

**UNINTENDED PREGNANCY AND ASSOCIATED FACTORS AMONG
PREGNANT WOMEN ATTENDING PUBLIC HEALTH FACILITIES OF
HARARI REGION, EASTERN ETHIOPIA, 2024**

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SPECIALITY IN OBSTETRIC AND GYNECOLOGY**

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APPROVAL SHEET

As members of the Board of Examiners of the Speciality Thesis open defense examination, we certify that we have read and evaluated the Thesis prepared by **Hussen Fatudin (MD)** and examined the candidate. I recommend that the thesis be accepted as fulfilling the thesis requirements for the specialty in obstetrics and gynecology.

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Final approval and acceptance of the Thesis is contingent upon the submission of its final copy to the Council of Graduate Study Studies (CGS) through the candidate's department or School of Graduate Commite (SGC).

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STATEMENT OF AUTHOR

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ACRONYMS AND ABBREVIATIONS

ACOG	American College of Obstetricians and Gynaecologists
AIDS	Acquired Immunodeficiency Syndrome
ANC	Ante Natal Care
AOR	Adjust Odds Ratio
CDC	Center for Disease Control and Prevention
COR	Crude Odds Ratio
CI	Confidence Interval
EDHS	Ethiopian Demographic and Health Survey
FMOH	Federal Ministry of Health
FP	Family planning
HRHB	Harar Regional Health Bureau
HFCSUH	Hiwot Fana Comprehensive Specialized University Hospital
HIV	Human Immunodeficiency Virus
IHRERC	Institutional Health Research Ethics Review Committee
LARC	Long Acting Reversible Contraception
LMICs	Low and Middle Income Countries
MMR	Maternal Mortality Ratio
NGO	Non-Governmental Organization
OPD	Outpatient Department
PI	Primary Investigator
PNC	Post Natal Care
RH	Reproductive Health
SRH	Sexual and Reproductive Health
SSA	Sub-Saharan Africa
UP	Unintended pregnancy
WHO	World Health Organization

ABSTRACT

Background: Unintended pregnancy remains a significant public health issue worldwide, affecting nearly 48% of pregnancies annually. Contributing factors include Sociodemographic factors, reproductive factors, contraceptive knowledge and utilization and social and behavioural factors. However, there is a scarcity of regional data regarding the prevalence and associated factors of unintended pregnancy, particularly in Harari Region, Eastern Ethiopia.

Objective: To determine the prevalence of unintended pregnancy and its associated factors among pregnant women attending public health facilities in Harari Region, Eastern Ethiopia, from October 1 to October 31, 2024.

Method: This institution-based cross-sectional study was conducted among 499 randomly selected pregnant women attending public health facilities in Harari Region. Data were collected using a pretested, structured questionnaire through face-to-face interviews. The data were entered into Epidata version 4.6 and analysed using SPSS version 27. Descriptive statistics were used to summarize participant characteristics. Bivariable and multivariable logistic regression analyses were performed to identify associated factors. Adjusted odds ratios with 95% confidence intervals were calculated, with significance set at P-value <0.05.

Result: 495 women participated, resulting in a 99.2% response rate. The prevalence of unintended pregnancy was 31.21% (95% CI: 26.23–35.65). Factors significantly associated with unintended pregnancy included: Unmarried women had higher adjusted odds of unintended pregnancy (AOR = 4.11, 95% CI: 1.10–7.22). Women dissatisfied with their marriages had higher odds of unintended pregnancies (AOR = 6.82, 95% CI: 1.90–10.76). Women with shorter birth intervals had increased odds (AOR = 2.27, 95% CI: 1.12–5.90). Having more children was associated with higher odds of unintended pregnancies (AOR = 1.68, 95% CI: 1.22–6.34). Women whose last child was male had lower odds of unintended pregnancies (AOR = 0.43, 95% CI: 0.33–0.83). Substance use was associated with higher odds of unintended pregnancies (AOR = 4.21, 95% CI: 1.98–6.87)

Conclusion: Unintended pregnancy remains a significant public health issue with a prevalence of 31.21%. Marital status, marital dissatisfaction, and short birth intervals, higher number of children, the sex of the last child, and substance use are significantly associated with unintended pregnancies.

Key-terms: Unintended pregnancy, Associated Factors, Pregnant Women, Harari region, Ethiopia

1. INTRODUCTION

1.1. Background

An unintended pregnancy (UP) is a pregnancy that is unwanted (occurred when no children or no more children were desired) or mistimed (occurred earlier than desired) (CDC, 2024).

It remains a significant global public health issue with substantial health, economic, and psychosocial impacts (WHO, 2018). Globally, the prevalence of unintended pregnancies is alarming. It is estimated that there are approximately 87 million unintended pregnancies each year. The World Health Organization (WHO) emphasizes that unintended pregnancies are associated with severe health consequences, including unsafe abortion practices, which continue to be a major source of maternal morbidity and mortality (WHO, 2018). Several factors contribute to the high prevalence of unintended pregnancies, which includes Demographic factors, Reproductive factors, Contraception use and utilization and Social and behavioural factors towards family planning. Despite the availability of highly effective contraceptive methods, studies in various regions, including Ethiopia, reveal persistently high levels of unintended pregnancies (Ayele et al., 2023). This suggests that improvements in contraceptive access and education alone may not be sufficient to address the issue comprehensively. Evidence indicates that while global rates of unintended pregnancies have declined due to better access to contraception localized challenges persist, requiring targeted interventions and policies (Bearak et al., 2020).

The American College of Obstetricians and Gynecologists (ACOG) also acknowledges the importance of addressing unintended pregnancies through improved reproductive health services and education (ACOG, 2024).

According to Ethiopia's Mini Demographic and Health Survey 2019, only 41% women use any modern contraceptive method and the induced abortion rate was higher in urban cities as a result of unintended pregnancies.

Therefore, this study aims to assess unintended pregnancy and associated factors among pregnant women attending public health facilities in Harar Town, Eastern Ethiopia. By understanding the prevalence and determinants of unintended pregnancies in this specific context, the study seeks to inform targeted interventions and support policymakers in addressing maternal and child health challenges effectively.

These pregnancies are associated with increased risk of maternal and infant morbidity, and a higher likelihood of unsafe abortions. Unsafe abortions are a critical health concern, as they contribute to a significant proportion of maternal deaths and complications.

1.2. Statement of the Problem

Unintended pregnancy is a critical worldwide health issue, impacting 48% of pregnancies each year. It causes significant emotional distress to women, families, and communities (Zeru et al., 2023). Despite global efforts to address this issue, unintended pregnancies continue to be prevalent, with an estimated 87 million cases annually. Among these, 46 million result in induced abortions, with more than 18 million of these being performed unsafely (WHO, 2018). This situation reflects a serious public health concern particularly in low- and middle-income countries.

Evidence suggests that global rates of unintended pregnancy have declined due to increased access to and use of contraception (Bearak et al., 2020). However, this progress is not uniform across all regions. In Ethiopia, for instance, it is still widespread, highlighting a gap between the availability of effective contraceptive methods and their utilization (Kassahun et al., 2019). This persistent issue indicates that additional strategies are needed to address the underlying factors contributing to unintended pregnancies.

The consequences of unintended pregnancies extend well beyond the immediate health implications. Which include unsafe abortions, delayed initiation of prenatal care, adverse mental health outcomes for mothers, increased maternal morbidity and mortality, reduced quality of mother-child relationships, poor developmental outcomes for children, increased risks of physical abuse, violence against women and higher risk of low birth weight

Understanding the prevalence and determinants of UP in high-incidence areas is crucial for developing targeted strategies to mitigate their impact and improve overall reproductive health outcomes. Interventions should be tailored to meet the specific needs of different populations and regions.

To the best of the researchers' knowledge, particularly in this study area, there is insufficient information about unintended pregnancy and its associated factors. This research aimed to assess unintended pregnancy and associated factors among pregnant women attending public health facilities of Harar region.

1.3. Significances of the Study

The findings of this study may help the Harari Regional Health Bureau and public health facilities to mitigate the risk factors for unintended pregnancy. In addition, the results will contribute evidence to the existing literature on unintended pregnancy and associated factors among pregnant women attending public health facilities in Harari region, Eastern Ethiopia. The results can serve as background information for further studies at the local, regional, and national levels concerning issues related to unintended pregnancy and associated factors among pregnant women. Ultimately, it will benefit women of reproductive age in Harari region by decreasing the prevalence of unintended pregnancies and mitigating related complications, thus contributing to healthier communities and more informed health policies.

1.4. Objectives

1.4.1. General objective

To assess unintended pregnancy and associated factors among pregnant women attending public health facilities of harari region, Eastern Ethiopia from October 1 to October 31, 2024.

