUCTION

1.1. Background

Pregnancy is the period during which a fetus develops inside a woman's uterus. In terms of time, it typically lasts 40 weeks, or slightly more than 9 months, from the last menstrual cycle until birth. The three trimesters, each with its own significant occurrences, are referred to by medical professionals. All organ systems in the mother's body undergo drastic alterations in order to support the developing fetus (Pascual & Langaker, 2023).

Pregnancy is a critical time for newborn development and exposure to hazardous substances such as smoking is detrimental for both the mother and the fetus. Smoking during pregnancy is a severe public health concern (Tarasi et al., 2022).It can harm the mother by increasing the risk of maternal respiratory, cardiovascular problems and risk of pregnancy complications(Bradley D. Holbrook, 2016). Women who directly or are indirectly exposed to tobacco during pregnancy are at higher risk for substantial fetal morbidity and death (Coleman et al., 2012). Pregnant women are generally more inclined to quit smoking compared to other periods, yet a portion of them continue the habit despite widespread awareness of the risks it poses to fetal health(Smedberg et al., 2014)

Studying smoking during pregnancy is a crucial for improving maternal and fetal health outcomes and developing effective interventions to reduce the tobacco products uses, which include various types of cigarettes, cigars, pipes, and waterpipes during pregnancy. Snuff and chewing tobacco, which are smokeless tobacco use during pregnancy, have been linked to stillbirths and other unfavorable results(Caleyachetty et al., 2014) .In Ethiopia, tobacco is used in different forms including smoking cigarettes, smoking pipeful of tobacco, chewing tobacco, smoking snuff, smoking shisha/ smoking Gaya. Among these smoking cigarettes, smok-ing shisha, and smoking Gaya are the commonest form of tobacco use(Lakew & Haile, 2015).

There is no safe level of exposure to tobacco use as it is dangerous in all forms (WHO, 2013). The tobacco industry is now concentrating its attention on emerging markets in Sub-Saharan Africa, trying to take advantage of the continent’s patchwork tobacco control regulations and limited resources to combat marketing advances and being the second most populated African country after Nigeria, Ethiopia is a opportunity for foreign tobacco companies to invest and recruit smokers (Savell et al., 2014).

Therefore, investigating tobacco uses among pregnant women is crucial for improving maternal and fetal health outcomes and developing effective interventions to reduce tobacco use during pregnancy.

1.2. Statement of the Problem

Tobacco use is a major global public health threat, causing over 7 million deaths annually and remaining the leading preventable cause of morbidity and mortality (Azagba et al., 2020). Despite strong evidence of harm, tobacco use during pregnancy continues worldwide. In high-income countries, maternal smoking magnitude is 7.2% in the United States (Drake et al., 2013), 11.4% in the United Kingdom, and 11% in Australia (Statistics on Smoking England, 2016; Curtin & Mathews, 2016). In Spain, nearly 29.5% of pregnant women smoke (Vila-Candel et al., 2020). Across 54 low- and middle-income countries, the overall magnitude is 2.6% (Bloch & Parascandola, 2014)

South-East Asia carries a disproportionately high burden, with a pooled magnitude of 5.1%, and much higher levels of smokeless tobacco use—20% in Bangladesh, 15% in India, and 22% in Nepal (Caleyachetty et al., 2014; Ranjit, 2013). Studies from Africa also show concerning levels, including 39.2% in Uganda, 11% in Madagascar, 5.4% in Lesotho, and 4.8% in Sierra Leone (Yaya et al., 2020).

In Ethiopia, available data indicate increasing tobacco exposure during pregnancy, with 12.6% smoking magnitude in Northern Ethiopia (Aychiluhm et al., 2023), and 2.7% active smoking in Jimma (Yadassa Tesso et al., 2017). Tobacco use in Ethiopia occurs in several forms, including cigarettes, shisha, and locally used products such as *Gaya* (Lakew & Haile, 2015).

Maternal smoking is linked to multiple adverse outcomes, including impaired fetal growth, low birth weight, preterm birth, placental complications, respiratory and cardiovascular disorders, and neonatal death (Bradley D. Holbrook, 2016; Magee et al., 2014). Nonetheless, tobacco use during pregnancy is influenced by numerous factors such as low education, partner smoking, secondhand smoke exposure, low socioeconomic status, cultural norms, mental health issues, and co-use of substances such as khat (Al-Sahab et al., 2010; Ergin et al., 2010; Kassim & Croucher, 2006; S. S. R. Pasupuleti et al., 2021).

Despite the recognized health risks and Ethiopia's diverse cultural and socioeconomic contexts, there is limited evidence on tobacco use among pregnant women, particularly in Eastern Ethiopia—an area characterized by high khat use and distinct cultural practices that may influence tobacco behavior. Therefore, there is a critical need to generate local evidence on the level and determinants of tobacco use among pregnant women in Harar Town and Dire Dawa City Administration. Such evidence is essential to inform context-specific prevention strategies and improve maternal and neonatal health outcomes.

1.3. Significances of the Study

The findings of this study enable the Harari Regional Health Bureau, Dire Dawa Administration Health Bureau, Public Hospitals, Healthcare facilities and Health professionals for developing targeted interventions and strategies to prevent and reduce tobacco use during pregnancy, which will directly or indirectly benefit pregnant women who uses tobacco. Pregnant women should be advised of the potential health risks to themselves and to their babies posed by tobacco use. Therefore, this study provided baseline information on the current magnitude of tobacco use among pregnant women. The finding also enhances health professionals understanding to assist in successful smoking cessation and promote healthy behaviors during pregnancy. Moreover, it helps policy makers to implement targeted initiatives, increase access to smoking cessation programs, and reinforce tobacco control laws by highlighting the magnitude of tobacco use during pregnancy and its contributing factors.

This information can serve as a baseline for program planners and implementers to address the gaps in tobacco use during pregnancy. The study findings also help as reference for further intervention studies. Furthermore, information generated from the study will raise available body of literatures, which initiate researchers to do further intervention studies.

1.4. Objective of the Study

1.4.1. General objective

To assess the magnitude of tobacco uses and associated factors among pregnant women attending antenatal care at public health facilities in Harar Town and Dire Dawa Administration, Eastern Ethiopia, from June 15, 2024 – August 15, 2024.

1.4.2. Specific objectives

- ✓ To determine the magnitude of tobacco, use among pregnant women attending ANC at public health facilities in Harar Town and Dire Dawa Administration, eastern Ethiopia.
- ✓ To identify factors associated with tobacco use among pregnant women attending ANC at public health facilities in Harar Town and Dire Dawa Administration, eastern Ethiopia.
- ✓ To explore the experiences, perceptions, and factors influencing pregnant women attending ANC at public health facilities in Harar Town and Dire Dawa Administration, Eastern Ethiopia.

2.LITERATURE REVIEW

2.1. Magnitude of Tobacco Use among Pregnant Women

The magnitude of tobacco use during pregnancy varies across regions of the world. A 2018 Lancet report revealed a global magnitude of 1.7% for smoking during pregnancy, with substantial regional disparities. The highest magnitude was reported in the European Region (Lange et al., 2018). A study conducted in Spain found that 29.5% of pregnant women smoked during pregnancy, although 70.1% stopped during this period(Vila-Candel et al., 2020). In Portugal, 20.2% of pregnant women were current smokers, yet many perceived smoking cessation interventions as less helpful (Almeida et al., 2022). A study from Turkey reported magnitudes of 34.7% before pregnancy and 14% after pregnancy (Aychiluhm et al., 2023).

In India, tobacco use among pregnant women is relatively high. According to the National Family Health Survey (NFHS-4), conducted between 2015 and 2016, 4.6% of married pregnant women used tobacco, with more than 80% exclusively using smokeless tobacco (Shrestha et al., 2013).Another Indian report showed a 7.4% magnitude of smokeless tobacco (SLT) use among pregnant women. A cross-sectional survey of 646 mother–child pairs in China found that 37% of mothers were exposed to second-hand smoke (SHS) throughout pregnancy. Domestic exposure was most common (62%), followed by workplace exposure (46%)(Liu et al., 2013) .In Jordan, tobacco use during pregnancy has increased over the past decade, with 7.9% of pregnant women being current cigarette smokers and 8.7% current waterpipe smokers (Hamadneh et al., 2021).

According to the 2018 Lancet estimate, the African Region exhibited a magnitude of 0.8% (95% CI: 0.0–2.2), the lowest globally(Lange et al., 2018). In Ibadan, Nigeria, the magnitude of tobacco exposure during pregnancy was 3.7%, equivalent to about one in every 27 pregnancies(Adeoy, 2022). A cross-sectional survey among sub-Saharan African women estimated the magnitude of tobacco use during pregnancy at approximately 2%. In Madagascar, the magnitude was 11.0%, followed by Lesotho (5.4%), Sierra Leone (4.8%), Namibia (4.4%), and Burundi (4.2%) (Yaya et al., 2020).

In Ethiopia, the magnitude of smoking during pregnancy is lower compared to developed countries (Abdeta & Hunduma, 2021).A national study estimated the magnitude of current tobacco use among reproductive-age women at 1.4%, with cigarette smoking accounting for 59.91% and smoking Gaya for 43.32%. Higher magnitudes were reported in Gambella,

Benishangul-Gumuz, and Afar regions (Abdeta & Hunduma, 2021). A study in Northern Ethiopia found that 12.6%of pregnant women smoked cigarettes(Aychiluhm et al., 2023). Research from Jimma reported a 37.9% magnitude of substance use among pregnant women, with 2.7% identified as active tobacco smokers (Yadassa Tesso et al., 2017).

A local exploratory study in Aleta Wondo, Ethiopia, revealed that 7.6% of women lived with a tobacco user, while 14.4% overall—and 22% of urban women—experienced daily SHS exposure at home. Significant predictors of daily SHS exposure included residence, allowing smoking in the home, living with a tobacco user, and exposure to point-of-sale advertising (Petersen et al., 2016).

Similarly, a study in Butajira found that 0.6% of pregnant women were exposed to SHS at workplaces, 15.2% in public places, and 9.7% at home, with 75.8% exposed daily. The overall magnitude of SHS exposure was 23.2% (Alamneh et al., 2020).

2.2. Factors Associated with Tobacco Use among Pregnant Women

2.2.1. Sociodemographic Factors

A cross-sectional study conducted in Teresina and Italy found that not having a partner 3.1 times increased the risk of substance use during pregnancy(Veloso & Monteiro, 2013). Conversely, a Canadian study showed that women with partners were more likely to use substances compared to women living alone (OR = 1.54; 95% CI: 1.12–1.87)(Walker et al., 2011). A study in France revealed that urban pregnant women were less likely to use tobacco compared to rural women(Melchior et al., 2015). A Spanish study found that low health literacy was strongly associated with tobacco use during pregnancy(Vila-Candel et al., 2020).

In India, 4.6% of married pregnant women were tobacco users. Predictive factors included older maternal age (45–49 years), rural residence and low education(Pasupuleti et al., 2021). Additionally, lower socioeconomic status (SES) and lower education levels were associated with tobacco use(Madureira et al., 2020; Pasupuleti et al., 2021). Another study found a strong association between low SES and tobacco use during pregnancy(Bonello et al., 2023).

Factors such as lower SES and lack of a partner were also linked with continued smoking during pregnancy (AOR = 3.25; 95% CI: 1.74–6.06)(Balwicki et al., 2016). Younger age, lower education, unemployment, living with family members who smoke, and low income have also been associated with increased tobacco use (Balwicki et al., 2016; Cui et al., 2014; Doku et al., 2010; Ergin et al., 2010; Havard et al., 2022).

In Yemen, living in mountainous regions was associated with a significantly increased risk of substance use during pregnancy (OR = 2.8; 95% CI: 2.48–3.11) in addition Lack of education, older age, and low household wealth also increased risk(Khawaja et al., 2008). In Uganda, tobacco use during pregnancy was linked to older maternal age, perceived control over health, and cultural factors (John et al., 2021).

In Ethiopia, sociodemographic factors associated with smoking among reproductive-age women include age, religion, marital status, wealth index, rural residence, and region of residence (Abdeta & Hunduma, 2021; Lakew & Haile, 2015). Occupations such as agriculture, sales, services, and manual labor were linked with higher substance use (Lakew & Haile, 2015).A study in Bahir Dar found that mothers who completed high school were three times more likely to use substances during pregnancy(Anteab et al., 2014; Tariku & Baye, 2022).

2.2.2. Obstetric and Medical Factors

A cross-sectional study in eastern Nepal found that higher parity (more than two births) was associated with increased tobacco use during pregnancy (AOR = 2.45; 95% CI: 1.19,5.07)(Barakoti et al., 2017). Another study reported that nulliparity and low parity increased the risk of substance use during pregnancy (Onwuka, 2016). In the United States, 10.9% of women smoked before pregnancy, 8.4% smoked during pregnancy, and 20.6% quit before the third trimester (Curtin & Mathews, 2016).

Smoking during pregnancy has been associated with advanced maternal age, higher previous pregnancies, spontaneous abortions, and lower likelihood of planned pregnancies (Tamye Lopes Fujita1 et al., 2021). The Pregnancy Risk Assessment Monitoring System (PRAMS) found a strong association between unwanted pregnancy and preconception substance use (Shafique et al., 2022).

Active tobacco use during the third trimester has also been specifically reported (Lamm et al., 2020), while previous induced abortion increased the likelihood of SHS exposure (Adeoye, 2022). In Ethiopia, child death has been identified as a risk factor for substance use (Cui et al., 2014; Lakew & Haile, 2015).pregnant women with Chronic illness are 2 times more likely to use tobacco , lack of regular ANC follow-up, and mental illness were associated with higher tobacco use (Cui et al., 2014).

2.2.3. Behavioral and Socio-Cultural Factors

A Romanian study revealed that 75% of pregnant smokers continued smoking despite being aware of its harmful effects (Pasupuleti et al., 2021). Misconceptions regarding the safety of certain products, such as e-cigarettes, may also contribute to continued tobacco use(Bauer et al., 2016).

In India, social and cultural norms influence tobacco use, with smoking perceived as a stress relief mechanism in some communities(P. Singh et al., 2022). Ethnic variations in tobacco use have also been documented(Tabb et al., 2015).

A cohort study in Nigeria showed that pre-pregnancy tobacco use and alcohol consumption increased the risk of tobacco exposure during pregnancy (Adeoye, 2022). A case-control study found that smoking pregnant women were more likely to report passive smoking at home, reflecting social clustering of smoking behavior and limited awareness of SHS dangers (Tamye Lopes Fujita1 et al., 2021).Khat chewing, prevalent in some cultures, has been linked to smoking (Reda et al., 2012). Poor self-perceived health, previous heavy smoking, and regular alcohol drinking were also predictors of tobacco use (Cui et al., 2014).

Having partners or peers who use substances, alcohol use in previous pregnancies, unhappiness about the pregnancy, criminal history, and receiving social services have all been identified as risk factors (Dupraz et al., 2013; W Masho, 2014; Walker et al., 2011). Smoking during pregnancy is also linked to reduced ANC utilization—smokers tend to start ANC later and attend fewer visits(Weiland et al., 2022).

2.3. Conceptual Frame Work

As summary, conceptual framework shows, multiple factors are associated with the magnitude of tobacco use among pregnant women in the study (Figure 1).

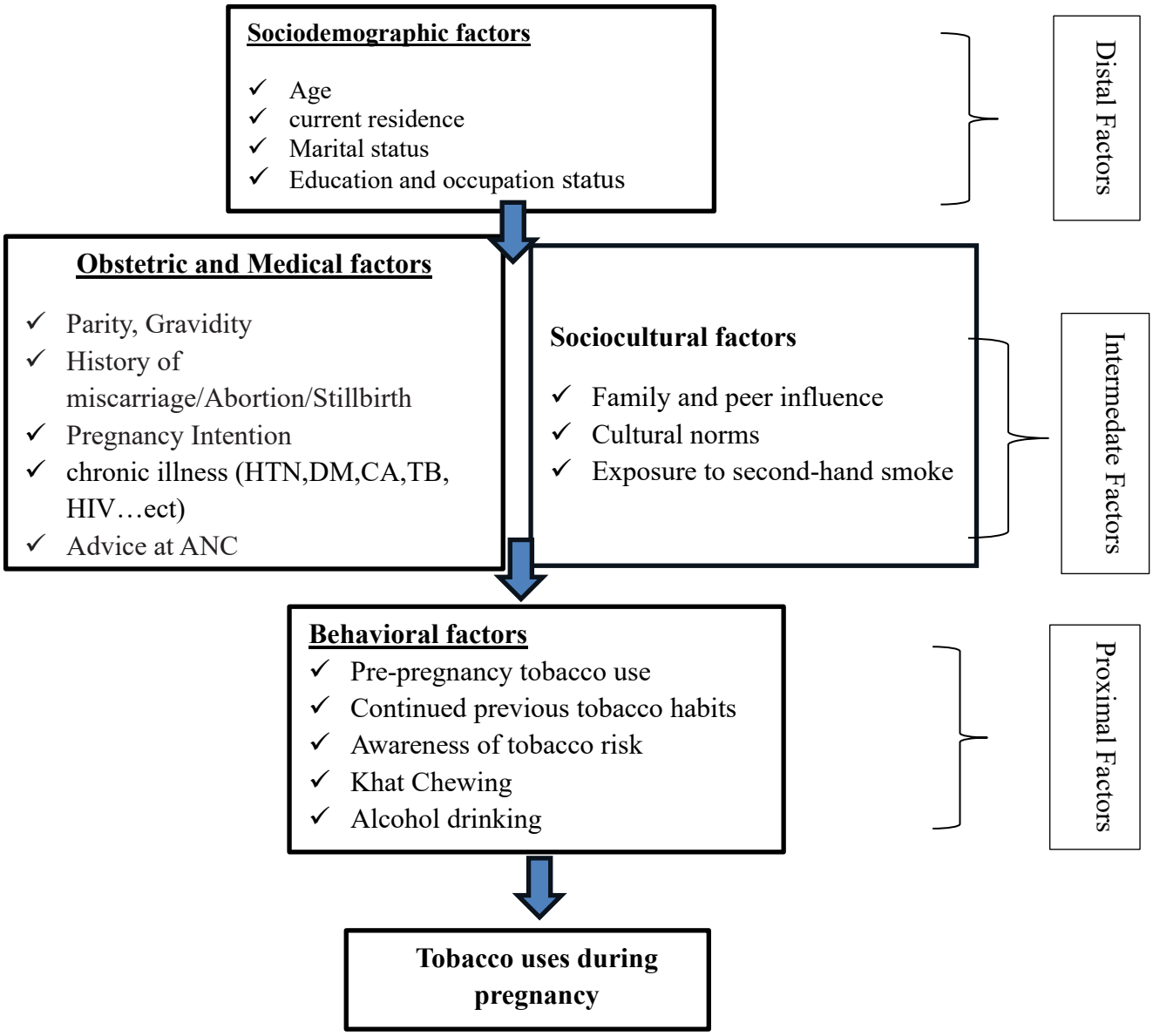

figure 1: Conceptual framework for the magnitude of tobacco use and associated factors among pregnant women attending ANC at public health facilities in Harar and Dire Dawa

towns, eastern Ethiopia, 2023. Developed by the investigator reviewing different litratures.(Abdeta & Hunduma, 2021; Liu et al., 2013; S. S. R. Pasupuleti et al., 2021).