1.4.2. Specific objectives

To assess unintended pregnancy among pregnant women attending public health facilities in harari region

To identify factors associated with unintended pregnancy among pregnant women attending public health facilities in harari region

2. LITERATURE REVIEW

2.1. Unintended Pregnancy

Hospital based cross-sectional study was conducted from March 2022 to September 2022 in Department of Obstetrics and Gynaecology OPD, AIIMS Patna and included all the pregnant ladies who visited ANC clinic during the study period revealed that prevalence of unintended pregnancy to be 33.2% (Roy et al., 2023). Study conducted in 61 LMICs after data drawn from Demographic and Health Surveys showed the pooled magnitude of unintended pregnancy 26.46% (95% CI: 25.30%, 27.62%), ranging from 19.25% in Egypt to 61.71% in Bolivia (Aragaw et al., 2023)

An institutional-based cross-sectional study was employed in Addis Zemen hospital from April 01 to May 30, 2018 and 398 pregnant mothers were selected by systematic random sampling, the data were collected using a-pretested structured questionnaire via face to face interview. The prevalence of unintended pregnancy was 26.1% (CI; 22.1, 30.4) (Goshu and Yitayew, 2019). An institution based cross-sectional study was conducted in Maichew town, Tigray region from April 5 to May 4, 2017 and showed that the overall prevalence of unintended pregnancy was 29.7% (95% CI 24.30, 35.50) (Kassahun et al., 2019).

A facility-based cross-sectional study was conducted among 382 selected pregnant women attending antenatal care units in urban public health facilities in Dire Dawa Administration from October 15 to November 15, 2021. All pregnant women who were attending ANC units in nine urban public health facilities in Dire Dawa city were the source of the population for the study and Pregnant women who were attending ANC service during the study time period were included in the study. The overall prevalence of unintended pregnancy was 23.8% at 95% CI (19.8–28.3) (Ayele et al., 2023).

2.2. Associated Factors of Unintended Pregnancy

2.2.1. Sociodemographic Factors

Age

A cross-sectional study done in Western Uganda showed that pregnant Women older than 35 years were significantly more likely to experience unintended pregnancies compared to those younger than 35 years (AOR = 85.9, 95% CI: 2.63–2814.31)(Kobugabe et al., 2024).

Residence area

A cross-sectional study done in Addis zemen hospital showed that pregnant women living in rural area were 2.6 times more likely to experience unintended pregnancies than urban women (AOR = 2.6, 95% CI: 1.5–4.6) (Goshu andYitayew, 2019).

Religion

A cross-sectional study done in Addis zemen hospital showed that Muslim pregnant women were about 20% less likely to report unintended pregnancies compared to Orthodox mothers (AOR = 0.79, 95% CI: 0.60–0.90) (Goshu andYitayew, 2019). Muslim women were 0.84 times less likely to have unintended pregnancies than Orthodox women (AOR = 0.84, 95% CI: 0.79–1.76) (Zeru et al., 2023).

Marital Status

An institution based cross-sectional study conducted from April 5 to May 4, 2017 in Maichew town, Tigray region, northern Ethiopia showed that Single women were significantly more likely to experience unintended pregnancies compared to married women (AOR = 38.6, 95% CI: 10.07–148.01) (Kassahun et al., 2019). A facility-based cross-sectional study was conducted among selected pregnant women attending antenatal care units in urban public health facilities in Dire Dawa Administration, Eastern Ethiopia showed that single women were about 10.93 times more likely to have unintended pregnancies compared to married women (AOR = 10.93, 95% CI: 3.65–32.75) (Ayele et al., 2023). A facility-based cross-sectional study was conducted from January 10 to April 13, 2015 at Gelemso General Hospital showed that Divorced/widowed women were also at higher risk for unintended pregnancy (AOR = 4.0, 95% CI: 1.31–12.45) (Mohammed et al., 2016).

Polygamy Marriage

A cross-sectional study conducted in 2023 found that women in polygamous marriages had 1.90 times higher odds of experiencing unintended pregnancies compared to those in monogamous marriages (AOR = 1.90, 95% CI: 1.15–3.14) (Kebede et al., 2023). A cross-sectional study conducted in 2023 found that women in polygamous marriages in Somalia had 2.05 times higher odds of experiencing unintended pregnancies compared to those in monogamous marriages (AOR = 2.05, 95% CI: 1.30–3.24) (Ibrahim et al., 2023). A cross-sectional study conducted in 2022 found that women in polygamous marriages in Europe had 1.95 times higher odds of experiencing unintended pregnancies compared to those in monogamous marriages (AOR = 1.95, 95% CI: 1.12–3.41) (Müller et al., 2022).

Marital satisfaction

A cross-sectional study conducted from January 2022 to June 2022, found that women with low marital satisfaction were significantly more likely to experience unintended pregnancies compared to those with high marital satisfaction (AOR = 3.25, 95% CI: 1.60–6.62) (Tadesse et al., 2023). In a cross-sectional study conducted from March 2021 to September 2021, it was found that couples with lower relationship quality had 1.37 times higher odds of unintended pregnancies compared to those with higher relationship satisfaction (AOR = 1.37, 95% CI: 1.08–1.73) (Mulugeta et al., 2022).

Educational status

A cross-sectional study conducted from February 2022 to August 2022, it was found that Women with lower education levels were significantly more likely to experience unintended pregnancies compared to those with higher education levels (AOR = 3.12, 95% CI: 1.75–5.56) (Abera et al., 2023). A cross-sectional study conducted from June 2021 to December 2021 women with no formal education had 1.65 times higher odds of unintended pregnancies compared to those with higher education (AOR = 1.65, 95% CI: 1.25–2.17) (Girma et al., 2022).

Husband/partner educational status

An institution-based cross-sectional study conducted from January 2022 to June 2022 found that women with husbands who have lower levels of education were more likely to experience unintended pregnancies compared to those with husbands who have higher education levels (AOR = 2.85, 95% CI: 1.48–5.50) (Mekonnen et al., 2023). An institution-based cross-sectional study conducted from March 2021 to August 2021 found that Women with husbands who had no formal education had 1.72 times higher odds of unintended

pregnancies compared to those with husbands who had higher education (AOR = 1.72, 95% CI: 1.21–2.45) (Belayneh et al., 2022).

Occupation

An institution-based cross-sectional study conducted from July 2020 to January 2021 found that Women employed in low-status occupations had higher odds of unintended pregnancies compared to those in higher-status occupations (AOR = 2.3, 95% CI: 1.4–3.7) (Johnson, 2021).

Income

A facility-based cross-sectional study was conducted in Dire Dawa Administration, Eastern Ethiopia showed that Women with low monthly family income were four times more likely to experience unintended pregnancies compared to those with high monthly income (AOR = 4.017, 95% CI: 1.738–9.284) (Ayele et al., 2023). The poorest women had 1.24 times higher odds of unintended pregnancies compared to the richest (AOR = 1.24, 95% CI: 1.09–1.42) (Sarder et al., 2021).

Distance to Health Institution

A cross-sectional study conducted in 2022 showed that Women who required longer travel times to reach the nearest health facility were significantly more likely to experience unintended pregnancies compared to those with shorter travel times (AOR = 2.56, 95% CI: 1.40–4.71) (Jemal et al., 2023). Women who had to travel more than 30 minutes to reach the nearest health facility had 1.89 times higher odds of unintended pregnancies compared to those who could reach the facility within 10 minutes (AOR = 1.89, 95% CI: 1.28–2.79) (Tadesse et al., 2022).

2.2.2. Reproductive Factors

Age at first marriage

An institution-based cross-sectional study conducted in 2023 found that Women who married at a younger age were significantly more likely to experience unintended pregnancies compared to those who married later (AOR = 2.76, 95% CI: 1.45–5.27) (Tesfaye et al., 2023). An institution-based cross-sectional study conducted in 2022 found that women who married before the age of 18 had 1.65 times higher odds of unintended pregnancies compared to those who married at age 25 or older (AOR = 1.65, 95% CI: 1.20–2.27) (Mulugeta et al., 2022).

Age at first pregnancy

An institution-based cross-sectional study conducted in 2023 found that women who experienced their first pregnancy at a younger age were significantly more likely to experience unintended pregnancies compared to those who had their first pregnancy at an older age (AOR = 2.93, 95% CI: 1.60–5.37) (Kebede et al., 2023). An institution-based cross-sectional study conducted in 2022 found that women who had their first pregnancy before the age of 20 had 1.78 times higher odds of unintended pregnancies compared to those who had their first pregnancy at age 25 or older (AOR = 1.78, 95% CI: 1.25–2.54) (Girma et al., 2022).

Age at first delivery

An institution-based cross-sectional study conducted in 2023 found that women who delivered their first child at a younger age were significantly more likely to experience unintended pregnancies compared to those who delivered their first child at an older age (AOR = 2.45, 95% CI: 1.28–4.68) (Ayalew et al., 2023). Specifically, women who had their first delivery before the age of 20 had 1.85 times higher odds of unintended pregnancies compared to those who delivered their first child at age 25 or older (AOR = 1.85, 95% CI: 1.32–2.58) (Hussen et al., 2022).

Parity

A cross-sectional study conducted in Western Uganda in 2024 found that high parity was significantly associated with unintended pregnancies. Women with more children had higher odds of unintended pregnancies (AOR = 0.02, 95% CI: 0.005–0.108) (Kobugabe et al., 2024). Multiparous women were 2.8 times more likely to experience unintended pregnancies compared to nulliparous women (AOR = 7.1, 95% CI: 2.6–9.7) (Goshu and Yitayew, 2019). An institution based cross-sectional study conducted from April 5 to May 4, 2017 in Maichew town, Tigray region, northern Ethiopia showed that Women with three or four children had higher odds of unintended pregnancies (AOR = 3.5, 95% CI: 1.10–11.04) (Kassahun et al., 2019).

Number of alive children

A cross-sectional study conducted in 2023 found that women with a higher number of living children were significantly more likely to experience unintended pregnancies compared to those with fewer children (AOR = 2.58, 95% CI: 1.45–4.58) (Mulugeta et al., 2023). An institution-based cross-sectional study conducted from March 2021 to August 2021 found that women with four or more alive children had 1.92 times higher odds of unintended

pregnancies compared to those with two or fewer children (AOR = 1.92, 95% CI: 1.35–2.73) (Belayneh et al., 2022).

Sex preference of current child

Women who have a strong preference for a particular sex of their children were significantly more likely to experience unintended pregnancies compared to those without a strong sex preference (AOR = 3.12, 95% CI: 1.70–5.71) (Abebe et al., 2023). Specifically, women with a preference for male children had 1.85 times higher odds of unintended pregnancies compared to those with no strong sex preference (AOR = 1.85, 95% CI: 1.29–2.65) (Getachew et al., 2022).

Birth Interval

Women with shorter birth intervals were significantly more likely to experience unintended pregnancies compared to those with longer birth intervals (AOR = 2.47, 95% CI: 1.29–4.71) (Bekele et al., 2023). Specifically, women with birth intervals of less than 24 months had 1.92 times higher odds of unintended pregnancies compared to those with birth intervals of 36 months or more (AOR = 1.92, 95% CI: 1.35–2.73) (Amar et al., 2022).

History of abortion

A cross-sectional study conducted in 2023 found that women with a history of abortion were significantly more likely to experience unintended pregnancies compared to those without such a history (AOR = 3.14, 95% CI: 1.65–5.96) (Mulugeta et al., 2023). A cross-sectional study conducted in 2022 found that women who had one or more previous abortions had 2.05 times higher odds of unintended pregnancies compared to those with no history of abortion (AOR = 2.05, 95% CI: 1.40–3.00) (Girma et al., 2022).

2.2.3. Contraceptive knowledge and utilization

Contraceptive Use

A cross-sectional study done in Western Uganda showed that in 2024 found that women who had never used contraceptive or had experienced side effects from it were more likely to experience unintended pregnancies (AOR = 0.026; AOR = 0.029) (Kobugabe, 2024). A facility-based cross-sectional study was conducted in Dire Dawa Administration, Eastern Ethiopia showed that Women who never used family planning were 5.9 times more likely to report unintended pregnancies compared to those who did (AOR = 5.915, 95% CI: 2.461–14.217) (Ayele, 2023).

Knowledge about Contraceptives

An institution based cross-sectional study conducted from April 5 to May 4, 2017 in Maichew town, Tigray region, northern Ethiopia showed that women with poor knowledge of contraceptive methods had higher odds of unintended pregnancies compared to those with good knowledge (AOR = 1.3, 95% CI: 0.25–6.70) (Kassahun et al., 2019). Women who had not heard about contraceptives were 2.7 times more likely to experience unintended pregnancies (AOR = 2.73, 95% CI: 1.15–6.50) (Mohammed et al., 2016).

Lack of access to contraception

A facility-based cross-sectional study was conducted in Dire Dawa Administration, Eastern Ethiopia showed that Women with limited access to contraception were significantly more likely to experience unintended pregnancies compared to those with better access (AOR = 2.78, 95% CI: 1.50–5.17) (Ayele et al., 2023). Specifically, women who had difficulty obtaining contraceptive methods had 1.92 times higher odds of unintended pregnancies compared to those who had easy access to contraception (AOR = 1.92, 95% CI: 1.31–2.81) (Hewitt et al., 2022).

2.2.4. Behavioral and Social factors

Social Support

A cross-sectional study conducted from January 2022 to June 2022, found that women with lower levels of social support were significantly more likely to experience unintended pregnancies compared to those with higher levels of social support (AOR = 2.23, 95% CI: 1.32–3.77) (Tadesse et al., 2023). A cross-sectional study conducted in 2022 found that women who reported limited social support from family and friends had 1.78 times higher odds of unintended pregnancies compared to those with strong social support networks (AOR = 1.78, 95% CI: 1.22–2.59) (Mulugeta et al., 2022).

Cultural Norms

A cross-sectional study conducted in 2023 found that women living in communities with traditional or restrictive cultural norms were significantly more likely to experience unintended pregnancies compared to those in communities with more progressive or supportive cultural norms (AOR = 2.56, 95% CI: 1.38–4.73) (Mekonnen et al., 2023). A cross-sectional study conducted in 2022 found that women in communities where traditional

norms strongly discourage contraceptive use had 1.87 times higher odds of experiencing unintended pregnancies compared to those in communities with more supportive attitudes towards family planning (AOR = 1.87, 95% CI: 1.27–2.73) (Girma et al., 2022).

Intimate Partner Violence

A cross-sectional study conducted in 2023 showed that Women who experienced intimate partner violence were high likely to experience unintended pregnancies compared to those who did not experience such violence (AOR = 3.10, 95% CI: 1.72–5.58) (Mekonnen et al., 2023). Specifically, women who reported physical or emotional abuse from their partner had 2.05 times higher odds of unintended pregnancies compared to those who did not experience intimate partner violence (AOR = 2.05, 95% CI: 1.41–2.98) (Belayneh et al., 2022). Women experiencing intimate partner violence were 1.7 times more likely to have unintended pregnancies (AOR = 1.7, 95% CI: 1.2–2.4) (Williams, 2022).

Decision Making Autonomy of Women

A cross-sectional study conducted in 2023 showed that Women with lower levels of decision-making autonomy were significantly more likely to experience unintended pregnancies compared to those with higher levels of autonomy (AOR = 2.47, 95% CI: 1.30–4.68) (Mekonnen et al., 2023). Specifically, women who had less control over decisions related to reproductive health and family planning had 1.92 times higher odds of unintended pregnancies compared to those with greater decision-making power (AOR = 1.92, 95% CI: 1.35–2.73) (Belayneh et al., 2022).

Alcohol and substance use

A cross-sectional study conducted in 2023 found that women who used alcohol or substances were significantly more likely to experience unintended pregnancies compared to those who did not use these substances (AOR = 2.94, 95% CI: 1.56–5.54) (Mekonnen et al., 2023). A cross-sectional study conducted in 2022 found that women who reported regular alcohol or drug use had 2.13 times higher odds of unintended pregnancies compared to those who did not engage in such behaviours (AOR = 2.13, 95% CI: 1.45–3.14) (Abebe et al., 2022). A cross-sectional study conducted in 2021 found that women who used khat were significantly more likely to experience unintended pregnancies compared to those who did not use khat (AOR = 2.67, 95% CI: 1.53–4.68) (Mohammed et al., 2016).

2.3. Conceptual Framework

Conceptual frame work showing multiple factors related with unintended pregnancy.