3. METHODS AND MATERIALS

3.1. Study Area and Study Period

The study was conducted in Harar and Dire Dawa Administrations in Eastern Ethiopia from June 15, 2024, to August 15, 2024. Harar, the capital city of the Harari region and East Hararghe Zone, is located 526 kilometers from the capital, Addis Ababa. The estimated total population of Harar at the time was 283,000, with 143,000 males and 140,000 females, according to the population projection of population size by sex, region, zone, and wereda (July 2023). Harar had 2 public hospitals, 2 private hospitals, 1 police hospital, 8 health centers, 54 private clinics, and 26 health posts. A total of 905 pregnant women attended antenatal care (ANC) at health facilities every month (Harari Regional Health Bureau Health Department Information Desk, unpublished data), For this study, three public health facilities were selected, including one hospital and two health centers. The selected facilities were Jugol General Hospital, Amir Nur Health Center, and Jineala Health Center.

Dire Dawa one of the Federal city administrations of Ethiopia is located 515 kilometers east to Addis Ababa and 333 kilometers from the international port of Djibouti. Dire Dawa Administration had a total population of 551,000, with 278,000 males and 273,000 females, according to the population projection of Population Size by Sex, Region, Zone, and Wereda (July 2023). Dire Dawa Administration had 2 hospitals, 8 urban health centers, and 32 health posts, with a total of 1,313 pregnant women attending ANC at health facilities monthly (DDARHB, 2022), a total of four public health facilities were selected for this study, including one hospital and three health centers. The selected facilities were Sabian General Hospital, Legehare Health Center, Goro Health Center, and Gende Kore Health Center. All health centers provided ANC services, with an average of 4 nurses and 3 midwives providing ANC services at each health center.

3.2. Study Design

A facility-based quantitative cross-sectional study was conducted, with an embedded explanatory qualitative component.”

3.3. Population

3.3.1. Source population

The source population for quantitative and qualitative study was all pregnant women attending ANC at public health facilities in Harar Town and Dire Dawa Administration, eastern Ethiopia.

3.3.2. Study population

Quantitative

For quantitative all randomly selected pregnant women attending ANC at selected public health facilities in Harar Town and Dire Dawa Administration, Eastern Ethiopia, from June 15 – August 15, 2024.

Qualitative

Tobacco using pregnant women attending ANC and Heath care service providers at selected public health facilities in Harar Town and Dire Dawa Administration, Eastern Ethiopia from June 15– August 15, 2024.

3.4. Inclusion and Exclusion Criteria

3.4.1. Inclusion criteria

Pregnant women, who are attending ANC in selected facilities during study period.

3.4.2. Exclusion criteria

Critically sick participants who cannot respond to interview and who referred to higher hospitals for higher healthcare services during the study period.

3.5. Sample Size Determination

The sample size for the first specific objective, magnitude of tobacco use is estimated by Epi-Info Version 7.2 software using single population proportion formula. Accordingly, proportion of using tobacco use among pregnant women in the study area was unknown and hence, we assumed from previous study conducted in Northeast Ethiopia 12.6% of pregnant women were cigarette smokers(Aychiluhm et al., 2023) with the following assumptions: Confidence level of 95%, margin of error of 3%, design effect of 1.5 and 10% response rate assumption.

Accordingly, the minimum of 799 subjects will be required for the first specific objective of the study.

$$n = df * \frac{Z^2 p(1-p)}{d^2}$$

Where d = margin of error = 0.03

Z = level of confidence (95%) = 1.96

p= population proportion = 0.126

$$n = 1.5 * \frac{(1.96)^2 X (0.13 \times 0.87)}{(0.03)^2} = \mathbf{724}$$

Accordingly, adding a non response rate of 10% the minimum of 796 subjects will be required for the first specific objective of the study.

Sample size for the second objective, factors associated with magnitude of tobacco use is computed by OpenEpi using two-population proportions formula considering the following assumptions: a 95% confidence level, 3% significance level and 10% non-response rate (Table 1).

Table 1: Sample size for factors associated with magnitude of tobacco use of pregnant women attending ANC at public health facilities in Harar and Dire Dawa Administration, eastern Ethiopia, 2023

Associated factors	% of outcome occurred (yes) among unexposed	AOR	Sample sizes with 10% non-response	References
GA/Trimester (3rd)	16.2	3.31	150	(Tesso Kumburi, 2017)
Primipara	30.9	2.23	251	(Yadassa Tesso et al., 2017)
Age (15-24)	55.6	1.92	383	(Nur, 2017a)
Age (25-34)	55.6	2.54	205	(Nur, 2017a)
Primary education	26.6	1.76	533	(Nur, 2017a)

Then, after comparing sample size estimated by each associated factor, the largest number is considered as a minimum the sample size for second objective of the study (n=533). Finally,

after comparing above two sample sizes and the larger one is considered and used for study. Therefore, a minimum of 796 subjects will be required to conduct this study.
For the qualitative study, in each selected heath care facility, in depth interview was conducted using interview guide attached at the appendix.

3.6. Sampling Procedure/Technique

A multi-stage cluster sampling technique was employed for this study. In the first stage, public health facilities providing antenatal care (ANC) services in Harar Town and Dire Dawa City Administration were considered as primary clusters. seven facilities were randomly selected using a lottery method: four from Dire Dawa (1 hospital and 3 health centers) and three from Harar (1 hospital and 2 health centers). In the second stage, pregnant women attending ANC at the selected facilities formed the study population. The total sample size of 796 was proportionally allocated to each facility based on monthly ANC attendance. Within each facility, participants were selected using systematic random sampling, where a random starting point was chosen, and every k-th eligible woman was recruited until the allocated sample size was achieved. This method ensured proportional representation of all clusters, minimized selection bias, and maintained efficiency in participant recruitment.

Proportional to population size for health facility=n/N*Nj

Where, n=The sample size calculated for the study, n =796
N=The summation of ANC attending PW per month before the study in all selected health facilities ,N=844
Nj=The number of ANC attending PW per month in each health facility

Randomly selected health facilities The total Population of pregnant women attending ANC which is 471 in Dire Dawa Administration and Harar Town.(471+ 373)=844
For Sabean general hospital
SGH=n/N*NSGH=796/844*254=240
For Legehare Health center
LHC=n/N*NLHC=796/844*84=79
For Goro Health center
GHC=n/N*NGHC=796/844*71=69
For Gende kore Health center

GKHC=n/N*NGKHC=796/844*62=58

For Jugal General Hospital

JGH=n/N*NJRRH=796/844*228=215

For Amir nur Health Center

AHC=n/N*NAHC=796/844*62= 58

For Jineala health center

JHC=n/N*NJHC=796/844*83= 78

The qualitative study involved in-depth interviews with pregnant women who used tobacco. Participants were purposively selected, focusing on those attending ANC follow-up sessions at the selected health facilities. Interviews continued until data saturation was reached.

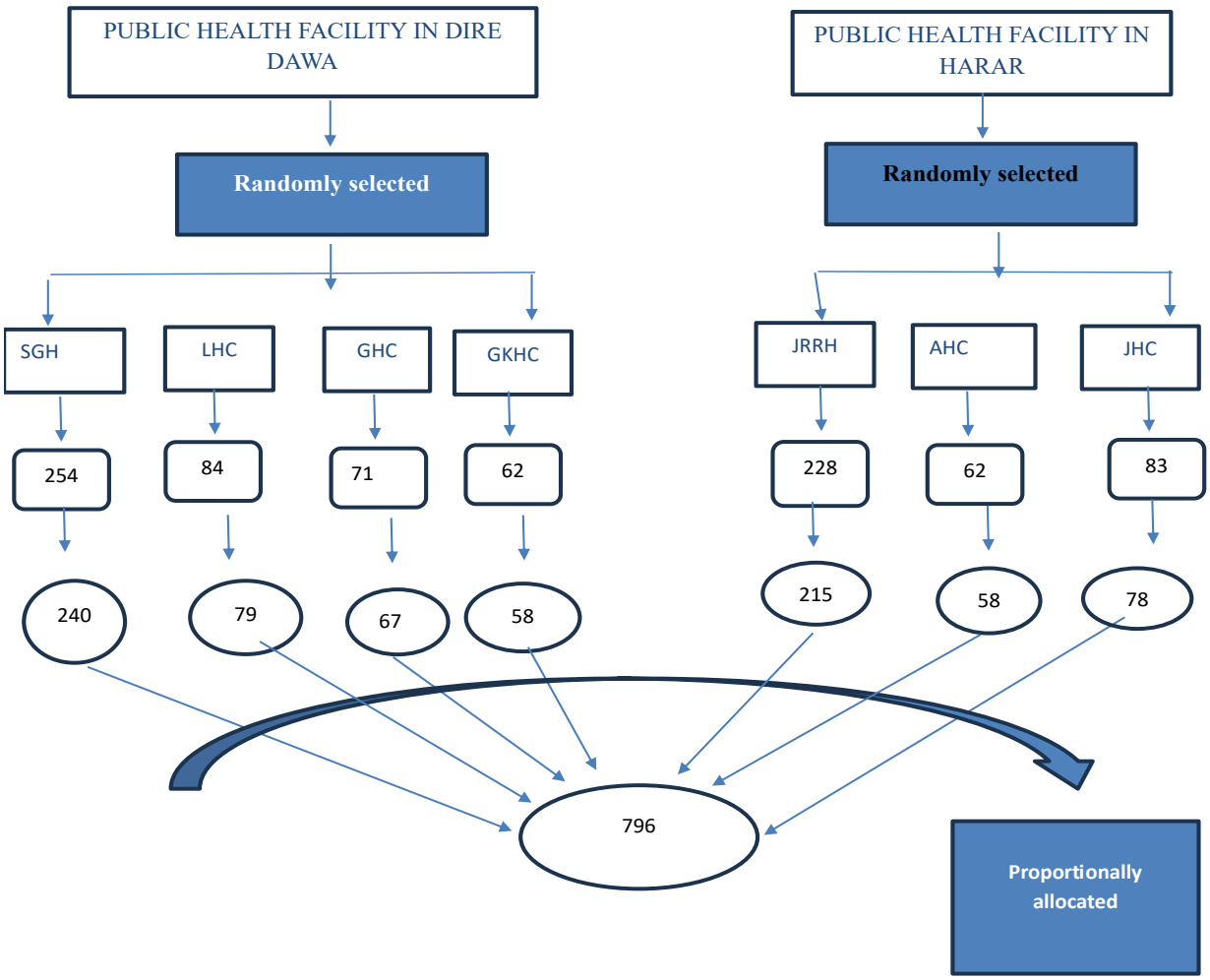

Figure 2: schematic presentation of the sampling fream for Magnitude of tobacco use and associated factors among pregnant women attending antenatal care at public health facilities in harar and dire dawa towns.SGH=Sabean general hospital LHC=Legehare Health center, GHC=Goro health center, GKHC=Gende kore Health center, JGH = Jugol General Hospital AHC=Amir nur Health Center, JHC =Jineala health center.

3.7. Data Collection Methods

3.7.1. Data Collection Instruments/ Tools

The study used both quantitative and qualitative methods to collect data on magnitude of tobacco use and associated factors among pregnant women attending antenatal care at public health facilities in Harar Town and Dire Dawa Administration.

3.7.1.1 Quantitative data collection instruments

Quantitative data were collected using pretested, structured questionnaires adapted from different pertinent published literature (Bonello et al., 2023; John et al., 2021; Kaur et al., 2023; Lakew & Haile, 2015; Madureira et al., 2020; Nur, 2017; S. Pasupuleti et al., 2021; Shrestha et al., 2013; J. K. Singh et al., 2017; W Masho, 2014) and contextualized to the study's purposes and setting. Initially, the questionnaire was developed in English, then translated to Afaan Oromo and Amharic languages, and back to English to check for consistency. Data were collected using the Kobo Toolbox, and it took about 20 minutes to complete the survey.

The questionnaires contained information about relevant dependent and independent variables. They consisted of four parts: the first part contained 7 questions related to sociodemographic factors, the second part included 9 questions about maternity and pregnancy related factors, the third part included 4 questions about medical and behavioral factors related to tobacco use, and the fourth part contained 11 questions on the magnitude of tobacco use.

3.7.1.2. Qualitative data collection instruments

For the qualitative part, open-ended interview questions were developed for tobacco-using pregnant women. The interviews were audio recorded. A total of fourteen open-ended questions were prepared after reviewing relevant literature (Bonello et al., 2023; John et al., 2021; Lakew & Haile, 2015; Madureira et al., 2020; Nur, 2017). Each interview took approximately 40 minutes. The questionnaire was prepared in English, then translated into the local languages of Afaan Oromo and Amharic, and then back to English by another person to check for consistency.

3.7.2. Data collectors and supervisor

The data was collected by six data collectors, and one Master of Public Health degree expert supervised the overall data collection process; four data collectors for quantitative studies and two for qualitative studies. Data collectors and supervisors were trained (by the investigator) for two days on how to select the participants and conduct the study. Trained research supervisors

closely monitored the data collection process and checked the filled-out questionnaires for completeness and accuracy on a daily basis.

3.7.3. Procedure of Data Collection

3.7.3.1 Quantitative Data collection procedures

After obtaining authorization from each public healthcare facility, the process of data collection began with both verbal and written consent from participants. For the quantitative part, questionnaires were prepared and collected using the Kobo Toolbox. They were administered through face-to-face interviews by data collectors. The data collectors then interviewed eligible participants who consented to participate at a private location to maintain the confidentiality of their responses. During the interviews, both Afaan Oromo and/or Amharic local languages were used as deemed necessary.

3.7.3.2 Qualitative Data Collection Procedures

Qualitative interviews were scheduled separately. Interviews were conducted in the local language by the interviewer. In-depth interviews with tobacco-using pregnant women were conducted using a tape recorder, and permission to record was acquired. Informed verbal and written consent obtained from all individuals participating in the interviews.

3.8. Variables

3.8.1. Dependent variable

- ✓ tobacco use

3.8.2. Independent variables

Sociodemographic factors: Age, marital status, religion, ethnicity, current residence**,** education and main occupation, and occupation of husband/partner.
Obstetric factors: parity, gravidity, number of abortion/still birth, pregnancy intention, GA.
Medical factors: chronic illness (HTN, DM, CA, TB, HIV, etc)
Behavioral and socio-cultural factors: Knowledge/awareness, khat chewing, alcohol drinking, husband/partner smoking, peer pressure, culture of smoking in family.

3.9. Operational Definitions

Tobacco use: Tobacco use was defined based on self-report during the current pregnancy. A current tobacco user was a pregnant woman who reported using any form of tobacco, either smoked or smokeless, during the current pregnancy, while a non-user was a pregnant woman who did not use any form of tobacco during the current pregnancy(Mohammed et al., 2025).
Passive tobacco smoker: If the pregnant women exposed to tobacco at home during the current pregnancy or work place in the last one month of the interview or public places in the last 7days, she was considered as passive tobacco smoker (Alamneh et al., 2020).
Alcohol consumers: anyone who reported consuming at least one unit of alcohol from anysources (Tella, Teje, Areqe, Beer, Wine, and Distilled sprites) during pregnancy (Alamneh et al., 2020).
Awareness on the harmful effects of tobacco use on the fetus: If a pregnant woman heard /informed the harmful effects of tobacco use/tobacco smoke exposure in pregnancy, will be considered as she had awareness on harmful effects of tobacco use(Alamneh et al., 2020).
Parity; was recategorized into two groups Low parity, Women who were nulliparous or primiparous (0–1 previous births) and High parity, Women who were multiparous or grand multiparous (≥2 previous births).
Gravidity: Gravidity refers to the number of times a woman has been pregnant. A primigravida is a woman who is pregnant for the first time, a multigravida is a woman who has been pregnant 2–4 times, and a grand multigravida is a woman who has been pregnant 5 or more times. For

analysis, gravidity was categorized as low gravidity, including primigravida and multigravida (≤4 pregnancies), and high gravidity, including grand multigravida (≥5 pregnancies).

Kha chewing: Khat chewing was defined based on self-report during the current pregnancy. A khat chewer was a pregnant woman who reported chewing khat at least once during her current pregnancya. A non-chewer was a woman who did not chew khat during the current pregnancy.

ANC advice on tobacco cessation: ANC advice on tobacco cessation was defined as whether the pregnant woman reported receiving counseling on tobacco use during her antenatal care visits. Women who reported receiving such counseling were classified as having received advice, while those who did not report counseling were classified as not having received advice.