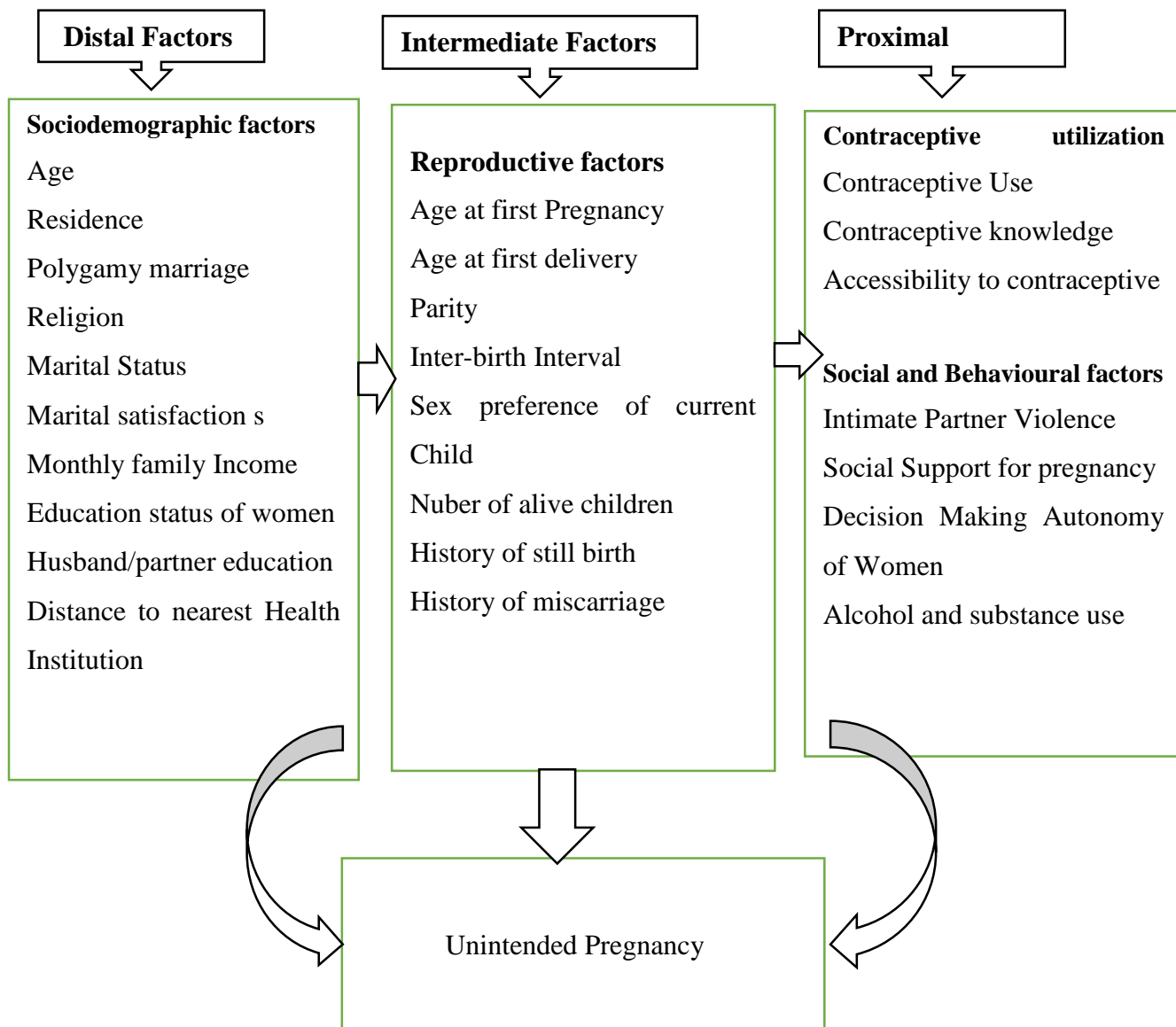


Figure 1: Conceptual frame work for the study of unintended pregnancy and associated factors among pregnant women attending public health facilities of harari region, eastern Ethiopia, 2024.

3. METHOD AND MATERIALS

3.1. Study Area and Period

The study was conducted in selected public health facilities of Harari region, Eastern Ethiopia. Harar is the capital of the harari region which is 526 km to the East of Addis Ababa, the capital city of Ethiopia. Nine woredas, three rural and six urban make up the region. The urban districts are subdivided into 19 kebeles, and the rural districts are subdivided into 17 peasant associations (which is equivalent to kebeles in the urban case). The region has a total population of 270 000, of which 136, 000 are men and 134,000 are women (2021 projection based on the 2007 Census, CSA). In the area, there are 2 public, 1 private and 1 federal police hospital, 9 health centers (5 urban and 4 rural), 24 health posts and ten non- profit clinic. The study conducted from October 1 to October 31, 2024.

3.2. Study Design

A facility-based cross-sectional study design was employed.

3.3. Population

3.3.1. Source population

All pregnant women attending public health facilities in harari region.

3.3.2. Study population

All pregnant women attending ANC at randomly selected public health facilities in harari region during the study period.

3.4. Inclusion and Exclusion Criteria

3.4.1. Inclusion Criteria

Pregnant women who are attending their first ANC and are permanent residents of harari region were included

3.4.2. Exclusion criteria

Pregnant women not attending first ANC visit, pregnant women who are not permanent residents of harari region, pregnant women with medical conditions or complications, pregnant women who have been interviewed or participated in similar studies at other institutions will be excluded

3.5. Sample Size Determination

The sample size for the first objective (prevalence of unintended pregnancy) was computed by Epi-Info version 7.2 using single population proportion formulas. Accordingly, prevalence of unintended pregnancy among pregnant women in the study area was unknown and hence, assumed from previous study done in Gelemso, eastern Ethiopia; prevalence was 27.1%(Mohammed et al., 2016) with the following assumptions: Confidence level of 95%, margin of error of 5%, design effect of 1.5 and 10% non-response rate.

$N = Z^2 * p * (1-p) / d^2$: Where; N= minimum sample size, Z = 1.96 (for a 95% confidence interval), p = 0.271 (prevalence of UP), d = 0.05 (margin of error) $N = (1.96)^2 * 0.271 * (1-0.271) / (0.05)^2 = 302.4$. Applying the design effect, which is 1.5, $N = 302.4 * 1.5 = 453.6$ and 10% Non-response rate and the final sample size required is 499.

Sample size for the second specific objective computed by Epi-Info version 7.2 using two population proportion formula with the following assumptions: confidence level of 95%, 80% power of the study, significance level of 5%, equal 1:1 ratio unexposed to exposed and 10% non-response rate.

Table 1: Sample size estimation for associated with unintended pregnancy among pregnant women attending public health facilities of harari region, eastern Ethiopia, 2024.

Associated factors	% of outcome among unexposed	AOR (95% CI)	n with 10% non-response rate	References
Multiparity	33.3	3.5 (1.10, 11.04)	125	(Kassahun et al., 2019)
Women who lived alone	28.9	9.9,(1.80, 53.40)	46	(Kassahun et al., 2019)
Family planning use	54.8	5.91 (2.46–14.21)	108	(Ayele et al., 2023)
Urban residency	46.1	2.6(1.5–4.6)	185	(Goshu and Yitayew, 2019)

Comparing the sample size estimated from the above table and the largest sample size which is 185 is considered and used as minimum sample size for second objective of the study. Finally, after comparing the sample size for the two objectives computed for each specific objective, the larger sample size (n=499) was considered and used as a minimum sample size for this study.

3.6. Sampling Techniques and Procedures

Two-stage sampling technique was used to select the participants. First, facilities was stratified as hospitals and health centers in the region then, two out of nine health centers were selected using manual lottery method and public hospitals of the region were included. Then, estimated samples sizes were proportionally allocated to each facility using the actual numbers of pregnant women attending ANC found in each sampled facility that was reviewed from June 1, 2024 updated CHIS registry available at each health facility. Finally, eligible participants from each facility were recruited and invited to study using a convenience sampling technique.