Chronic illness: Chronic illness was defined as the presence of any self-reported or medically documented chronic medical condition, such as hypertension, diabetes mellitus, or asthma, that was diagnosed prior to or during the current pregnancy.

3.10. Data Quality Control

3.10.1 For Quantitative Data

Data collectors and supervisor who spoke Amharic ,Afaan Oromo and somali were recruited based on their previous experience, and two days of training were provided for all personnel by the investigator on how to select the study participants, ensure confidentiality and privacy of the subjects, and use the questionnaires. A pretest was conducted on 5% of the sample at Hiwot Fana Comprehensive Specialized Hospital two weeks before to the actual data collection, and amendments were made accordingly before using the questionnaire. The investigator and supervisor checked the filled tools before receiving them from each data collector and randomly selected filled questionnaires to cross-check for completeness and errors on the spot. Overall supervision was carried out by the investigator.

3.10.2 For Qualitative Data

Trustworthiness of the data was maintained utilizing four standard techniques. First, the interviewer described the responses from pregnant women So they could verify the accuracy of the data and boost its trustworthiness. Second, the researcher and senior researchers reviewed the findings to assess credibility via peer debriefing. Third, the interviewer also followed the same checklist for each informant to probe for information throughout data collection, and each time a person displayed an atypical response, notes were made to address dependability. Fourth, the entire transcription was compared to audio recordings to ensure that the findings were

consistent. The high level of validity and quality in the data, which is the specific concern of qualitative studies, was achieved through a variety of methodologies.

3.11. Methods of Data Analysis

3.11.1 Quantitative Analysis Data Processing

After data collection, the collected data was checked for completeness and exported to Stata version 17. The data was then coded, cleaned, and analyzed. Descriptive statistics such as mean, standard deviation, proportions, frequency, and percentage were used to describe the outcome and independent variables in the study. Bivariable firthlogistic regression analysis was performed, and variables with a p-value of <0.25 were considered candidates for the multivariable logistic regression model. Crude and adjusted odds ratios with a 95% confidence interval (CI) were computed to assess the association between the independent and outcome variables. Due to the relatively low magnitude of the outcome and presence of sparse data for certain predictor categories, Firth's logistic regression was employed in the multivariable analysis. This method is especially suitable for small or sparse samples and helps reduce the bias that occurs in standard maximum likelihood estimation under such conditions. It addresses the problem of separation when certain variables perfectly predict the outcome by using penalized maximum likelihood estimation A p-value of <0.05 was used to declare a statistical association in the final model. Lastly, tables, graphs, and narrative summaries were used to summarize the study's findings

3.11.2 Qualitative Data Processing and Analysis

For qualitative data, the transcripts were made verbatim and analyzed using manual thematic analysis. The records from the audiotapes were transcribed and then translated into English. Coding and categorization were conducted to synthesize the topics. To provide context based on the memos produced from each code and category, the analysis was done using manual thematic analysis. Data analysis was performed following each interview to allow time to learn, comprehend, and compile the information for each theme and study group. Finally, validation and finalization were carried out, and the experiences of the medical professionals were described and supported by quotations. The findings from qualitative and quantitative analyses were compared and integrated to gain deeper insights into the issue.

3.12. Ethical Considerations

Ethical clearance was obtained from Haramaya University, College of Health and Medical Sciences Institutional Health Research Ethical Review Committee (IHRERC/140/2024). An official letter of permission was obtained from Haramaya University, College of Health and Medical Sciences, addressed to Harar Town and Dire Dawa Administration Regional Health Bureaus. A circular letter was also written to each selected health facility to secure official permission for the study. Data collectors were trained on how to select study participants, handle confidentiality and privacy issues, and use a signed consent form attached to the questionnaire. Participant names were not written on the data collection templates. The study's purposes, procedures, duration, risks, and benefits were clearly explained to each participant. Informed, voluntary, written, and signed consent was obtained from each head of health facility and from adult participants. For participants under 18, consent was also obtained from a parent or husband. Those who were not willing to engage in the study at any time were allowed not to participate or discontinue filling out the questionnaire.

3.13. Plan for Information Dissemination

The findings of this study will be communicated to academic advisors and Haramaya University, postgraduate programs directorate through oral and written communications. It will be communicated to Harari Regional and Dire Dawa Administration Health Bureaus with their public health facilities. The results of the study will also be shared with the participating public health facilities. In addition, the study findings will be presented at the national and international scientific conferences and besides, the strong efforts will be made to prepare scientific manuscript and publish an original research article on peer reviewed, international reputable journal.

4 RESULTS

4.1. Sociodemographic characteristics of the study participants

Out of the 797 pregnant women approached, 780 were interviewed, resulting in a response rate of 97.9%The majority of the respondents (72.56%) were urban residents. The mean age of the respondents was 37. The largest group of respondents (46.79%) were aged between 29- 45. Nearly all (90.90%) of the respondents were married, and 38.25% had attended primary education. The majority (74.10%) of the respondents were Not employed. About 26.36% of husbands were merchants and 41.38% of husbands had a college education or higher (table 2)

Table 2: Sociodemographic characteristics of pregnant women attending antenatal care at public health facilities in Harar Town and Dire Dawa Administration, Eastern Ethiopia (n= 780)

Sociodemographic characteristics	**Frequency**	**Percent**
Residence		
Rural	214	27.44
Urban	566	72.56
Age in years		
15-24	143	18.33
25-29	272	34.87
29-45	365	46.79
Current marital status?		
Married	709	90.90
Not married	71	9.10
Occupation of participants		
Non-formal / Not employed	578	74.10
Government employee	95	12.18
Private sector / Business	107	13.72
Husband/partner occupation		
Farmer	144	20.31
Government employee	103	15.53
Private employee	352	47,65
Daily l aborer	110	16.51
Educational status participant		
Unable to read and write	65	8.34
Primary (1-8)	298	38.25
Secondary (9-12)	261	33.46
College and above	156	20.00
Husband/partner educational level		
Unable to read and write\Primary (1-8)	198	27.93

Secondary (9-12)	218	31.04
College and above	293	41.33

*Not married = Single, Divorced, Widowed

*Non-formal / Not employed = Housewife, Student, Daily laborer

*Private sector / Business = Private employee + Merchant

4.2. Maternity and pregnancy conditions

About 71.67% of the pregnant women were multigravida. Regarding parity, 65.64% of the pregnant women were multiparous, and about 47.56% of women had at least one child under the age of 5. 65.77% of pregnancies were planned. Regarding pregnancies that ended in miscarriage, abortion, or stillbirth, 79.36% of the women had never experienced any of these, 484 women (62.05%) were advised to quit tobacco during their antenatal care visits, where they were either advised to quit or not to use tobacco (table 3).

Table 3: Maternity and pregnancy conditions of pregnant women attending antenatal care at public health facilities in Harar Town and Dire Dawa Administration, Eastern Ethiopia (n=780)

Maternity and pregnancy conditions	**Frequency**	**Percent (%)**
Trimester		
First	75	9.60
Second	366	46.92
Third	339	43.46
Plan of pregnancy		
No	267	34.23
yes	513	65.77
Gravidity		
Low gravidity (1-2 birth pregnancies)	571	73.2
Highg gravidity (≥3 births pregnancies)	209	26.8
Parity		
Low parity (0 – 1 birth)	222	28.46
High parity (≥2 births)	558	71.54
History of miscarriage, abortion or stillbirth		
No	619	79.36
Yes	161	20.64
Advised to quit tobacco during antenatal care visit		
No	296	37.95
Yes	484	62.05

4.3. Medical and behavioral related factors

Among the participants, the majority, 624 (80.9%), did not have any chronic illness. A total of 96.79% of the pregnant women had never used alcohol. Regarding khat chewing, 419 (53.72%) had never chewed khat. Additionally, 527 (67.56%) of the participants were not aware of the potential health risks associated with tobacco use during pregnancy. Only 253 (32.44%) were aware of these risks.

Table 4: Medical and behavioral related factors of pregnant women attending antenatal care at public health facilities in Harar Town and Dire Dawa Administration, Eastern Ethiopia(n=780)

Medical and behavioral related factor	Frequency	Percent (%)
any chronic comorbidity/diseases (DM, HTN, CHF, TB,CA, HIV, etc)		
No	624	80.00
Yes	156	20.00
taken alcoholic drinks		
No	755	96.79
Yes	25	3.21
ever chew khat		
No	419	53.72
Yes	361	46.28
aware of the potential health risks		
No	527	67.56
Yes	253	32.44

4.4. Magnitude of tobacco use

During the current pregnancy, 94 (12.05%) of the participants used tobacco in some form, while 686 (87.95%) refrained from tobacco use. Despite smoking during pregnancy, 150 (19.21%) of the pregnant women had ever smoked in their lifetime. Among those who used tobacco during pregnancy, 79 (84.04%) used Gaya, 12 (12.77%) used cigarettes, and 3 (3.19%) used smokeless tobacco, a local form of tobacco.

Regarding the reasons for tobacco use during pregnancy, 54 (57.45%) cited stress as the main reason, while 20 (21.28%) reported social norms as a contributing factor, and 10 (10.64%) mentioned a combination of addiction and stress coping mechanisms. When asked about who they usually smoke with, 80 (85.11%) participants reported smoking with friends, while 14 (14.89%) smoked with both family and friends.

Among the participants, 573 (73.46%) reported that no one living with them smoked, while 207 (26.54%) indicated that individuals living with them did smoke. When asked about the relationship with those who smoke, 171 (83.01%) participants identified their husband as the smoker, 21 (10.19%) mentioned siblings, 11 (5.34%) referred to friends, and 3 (1.46%) reported that their in-laws smoked.

Regarding efforts to quit smoking, 60 (63.83%) participants stated that they had tried to quit in the past 12 months, while 34 (36.17%) had not attempted to quit. When asked about challenges or difficulties in quitting tobacco use during pregnancy, 65 (69.15%) reported facing difficulties, while 29 (30.85%) indicated they did not experience any challenges in quitting. In terms of awareness of public health campaigns or educational programs related to the risks of tobacco use during pregnancy, 84 (89.36%) participants were not aware, and only 10 (10.64%) were aware of such campaigns. Similarly, 84 (89.36%) were unaware of cessation support services available to pregnant women who want to quit tobacco use, and only 10 (10.64%) were aware of these services. when asked if they intended to quit using tobacco products during pregnancy, 68 (72.34%) participants expressed an intention to quit, while 26 (27.66%) did not intend to quit (table 5).

Table 5: Tobacco use related questions_of pregnant women attending antenatal care at public health facilities in Harar Town and Dire Dawa Administration, Eastern Ethiopia (n=780)

TOBACCO USE RELATED CHARACTERISTICS	Frequency	Percent
Ever used any form of tobacco		
No	631	80.90
Yes	149	19.10
Use any form of tobacco 3 months before pregnant		
No	694	88.97
Yes	86	11.03
Use tobacco during current pregnancy		
No	686	87.95
Yes	94	12.05
Types of tobacco used during current pregnancy (n = 94)		
Cigarette	12	12.77
Gaya	79	84.04
Other	3	3.19
Reasons for using tobacco products during pregnancy (n = 94)		
Copping mechanism for stress (either alone or with addiction)	64	68.09
Social norm	10	10.64
Recreational purpose	20	21.28
Individuals living with you smoke		
No	573	73.46
Yes	207	26.54
If yes, what is their relationship with you (n = 207)		
Husband	171	83.01
Others	36	16.99
Ever try *to quit* smoking during the past 12 months (n = 94)		
No	34	36.17
Yes	60	63.83
Aware of any public health campaigns or educational programs related to the risks of tobacco use during pregnancy (n = 94)		
No	84	89.36
Yes	10	10.64
Aware of any cessation support services available to pregnant women who want to quit tobacco use (n = 94)		
No	84	89.36
Yes	10	10.64
Intend to quit tobacco use during your pregnancy (n = 94)		
No	26	27.66
Yes	68	72.34

Other* snuf, chewing tobacco

Friends, Siblings, In-laws

4.5 Factor associated with tobacco use during pregnancy

Variables that were associated with tobacco use during pregnancy in the bivariate analysis included being an urban resident, being non marride. Additionally, tobacco use was more common among women who had only completed primary education. Other significant factors included having an unplanned pregnancy, high parity, receiving advice during antenatal care, having a chronic comorbidity, chewing khat and tobacco use in the last three months befor pregnancy.

The multivariate analysis revealed that participants living in urban areas were 8 times more likely to use tobacco compared to those in rural areas (AOR = 8, 95% CI: 2.2, 32.1). Participants who did not receive tobacco-related advice during antenatal care visits were over six times more likely to use tobacco than those who received advice (AOR = 6.1, 95% CI: 2.5–14.8). The odds of tobacco use were 3.7 times higher among participants with chronic comorbidities compared to those without (AOR = 3.7, 95% CI: 1.6, 8.5). Additionally, participants who chewed khat had 11 times higher odds of using tobacco compared to those who did not (AOR = 11, 95% CI: 3.5–40). Finally, pregnant women who reported tobacco use in the past three months were 13 times more likely to continue using tobacco compared to those who did not (AOR = 13, 95% CI: 6.5–28) (Table 6**).**

Table 6:Factor associated with tobacco use among pregnant women attending antenatal care at public health facilities in Harar Town and Dire Dawa Administration, Eastern Ethiopia.

Variables	Tobacco use		COR (95%CI)	AOR (95%CI)	P-value
	Yes	No			
Residency					
Rulal	3	211	1	1	
Urban	91	475	11(3.9,34.2)	8(2.8, 32.1)	0.001*
Marital status					
Married	53	656	1	1	
Not married	41	30	17(9.6, 28.77)	2.7(1.1,6.3)	0.029
Education level of women					
Unable to read or write	5	60	1.4(0.4,4.2)	1.86(0.26,9.9)	0.605
primary (1-8)	55	243	3.5(1.7,7.2)	1.4(0.45,4.4)	0.54
secondary (9-12)	25	236	1.6(0.77,3.6)	1.7(0.56,5.21)	0.34
college and above	9	147	1	1	
plan status of pregnancy					
No	76	191	11(6.26,18.25)	1.8(0.7,4.4)	0.19
Yes	18	495	1	1	
parity					
low parity	18	204	1	1	
high parity	76	482	1.7(1.02,2.98)	1.08(0.40,2.9)	0.867
got any advice at ANC					
No	73	223	7.08(4.2,11.7)	6.1(2.5,14.8)	0.00*
Yes	21	463	1	1	
Any chronic illness					
No	62	562	1	1	
Yes	32	124	2.3(1.4,3.7)	3.7(1.6,8.5)	0.002*
Chat chewing					
No	4	415	1	1	
Yes	90	271	30.7(11.7,80.2)	11 (3.5 ,40)	0.000*
Ever used tobacco for the past three month					
No	27	667	1	1	
Yes	67	19	83.3 (44,156)	13(6.5, 28)	0.00*

4.7. Results of Qualitative Study

Fifteen pregnant women who reported current tobacco use participated in the in-depth interviews. All participants resided in urban areas, and their ages ranged from 22 to 39 years. Educational attainment varied, with five women having completed only primary education, six with secondary education, and four with tertiary education. Most participants (10) were married or living with a partner, while the remainder were either single (3) or divorced (2). The duration of tobacco use ranged from one year to over seven years. Notably, nine women reported living with other tobacco users, such as husbands or siblings, highlighting the potential influence of the household environment on tobacco use. Analysis of the in-depth interviews revealed multiple, interrelated factors that influenced tobacco use among pregnant women attending antenatal care (ANC) services in public health facilities in Harar Town and Dire Dawa City Administration. The findings are organized into major themes reflecting habitual behaviors, emotional needs, knowledge gaps, and social and environmental influences.

Habitual Tobacco Use as a Daily Practice

Tobacco use was commonly described as an established daily routine that predated pregnancy. For several participants, smoking had become a habitual behavior deeply embedded in their everyday lives, making cessation during pregnancy particularly challenging. Women often reported continuing to smoke without deliberate intention, describing the behavior as automatic and difficult to interrupt.

One participant stated, *"I continued smoking because it was just part of my daily routine, even during pregnancy"* (Woman 1, 33 years old, five years of tobacco use). Such accounts indicate that habitual dependence played a significant role in sustaining tobacco use, even when women were aware of their pregnancy.

Tobacco Use as a Mechanism for Emotional Regulation

Emotional stress and psychological discomfort during pregnancy emerged as important drivers of tobacco use. Many participants described smoking as a coping strategy to manage stress, anxiety, and emotional strain associated with pregnancy and daily life challenges. Tobacco use was perceived as providing temporary relief and emotional stability.

As one woman explained, *"Smoking helped me relax when I was stressed, even during pregnancy"* (Woman 2, urban resident). These narratives suggest that tobacco use functioned

as an emotional regulation tool, particularly in the absence of alternative stress management strategies.

Limited Awareness and Misunderstanding of Health Risks

A recurring theme was the lack of comprehensive understanding regarding the harmful effects of tobacco use during pregnancy. Although some women acknowledged that smoking was generally harmful, many underestimated the specific risks to fetal health and pregnancy outcomes. This limited awareness contributed to the continued use of tobacco during pregnancy.

One participant reflected, *"I saw it as a way to unwind, not realizing the harm it could cause"* (Woman 13, single pregnant woman). Others minimized the perceived risks by focusing on the quantity of tobacco consumed, as illustrated by a divorced participant who stated, *"I only smoked a little, so I didn't think it would cause harm"* (Woman 3). These perceptions highlight how incomplete or vague knowledge influenced risk assessment and behavior.

Influence of Cultural and Social Norms

Cultural and familial normalization of tobacco use strongly influenced women's smoking behaviors. Participants who lived in households where tobacco use was common described smoking as socially acceptable and routine, which reduced motivation to quit during pregnancy. In such environments, smoking was not viewed as deviant or concerning.

One woman explained, *"Smoking was just normal in my family, so it didn't feel unusual to continue during pregnancy"* (Woman 4, living with a husband and sibling who smoke). This normalization within the household context played a significant role in shaping women's attitudes toward tobacco use during pregnancy.