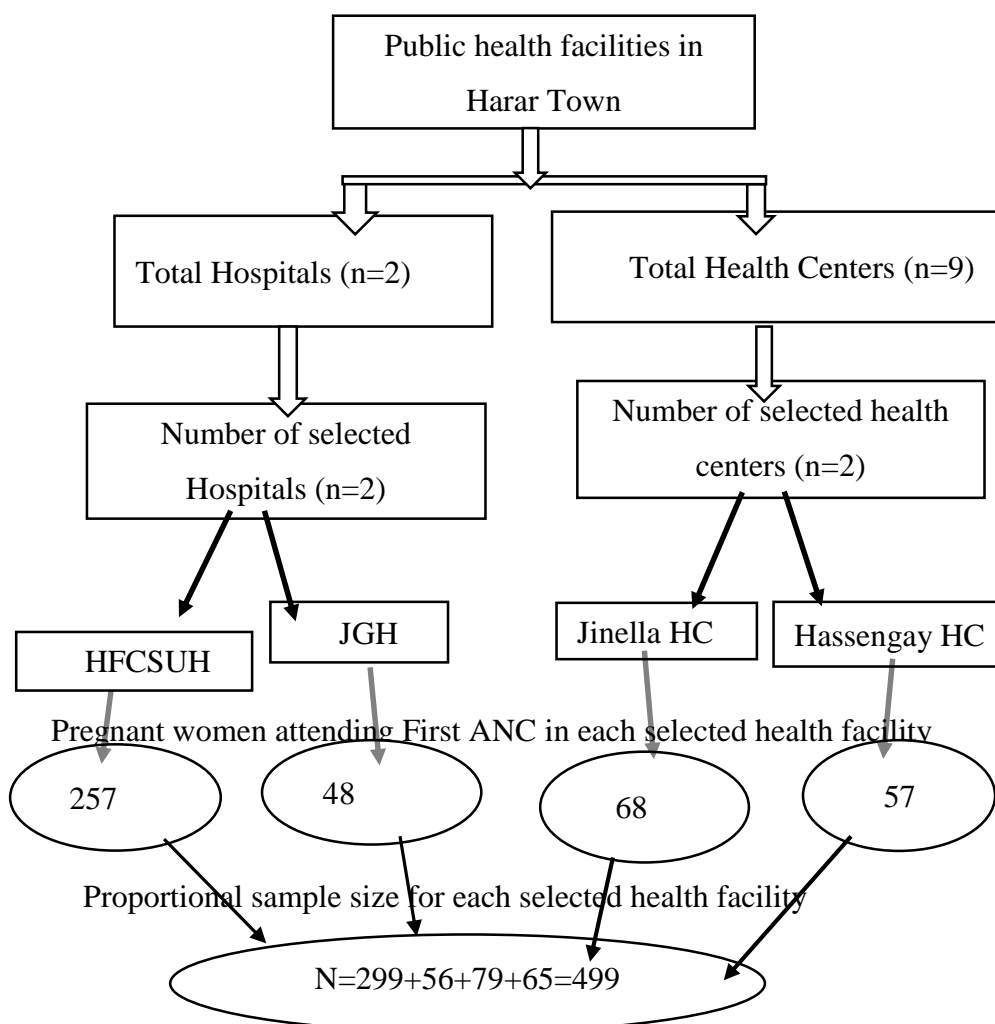


Figure 2: Schematic presentation of sampling procedure for the study of unintended pregnancy and associated factors among pregnant women attending public health facilities of harari region, eastern Ethiopia, 2024.

3.7. Data Collection Methods

3.7.1. Data collection instruments

Pretested-structured questionnaire adapted from relevant published literatures (Ayele et al., 2023),(Kassahun et al., 2019),(Goshu and Yitayew, 2019),(Mohammed et al., 2016) contextualized to study objectives and context were used to collect data from participants. The questionnaire contains information on Sociodemographic factors, reproductive factors, social and behavioural factors, contraceptive knowledge and utilization factors

3.7.2. Data collectors and Supervisors

Eight BSc midwives were recruited and trained for two days by the principal investigator on methodology, ethical concern, how to collect data, inclusion and exclusion criteria's and data collection instruments and collect the data over a month period. Two MSc midwives were recruited and were trained for two days by the principal investigator on methodology, ethical concern; how to collect data, inclusion and exclusion criteria's and data collection instruments and they supervise the overall data collection.

The questionnaire was first prepared in English and then translated into the local language and then translated back to English by a third party to check its consistency and conceptual equivalence.

3.7.3. Data collection procedures

Data were collected from ANC units in four selected public health facilities which is composed of two health center and two hospitals. Data were collected through face-to-face interview with participant who came for ANC services. The participants were informed about the study title, purpose, procedure, risks and benefits, rights and confidentiality of the study. The interview took an average of 10-15 minutes and were carried out in a private setting before they gate the service.

3.8. Study Variables

3.8.1. Dependent variable

Unintended Pregnancy

3.8.2. Independent variables

Sociodemographic Factors: age, residence area, religion, marital status, marital satisfaction monthly family income. Education of women and her partner, polygamous marriage, occupation and occupation of her husband/partner and distance to nearest health institution

Reproductive factors:, age at first marriage, Age at first Pregnancy, age at first delivery, Parity, gravidit, number of alive children, Sex preference of current child, inter birth interval, history of miscarriage, history of unintended pregnancy

Contraceptive knowledge and utilization: contraceptive use, Knowledge about Contraceptives, access to modern contraceptives, source of information about family planning.

Social and behavioural factors: Social support of pregnancy, cultural norms, alcohol and substance use, decision making autonomy of women and intimate partner violence

3.9. Operational Definitions

Unintended pregnancy: A woman will be considered to have an unintended pregnancy if her pregnancy is unwanted and mistimed.

Marital satisfaction: Marital satisfaction is assessed using the Marital Satisfaction Inventory (MSI) tool which comprises 24 questions designed to evaluate various dimensions of marital satisfaction, including communication, intimacy, emotional support, and overall relationship quality. Participants respond to each item on a 5-point Likert scale, where 1 indicates "Strongly Disagree" and 5 indicates "Strongly Agree. Scores are categorized as low scores (1-2) denote dissatisfaction or significant issues in the respective dimension, moderate scores (3) indicate average satisfaction, and high scores (4-5) reflect strong positive perceptions and high satisfaction (Spanier, G. B, 1976).

Social support: Social support for pregnant women attending a public health facility is assessed using the Oslo Social Support Scale (OSSS), which measures three critical dimensions to understand the level of support these women receive. This is determined through a 5-point Likert scale, where responses range from 1 ("Strongly Disagree") to 5 ("Strongly Agree"), indicating the degree to which she feels supported and understood by those around her. Overall social support is calculated by combining scores from these three dimensions. Low scores (1-2) indicate limited social support, suggesting that the woman may face difficulties due to a small network, inadequate perceived support, or poor availability of help. Moderate scores (3) reflect average levels of support, showing that the woman has a reasonable network and perception of support. High scores (4-5) denote strong social support, characterized by a robust network, high perceived support, and good availability of assistance during pregnancy-related challenges (Myhre et al., 2020).

Inter-pregnancy interval: A pregnant woman will be considered to have a short inter-pregnancy interval if the duration between the end of her previous pregnancy and the conception of the current pregnancy is less than 18 months (Mamo et al., 2024).

Intimate partner violence: is assessed using the HITS tool, a brief questionnaire designed to evaluate various dimensions of IPV, including physical harm, verbal insults, threats, and emotional abuse. The tool consists of four items: Hurt, Insult, Threaten, and Scream. Participants respond to each item on a 5-point Likert scale, where 0 indicates "Never" and 4 indicates "Frequently." Scores are categorized as low scores (0-8) denote lower levels of IPV,

moderate scores (9-12) reflect moderate levels of IPV, and high scores (13-16) suggest high levels of IPV (Tiruye et al., 2020).

Decision making autonomy: Will be measure using the General Decision-Making Scale (GDMS) tool containing 20 questions/items and each question/item rated from 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree. The overall autonomy is determined by combining scores from these dimensions. Low scores (1-2) indicate limited decision-making autonomy. Moderate scores (3) show average autonomy. High scores (4-5) represent strong autonomy, highlighting effective problem recognition, information use, option assessment, decision execution, and outcome evaluation (Eisenhower et al., 2021)

3.10.Data Quality Control

The questionnaire was prepared in English language. The tool was pretested on 5% of the sample size in Arategna health center before the actual data collection to check consistency of instruments, adequacy of variables and changes were accordingly. Training was given to data collectors and supervisors by principal investigator on how to facilitate the data collection, use of questionnaire and method of approaching the participants. The filled tool was checked for completeness by supervisors at the site of data collection and by principal investigator as well.

3.11.Data Processing and Analysis

Data were entered into EpiData version 4.6 and analyzed using SPSS version 27. Descriptive statistics was used to describe the characteristics of participants. Bivariable and multivariable logistic regression analyses were conducted to explore the association of each independent variable with the dependent variable and determine the significant risk factors for unintended pregnancy. Variable with p-value <0.25 on bivariable regressions were entered to multivariable logistic regressions to assess a possible relationship between unintended pregnancy and risk factors as well as the influence of possible potential confounding variables and the strength of association. Adjusted odds ratio with 95% CI was used to report association between each predictor and outcome of variable and significance was declared at P-value<0.05. Model fitness was checked with the assumption of Hosmer and Lemeshow goodness of a fit test.

3.12.Ethical Considerations

Ethical clearance was obtained from the Institutional Health Research Ethics Review Committee (IHRERC) of Haramaya University, College of Health and Medical Sciences. An official letter of cooperation was written to the Harar Regional Health Bureau (HRHB), and HRHB was circulating a similar letter to all selected health facilities. Informed, voluntary, written, and signed consent was obtained from selected health facility heads before starting data collection. After receiving consent from the selected health facility heads, informed, voluntary, written, and signed consent will be obtained from each participant. Confidentiality and privacy of information was maintained and assured by interviewing in a separate area, excluding names and identifiers in the questionnaire.