Peer Influence and Social Acceptance

Peer relationships further reinforced tobacco use behaviors. Several participants reported that their friends smoked and did not discourage tobacco use during pregnancy. This social acceptance reduced perceived social pressure to quit and contributed to continued smoking.

As one participant stated, *"My friends smoked, so it didn't feel like a big deal to keep smoking"* (Woman 1, 33 years old, five years of tobacco use). Peer environments that tolerated or supported smoking created social conditions that enabled continued tobacco use.

Environmental and Social Triggers

Exposure to smoking environments and social settings where others used tobacco acted as powerful triggers for continued use. Being around friends or family members who smoked often stimulated cravings and made abstinence difficult, even for women who had considered quitting.

One participant noted, *"When my friends smoked, I found it tough to not join in"* (Woman 11, 37 years old). These environmental cues highlight the strong influence of social contexts on tobacco use behaviors during pregnancy.

5. DISCUSSION

This study was conducted to assess the magnitude of tobacco use and associated factors among pregnant women attending antenatal care (ANC) at healthcare facilities. A mixed-methods design was used, involving 780 pregnant women and 15 in-depth interviews of pregnant women. The magnitude of tobacco use during pregnancy was found to be 12.05% (95% CI: 9.96%, 14.54%), which is consistent with findings from northern Ethiopia (12.6%, 95% CI: 10.5%–14.7%) but is lower compared to studies in Spain (29.5% , 95% CI: 26.0%–33.0%)), Portugal (20.2%, 95% CI: 17.5%–23.0%) and eastern Nepal (19.2%, 95% CI: 16.0%–22.5%) (Almeida et al., 2022; Aychiluhm et al., 2023; Vila-Candel et al., 2020) variations in prevalence between regions explained by differences in sociodemographic characteristics such as socioeconomic status, education, cultural acceptance of smoking, and strength of tobacco control policies(Smedberg et al., 2014).

In the present study, participants living in urban areas were 8 times more likely to use tobacco compared to those in rural areas (AOR = 8, 95% CI: 2.2, 32.1). This finding contrasts with studies conducted in France and India, where tobacco use during pregnancy was higher among women living in rural areas (Melchior et al., 2015; S. S. R. Pasupuleti et al., 2021). The discrepancy due to attributed to greater access to tobacco products, weaker enforcement of tobacco control laws, and differing social norms in urban settings. These assumptions are supported by qualitative findings, where participants cited the widespread availability of tobacco and its normalization within social and domestic contexts as key factors influencing use(Chow et al., 2017).

Additionally, passive smoking was reported by 26.54% of participants, consistent with a study from Aleta Wondo, Ethiopia (22%) though lower than in Butajira, where 75.8% reported daily secondhand smoke exposure (Alamneh et al., 2020; Petersen et al., 2016).. The impact of household exposure was reinforced by both dataset women living with smokers were 3.5 times more likely to smoke themselves, and qualitative data illustrated how tobacco use was often modeled and accepted within families, particularly when partners smoked.

Receiving advice during antenatal care (ANC) visits was identified as a major protective factor, which is in line with findings from the Netherlands, where structured counseling reduced prenatal smoking rates (Cui et al., 2014). Qualitative insights confirmed that participants who received counseling were more aware of the risks and more motivated to reduce or stop tobacco use.

In the present study having chronic comorbidities and tobacco use showed association with tobacco use. This may reflect higher stress levels or health burdens that lead women to use tobacco as a coping mechanism a finding echoed in the qualitative interviews. Many women described using tobacco to manage emotional distress, or relationship challenges, perceiving it as a necessary tool rather than a harmful substance. This aligns with research from Canada, which similarly found comorbid conditions to be associated with increased tobacco use in pregnant populations (Cui et al., 2014).The study found that khat chewing was significantly associated with tobacco use, This finding supports results from Yemen, where khat and tobacco use are often co-occurring behaviors (Kassim & Croucher, 2006).

Additionally, A strong predictor of tobacco use was past smoking behavior, particularly within the three months preceding pregnancy. Women who smoked during that time were 13 times more likely to continue using tobacco during pregnancy, consistent with studies in Yemen and India (Kassim & Croucher, 2006; S. S. R. Pasupuleti et al., 2021). Qualitative findings supported this, with many participants describing long-standing smoking habits that began before pregnancy, which made quitting during pregnancy particularly difficult.

As a strength of the study, the study employed a mixed-methods design, combining both quantitative and qualitative approaches to provide a comprehensive understanding of tobacco use during pregnancy. Random sampling was used to select study participants, minimizing selection bias and enhancing the representativeness of the findingsThe large sample size (n=780) increased the statistical power and reliability of the quantitative findings.

The limitation of the study, As the data was self-reported, social desirability bias may have led participants to underreport their tobacco use, especially given cultural stigma. The study was institution-based (facility-based)**,** meaning it only included pregnant women who attend health facilities and women who do not attend health facilities were excluded which may introduce selection bias**.** Moreover, the study was conducted only in public health facilities, excluding private clinics and rural outreach sites, which may limit the generalizability of findings. Due to the sensitivity of the topic, qualitative participants may have been reluctant to fully disclose their tobacco use behaviors or social pressures. Limited regional studies in Ethiopia on this specific topic made it challenging to compare all findings within the local context.

6. CONCLUSIONS and RECOMMENDATIONS

6.1 Conclusion

This study assessed the magnitude and factors influencing tobacco use among pregnant women attending antenatal care (ANC) in Harar Town and Dire Dawa City, Eastern Ethiopia. The magnitude of tobacco use during pregnancy was high, highlighting a significant public health concern. Several factors were significantly associated with tobacco use, including urban residence, chronic illness, khat chewing, past tobacco use, advice received during ANC visits, and living with individuals who use tobacco. The qualitative findings supported and enriched the quantitative results by revealing underlying behaviors, perceptions, and social influences, such as habitual use, emotional regulation, lack of awareness, cultural and social norms, peer influence, knowledge gaps, social triggers, and limited healthcare provider support for cessation. Overall, the study underscores the need for targeted interventions addressing both individual and social influences on tobacco use. Strengthening education on the risks of smoking, enhancing healthcare provider training on tobacco cessation, and integrating regular screening into ANC services are essential steps to reduce tobacco use and its associated risks during pregnancy.

7.2 Recommendations

For Public Hospitals and Healthcare Facilities

Public hospitals and health centers should integrate routine screening for tobacco use into all antenatal care (ANC) visits. Facilities should also strengthen health education sessions that focus on the harmful effects of tobacco use during pregnancy, benefits of cessation, and the risks of second-hand exposure. Creating a supportive and non-judgmental environment will help pregnant women feel comfortable disclosing tobacco use and seeking help.

For Healthcare Providers

ANC providers should receive training on how to identify and counsel pregnant women who use tobacco. Providers should offer brief, culturally appropriate counseling during ANC visits and encourage women to reduce or stop use. Follow-up counseling should be part of routine care to monitor progress and reinforce cessation messages.

For Pregnant Women

Pregnant women should be encouraged to avoid all forms of tobacco, including smoked and smokeless products. Families and partners should be engaged during counseling to support the woman in maintaining a tobacco-free environment at home, as household influence plays a major role in tobacco use.

For the Regional Health Bureau

The Health Bureau should develop and implement maternal-focused tobacco control strategies, especially targeting high-risk communities. Public awareness campaigns should highlight the dangers of tobacco use during pregnancy. The Bureau should also support regular monitoring of tobacco-use trends among women of reproductive age and strengthen the enforcement of existing tobacco control laws around health facilities and public spaces.

For Researchers

Future research should explore the socio-cultural drivers of tobacco use among pregnant women using broader qualitative designs. Additional studies should assess the effectiveness of ANC based counseling interventions and identify barriers that prevent women from quitting during pregnancy.

7. REFERENCES

Abdeta, T., & Hunduma, G. (2021). Tobacco Use Among Reproductive Age Women in Ethiopia: Evidence from the National Health Survey. *Substance Abuse and Rehabilitation*, *Volume 12*, 1–10. https://doi.org/10.2147/sar.s291869

Adeoye, I. A. (2022). Alcohol consumption and tobacco exposure among pregnant women in Ibadan, Nigeria. *BMC Psychiatry*, *22*(1), 570. https://doi.org/10.1186/s12888-022-04210-9

Alamneh, A. A., Endris, B. S., & Gebreyesus, S. H. (2020). Caffeine, alcohol, khat, and tobacco use during pregnancy in Butajira, South Central Ethiopia. *PLOS ONE*, *15*(5), e0232712. https://doi.org/10.1371/journal.pone.0232712

Almeida, R., Barbosa, C., Pereira, B., Diniz, M., Baena, A., & Conde, A. (2022). Tobacco Smoking during Pregnancy: Women's Perception about the Usefulness of Smoking Cessation Interventions. *International Journal of Environmental Research and Public Health*, *19*(11). https://doi.org/10.3390/ijerph19116595

Al-Sahab, B., Saqib, M., Hauser, G., & Tamim, H. (2010). Prevalence of smoking during pregnancy and associated risk factors among Canadian women: a national survey. In *BMC Pregnancy and Childbirth* (Vol. 10). http://www.biomedcentral.com/1471-2393/10/24

Anteab, K., Demtsu, B., & Megra, M. (2014). *Assessment of Prevalence and Associated Factors of Alcohol Use during Pregnancy among the dwellers of Bahir-Dar City, Northwest Ethiopia, 2014*.

Aychiluhm, S. B., Haji, A., Abdulkadir, O., Mare, K. U., Duko, B., Dachew, B. A., & Tadesse, A. W. (2023). Determinants of maternal substance use during pregnancy among the pastoral community, Northeast Ethiopia: Bayesian analysis approach. *Cogent Public Health*, *10*(1). https://doi.org/10.1080/27707571.2023.2205712

Azagba, S., Manzione, L., Shan, L., & King, J. (2020). Trends in smoking during pregnancy by socioeconomic characteristics in the United States, 2010-2017. *BMC Pregnancy and Childbirth*, *20*(1). https://doi.org/10.1186/s12884-020-2748-y

Balwicki, Ł., Zarzeczna-Baran, M., Wierucki, Ł., Jędrzejczyk, T., Strahl, M., Wrotkowska, M., Goniewicz, M. L., & Zdrojewski, T. (2016). Smoking among pregnant women in small towns in Poland. *International Journal of Public Health*, *61*(1), 111–118. https://doi.org/10.1007/s00038-015-0735-2

Barakoti, R., Ghimire, A., Pandey, A. R., Baral, D. D., & Pokharel, P. K. (2017). Tobacco Use during Pregnancy and Its Associated Factors in a Mountain District of Eastern Nepal: A Cross-Sectional Questionnaire Survey. *Frontiers in Public Health*, *5*. https://doi.org/10.3389/fpubh.2017.00129

Bauer, S. E., Tsigaridis, K., & Miller, R. (2016). Significant atmospheric aerosol pollution caused by world food cultivation. *Geophysical Research Letters*, *43*(10), 5394–5400. https://doi.org/10.1002/2016GL068354

Bloch, M., & Parascandola, M. (2014). Tobacco use in pregnancy: a window of opportunity for prevention. *The Lancet Global Health*, *2*(9), e489–e490. https://doi.org/10.1016/S2214-109X(14)70294-3

Bonello, K., Gomajee, R., Ibanez, G., Martins, S., Keyes, K., Nakamura, A., Lepeule, J., Strandberg-Larsen, K., Fekom, M., & Melchior, M. (2023). Maternal Tobacco Smoking During Pregnancy and Children's Emotional and Behavioral Trajectories: The EDEN Mother–Child Birth Cohort Study. *Nicotine and Tobacco Research*, *25*(6), 1174–1183. https://doi.org/10.1093/ntr/ntad023

Bradley D. Holbrook. (2016). The effects of nicotine on human fetal development. *Embryo Today: Reviews*, 181-192.

Caleyachetty, R., Tait, C. A., Kengne, A. P., Corvalan, C., Uauy, R., & Echouff O-Tcheugui, J. B. (2014). *Articles Tobacco use in pregnant women: analysis of data from Demographic and Health Surveys from 54 low-income and middle-income countries*. www.thelancet.com/

Chow, C. K., Corsi, D. J., Gilmore, A. B., Kruger, A., Igumbor, E., Chifamba, J., Yang, W., Wei, L., Iqbal, R., Mony, P., Gupta, R., Vijayakumar, K., Mohan, V., Kumar, R., Rahman, O., Yusoff, K., Ismail, N., Zatonska, K., Altuntas, Y., … Yusuf, S. (2017). Tobacco control environment: cross-sectional survey of policy implementation, social unacceptability, knowledge of tobacco health harms and relationship to quit ratio in 17 low-income, middle-income and high-income countries. *BMJ Open*, *7*(3), e013817. https://doi.org/10.1136/bmjopen-2016-013817

Coleman, H. G., Bhat, S., Johnston, B. T., McManus, D., Gavin, A. T., & Murray, L. J. (2012). Tobacco Smoking Increases the Risk of High-Grade Dysplasia and Cancer Among Patients With Barrett's Esophagus. *Gastroenterology*, *142*(2), 233–240. https://doi.org/10.1053/J.GASTRO.2011.10.034

Cui, Y., Shooshtari, S., Forget, E. L., Clara, I., & Cheung, K. F. (2014). Smoking during Pregnancy: Findings from the 2009–2010 Canadian Community Health Survey. *PLoS ONE*, *9*(1), e84640. https://doi.org/10.1371/journal.pone.0084640

Curtin, S. C., & Mathews, T. J. (2016). *Smoking Prevalence and Cessation Before and During Pregnancy: Data From the Birth Certificate, 2014*.

Doku, D., Koivusilta, L., Raisamo, S., & Rimpelä, A. (2010). Do socioeconomic differences in tobacco use exist also in developing countries? A study of Ghanaian adolescents. *BMC Public Health*, *10*(1), 758. https://doi.org/10.1186/1471-2458-10-758

Drake, P., Driscoll, A. K., & Mathews, T. J. (2013). *Cigarette Smoking During Pregnancy: United States, 2016 Key findings Data from the National Vital Statistics System*. https://www.cdc.gov/nchs/data/databriefs/db305_table.pdf#1.

Dupraz, J., Graff, V., Barasche, J., Etter, J., & Boulvain, M. (2013). Tobacco and alcohol during pregnancy: prevalence and determinants in Geneva in 2008. *Swiss Medical Weekly*. https://doi.org/10.4414/smw.2013.13795

Ergin, I., Hassoy, H., & Aslan, G. (2010). Maternal age, education level and migration: Socioeconomic determinants for smoking during pregnancy in a field study from Turkey. In *BMC Public Health* (Vol. 10). http://www.biomedcentral.com/1471-2458/10/325

Hamadneh, J., Hamadneh, S., Amarin, Z., & Al-Beitawi, S. (2021). Knowledge, Attitude and Smoking Patterns Among Pregnant Women: A Jordanian Perspective. *Annals of Global Health*, *87*(1), 36. https://doi.org/10.5334/aogh.3279

Havard, A., Chandran, J. J., & Oei, J. L. (2022). Tobacco use during pregnancy. *Addiction*, *117*(6), 1801–1810. https://doi.org/10.1111/add.15792

John, B. A., Russall, O. J., & Judith, D. (2021). Prevalence of tobacco use and associated risk factors among pregnant women in Maracha District, Uganda. *Journal of Public Health and Epidemiology*, *13*(2), 64–73. https://doi.org/10.5897/jphe2020.1276

Kassim, S., & Croucher, R. (2006). Khat chewing amongst UK resident male Yemeni adults: an exploratory study. *International Dental Journal*, *56*(2), 97–101. https://doi.org/10.1111/j.1875-595X.2006.tb00080.x

Kaur, S., Manhungira, W., Sankar, A., & Sarkar, R. (2023). Women's Perspectives on Smoking During Pregnancy and Factors Influencing Their Willingness to Quit Smoking in Pregnancy: A Study From the United Kingdom. *Cureus*. https://doi.org/10.7759/cureus.38890

Khawaja, M., Al-Nsour, M., & Saad, G. (2008). Khat (Catha edulis) Chewing during Pregnancy in Yemen: Findings from a National Population Survey. *Maternal and Child Health Journal*, *12*(3), 308–312. https://doi.org/10.1007/s10995-007-0231-2

Lakew, Y., & Haile, D. (2015). Tobacco use and associated factors among adults in Ethiopia: further analysis of the 2011 Ethiopian Demographic and Health Survey. *BMC Public Health*, *15*(1), 487. https://doi.org/10.1186/s12889-015-1820-4

Lamm, S. H., Ferdosi, H., Boroje, I. J., Afari-Dwamena, N. A., Qian, L., Dash, E. D., Li, J., Chen, R., & Feinleib, M. (2020). Maternal tobacco use: A third-trimester risk factor for small-for-gestational-age pregnancy outcome. *Preventive Medicine Reports*, *18*, 101080. https://doi.org/10.1016/j.pmedr.2020.101080

Lange, S., Probst, C., Rehm, J., & Popova, S. (2018). National, regional, and global prevalence of smoking during pregnancy in the general population: a systematic review and meta-analysis. *The Lancet Global Health*, *6*(7), e769–e776. https://doi.org/10.1016/S2214-109X(18)30223-7

Liu, J., Leung, P. W. L., McCauley, L., Ai, Y., & Pinto-Martin, J. (2013). Mother's environmental tobacco smoke exposure during pregnancy and externalizing behavior problems in children. *NeuroToxicology*, *34*, 167–174. https://doi.org/10.1016/j.neuro.2012.11.005

Madureira, J., Camelo, A., Silva, A. I., Reis, A. T., Esteves, F., Ribeiro, A. I., Teixeira, J. P., & Costa, C. (2020). The importance of socioeconomic position in smoking, cessation and environmental tobacco smoke exposure during pregnancy. *Scientific Reports*, *10*(1), 15584. https://doi.org/10.1038/s41598-020-72298-8

Magee, S. R., Bublitz, M. H., Orazine, C., Brush, B., Salisbury, A., Niaura, R., & Stroud, L. R. (2014). The relationship between maternal-fetal attachment and cigarette smoking over pregnancy. *Maternal and Child Health Journal*, *18*(4), 1017–1022. https://doi.org/10.1007/s10995-013-1330-x

Melchior, M., Chollet, A., Glangeaud-Freudenthal, N., Saurel-Cubizolles, M.-J., Dufourg, M.-N., van der Waerden, J., & Sutter-Dallay, A.-L. (2015). Tobacco and alcohol use in pregnancy in France: The role of migrant status. *Addictive Behaviors*, *51*, 65–71. https://doi.org/10.1016/j.addbeh.2015.07.015

Mohammed, K., Shawel Getahun, M., Abera Belachwe, Y., Mohammed Fati, N., & Mekuria Negussie, Y. (2025). Maternal substance use during pregnancy and associated factors in Adama, central Ethiopia. *Frontiers in Global Women's Health*, *6*. https://doi.org/10.3389/fgwh.2025.1540814

Nur, N. (2017a). Associacao de fatores de risco com tabagismo durante a gravidez em mulheres em idade fertil: Estudo epidemiologico de campo na Turquia. *Sao Paulo Medical Journal*, *135*(2), 100–106. https://doi.org/10.1590/1516-3180.2016.021921102016

Nur, N. (2017b). Association of risk factors with smoking during pregnancy among women of childbearing age: an epidemiological field study in Turkey. *Sao Paulo Medical Journal*, *135*(2), 100–106. https://doi.org/10.1590/1516-3180.2016.021921102016

Pascual, Z. N., & Langaker, M. D. (2023). *Physiology, Pregnancy*.

Pasupuleti, S. S. R., Mohan, P., & Babu, P. J. (2021). Prevalence and predictors of tobacco use among currently married pregnant women in India. *Population Medicine*, *3*. https://doi.org/10.18332/popmed/134755

Petersen, A. B., Thompson, L. M., Dadi, G. B., Tolcha, A., & Cataldo, J. K. (2016). Factors associated with secondhand tobacco smoke in the home: an exploratory cross-sectional study among women in Aleta Wondo, Ethiopia. *BMC Public Health*, *16*(1), 910. https://doi.org/10.1186/s12889-016-3588-6

Ranjit, A. (2013). *TOBACCO USE AMONG PREGNANT WOMEN IN NEPAL Prevalence and Socio-demographic Determinants*.

Reda, A. A., Moges, A., Biadgilign, S., & Wondmagegn, B. Y. (2012). Prevalence and determinants of khat (Catha edulis) chewing among high school students in eastern ethiopia: A cross-sectional study. *PLoS ONE*, *7*(3). https://doi.org/10.1371/journal.pone.0033946

Savell, E., Gilmore, A. B., & Fooks, G. (2014). How does the tobacco industry attempt to influence marketing regulations? A systematic review. *PloS One*, *9*(2), e87389. https://doi.org/10.1371/journal.pone.0087389

Shafique, S., Umer, A., Innes, K. E., Rudisill, T. M., Fang, W., & Cottrell, L. (2022). Preconception Substance Use and Risk of Unintended Pregnancy: Pregnancy Risk Assessment Monitoring System 2016–17. *Journal of Addiction Medicine*, *16*(3), 278–285. https://doi.org/10.1097/ADM.0000000000000886

Shrestha, N., Niraula, S., Ghimire, A., Pokharel, P., Pokharel, H., & Shah, G. (2013). obacco use in pregnant women and their outcome in teaching districts of a health sciences university in eastern Nepal. *Health Renaissance*, *11*(2), 157–161. https://doi.org/10.3126/hren.v11i2.8225

Singh, J. K., Acharya, D., Kadel, R., Adhikari, S., Lombard, D., Koirala, S., & Paudel, R. (2017). Factors Associated with Smokeless Tobacco Use among Pregnant Women in Rural Areas of the Southern Terai, Nepal. *Journal of Nepal Health Research Council*, *15*(1), 12–19. https://doi.org/10.3126/jnhrc.v15i1.18007

Singh, P., Jain, P., Singh, N., Singh, L., & Singh, S. (2022). Smokeless Tobacco Use among Pregnant Women in India: The Tale of Two Nationally Representative Surveys. *Asian Pacific Journal of Cancer Prevention*, *23*(2), 389–392. https://doi.org/10.31557/APJCP.2022.23.2.389

Smedberg, J., Lupattelli, A., Mårdby, A.-C., & Nordeng, H. (2014). Characteristics of women who continue smoking during pregnancy: a cross-sectional study of pregnant women and new mothers in 15 European countries. *BMC Pregnancy and Childbirth*, *14*(1), 213. https://doi.org/10.1186/1471-2393-14-213

Tabb, K. M., Huang, H., Menezes, P. R., Azevedo e Silva, G., Chan, Y.-F., & Faisal-Cury, A. (2015). Ethnic differences in tobacco use during pregnancy: findings from a primary care sample in São Paulo, Brazil. *Ethnicity & Health*, *20*(2), 209–217. https://doi.org/10.1080/13557858.2014.907390

Tamye Lopes Fujita1, Â., Luiz Rodrigues-Junior2, A., Cândida Gomes3, N., Spinosa de Martinis4, B., & Baddini-Martinez5, 6, José Antonio. (2021). Socio-demographic and psychological features associated with smoking in pregnancy. *Jornal Brasileiro de Pneumologia*, e20210050. https://doi.org/10.36416/1806-3756/e20210050

Tarasi, B., Cornuz, J., Clair, C., & Baud, D. (2022). Cigarette smoking during pregnancy and adverse perinatal outcomes: a cross-sectional study over 10 years. *BMC Public Health*, *22*(1). https://doi.org/10.1186/s12889-022-14881-4

Tariku, Y., & Baye, K. (2022). Pregnant Mothers Diversified Dietary Intake and Associated Factors in Southwest Ethiopia: A Cross-Sectional Study. *Journal of Nutrition and Metabolism*, *2022*, 1–8. https://doi.org/10.1155/2022/4613165

Tesso Kumburi, G. (2017). Psycho-active Substances Use and Determining Factors among Regular Undergraduate Students of Dire-Dawa University, Eastern Ethiopia. *Science Journal of Public Health*, *5*(2), 68. https://doi.org/10.11648/j.sjph.20170502.13

Veloso, L. U. P., & Monteiro, C. F. de S. (2013). Prevalence and factors associated with alcohol use among pregnant adolescents. *Revista Latino-Americana de Enfermagem*, *21*(1), 433–441. https://doi.org/10.1590/S0104-11692013000100020

Vila-Candel, R., Navarro-Illana, E., Mena-Tudela, D., Pérez-Ros, P., Castro-Sánchez, E., Soriano-Vidal, F. J., & Quesada, J. A. (2020). Influence of Puerperal Health Literacy on Tobacco Use during Pregnancy among Spanish Women: A Transversal Study. *International Journal of Environmental Research and Public Health*, *17*(8), 2910. https://doi.org/10.3390/ijerph17082910

W Masho, S. (2014). Social Support and Smoking during Pregnancy. *Journal of Women's Health Care*, *03*(05). https://doi.org/10.4172/2167-0420.1000179

Walker, M. J., Al-Sahab, B., Islam, F., & Tamim, H. (2011). The epidemiology of alcohol utilization during pregnancy: an analysis of the Canadian Maternity Experiences Survey (MES). *BMC Pregnancy and Childbirth*, *11*(1), 52. https://doi.org/10.1186/1471-2393-11-52

Weiland, S., Peters, L. L., Berger, M. Y., Erwich, J. J. H. M., & Jansen, D. E. M. C. (2022). Women who smoke during pregnancy are more likely to be referred to an obstetrician during pregnancy and birth: results from a cohort study. *BMC Pregnancy and Childbirth*, *22*(1). https://doi.org/10.1186/s12884-022-04808-7

WHO. (2013). *World Health Organization WHO REPORT ON THE GLOBAL TOBACCO EPIDEMIC, 2013 Enforcing bans on tobacco advertising, promotion and sponsorsHip fresh and alive mpower Includes a special section on five years of progress*.

Yadassa Tesso, F., Woldesemayat, L. A., & Birhanu Kebede, D. (2017). Magnitude of Substance Use and Associated Factors among Pregnant Women Attending Jimma Town Public Health Facilities, Jimma Zone, Oromia Regional State Southwest Ethiopia. *Clinics in Mother and Child Health*, *14*(4). https://doi.org/10.4172/2090-7214.1000275

Yaya, S., Uthman, O. A., Adjiwanou, V., & Bishwajit, G. (2020). Exposure to tobacco use in pregnancy and its determinants among sub-Saharan Africa women: analysis of pooled cross-sectional surveys. *The Journal of Maternal-Fetal & Neonatal Medicine*, *33*(9), 1517–1525. https://doi.org/10.1080/14767058.2018.1520835

8. APPENDICES

8.1: Information sheet and voluntary consent form for the Head of public health Facility

1. Introduction

My name is **Wini Abdi** I am the principal Investigator of a study to be conducted in this public health facility for my Master's degree at Haramaya University, the College of Health and Medical Sciences. I kindly request you to lend me your attention to explain you about the study and your institution being selected as the study setting.

2. The Study/project title

Magnitude of tobacco use and associated factors among pregnant women attending ANC public health facilities in Harar Town and Dire Dawa City Adminstration, eastern Ethiopia.

3. Purpose or aim of the study

This study will asses the Magnitude of tobacco use and associated factors among pregnant women attending ANC public health facilities in Harar Town and Dire Dawa City Adminstration, Eastern Ethiopia and it aims to providing insights into the factors that influencet Tobacco use during pregnancy. By understanding these factors, the study can help to develop strategies to decrease rates of tobacco use among all pregnant women in the region. Overall, the main aim of this study is to write a thesis as a partial requirement for the fulfillment of a master's degree in Epidemiology for the investigator.

4. Procedure and duration

If you permit me to conduct this research, I will engage in interviews and key informant interview These interactions will be facilitated by trained data collectors, who will utilize a structured questionnaire to collect pertinent data that will support the investigation it will take 20 min for the interview, there are 31 questions to answer and 40 min for in-depth interview 14 quations and KII, there are 10 quations. Consequently, I would like to request your cooperation kindly.

5. Risk and benefits

The risk of participating in this study is very minimal, but only taking a few minutes from caregivers' time. There would not be any direct payment for participating in this study. However, the findings from this research may reveal important information for the local health planners.

6. Confidentiality

All the responses and results obtained from participants will be kept confidential using coding system whereby no one will have access to your response. Be sure that any part of this study will not be disclosed to third person no reference will be made in oral or written reports that could link participants to the research.

7. Rights

Participation for this study is a fully voluntary. The participants have the right to declare to participate or not in the study. If they decide not to participate, they have the right to withdraw from the study at any time and this will not label them for any loss of benefits, which they otherwise are entitled. They do not have to answer any question that they do not want to answer. The public health facilities has also the right to stop this study from being conducted if any misdeeds and unethical procedures are observed during the data collection process in the Hospital premises.

8. Contact address

If there are any questions or enquires any time about the study or the procedures, please contact: principal investigator Wini Abdi; Phone No: -+251933401243 Email:winiabdi20@gmail.comAs well as contact address of the Institutional Health Research Ethics Review Committee (IRERC) of the CHMS: Office phone: 0254662011: P.O.BOX: 235, Harar, Ethiopia.

9. Declaration of Informed Voluntary Consent:

I have read the participant information sheet. I have clearly understood the purpose of the research, the procedures, the risks and benefits, issues of confidentiality, the right of participation and the contact address for any queries. I have been given the opportunity to ask any questions for things that may have been unclear. I was informed that participant have the right to withdraw from the study at any time or not to answer any questions that they do not want. I am also informed that the facility has the right to stop this study from being conducted in the facility if any mislead and unethical procedure are observed during the data collection process in the health facility premises. Therefore,I declare my voluntary consent on behalf of _____management to allow this study to be conducted in the health facility with my initial (signature).

Name and signature of Head of Facility; _____Date_____

Name and Signature of PI ;_____Date_____

7.2. Information Sheet and Informed Voluntary Consent Form For Competent Adults: Ages ≥18 Years (English version)

1. Introduction:

My name is _____.I am working as a data collector for the study being conducted in this facility by Wini Abdi who is studying for her Master's degree at Haramaya University, the College of Health and Medical Sciences. I kindly request you to lend me your attention to explain you about the study and being selected as the study participant.

2. The study/project title:

Magnitude of tobacco use and associated factors among pregnant women attending ANC public health facilities in Harar Town and Dire Dawa City Adminstration, eastern Ethiopia.

3. Purpose/aim of the study:

This study will asses the Magnitude of tobacco use and associated factors among pregnant women attending ANC public health facilities in Harar Town and Dire Dawa City Adminstration, eastern Ethiopia and it aims to providing insights into the factors that influencet Tobacco use during pregnancy. By understanding these factors, the study can help to develop strategies to decrease rates of tobacco use among all pregnant womens in the region. Overall, the main aim of this study is to write a thesis as a partial requirement for the fulfillment of a master's degree in Epidemiology for the investigator.

4. Procedure and duration:

For quantitative study: If you are willing to participate in this research, I will be interviewing you using a questionnaire to provide me with pertinent data that is helpful for the study. There are 31 questions to answer, and I will fill out the questionnaire by interviewing you. The interview will take about 20 minutes, so I kindly request that you spare me this time for the interview.

For qualitative study: If you are willing to participate in this research, using a questionnaire to provide me with pertinent data that is helpful for the study. There are 10 to 14 questions to answer, and it will take about 40 minutes, so I kindly request that you spare me this time for the interview.

5. Risks and benefits:

The risk of being participating in this study is very minimal, but only taking few minutes from your time. There would not be any direct payment for participating in this study. But the findings from this research may reveal important information for the local health planners.

6. Confidentiality:

The information you will provide us will be confidential. There will be no information that will identify you in particular. The findings of the study will be general for the study community and will not reflect anything particular of individual persons or housing. The questionnaire will be coded to exclude showing names. No reference will be made in oral or written reports that could link participants to the research.

7. Rights:

Participation for this study is fully voluntary. You have the right to declare to participate or not in this study. If you decide to participate, you have the right to withdraw from the study at any time and this will not label you for any loss of benefits which you otherwise are entitled. You do not have to answer any question that you do not want to answer.

8. Contact address:

If there are any questions or enquires any time about the study or the procedures, please contact: principal investigator Wini Abdi; Phone No: -+251933401243 Email:winiabdi20@gmail.comAs well as contact address of the Institutional Health Research Ethics Review Committee (IRERC) of the CHMS: Office phone: 0254662011: P.O.BOX: 235, Harar, Ethiopia.

9. Declaration of informed voluntary consent:

I have read/ was read to me the participant information sheet. I have clearly understood the purpose of the research, the procedures, the risks and benefits, issues of confidentiality, the rights of participating and the contact address for any queries. I have been given the opportunity to ask questions for things that may have been unclear. I was informed that I have the right to withdraw from the study at any time or not to answer any question that I do not want. Therefore, I declare my voluntary consent to participate in this study with my initials (signature).