3.13.Expected outcome

The prevalence of unintended pregnancy is expected to be high because many studies done at different areas show high prevalence and associated factors may include Sociodemographic factors, reproductive factors and medical and behavioural factors in harari region Eastern Ethiopia that guide the preventive intervention measures used to reduce adverse pregnancy outcomes and maternal morbidity and mortality

3.14.Information Dissemination

The findings of the study will be submitted to the Haramaya University College of Health and Medical Sciences Postgraduate Directorate programs. Copies of the report will be provided to HRHB and their public health facilities. Lastly, efforts will be made to present the findings at national and international scientific conferences and to prepare a manuscript for publication in a peer-reviewed journal

4. Result

4.1. Sociodemographic characteristics of Respondents

A total of 495 women participated in this study, achieving a response rate of 99.20%. Among them, 50.10% were pregnant mothers under the age of 25, followed by age of 25-34 years 42.22% in the. The median age of the pregnant women was 26 years with a standard deviation of 5.8 years, ranging from a minimum age of 18 to a maximum of 40 years. Regarding age at marriage, the majority (60.40%) were married before 25 years of age, while 37.17% married between the ages of 25-34, and 2.42% were married at 35 years or older.

Geographically, 58.00% resided in rural areas, while 42.00% lived in urban areas. 47.27% of participants were Muslim followed by Orthodox Christians 39.00%, and Protestants 11.51%. As for marital status, 95.76% were married, and 4.24% were not. Among the married women, 7.28% were in polygamous marriages, while 92.72% were in monogamous marriages.

In terms of educational background, the majority (32.73%) of pregnant women had received primary education followed by secondary education cited by 26.67%, and 20.89% had no formal education. Regarding occupation, 58.99% were housewives, and 13.13% were employed by the government. When it comes to monthly family income, the majority (33.74%) had an income between 1500 and 3000 ETB, while 24.85% earned between 3000 and 5000 ETB. Finally, concerning the distance to the nearest health facility, most women (252, or 52.3%) lived more than 40 minutes away

Table 2: Socio-demographic characteristics of pregnant women attending antenatal clinic in public health facilities of harari region, 2024

Variable	Category	Frequency (495)	Percentage
Age	< 25 years	248	50.10
	25-34 years	209	42.22
	35 and above	38	7.68
Age at first marriage	< 25 years	299	60.40
	25-34 years	184	37.17
	35 and above	12	2.42
Residence	Rural	287	58.00
	Urban	208	42.00
Religion	Orthodox Christian	193	39.00
	Muslim	234	47.27
	Protestant	57	11.51
	Other	11	2.22
Marital status	Not married	12	2.42
	Married	474	95.76

	Divorced	6	1.21
	Widowed	3	0.61
Polygamy marriage	Yes	36	7.28
	No	459	92.72
Marital satisfaction	High dissatisfaction	19	3.84
	Moderate dissatisfaction	30	6.06
	Moderate satisfaction	55	11.11
	High Satisfaction	391	78.99
Educational level	No formal education	103	20.89
	Primary	162	32.73
	Secondary	132	26.67
	Collage and above	98	19.80
Educational level of husband	No formal education	46	9.29
	Primary	194	39.19
	Secondary	148	29.90
	Collage and above	107	21.62
Occupation	Housewife	292	58.99
	Farmer	33	6.67
	Merchant	65	13.13
	Government employee	74	14.95
	Private employee	31	6.26
Occupation of partners/Husbands	Farmer	237	48.88
	Merchant	57	11.51
	Government employee	93	18.79
	Private employee	69	13.94
	Others	39	7.88
Income monthly	< 1500 Etb	64	12.93
	1500-3000 Etb	167	33.74
	3001-5000 Etb	123	24.85
	5001-10000 Etb	91	18.38
	Above 10000	50	10.10
Distance of home to the nearest health facility	Less than 10 minutes,	26	5.25
	10-19 minutes.	42	8.85
	20-29 minutes.	76	9.29
	30-39 minutes)	92	18.59
	40 minutes or more	259	52.32

4.2. Reproductive history of respondents

In this study, the prevalence of unintended pregnancy was 31.21%. Regarding the age of first pregnancy, the majority of mothers were less than 25 years, accounting for 53.94, followed by age of 25 to 34 years, which was cited 42.83, and 3.23% were 35 years and above .About gravidity, the majority (75.15%) were multigravida, while 24.85% were primigravida. About 43.28% had a birth interval of 2 to 3 years, 36.56% had a birth interval of less than 2 years, and 20.16% had a birth interval of more than 3 years.The majority (55.55%) of pregnant women knew that unintended pregnancy is preventable. Regarding the reasons for unintended pregnancy, the majority (36.04%) reported a lack of enough money, followed by no contraceptive use cited by 31.21%.

Table 3: Reproductive history of women attending ANC in public health facilities of Harari region.

Variables	Category	Frequency	Percentage
Age at first pregnancy	< 25 years	267	53.94
	25-34 years	212	42.83
	35 and above	16	3.23
Gravidity	Primigravida	123	24.85
	Multiravida	372	75.15
Birth interval (n=multigravida, 372)	<2 years	136	36.56
	2-3 years	272	43.28
	≥3 years	75	20.16
Number of alive children	0-2	94	18.99
	3-4	134	27.07
	5-6	188	37.98
	Above 6	79	15.96
Family size in number	2-3	52	10.50
	4-5	157	31.72
	6 and above	286	57.78
Number of under five children in the house	0-2	394	79.60
	3-4	81	16.36
	5-6	20	4.04
Sex of last alive children (365) n=MG-SB+NL	Male	150	41.10
	Female	215	58.90
History of abortion (372)	Yes	21	5.65
	No	351	94.35
Type of abortion (21)	Induced	5	23.81
	Spontaneous	16	76.19
Pregnancy unintended	Yes	157	31.72
	No	338	68.28
Awareness that UP is preventable	Yes	275	55.55
	No	220	44.45
Reason of unintended pregnancy (157)	No use of contraceptive	49	31.21
	Method failure	13	8.28
	Husband/partner pressure	26	16.56
	No enough money	58	36.94
	No more child	3	1.91
	Others	8	5.10

4.3. Contraceptive knowledge and utilization of respondents

The data reveals several key insights regarding contraceptive knowledge and usage among the participants. A significant portion of the population, 48.29%, had low knowledge about contraceptive methods, with only 17.17% demonstrating high knowledge. In terms of contraceptive use, only 42.63% of respondents had ever used contraception, while 57.37% had not. Health professionals were the primary source of information about family planning for 41.21% of the participants, followed by friends (24.44%) and radio (21.01%). Awareness of contraceptive methods was highest for injectables (69.29%) and contraceptive pills (62.02%), with lower recognition of implants (34.55%), IUCDs (17.57%), and sterilization methods like BTL/vasectomy (3.03%). While 63.43% of respondents reported access to modern contraception at nearby health facilities, 36.57% did not have such access. Regarding cultural norms, 57.98% of respondents believed family planning is supported by cultural norms, while 42.02% disagreed. Furthermore, only 34.54% of participants communicated with their spouses about family planning. Among those who used contraceptives, the majority (70.14%) chose injectables, followed by contraceptive pills (18.00%), with fewer opting for implants (9.95%) or IUCDs (1.90%)

Table 4: Contraceptive knowledge and utilization of pregnant women attending antenatal clinic in public health facilities of harari region, 2024

Variable	Category	Frequency (495)	Percent (%)
Contraceptive knowledge level	Low knowledge	239	48.29
	Moderate knowledge	171	34.54
	High knowledge	85	17.17
Ever Used Contraceptive	Yes	211	42.63
	No	284	57.37
Source of information about FP	Radio	104	21.01
	Television	62	12.53
	Health professional	204	41.21
	Friends	121	24.44
	Others source	7	1.41
Awareness towards	Contraceptive pills	307	62.02

contraceptive method type	Injectable	343	69.29
	Implants	171	34.55
	IUCD	87	17.57
	BTL/vasectomy	15	3.03
Getting modern contraception at nearby health facility	Yes	314	63.43
	No	181	36.57
Cultural norms on FP	Yes	287	57.98
	No	208	42.02
Spousal communication about FP	Yes	171	34.54
	No	324	65.45
Type of Contraceptive Used (211)	Contraceptive pills	38	18.00
	Injectable	148	70.14
	Implants	21	9.95
	IUCD	4	1.90

4.4. Behavioral and Social factors

A significant portion of respondents (58.79%) reported very low decision-making capacity within their couples, while 20.40% had low decision-making capacity. Only a small percentage demonstrated moderate (16.77%), high (2.63%), or very high (1.41%) decision-making capacity. In terms of intimate partner violence, the majority of respondents (92.12%) reported a low risk of violence, while 4.04% were at moderate risk and 3.84% were at high risk. Regarding social support, 46.67% of participants reported moderate social support, 37.78% reported low social support, and only 15.55% reported high social support. When it comes to alcohol or substance use, the majority (79.39%) did not consume alcohol or use substances, while 20.61% did consume or use.

Table 5: Behavioral and social factors of pregnant women attending antenatal clinic in public health facilities of harari region, 2024

Variable	Category	Frequency	Percentage
General decision making style with couple	Very low DM capacity	291	58.79
	Low DM capacity	101	20.40
	Moderate DM capacity	83	16.77
	High DM capacity	13	2.63

	Very high DM capacity	7	1.41
HITS (hurt, insult, Threaten and scream) intimate partner	Low risk of violence	456	92.12
	Moderate risk of violence	20	4.04
	High risk of violence	19	3.84
OSLO social support scale	Low social support	187	37.78
	Moderate Social support	231	46.67
	High social support	77	15.55
Drink alcohol or take any other substance	Yes	102	20.61
	No	393	79.39

4.5. Bivariate analysis

Among candidate variables entered to bivariate analysis residence, marital status, polygamy marriage, marital satisfaction, educational status, gravidity, birth interval, number of alive children, family size, sex of last alive children, awareness of unintended pregnancy, general decision making ability, intimate partner violence, and drinking alcohol or other substance intake for multivariate analysis

Table 6: Bivariate analysis of unintended pregnancy and associated factors among pregnant women attending antenatal clinic in public health facilities of harari region, 2024

Variable	Category	Pregnancy Unintended		COR (95%CI)	P value
		Yes(157)	No(338)		
Age	< 25 years	79	169	0.42(0.12-1.13)	0.09
	25-34 years	58	151	0.34(0.22-1.34)	0.11
	35 and above	20	18	1	
Residence	Rural	112	175	2.32(1.24-4.67)	0.000
	Urban	45	163	1	
Marital status	Not married	8	4	4.49(1.57-8.34)	0.001
	Married	146	328	1	
	Divorced	2	4	1.12(0.68-1.77)	0.02
	Widowed	1	2	1.12(0.65-1.57)	0.02
Polygamy marriage	Yes	24	12	4.90(1.33-6.35)	0.002
	No	133	326	1	
Marital satisfaction	High dissatisfaction	12	7	7.22(2.50-11.43)	0.000
	Moderate dissatisfaction	26	4	27.39(14.21-33.87)	0.000
	Moderate satisfaction	44	11	16.85(10.89-23.76)	0.000
	High Satisfaction	75	316	1	
Educational level	No formal education	45	58	4.86(2.11-5.87)	0.000
	Primary	60	102	3.68(1.92-6.88)	0.000
	Secondary	33	99	2.09(1.33-6.80)	0.001

	Collage and above	19	119	1	
Distance of home to the nearest health facility	Less than 10 minutes,	16	10	4.77(1.93-8.99)	0.45
	10-19 minutes.	29	13	6.66(3.43-11.84)	0.03
	20-29 minutes.	27	49	1.64(0.99-4.78)	0.67
	30-39 minutes)	20	72	0.83(0.21-1.32)	0.55
	40 minutes or more	65	194	1	
Age at first pregnancy	< 25 years	57	210	0.45(0.31-1.32)	0.26
	25-34 years	94	118	1.33(0.78-1.85)	0.33
	35 and above	6	10	1	
Gravidity	Primigravida	41	82	1.10(1.02-3.44)	0.04
	Multiravida	116	256	1	
Birth interval (n=multigravida, 372)	<2 years	76	60	2.69(1.32-6.01)	0.00
	161	59	213	0.59(0.21-1.11)	0.28
	≥3 years	24	51	1	
Number of alive children	0-2	34	60	1	
	3-4	41	93	0.77(0.33-1.38)	0.19
	5-6	52	136	0.67(0.43-1.77)	0.07
	Above 6	41	38	1.90(1.04-3.99)	0.02
Family size in number	2-3	18	34	1.19(0.69-1.81)	0.54
	4-5	51	106	1.08(0.55-1.47)	0.46
	6 and above	88	198	1	
Sex of last alive children (365) n=MG-SB+NL	Male	50	100	0.50(0.23-0.78)	0.003
	Female	107	108	1	
	2 years and above	82	141	1	
Awareness that UP is preventable	No	120	100	7.72(3.12-10.52)	0.053
	Yes	37	238	1	
General decision making style with couple	Very low DM capacity	91	200	1.13(0.81-1.76)	0.000
	Low DM capacity	37	64	1.44(1.12-4.23)	0.04
	Moderate DM capacity	23	60	0.96(0.52-1.16)	0.45
	High DM capacity	4	9	1.11(0.98-2.45)	0.27
	Very high DM capacity	2	5	1	
HITS(hurt, insult, Threaten and scream) intimate partner	Low risk of violence	134	322	1	
	Moderate risk of violence	13	7	4.46(1.97-7.67)	0.00
	High risk of violence	10	9	2.67(1.05-5.99)	0.001
OSLO social support scale	Low social support	67	120	1.23(0.77-1.61)	0.31
	Moderate Social support	66	165	0.88(0.44-1.21)	0.42
	High social support	24	53	1	
Drink alcohol or take any other substance	Yes	62	40	4.86(2.12-7.03)	0.01
	No	95	298	1	

4.6. Factors associated with unintended pregnancy

To determine the factors associated with unintended pregnancy (UP), both bivariate and multivariable analyses were conducted. In the bivariate analysis, variables such as residence, marital status, polygamous marriage, marital satisfaction, educational status, gravidity, birth interval, number of alive children, family size, sex of the last alive child, awareness of unintended pregnancy, general decision-making ability, intimate partner violence, and alcohol or substance intake were found to be potential factors for further multivariable analysis. In the multivariable logistic regression analysis, marital status, marital satisfaction, birth interval, family size, sex of the last child, and alcohol or substance intake were identified as statistically significant factors associated with unintended pregnancy.

Pregnant women who were not married had 4.1 odds of unintended pregnancy when compared to married women (AOR 4.11, 95% CI [1.10-7.22]). Pregnant women who experienced marital dissatisfaction had 6.8 odds of unintended pregnancy compared to those who were satisfied with their marriage (AOR 6.82, 95% CI [1.90-10.76]). Pregnant women with a birth interval of less than 2 years had 2.3 odds unintended pregnancy compared to those with a birth interval of more than 2 years (AOR 2.27, 95% CI [1.12-6.87]). Pregnant women with more than six children were 1.7 times more likely to experience unintended pregnancy compared to those with fewer than six children (AOR 1.68, 95% CI [1.22-6.34]).

Pregnant women whose last child was male had 0.43 odds ratio to experience unintended pregnancy than those whose last child was female (AOR 0.43, 95% CI [0.33-0.83]). Finally, pregnant women who consumed alcohol or other substances had 4.2 odds of unintended pregnancy compared to non-users (AOR 4.21, 95% CI [1.98-6.87]).

These findings highlight several key factors, including marital status, marital satisfaction, birth interval, family size, and substance use, which are significantly associated with the likelihood of unintended pregnancy.

Table 7: Factors associated with unintended pregnancy among pregnant women attending antenatal clinic in public health facilities of harari region, 2024

Variable	Category	Pregnancy unintended		COR(95%CI)	AOR(95%CI)	P value
		Yes(157)	No(338)			
Residence	Rural	112	175	2.32(1.24-4.67)	2.09(0.94-4.17)	0.041
	Urban	45	163	1	1	
Marital status	Not married	8	4	4.49(1.57-8.34)	4.11(1.10-7.22)	0.001
	Married	146	328	1	1	