Name and signature of participant: _____ Date _____

Name and signature of Data Collector: _____ Date _____

8.3. Information Sheet and Informed Voluntary Consent Form For Competent Adults: Ages ≥18 Years (Amharic Version).

1. መግቢያ

ስሜ _____ ነው፡ እየተካሄደ ላለው ጥናት መረጃ ሰብሳቢ ሆኜ እየሰራሁ ነው። በዚህ ተቋም በዊኒ አብዲ በሀሮማያ ዩኒቨርሲቲ፣ በጤና እና ህክምና ሳይንስ ኮሌጅ ሁለተኛ ዲግሪዋን እየተማረች ነው። ስለ ጥናቱ እና የጥናት ተካፋይ ሆኖ መመረጥዎን ለማስረዳት ትኩረትዎን እንዲሰጡኝ በአክብሮት እጠይቃለሁ።

2. የጥናቱ / የፕሮጀክቱ ርዕስ

የትምባሆ አጠቃቀም መጠን እና በቅድመ ወሊድ ክትትል ላይ በሚሳተፉ ነፍሰ ጡር እናቶች መካከል ተዛማጅ ምክንያቶች በምስራቅ ኢትዮጵያ የሐረር ከተማ እና የድሬዳዋ ከተማ አስተዳደር የህዝብ ጤና ተቋማት ይሆናለ ።

3. የጥናቱ ዓላማ

ይህ ጥናት የትምባሆ አጠቃቀምን መጠን እና በቅድመ ወሊድ ክትትል ላይ በሚካፈሉ ነፍሰ ጡር እናቶች መካከል ተያያዥ ምክንያቶችን ይገመግማል በምስራቅ ኢትዮጵያ በሐረር ከተማ እና በድሬዳዋ ከተማ አስተዳደር የሚገኙ የህብረተሰብ ጤና ተቋማት እና በጉዳዩ ዙሪያ ግንዛቤዎችን ለመስጠት ያለመ ነው በእርግዝና ወቅት ትንባሆ አጠቃቀም ላይ ተጽእኖ ያሳድራል: እነዚህን ምክንያቶች በመረዳት ጥናቱ ሊረዳ የሚችልው በክልሉ ውስጥ ባሉ ነፍሰ ጡር እናቶች መካከል የትምባሆ አጠቃቀምን መጠን ለመቀነስ ስትራቴጂዎችን ማዘጋጀት በአጠቃላይ የዚህ ጥናት ዋና አላማ ለኤፒዲሚዮሎጂ የማስተርስ ድግሪውን ለማሟላት እንደ ከፊል መስፈርት ሆኖ ሪሰርች ለመጻፍ ነው።

4. ሂደት እና ቆይታ

ለኩአንቲታቲቭ ጥናት: በዚህ ጥናት ለመሳተፍ ፈቃደኛ ከሆኑ ለጥናቱ አጋዥ የሆኑ ተዛማጅ መረጃዎችን ለመስጠት መጠይቁን ተጠቅሜ ቃለ መጠይቅ አደርግልዎታለው የሚመለስ 31 ጥያቄዎች አሉ እና እርስዎን በመጠየቅ መጠይቁን እሞላለሁ ቃለ-መጠይቁ 20 ደቂቃ ያህል ይወስዳል ስለዚህ ለቃለ መጠይቅ ውድ ግዜዎን እንዲሰጡኝ በአክብሮት እጠይቃለሁ።

ለኩአሊታቲቭ ጥናት:- በዚህ ጥናት ላይ ለመሳተፍ ፈቃደኛ ከሆኑ መጠይቁን በመጠቀም ለጥናቱ አጋዥ የሆኑ ተዛማጅ መረጃዎችን ለእኔ ለመስጠት ከ10 እስከ 14 ጥያቄዎች አሉ ፣ እና 40 ደቂቃ ያህል ይወስዳል፣ ስለዚህ ለቃለ መጠይቅ ውድ ግዜዎን እንዲሰጡኝ በአክብሮት እጠይቃለሁ።

5. አደጋ እና ጥቅሞች

በዚህ ጥናት የመሳተፍ አደጋ በጣም አነስተኛ ቢሆንም ከጊዜዎ ጥቂት ደቂቃዎች ብቻ ነው የሚወስዱት። በዚህ ጥናት በመሳተፍ ምንም ዓይነት የገንዘብ ጥቅም አያገኝም። ይሁን እንጂ ከዚህ ጥናት የተገኙ ግኝቶች ለአካባቢው የጤና እቅድ አውጪዎች ጠቃሚ መረጃ ሊገልጹ ይችላሉ።

6. ምስጢራዊነት

ከተሳታፊዎች የተገኙ ምላሾች እና ውጤቶች በሙሉ ማንም ሰው ምላሽዎን ማግኘት የማይችልበትን የኮድ ስርዓት በመጠቀም ሚስጥራዊ ሆኖ ይቆያል። የዚህ ጥናት ማንኛውም ክፍል ለሦስተኛ ሰው እንደማይገለጽ እርግጠኛ ሁን ።

7. መብቶች

የዚህ ጥናት ተሳትፎ ሙሉ በሙሉ በፈቃደኝነት ነው:: በዚህ ጥናት ለመሳተፍም ሆነ ላለመሳተፍ የማወጅ መብት አልዎት። ለመሳተፍ ከወሰኑ, በማንኛውም ጊዜ ከጥናቱ የመውጣት መብት አለዎት እና ይህ እርስዎ ያለዎትን ጥቅማጥቅሞች ማጣት ላይ ምልክት አይሰጥዎትም. መመለስ የማትፈልገውን ማንኛውንም ጥያቄ ለመመለስ አይገደድም።

8. የአድራሻ

ስለ ጥናቱ ወይም አካሄዶቹ ማንኛውም አይነት ጥያቄ ወይም ጊዜ የሚጠይቅ ከሆነ እባክዎን ዋና መርማሪ - ይችላሉ ዊኒ አብዲ ስልክ ቁጥር፡-+251933401243 ኢሜል አድራሻ winiabdi20@gmail.com ያግኙ። እንዲሁም ኃላፊነት የሚሰማው የተቋማት ጤና ጥናትና ምርምር ሥነምግባር ገምጋሚ ኮሚቴ በመሥሪያ ቤት ስልክ 0254662011 አድራሻ ማግኘት ይቻላል።

9. በመረጃ ላይ የተመሰረተ የፈቃደኝነት ስምምነት መግለጫ :-

የተሳታፊውን የመረጃ ወረቀት አንብቤአለሁ። የጥናቱ ዓላማ፣ አካሄዶች፣ ስጋቶች እና ጥቅሞች፣ ሚስጥራዊ ጉዳዮች፣ የመሳተፍ መብቶች እና ለማንኛውም መጠይቆች የማግኛ አድራሻውን በግልፅ ተረድቻለሁ። ግልጽ ባልሆኑ ጉዳዮች ላይ ጥያቄዎችን እንድጠይቅ እድል ተሰጥቶኛል። በማንኛውም ጊዜ ከጥናቱ የመውጣት

ወይም የማልፈልገውን ማንኛውንም ጥያቄ ላለመመለስ መብት እንዳለኝ ተነገረኝ። ስለዚህ፣ በዚህ ጥናት የመጀመሪያ ሆኜ (ፊርማ) ላይ ለመሳተፍ የፈቃዴ ፈቃዴን አውጃለሁ።

የተሳታፊው ስም እና ፊርማ፡-_____ ቀን _____

የመረጃ ሰብሳቢ ስም እና ፊርማ፡_____ ቀን _____

8.4. Information Sheet and Informed Voluntary Consent Form For Competent Adults: Ages ≥ 18 Years (Afan Oromo Version).

1.Seensa

Maqaan koo _____.Qorannoo gaggeeffamaa jiruuf ragaa walitti qabaa ta'ee hojjechaa jira dhaabbata kana keessatti Yunivarsiitii Haramayaa, Kolleejjii Saayinsii Fayyaa fi Meedikaalaa keessatti digrii lammaffaa ishee barachaa kan jirtu Wiini Abdiin. Waa'ee qorannichaa fi hirmaataa qorannichaa ta'ee filatamuu kee akka siif ibsuuf xiyyeeffannoo keessan akka naaf liqeessitan kabajaan isin gaafadha.

2. Mata duree qo'annichaa/pirojektichaa

Guddina itti fayyadama tamboo fi wantoota kanaan walqabatan aomg dubartoota ulfaa dhaabbilee fayyaa hawaasaa baha Itoophiyaa Magaalaa Hararii fi Bulchiinsa Magaalaa Dire Dawaa keessatti kunuunsa farra dahumsaa irratti hirmaatan.

3. Kaayyoo qorannichaa:

Qorannoon kun Guddina itti fayyadama tamboo fi wantoota kanaan walqabatan ni madaala dubartoota ulfaa dhaabbilee fayyaa hawaasaa ANC Magaalaa Harar keessatti argaman keessaa fi Bulchiinsa Magaalaa Dire Dawaa, baha Ethiopiaand wantoota dhiibbaa uumuu danda'an irratti hubannoo kennuudhaaf kaayyeffateera Yeroo ulfaa tamboo xuuxuu. Qabxiilee kana hubachuudhaan qorannoon kun tooftaalee qopheessuuf gargaaruu danda'a dubartoota ulfaa naannichaa hunda biratti saffisa itti fayyadama tamboo hir'isuuf.Walumaagalatti kaayyoon qorannoo kanaa inni guddaan qorataadhaaf digrii lammaffaa Epidemiology guutuuf akka barbaachisummaa gartokkeetti barruu qorannoo barreessuudha.

4. Hojimaata fi yeroo turtii

Qoranno Kuantitativitif: Qorannoo kana irratti hirmaachuuf fedhii yoo qabaatte

Daataa barbaachisaa ta'e naaf kennuudhaaf gaaffilee fayyadamuun gaaffii fi deebii isiniif nan godha kan qo'annichaaf gargaarudha. Gaaffiiwwan 31 deebi'uu qabu, gaaffilee nan guuta gaaffii fi deebii si gochuudhaan. Gaaffii fi deebii gara daqiiqaa 20 waan fudhatuuf yeroo kana gaaffii fi deebii kanaaf akka na qusattan kabajaan isin gaafadha..

Qoranno Kualitaativitif ; Qorannoo kana irratti hirmaachuuf fedhii yoo qabaatte , gaaffilee fayyadamuun daataa barbaachisaa qorannichaaf gargaaru naaf kennuu. Gaaffilee 10 hanga 14

ta’an qaba deebisaa, gara daqiiqaa 40 kan fudhatu waan ta’eef yeroo kana gaaffii fi deebiidhaaf akka na qusattan kabajaan isin gaafadha.

5. Balaa fi faayidaa

Balaan qorannoo kana irratti hirmaachuu baayyee xiqqaadha garuu yeroo kee irraa daqiiqaa muraasa qofa fudhachuudhaan. Hirmaachuuf kaffaltiin kallattiin hin jiraatu ture qorannoo kana keessatti. Garuu argannoon qorannoo kanarraa argamu karoorsitoota fayyaa naannoo sanaaf odeeffannoo barbaachisaa ta’e mul’isuu mala.

6. Iccitii:

Odeeffannoon isin nuuf kennitan iccitii ta'a. Odeeffannoon addatti si adda baasu hin jiraatu. Argannoon qorannichaa hawaasa qorannichaaf waliigalaa kan ta’u yoo ta’u, namoota dhuunfaan kan adda hin calaqqisiifne ta’a. Gaaffiin maqaa agarsiisu akka hin dabalamneef koodii ni kennama. Gabaasa afaaniin ykn barreeffamaan hirmaattoota qorannicha waliin walqabsiisuu danda’u keessatti eeruun hin kennamu.

7. Mirgoota:

Qorannoon kanaaf hirmaannaan guutummaatti fedhii ofiitiin kan raawwatamudha. Qo’annoo kana irratti hirmaachuu fi dhiisuu kee labsuuf mirga qabda. Yoo hirmaachuuf murteessite yeroo barbaaddetti qo’annoo irraa ba’uuf mirga qabda kunis faayidaa kasaaraa karaa biraatiin siif malu kamiyyuu si hin mallatu. Gaaffii deebii kennuu hin barbaanne kamiyyuu deebisuun si hin barbaachisu.

8. Teessoo

Waa’ee qorannichaa ykn hojimaata yeroo kamiyyuu gaaffiin yoo jiraate: qorattu olaanaa-wini Abdi, lakkoofsa bilbila harkaa: +251933401243; Imeelii: winiabdi20@gmail.com qunnamaa. Akkasumas teessoo quunnamtii itti gaafatamummaa qabu koree gamaaggama naamusa qorannoo fayyaa dhaabbilee bilbila waajjira 0254662011 ykn P.O.Box 235, Harar, Ethiopia]

9. Ibsa hayyama tola ooltummaa beekumsa qabu :

Waraqaa odeeffannoo hirmaattotaa dubbiseera/ naaf dubbifameera. Kaayyoo qorannichaa, hojimaata, balaa fi faayidaa, dhimmoota iccitii, mirga hirmaachuu fi teessoo quunnamtii gaaffii kamiyyuu sirriitti hubadheera. Wantoota ifa hin taane ta’uu danda’aniif gaaffii akkan gaafadhu carraan naaf kennameera. Yeroo barbaadetti qo’annoo keessaa ba’uuf ykn gaaffii ani hin

barbaanne kamiyyuu deebisuu dhisuu mirga akkan qabu naaf himameera. Kanaafuu, qorannoo kana irratti hirmaachuuf fedhii kootiin hayyama koo qubee jalqabaa (mallattoo) kootiin nan ibsa.

Maqaa fi mallattoo hirmaataa:_____ _____ Guyyaa _____ .

Maqaa fi mallattoo Walitti qabaa Odeeffannoo:_____ Guyyaa _____ .

8.5. Information Sheet and Informed Voluntary Consent Form For Minors Age < 18 Years (English version)

1. Introd uction:

My name_____. I am working as a data collector for the study being conducted in this community by Wini Abdi who is studying for her Master's degree at Haramaya University, the College of Health and Medical Sciences. Your daughter is randomly selected to be participant in this study. I kindly request you to lend me your attention to explain you about the study and the daughter's participation.

2. The study/project title:

Magnitude of tobacco use and associated factors amomg pregnant women attending ANC public health facilities in Harar Town and Dire Dawa City Adminstration, eastern Ethiopia.

3. Purpose/aim of the study:

This study will asses the Magnitude of tobacco use and associated factors amomg pregnant women attending ANC public health facilities in Harar Town and Dire Dawa City Adminstration, eastern Ethiopia.and it aims to providing insights into the factors that influencet Tobacco use during pregnancy. By understanding these factors, the study can help to develop strategies to decrease rates of tobacco use among all pregnant womens in the region. Overall the main aim of this study is to write a thesis as a partial requirement for the fulfillment of a master's degree in Epidemiology for the investigator. Moreover, the result of the study will be used as evidence and input to plan for improvement of MCH service to pregnant women.

4. Procedure and duration:

For quantitative study: If you are willing to participate in this research, I will be interviewing you using a questionnaire to provide me with pertinent data that is helpful for the study. There are 31 questions to answer, and I will fill out the questionnaire by interviewing you. The interview will take about 20 minutes, so I kindly request that you spare me this time for the interview.

For qualitative study: If you are willing to participate in this research, using a questionnaire to provide me with pertinent data that is helpful for the study. There are 14 questions to answer,

and it will take about 40 minutes, so I kindly request that you spare me this time for the interview.

5. Risks and benefits:

The risk of being participating for your daughter in this study is very minimal; but only taking few minutes from your time. There would not be any direct payment for participating in this study. But the findings from this research may reveal important information for the local health planners.

6. Confidentiality:

The information that we will collect from this study will be confidential. There will be no information that will identify your daughter or yourself in particular. The findings of the study will be general for the study community and will not reflect anything particular of individual persons or housing. The data that we gather from the measurements will exclude showing names. No reference will be made in oral or written reports that could link participants to the research.

7. Rights:

Participation for this study is fully voluntary. You have the right to declare to allow your daughter to be involved in this study or not. If you would allow your daughter for this study, you have the right to withdraw her from the study at any time and this will not label you/your daughter for any loss of benefits which you/your daughter otherwise are entitled. You do not have to answer any question that you do not want to answer.

8. Contact address:

If there are any questions or enquires any time about the study or the procedures, please contact: principal investigator Wini Abdi; Phone No: -+251933401243 Email:winiabdi20@gmail.comAs well as contact address of the Institutional Health Research Ethics Review Committee (IRERC) of the CHMS: Office phone: 0254662011: P.O.BOX: 235, Harar, Ethiopia.

9. Declaration of informed voluntary consent:

I have read / was read to me about the participant information sheet. I have clearly understood the purpose of the research, the procedures, the risks and benefits, issues of confidentiality, the

rights of participating and the contact address for any queries. I have been given the opportunity to ask questions for things that may have been unclear. I was informed that I have the right to withdraw my daughter from the study at any time or not to answer any question that I do not want. Therefore, I declare my voluntary consent to allow my daughter to participate in this study with my initials (signature).

Name of the participant: _____(Assent affirmed if a minor age of 12-17 years_____)

Name and signature of parent/legal guardian/husband _____ Date: _____

Name and signature of Data Collector: _____ Date: _____

8.6 Information Sheet and Informed Voluntary Consent Form For Minors Age < 18 Years (Amharic Version)

1 መግቢያ:

ስሜ _____ ነው፡ እየተካሄደ ላለው ጥናት መረጃ ሰብሳቢ ሆኜ እየሰራሁ ነው። በዚህ ተቋም በዊኒ አብዲ በሀሮማያ ዩኒቨርሲቲ፣ በጤና እና ህክምና ሳይንስ ኮሌጅ ሁለተኛ ዲግሪዋን እየተማረች ነው። ሴት ልጃችሁ በዚህ ጥናት እንድትሳተፍ በአጋጣሚ ተመርጣለች ። ስለ ጥናቱና ስለ ልጇ ተሳትፎ ለማስረዳት ትኩረታችሁን እንድትሰጡኝ በትህትና እጠይቃችኋለሁ።

2. የጥናቱ / የፕሮጀክቱ ርዕስ

የትምባሆ አጠቃቀም መጠን እና በቅድመ ወሊድ ክትትል ላይ በሚሳተፉ ነፍሰ ጡር እናቶች መካከል ተዛማጅ ምክንያቶች በምስራቅ ኢትዮጵያ የሐረር ከተማ እና የድሬዳዋ ከተማ አስተዳደር የህዝብ ጤና ተቋማት ይሆናለ ።

3. የጥናቱ ዓላማ

መካከል ተያያዥ ምክንያቶችን ይገመግማል በምስራቅ ኢትዮጵያ በሐረር ከተማ እና በድሬዳዋ ከተማ አስተዳደር የሚገኙ የህብረተሰብ ጤና ተቋማት እና በጉዳዩ ዙሪያ ግንዛቤዎችን ለመስጠት ያለመ ነው በእርግዝና ወቅት ትንባሆ አጠቃቀም ላይ ተጽእኖ ያሳድራል: እነዚህን ምክንያቶች በመረዳት ጥናቱ ሊረዳ የሚችልው በክልሉ ውስጥ ባሉ ነፍሰ ጡር እናቶች መካከል የትምባሆ አጠቃቀምን መጠን ለመቀነስ ስትራቴጂዎችን ማዘጋጀት በአጠቃላይ የዚህ ጥናት ዋና አላማ ለኤፒዲሚዮሎጂ የማስተርስ ድግሪውን ለማሟላት እንደ ከፊል መስፈርት ሆኖ ሪሰርች ለመጻፍ ነው።

4. ሂደት እና ቆይታ

ለኩአንቲታቲቭ ጥናት: በዚህ ጥናት ለመሳተፍ ፈቃደኛ ከሆኑ ለጥናቱ አጋዥ የሆኑ ተዛማጅ መረጃዎችን ለመስጠት መጠይቁን ተጠቅሜ ቃለ መጠይቅ አደርግልዎታለው የሚመለስ 31 ጥያቄዎች አሉ እና እርስዎን በመጠየቅ መጠይቁን እሞላለሁ ቃለ-መጠይቁ 20 ደቂቃ ያህል ይወስዳል ስለዚህ ለቃለ መጠይቅ ውድ ግዜዎን ስለሰጡኝ በአክብሮት እጠይቃለሁ።

ለኩአሊታቲቭ ጥናት:- በዚህ ጥናት ላይ ለመሳተፍ ፈቃደኛ ከሆኑ መጠይቁን በመጠቀም ለጥናቱ አጋዥ የሆኑ ተዛማጅ መረጃዎችን ለእኔ ለመስጠት 14 ጥያቄዎች አሉ ፣ እና 40 ደቂቃ ያህል ይወስዳል፣ ስለዚህ ለቃለ መጠይቅ ውድ ግዜዎን ስለሰጡኝ በአክብሮት እጠይቃለሁ።

5. አደጋዎች እና ጥቅሞች:

በዚህ ጥናት ውስጥ ለልጅዎ በዚህ ጥናት ውስጥ የመሳተፍ አደጋ በጣም አነስተኛ ነው ግን ከእርስዎ ጊዜ ጥቂት ደቂቃዎችን ብቻ ይወስዳል። ለመሳተፍ ምንም አይነት ቀጥተኛ ክፍያ አይኖርም በዚህ ጥናት ውስጥ ነገር ግን የዚህ ጥናት ግኝቶች ለአካባቢው የጤና ተቋማተ እቅድ አውጪዎች ጠቃሚ መረጃን ሊያሳዩ (ሊሰጡ) ይችላሉ::

6. ሚስጥራዊነት

የምታቀርቡልን መረጃ ሚስጥራዊ ይሆናል። በተለይ ልጅዎን ወይም እራስዎን የሚለይ መረጃአይኖርም። ከዚህ ጥናት የምንሰበስበው መረጃ ሚስጥራዊ ይሆናል። የጥናቱ ግኝቶች ለጥናት ማህበረሰብ አጠቃላይ እና የግለሰብን ወይም የመኖሪያ ቤትን ምንም የሚያንፀባርቅ አይሆንም። መጠየቂያው ስሞችን ከማሳየት እንዲገለሉ ኮድ ይደረጋል። ተሳታፊዎችን ከጥናቱ ጋር ሊያገናኙ የሚችሉ የቃል ወይም የጽሁፍ ዘገባዎች ማጣቀሻ አይደረግም።

7. መብቶች

ለዚህ ጥናት ተሳትፎ ሙሉ በሙሉ በፈቃደኝነት የሚደረግ ነው ። ልጃችሁ በዚህ ጥናት እንድትካፈል ወይም እንዳትካፈል የመፍቀድ መብት አላችሁ ። ሴት ልጅህ በዚህ ጥናት ላይ እንድትገኝ ብትፈቅድላት በማንኛውም ጊዜ ከጥናቱ የመውጣት መብት አለህ መመለስ የማትፈልገውን ማንኛውንም ጥያቄ ለመመለስ አይገደድም።

8. የአድራሻ

ስለ ጥናቱ ወይም አካሄዶቹ ማንኛውም አይነት ጥያቄ ወይም ጊዜ የሚጠይቅ ከሆነ እባክዎን ዋና መርማሪ - ይችላሉ ዊኒ አብዲ ስልክ ቁጥር፡-+251933401243 ኢሜል አድራሻ winiabdi20@gmail.com

ያግኙ። እንዲሁም ታላፊነት የሚሰማው የተቋማት ጤና ጥናትና ምርምር ሥነምግባር ገምጋሚ ኮሚቴ በመሥሪያ ቤት ስልክ 0254662011 አድራሻ ማግኘት ይቻላል።

9. በመረጃ ላይ የተመሰረተ የፈቃደኝነት ስምምነት መግለጫ

የተሳታፊውን የመረጃ ወረቀት አንብቤአለሁ/ ተነቦልኛል። የጥናቱ ዓላማ፣ አካሄዶች፣ ስጋቶች እና ጥቅሞች፣ ሚስጥራዊ ጉዳዮች፣ የመሳተፍ መብቶች እና አድራሻቸውን ለማንኛውም ጥያቄ በግልፅ ተረድቻለሁ። ግልጽ ባልሆኑ ጉዳዮች ላይ ጥያቄዎችን እንድጠይቅ እድል ተሰጥቶኛል። በማንኛውም ጊዜ ከጥናቱ የመውጣት ወይም የማልፈልገውን ማንኛውንም ጥያቄ ላለመመለስ መብት እንዳለኝ ተነገረኝ። ስለዚህ፣ በዚህ ጥናት የመጀመሪያ ሆኜ (ፊርማ) ለመሳተፍ በፈቃደኝነት መስማማቴን አውጃለሁ።

የተሣታፊው ስም፡- _____(ከ12-17 አመት እድሜው ያልደረሰ ከሆነ የተረጋገጠ ማረጋገጫ)

የወላጅ/ህጋዊ አሳዳጊ ስም እና ፊርማ:- _____ ቀን፡ _____

የመረጃ ሰብሳቢ ስም እና ፊርማ:-_____ ቀን፡ _____

8.7 Information Sheet and Informed Voluntary Consent Form For Minors Age < 18 Years (Affan Oromo Vresion)

1. Seensa:

Maqaan koo_____ Qorannoo hawaasa kana keessatti Wiini Abdiin gaggeeffamaa jiruuf ragaa walitti qabaa ta'ee hojjechaa jira kan Yuunivarsiitii Haramayaa , Kolleejjii Fayyaa fi Saayinsii Fayyaa keessatti digrii lammaffaa ishee barachaa jirtu . Mucaan keessan qorannoo kana irratti hirmaataa akka ta'uuf akka tasaa filatama. Waa'ee qorannichaa fi hirmaannaa daa'imaa akka isiniif ibsuuf xiyyeeffannoo keessan akka naaf liqeessitan kabajaan isin gaafadha.

2. Mata duree qo'annichaa/pirojektichaa:

Guddina itti fayyadama tamboo fi wantoota kanaan walqabatan aomg dubartoota ulfaa dhaabbilee fayyaa hawaasaa baha Itoophiyaa Magaalaa Hararii fi Bulchiinsa Magaalaa Dire Dawaa keessatti kunuunsa farra dahumsaa irratti hirmaatan

3.kaayyoo qorannichaa:

Qorannoon kun Guddina itti fayyadama tamboo fi wantoota kanaan walqabatan amomg dubartoota ulfaa dhaabbilee fayyaa hawaasaa kunuunsa Farra dahumsaa irratti hirmaatan Magaalaa Hararii fi Bulchiinsa Magaalaa Dire Dawaa, Baha Ethiopia keessatti kan madaalu yoo ta'u, wantoota yeroo ulfaa itti fayyadama Tamboo irratti dhiibbaa geessisan irratti hubannoo kennuu kan kaayyeffate dha.

4. Hojimaata fi yeroo:

Yoo qorannoo kana irratti hirmaachuuf fedhii qabaattan, daataa barbaachisaa qorannichaaf gargaaru naaf kennuudhaaf gaaffilee fayyadamee isin gaafadha. Gaaffiiwwan 31 deebisuuf kan jiran yoo ta'u, gaaffii fi deebii isiniin godheen guuta. Gaaffii fi deebii gara daqiiqaa 20 waan fudhatuuf yeroo kana gaaffii 14 fi deebii kanaaf akka na qusattan kabajaan isin gaafadha.

5. Balaa fi faayidaa:

Balaan qorannoo kana irratti daa'ima keessaniif hirmaachuu baay'ee xiqqaadha; garuu yeroo kee irraa daqiiqaa muraasa qofa fudhachuudhaan. Qorannoon kana irratti hirmaachuuf

kaffaltiin kallattiin hin jiraatu ture. Garuu argannoon qorannoo kanarraa argamu karoorsitoota fayyaa naannoo sanaaf odeeffannoo barbaachisaa ta'e mul'isuu mala.

6. Iccitii:

Odeeffannoon qorannoo kana irraa walitti qabnu iccitii ta'a. Odeeffannoon daa'ima keessan ykn ofuma keessan addatti adda baasu hin jiraatu. Argannoon qorannichaa hawaasa qorannichaaf waliigalaa kan ta'u yoo ta'u, namoota dhuunfaa ykn mana jireenyaa adda ta'e kan hin calaqqisiifne ta'a. Daataan safartuuwwan irraa walitti qabnu maqaa agarsiisuu ni hambisa. Gabaasa afaaniin ykn barreeffamaan hirmaattoota qorannicha waliin walqabsiisuu danda'u keessatti eeruun hin kennamu.

7. Mirgoota:

Qorannoon kanaaf hirmaannaan guutummaatti fedhii ofiitiin kan raawwatamudha. Mucaan keessan qorannoo kana keessatti akka hirmaatu hayyamuu fi dhiisuu isaa labsuuf mirga qabdu. Yoo daa'ima kee qorannoo kanaaf hayyamte, yeroo barbaaddetti qo'annoo keessaa baasuuf mirga qabda kunis faayidaa ati/daa'imni kee karaa biraatiin mirga qabdu kamiyyuu si/mucaa kee irratti maqaa hin moggaasu. Gaaffii deebii kennuu hin barbaanne kamiyyuu deebisuun si hin barbaachisu.

8. Teessoo quunnamtii:

Waa'ee qorannichaa ykn hojimaata yeroo kamiyyuu gaaffiin ykn gaaffii yoo jiraate: qorataa muummichaa Wini Abdi; Lakk bilbilaa: -+251933401243 Email : winiabdi20@gmail.com Akkasumas teessoo quunnamtii koree gamaaggama naamusa qorannoo fayyaa dhaabbilee (IRERC) CHMS: Bilbila waajjira: 0254662011: POBOX: 235, Harar , Ethiopia.

9. Ibsa hayyama tola ooltummaa beekumsa qabu: 1.1.

Waraqaa odeeffannoo hirmaattotaa dubbiseera. Kaayyoo qorannichaa, hojimaata, balaa fi faayidaa, dhimmoota iccitii, mirga hirmaachuu fi teessoo quunnamtii gaaffii kamiyyuu sirriitti hubadheera. Wantoota ifa hin taane ta'uu danda'aniif gaaffii akkan gaafadhu carraan naaf kennameera. Yeroo barbaadetti mucaa koo qo'annoo keessaa baasuu ykn gaaffii ani hin barbaanne kamiyyuu deebisuuf mirga akkan qabu naaf himameera. Kanaaf, mucaan koo qubee jalqabaa (mallattoo) kootiin qorannoo kana irratti akka hirmaatu hayyamuuf fedhii kootiin hayyama koo nan ibsa .

Maqaa hirmaataa: _____ (Hayyamni kan mirkanaa'e yoo umuriin isaa xiqqaan waggaa 12-17 ta'e_____)

Maqaa fi mallattoo warraa/guddistuu seeraa: _____ Guyyaa: _____.

Maqaa fi mallattoo Walitti qabaa Odeeffannoo: _____ Guyyaa: _____.

8.8. Questionnaire for Quantitative

PART I- Sociodemographic Information

No.	Question	Response	Skip
1	Residence area	☐ Urban ☐ Rural	
2	Age in complete years	_____	
3	Current marital status? (circle one)	☐ Single ☐ Married ☐ Divorced ☐ Widowed	
4	Main occupation of participants	☐ Housewife ☐ Farmer ☐ Government employe ☐ Private employee ☐ Daily laborer ☐ Merchant ☐ Student ☐ Others [specify]_	
5	Main occupation (of husband/partner)	☐ Farmer ☐ Government employe ☐ Private employee ☐ Daily laborer ☐ Merchant ☐ Others [specify]	
6	Educational status	☐ Unable to read and write ☐ Primary (1-8) ☐ Secondary(9-12) ☐ College and above	
7	Husband/partner educational level	☐ Unable to read and write ☐ Primary(1-8) ☐ Secondary(9-12) ☐ College and above	

Part II. Maternity and pregnancy conditions.

No.	Quation	Response	skip
11	How many months pregnant are you?(recored number of completed month)	Month…… Don't know……	
12	When you got pregnant , did you want to get pregnant at that time	☐ Yes ☐ No	
13	During your life, how many times have you become pregnant including the current pregnancy(including a pregnancy that miscarried , was aborted, or ended in still birth)	……..	
14	During your life, how many times have you given live birth?(I mean, to a child who ever breathed or sried or showed other signs of life-event if he she lived only few minute or hours)	…….. times	
15	Have you ever had pregnancy that miscarried, was aborted,or ended in stillbirth	☐ Yes ☐ No	
16	During antenatal care visit, were you advised To quit or not to use tobacco	☐ Yes ☐ No	

Part III Medical and behavorial related factors

No.	Quation	Response	Skip
17	Do you have any chronic comorbidity/diseases (DM, HTN, CHF, TB,CA, HIV, etc)	☐ Yes ☐ No	
18	Have you ever taken alcoholic drinks? (Like beer, whisky, "Tela", "Areqe","Tej" etc..)	☐ Yes ☐ No	
19	Have you ever chew khat ?	☐ Yes ☐ No	
21	Are you aware of the potential health risks associated with tobacco use during pregnancy	☐ Yes ☐ No	

Part IV. TOBACCO USE RELATED QUESTIONS

No.	Question	Response	Skip
21	Have you ever used any form of tobacco (cigarettes, pipes,cigars,and smokeless tobacco),even one or two puffs?	☐Yes ☐ No	
22	During 3 months before you got pregnanat, were you using any form of tobacco(cigarettes,pipes,cigars,and smokeless tobacco),even one or two puffs?	☐Yes ☐ No	
23	Have you used tobacco during current pregnancy even one or two puffs?	☐ Yes ☐ No	
24	What types of tobacco do you use during current pregnancy?(more than one answer is possible)	☐ cigarettes ☐ Gaya ☐ Other (specify) _____	
25	What reason have lead you to use tobacco products during pregnancy?	☐ Addiction ☐ coping mechanism for stress or depression ☐social norm ☐ replacement for other substance use ☐ other (specify)_____	
26	Individuals living with you smoke.	☐ Yes ☐ No	

27	If yes, what is their relationship with you		
28	During the past 12 months, did you ever try *to quit* smoking?	☐ Yes ☐ No	
29	Are you aware of any public health campaigns or educational programs related to the risks of tobacco use during pregnancy?	☐ Yes ☐ No	
30	Are you aware of any cessation support services available to pregnant women who want to quit tobacco use?	☐ Yes ☐ No	
31	Do you intend to quit using tobacco products during your pregnancy?	☐ Yes ☐ No	

8.9. Amharic Version Questionnaire

ክፍል I- አጠቅላይ መረጃ

ተ.ቁ ጥር	ጥያቄዎች	መልሶች	ዝለል
1	የመኖሪያ አካባቢ	☐ የከተማ ☐ ገጠር	
2	ዕድሜ በዓመት	_____	
3	የጋብቻ ሁኔታ?	☐ ያላገባ ☐ ያገባ ☐ የተፋታ ☐ ባል የሞተባት	
4	የተሳታፊዎች ዋና ሥራ	☐ የቤት እመቤት ☐ ገበሬ ☐ የመንግስት ሰራተኛ ☐ የግል ሰራተኛ ☐ የቀን ሰራተኛ ☐ ነጋዴ ☐ ተማሪ ☐ ሌሎች [ይግለጹ]_____	
5	የባል ዋና ሥራ	☐ ገበሬ ☐ የመንግስት ሰራተኛ ☐ የግል ሰራተኛ ☐ የቀን ሰራተኛ ☐ ነጋዴ ☐ ሌሎች [ይግለጹ]	
6	የትምህርት ደረጃ	☐ ማንበብ እና መፃፍ አልችልም	

ተ.ቁ ጥር	ጥያቄዎች	መልሶች	ዝለል
		☐ የመጀመሪያ ደረጃ ትምህርት ቤት (1-8) ☐ ሁለተኛ ደረጃ ትምህርት ቤት (9-12) ☐ ዲፕሎማ እና ከዚያ በላይ	
7	ባል/አጋር የትምህርት ደረጃ	☐ ማንበብ እና መፃፍ አልችልም ☐ የመጀመሪያ ደረጃ ትምህርት ቤት (1-8) ☐ ሁለተኛ ደረጃ ትምህርት ቤት (9-12) ☐ ዲፕሎማ እና ከዚያ በላይ	

ክፍል II. የወሊድ እና የእርግዝና ሁኔታዎች.

ቁጥር	_የጥያቄዎች	ምላሽ	ዝለል
11	የስንት ወር ነፍሰ ጡር ነሽ? (የተጠናቀቀው ወር)	ወር..... አላውቅም.....	
12	ነፍሰ ጡር ስትሆኝ በዚያን ጊዜ ለማርገዝ ፈልገሽ ነበር?	☐አዎ ☐አይ	

13	በህይወትዎ ወቅት፣ የአሁኑን እርግዝና ጨምሮ ስንት ጊዜ አረገዘሽ (የጨነገፈ፣ የተቋረጠ እርግዝና)	.....	
14	በህይወትዎ ውስጥ ስንት ጊዜ ወልደዋል ? (ማለቴ ትንፋሹን ወይም ለቅሶን ወይም ሌሎች የህይወት ምልክቶችን ላሳየ ልጅ ለጥቂት ደቂቃዎች ወይም ሰዓታት ብቻ ከኖረ)	.....	
15	የጨነገፈ፣ የተቋረጠ፣ ወይም በሞት የተወለደ እርግዝና ኖሮዎት	☐አዎ ☐አይ	
16	በቅድመ ወሊድ እንክብካቤ ጉብኝት ወቅት,ምክር አግኝተዋል ሲጋራ ለመተው ወይም ላለመጠቀም	☐አዎ ☐አይ	

ክፍል III ከህክምና እና ከባህሪ ጋር የተያያዙ ምክንያቶች

ቁጥር	የጥያቄዎች	ምላሽ	ዝለል
17	ማንኛውም ሥር የሰደደ ሕመም/በሽታ አለብሽ (ስኳር ,ደም ግፊት, ቲቢ ,ኤችኤቪ ወዘተ)	☐አዎ ☐አይ	

18	የአልኮል መጠጦችን ወስደው ያውቃሉ? (እንደ ቢራ፣ ውስኪ፣ “ጠላ”፣ “አረቄ”፣ተጅ” ወዘተ.)	☐አዎ ☐አይ	
19	ጫት ቅመሽ ታውቃለሽ?	☐አዎ ☐አይ	
20	በእርግዝና ወቅት ከትንባሆ አጠቃቀም ጋር ተያይዘው ሊከሰቱ የሚችሉ የጤና አደጋዎችን ያውቃሉ	☐አዎ ☐አይ	

ክፍል IV. ከትንባሆ አጠቃቀም ጋር የተያያዙ ጥያቄዎች

ቁጥር	ጥያቄዎች	ምላሽ	ዝለል
21	ምንም አይነት የትምባሆ አይነት (ሲጋራ፣ሺሻ ፣ጋያ እና ጭስ የሌለው ትንባሆ) አንድ ወይም ሁለት አይነት ተጠቅመውያውቃሉ?	☐አዎ ☐አይ	
22	ከመፀነስዎ በፊት ባሉት 3 ወራት ውስጥ የትኛውንም አይነት ትምባሆ(ሲጋረ) እየተጠቀሙ ነበር።(ሲጋራ፣ሺሻ ፣ጋያ እና ጭስ የሌለው ትንባሆ) አንድ ወይም ሁለት ሁለት አይነት ተጠቅመው ያውቃሉ?	☐አዎ ☐አይ	

23	በአሁኑ እርግዝና ወቅት አንድ ወይም ሁለት ዓይነት ትንባሆዎች ተጠቅመዋል?	☐አዎ ☐አይ	
24	በአሁኑ እርግዝና ወቅት ምን ዓይነት የትምባሆ ዓይነቶች ይጠቀማሉ? (ከአንድ በላይ መልስ ይቻላል)	☐ጋያ ☐ትንባሆ ☐ሺሻ ☐ሌላ (ይግለጹ) _____	
25	በእርግዝና ወቅት የትምባሆ ምርቶችን እንድትጠቀም ያደረገህ ምክንያት ምንድን ነው? ?	☐ ሱስ ☐ ጭንቀትን ወይም ድብርትን የመቋቋም ዘዴ ☐ማህበራዊ ባህል ☐ ለሌላ ንጥረ ነገር ምትክ ☐ ሌላ (ይግለጹ)_____	
26	ከእርስዎ ጋር የሚኖሩ ግለሰቦች ያጨሳሉ።	☐አዎ ☐አይ	
27	አዎ ከሆነ፣ ከእርስዎ ጋር ያላቸው ግንኙነት ምንድን ነው?		
28	ባለፉት 12 ወራት ማጨስ ለማቆም ሞክረው ያውቃሉ?	☐አዎ ☐አይ	

29	በእርግዝና ወቅት ከትንባሆ አጠቃቀም አደጋዎች ጋር የተያያዙ ማንኛውንም የህዝብ ጤና ዘመቻዎችን ወይም ትምህርታዊ ፕሮግራሞችን ያውቃሉ?	☐አዎ ☐አይ	
30	ትምባሆ (ሲጋራ) መጠቀምን ለማቆም ለሚፈልጉ ነፍሰ ጡር ሴቶች የሚሰጠውን የማቆም ድጋፍ አገልግሎት ያውቃሉ?	☐አዎ ☐አይ	
32	በእርግዝና ወቅት የትምባሆ ምርቶችን መጠቀም ለማቆም አስበዋል ?	☐አዎ ☐አይ	

8.10. Afaan Oromo Version Questionnaire

KUTAA I: Odeeffannoo Waliigalaa Fi Odeeffannoo Dhuunfaa

Lakk	Gaaffii	Deebii	Darbuu
1	Naannoo jireenyaa	☐Magaalaa ☐Baadiyyaa	
2	Umuriin waggoota guutuu keessatti	_____	
3	Haala gaa'elaa yeroo ammaa?	☐Tokkicha ☐Gaa'ela godhate ☐Hiikkaan ☐Dubartoota abbaan manaa irraa du'e	
4	Hojii ijoo hirmaattotaa	☐Haadha manaa ☐Qonnaan bulaa ☐Hojjetaa mootummaa ☐Hojjetaa dhuunfaa ☐Hojjetaa guyyaa guyyaa ☐Daldalaa ☐Barataa ☐Kanneen biroo [ibsi _____	
5	Hojii ijoo (kan abbaa warraa/hiriyaa gaa'elaa) .	☐Qonnaan bulaa ☐Hojjetaa mootummaa ☐Hojjetaa dhuunfaa ☐Hojjetaa guyyaa guyyaa ☐Daldalaa ☐Kanneen biroo [ibsi].	
6	Haala barnootaa	☐Dubbisuu fi barreessuu dadhabuu ☐Sadarkaa sadarkaa tokkoffaa (1-8) .	

Lakk	Gaaffii	Deebii	Darbuu
		☐Sadarkaa Lammaffaa(9-12) . ☐Kolleejjii fi isaa ol	
7	Sadarkaa barnootaa abbaa warraa	☐Dubbisuu fi barreessuu dadhabuu ☐Sadarkaa(1-8) ☐Sadarkaa Lammaffaa(9-12) . ☐Kolleejjii fi isaa ol	

Kutaa II. Haala dahumsaa fi ulfaa.

Lakk	Gaaffii	Deebii	Darbuu
11	Ulfa ji'a meeqa qabda? (lakkoofsa galmee ji'a xumurame)	ji'a …… Don't know……	
12	Yeroo ulfoofte, yeroo sanatti ulfa ta'uu barbaaddee	☐Eeyyee ☐Lakki	
13	Jireenya kee keessatti ulfa amma jirtu dabalatee yeroo meeqa ulfoofte		

	(ulfa ulfi ba’e , ulfa ba’e, ykn du’ee da’umsaatiin xumurame dabalatee) .	……..	
14	Jireenya kee keessatti yeroo meeqa lubbuun deesse? (Daa'ima hafuura baafate ykn Boo'e ykn mallattoo jireenyaa-taatee biroo agarsiise jechuu kooti yoo inni isheen daqiiqaa ykn sa'aatii muraasa qofa jiraate)	_____	
15	Ulfi ulfi irraa ba’e, ulfa irraa ba’e ykn du’ee da’ee xumurame qabaattee beektaa	☐ Eeyyee ☐ Lakki	
16	Yeroo daawwannaa kunuunsa dahumsa duraa, gorfamanii turan Tamboo dhiisuu fi dhiisuu	☐ Eeyyee ☐ Lakki	

Kutaa III Qabxiilee yaalaa fi amala waliin walqabatan

Lakki.	**Gaaffii**	**Deebii**	**Darbuu**
17	Dhukkubbii/dhukkuba yeroo dheeraa kamiyyuu qabda (sukkaara, dhiibbaa dhiigaa, TB, HIV, etc)	☐Eeyyee ☐Lakki	

	(DM, HTN, CHF, TB,CA, HIV, etc)		
18	Dhugaatii alkoolii dhugdee beektaa? (Akkuma biiraa, wiiskii, “Tela”, “Areqe”,”Tej” fi kkf.)	☐Eeyyee ☐Lakki	
19	Jimaa qematee beektaa ?	☐Eeyyee ☐Lakki	
20	Balaa fayyaa yeroo ulfaa tamboo dhuguun walqabatee dhufuu danda'u ni beektaa	☐Eeyyee ☐Lakki	

Kutaa Iv. Gaaffiilee Itti Fayyadama Tamboo Walqabate

Lakki.	Gaaffii	Deebii	Darbuu
21	Tamboo bifa kamiinuu fayyadamtee beektaa (sigaaraa, tuuboo,sigaaraa,fi tamboo aarri hin qabne),tokko lama illee afuufuu?	☐ Eeyyee ☐ Lakki	

22	Ji'a 3 osoo hin ulfaa'iin dura, tamboo bifa kamiinuu fayyadamaa turtee (sigaaraa s, tuuboo ,sigaaraa, fi tamboo aarri hin qabne),tokko ykn lama illee afuufuu?	☐ Eeyyee ☐ Lakki	
23	Yeroo ulfa ammaa tamboo xuuxuu tokko ykn lama illee fayyadamteettaa?	☐ Eeyyee ☐ Lakki	
24	Yeroo ulfa ammaa gosa tamboo akkamii fayyadamtu?(deebii tokkoo ol ni danda'ama)	☐sigaaraa ☐ Gaayyaa ☐Kanneen biroo (ibsi) . _____	
25	Yeroo ulfaa oomisha tamboo akka fayyadamtan sababni maali?	☐ araada ☐ mala dhiphina ykn dhiphina sammuu dandamachuu ☐seera hawaasummaa ☐ bakka bu'iinsa fayyadama wantoota biroo ☐ kan biroo (ibsu)_____ .	

26	Namoonni dhuunfaa si waliin jiraatan tamboo xuuxu.	☐ Eeyyee ☐ Lakki	
27	Yoo eeyyee ta'e hariiroon isaan si waliin qaban maali		
28	Ji’oota 12 darban keessatti tamboo xuuxuu dhiisuuf yaaltee beektaa?	☐ Eeyyee ☐ Lakki	
29	Duula fayyaa hawaasaa ykn sagantaa barnootaa balaa fayyadama tamboo yeroo ulfaa wajjin walqabatu ni beektu?	☐ Eeyyee ☐ Lakki	
30	Tajaajilli deeggarsa dhaabuu dubartoota ulfaa tamboo xuuxuu dhiisuu barbaadaniif kennamu ni beektu?	☐ Eeyyee ☐ Lakki	
31	Yeroo ulfaa oomisha tamboo fayyadamuu dhiisuuf yaaddee?	☐ Eeyyee ☐ Lakki	

8.11. Semi-Structured Questionnaire For Qualitative Study For Tobacco User Pregnant Women.

1. Can you tell me how you started using tobacco during pregnancy?
2. What led you to start using tobacco products during your pregnancy, if applicable?
3. How has tobacco use affected your daily life and routines during pregnancy?
4.What do you know about the potential risks and health effects of tobacco use on both you and your unborn child during pregnancy?
5.How do you perceive the attitudes and behaviors of those around you, such as family members and friends, towards tobacco use during pregnancy?
6.Have you encountered any cultural beliefs or social pressures that may influence your decisions regarding tobacco use during pregnancy?
7.What are your thoughts and intentions regarding your tobacco use after your pregnancy?
8.What factors would influence your decision to continue or quit using tobacco products after giving birth?
9.How do you think tobacco use might impact your pregnancy, delivery, and the health of your baby?
10.How has your tobacco use influenced your perception of being a mother and your responsibilities towards your child's health?
11.What factors or circumstances have made it challenging for you to quit using tobacco products during your pregnancy?
12. Have you faced any situations where you felt tempted to use tobacco despite your intentions to quit? How did you manage those situations?
13. Based on your experiences, what kind of support or assistance do you think would be most helpful for pregnant women who want to quit using tobacco products?
14. Is there anything else you would like to share about your journey with tobacco use during pregnancy, including any insights or lessons you've gained?

Thank you and END!!!!!

8.12. Semi-Structured Questionnaire For Qualitative Study For Tobacco User Pregnant Women (Amharic Version)

1. በእርግዝና ወቅት እንዴት ትምባሆ መጠቀም እንደጀመሩ ልትነግሩኝ ይችላሉ?

2. በእርግዝና ወቅት የትምባሆ ምርቶችን መጠቀም እንድትጀምር ያደረግዎ ምክንያት ምንድን ነው?

3. ትምባሆ መጠቀም በእርግዝና ወቅት በዕለት ተዕለት ሕይወትዎ ላይ ምን ተጽዕኖ አሳድሯል?

4. ትምባሆ መጠቀም በእርግዝና ወቅት በእርሶ እና በፅንሱ ላይ ስለሚያስከትላቸው አደጋዎች እና የጤና ችግሮች ምን ያውቃሉ?

5. በአካባቢዎ ያሉ እንደ የቤተሰብ አባላት እና ጓደኞች ያሉ በእርግዝና ወቅት ትንባሆ አጠቃቀምን በተመለከተ ያላቸውን አመለካከት እና ባህሪ እንዴት ይገነዘባሉ?

6. በእርግዝና ወቅት ትንባሆ አጠቃቀምን በሚመለከቱ ውሳኔዎችዎ ላይ ተጽእኖ የሚያሳድሩ ባህል ፣ እምነቶች ወይም ማህበራዊ ጫናዎች አጋጥሞዎታል?

7. ከእርግዝናዎ በኋላ ስለ ትምባሆ አጠቃቀምዎ ምን ሀሳቦች እና አላማዎች አሉ?

8. ከወሊድ በኋላ የትምባሆ ምርቶችን መጠቀም ለመቀጠል ወይም ለማቆም በሚወስኑት ውሳኔ ላይ ተጽዕኖ የሚያሳድሩ ነገሮች/ሁኔታዎች ምንድን ናቸው?

9. ትንባሆ መጠቀም በእርግዝናዎ፣ በወሊድዎ እና በልጅዎ ጤና ላይ ምን ተጽእኖ ሊኖረው ይችላል ብለው ያስባሉ?

10. የትምባሆ አጠቃቀምዎ እናት የመሆንዎ እና በልጅዎ ጤና ላይ ባለዎት ሀላፊነት ላይ ተጽእኖ ያሳድራል? እንዴት?

11. በእርግዝና ወቅት የትምባሆ ምርቶችን መጠቀም ለማቋረጥ/ለማቆሞ ፈታኝ ያደረጉት የትኞቹ ሁኔታዎች ናቸው?

12. ትንባሆ ለማቆም ሲያስቡ የተፈተኑበት ሁኔታዎች አጋጥመውዎት ያውቃሉ? እነዚያን ሁኔታዎች እንዴት ተቆጣጠሩት?

13. ከተሞክሮዎ በመነሳት የትምባሆ ምርቶችን መጠቀም ለማቆም ለሚፈልጉ ነፍሰጡር ሴቶች ምን አይነት ድጋፍ ወይም እርዳታ ጠቃሚ ነው ብለው ያስባሉ?

14. በእርግዝና ወቅት ከትንባሆ አጠቃቀም ጋር ስለ ጉዞዎ ማካፈል የሚፈልጉት ነገር አለ፣ ያገኛችሁትን ግንዛቤ ወይም ትምህርት ጨምሮ?

አመሰግናለሁ !!!!!

8.13. Semi-Structured Questionnaire For Qualitative Study For Tobacco User Pregnant Women (Afaan Oromo Version)

1. Yeroo ulfaa akkamitti tamboo fayyadamuu akka jalqabde natti himuu dandeessaa?

2.Yeroo ulfaa keessanitti oomisha tamboo fayyadamuu akka jalqabdan maaltu isin taasise?

3.Tamboo dhuguun jireenya guyyaa guyyaa fi hojiiwwan yeroo ulfaa keessanitti dhiibbaa akkamii geessiseera?

4. Waa'ee balaa fi dhiibbaa fayyaa fayyadamni tamboo yeroo ulfaa siifi daa'ima kee isa garaa keessa jiru irratti fiduu danda'u maal beekta?

5. Ilaalchaa fi amala namoota naannoo kee jiran kan akka miseensonni maatii fi hiriyyoonni yeroo ulfaa tamboo xuuxuu irratti qaban akkamitti ilaalta?

6. Amantii aadaa ykn dhiibbaan hawaasummaa yeroo ulfaa tamboo fayyadamuu ilaalchisee murtoo gootu irratti dhiibbaa uumuu danda'u si mudateeraa?

7. Ulfa booda tamboo fayyadamuu ilaalchisee yaadni fi akeekni keessan maali?

8. Erga deessee booda oomisha tamboo fayyadamuu itti fufuuf ykn dhiisuuf murtoo gootu irratti wantoota dhiibbaa geessisan maali?

9. Tamboo fayyadamuun ulfa kee, da'umsa kee fi fayyaa daa'ima keetii irratti dhiibbaa akkamii geessisuu danda'a jettee yaaddaa?

10. Tamboo dhuguun keessan ilaalcha haadha ta'uu keessanii fi itti gaafatamummaa fayyaa daa'ima keessaniif qabdu irratti dhiibbaa akkamii geessiseera?

11. Yeroo ulfaa oomisha tamboo fayyadamuu dhiisuun akka sitti ulfaate wantoota ykn haalli akkamii?

12. Tamboo dhiisuuf yaaddullee tamboo dhuguuf qoramni sitti dhaga'ame si mudatee jiraa? Haalota sana akkamitti bulchite?

13. Muuxannoo keessan irratti hundaa'uun dubartoota ulfaa oomisha tamboo fayyadamuu dhiisuu barbaadaniif deeggarsa ykn gargaarsi akkamii baay'ee gargaara jettanii yaaddu?

14. Hubannoo ykn barumsa argatte dabalatee waa'ee imala kee yeroo ulfaa tamboo fayyadamuu wajjin goote kan biraan qooduu barbaaddu jiraa?

Galatoomaa ! ! !

8.11. Curriculum vitae (CV)

WINI ABDI BESHIR

Tel +251 933401243 Email: winiabdi20@gmail.com

PERSONAL DATA.

Name	**WINI ABDI BESHIR**
Sax	Female
Date of Birth	AUG 5/1998
Nationality	Ethiopian
Address	Tel: +251-933401243 (Mobile)
	Email: **winiabdi20**@gmail.com.

EDUCATIONAL BACKGROUND

- Preparatory school : SOS Children's village school, Harar (2007-2008 E.C)
- Secondary school : SOS Children's Village School, Harar (2005-2006 E.C)
- Primary school : SOS Children's Village School, Harar (2000-2003 E.C)
- BSc degree in Public health (February 27, 2021 G.C.) at Bethel medical Collage

PROFESSIONAL EXPERIENCE

October 2021- October 2023 ; working at private clinic , MAYA medium clinic in maya city

Activities:

- Working as a clinician in OPD.
- Working as manager.

LANGUAGE ABILITIES or SKILLS

Languages	Listening	Speaking	Reading	Writing
Afaan Oromo	very good	very good	very good	very good
Amharic	Excellent	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent	Excellent

OTHER SKILLS

- Microsoft Applications (Excel, PowerPoint, Word, and Access)
- Epi-info