	Divorced	2	4	1.120.68-1.77)	0.99(0.45-1.23)	0.02
	Widowed	1	2	1.12(0.65-1.57)	1.01(0.34-1.46)	0.02
Polygamy marriage	Yes	24	12	4.90(1.33-6.35)	4.51(0.91-7.19)	0.002
	No	133	326	1	1	
Marital satisfaction	High dissatisfaction	12	7	7.22(2.50-11.43)	6.82(1.90-10.76)	0.000
	Moderate dissatisfaction	26	4	27.39(14.21-33.87)	21.92(12.11-29.18)	0.000
	Moderate satisfaction	44	11	16.85(10.89-23.76)	11.32(11.99-20.78)	0.071
	High Satisfaction	75	316	1	1	
Educational level	No formal edu	45	58	4.86(2.11-5.87)	4.34(2.01-7.34)	0.053
	Primary	60	102	3.68(1.92-6.88)	2.94(1.40-8.47)	0.062
	Secondary	33	99	2.09(1.33-6.80)	2.01(1.21-7.09)	0.112
	Collage and above	19	119	1	1	
Gravidity	Primigravida	41	82	1.10(1.02-3.44)	1.31(1.27-4.87)	0.120
	Multiravida	116	256	1	1	
Birth interval (n=multigravida, 372)	<2 years	76	60	2.69(1.32-6.01)	2.27(1.12-6.87)	0.000
	2-3 years	59	213	0.59(0.21-1.11)		
	≥3 years	24	51	1	1	
Number of alive children	0-2	34	60	1	1	
	3-4	41	93	0.77(0.33-1.38)		
	5-6	52	136	0.67(0.43-1.77)		
	Above 6	41	38	1.90(1.04-3.99)	1.68(1.22-6.34)	0.001
Family size in number	2-3	18	34	1.19(0.69-1.81)		
	4-5	51	106	1.08(0.55-1.47)		
	6 and above	88	198	1	1	
Sex of last alive children (365)	Male	50	100	0.50(0.23-0.78)	0.43(0.33-0.83)	0.000
	Female	107	108	1	1	
	2 years and above	82	141	1	1	
Awareness that UP is preventable	No	120	100	7.72(3.12-10.52)	6.68(2.39-10.12)	0.08
	Yes	37	238	1	1	
General decision making style with couple	Very low DM capacity	91	200	1.13(0.81-1.76)		
	Low DM capacity	37	64	1.44(1.12-4.23)	1.44(1.12-4.23)	0.14
	Moderate DM capacity	23	60	0.96(0.52-1.16)		
	High DM capacity	4	9	1.11(0.98-2.45)		
	Very high DM capacity	2	5	1	1	
HITS(hurt, insult, Threaten and scream) intimate partner	Low risk of violence	134	322	1	1	
	Moderate risk of violence	13	7	4.46(1.97-7.67)	3.90(2.43-8.13)	0.06
	High risk of violence	10	9	2.67(1.05-5.99)	2.12(1.37-6.49)	0.051
Drink alcohol or take any other substance	Yes	62	40	4.86(2.12-7.03)	4.21(1.98-6.87)	0.001
	No	95	298	1	1	

5. Discussion

This study assessed unintended pregnancy and associated factors among pregnant women attending antenatal clinic in public health facilities of harari region. The study revealed that the prevalence of unintended pregnancy was 31.21%. The finding of this study was lower than studies conducted in Egypt (61.71%), (Aragaw et, al. 2023). This is due to different socioeconomic status of populations. This finding higher than study conducted in Addiss Zemen hospital 26.1% (Gohu and Yitayewu, 2019), Dirdawa 23.8% (Ayele et, al.2023) and Maichewu Tigray 29.7 % (Kassahu et,al,2019). This might be different study area, period and seasons with different sociodemographic status of populations.

Both bivariate and multivariable logistic regression analyses were performed, revealing several significant factors that contribute to the likelihood of unintended pregnancy. These findings align with those of previous studies, such as the work by Andinet Ayele et al., Faiza Mohammed et al., and Alamgir Sarder et al., who identified similar factors influencing unintended pregnancies, including marital status, marital satisfaction, sex of last birth, birth interval, family size, and alcohol or other substance use.

In the multivariable analysis, **marital status** emerged as a significant predictor, with not married women being 4.1 times more likely to experience an unintended pregnancy compared to their married counterparts (AOR 4.11, 95% CI [1.10-7.22]). This finding supports existing literature that suggests marital status plays a crucial role in determining reproductive outcomes, as unmarried women may face increased barriers to accessing family planning services and may experience less social support (Ayele et al., 2023; Sarder et al., 2022). This is particularly important given that married women may have greater access to contraceptive use and a more stable social support system, which may reduce the risk of unintended pregnancies.

Marital dissatisfaction was another key factor, with women reporting marital dissatisfaction being 6.8 times more likely to experience unintended pregnancy than those who were satisfied with their marriages (AOR 6.82, 95% CI [1.90-10.76]). This suggests that the quality of the marital relationship can significantly impact reproductive health decisions. Marital dissatisfaction often correlates with poor communication regarding family planning, which can lead to unintended pregnancies, especially in cultures where women may have less autonomy over their reproductive choices (Mohammed et al., 2021).

The study also found that **birth interval** plays a significant role in unintended pregnancies. Women who had a birth interval of less than 2 years were 2.3 times more likely to experience an unintended pregnancy compared to those with a longer birth interval (AOR 2.27, 95% CI [1.12-6.87]). This aligns with findings from other studies, which highlight that shorter birth intervals increase the risk of unintended pregnancies due to limited recovery time and lack of planning between pregnancies (Zelege et al., 2020). Additionally, short birth intervals are linked to increased health risks for both the mother and the child, emphasizing the need for adequate spacing and family planning interventions.

Family size was also a significant factor, with women having more than six children being 1.7 times more likely to experience unintended pregnancy (AOR 1.68, 95% CI [1.22-6.34]). Larger family sizes may be associated with limited resources, less access to contraception, and reduced decision-making power regarding reproductive health, all of which increase the risk of unintended pregnancies (Abebe et al., 2020). Additionally, women in larger families may face pressure from extended family members or societal expectations, limiting their ability to make autonomous reproductive decisions.

The sex of the last child was found to be another significant factor, with women whose last child was male being less likely to experience an unintended pregnancy (AOR 0.43, 95% CI [0.33-0.83]). This finding could be attributed to cultural preferences for male children in some societies, leading to increased fertility in the hopes of having a male child. Previous research has also shown that sex preferences can influence reproductive behaviors and outcomes (Harris et al., 2021).

Finally, **alcohol or substance intake** was identified as a significant factor, with women who consumed alcohol or other substances being 4.2 times more likely to experience unintended pregnancy compared to non-users (AOR 4.21, 95% CI [1.98-6.87]). Substance use, including alcohol, is often linked to risky sexual behaviors, lack of contraceptive use, and impaired decision-making, which contribute to higher rates of unintended pregnancies (Teshale et al., 2020). This emphasizes the need for targeted interventions addressing substance use in pregnancy prevention programs.

6. Strength and limitations

6.1. Strength

The strength of this study is, it is the first study on this topic to be conducted in this particular setting and its multicenter design enhances the generalizability of its findings, allowing for a broader representation of the population. Another significant strength is the focus on participants who attended their first antenatal care (ANC) visit, which minimizes recall bias by capturing data at an early stage of pregnancy, reducing the likelihood of inaccuracies associated with retrospective reporting

6.2. Limitations

Since the study is facility-based, it may not accurately reflect the true rate of unintended pregnancies within the community. This is because many individuals with unintended pregnancies may have had limited access to maternal health services, including antenatal care, and therefore were less likely to seek care at the facility.

7. Conclusion and Recommendation

7.1. Conclusion

The study revealed a 31.21% prevalence of unintended pregnancy, indicating a significant public health concern that requires targeted interventions, with significant contributing factors including marital status, marital satisfaction, birth interval, family size, sex of the last child, and substance use. Unmarried women, those with marital dissatisfaction, shorter birth intervals, larger families, and alcohol or substance users were at higher risk of unintended pregnancy. Women whose last child was male had a lower likelihood of experiencing an unintended pregnancy. These findings emphasize the need for targeted interventions focusing on improving relationship dynamics, promoting birth spacing, addressing substance use, and enhancing family planning access to reduce unintended pregnancies.

7.2. Recommendations

To address the high prevalence of unintended pregnancies in the Harari region, several actions are recommended. First, community-based education programs should be implemented to focus on sexual and reproductive health for **unmarried individuals**, highlighting family planning methods and the consequences of unintended pregnancies. Counseling services for couples should be provided to address **marital dissatisfaction** and improve communication around family planning, with an emphasis on mutual decision-making. Awareness programs promoting the benefits of **birth spacing**, educating the community about the risks of closely spaced pregnancies and promoting longer birth intervals through antenatal care and family planning services is essential. Health education campaigns should also address the impact of **alcohol and substance use** on reproductive health, alongside support programs for individuals struggling with substance use.

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9. ANNEXES

9.1. Information Sheet and Informed Voluntary Consent Form for head of Health Facility

1. Introduction: My name is Dr. Hussen Fatudin Seman. I am the principal investigator of the study to be conducted in public health facilities of harari region, Eastern Ethiopia. I am studying for my specialty in Obstetrics & Gynecology at Haramaya University, collage of health & medical science. 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 title: Prevalence and associated factors of unintended pregnancy among pregnant women attending first ANC in public health facilities of harari region, Eastern Ethiopia.

3. Purpose of the study: Knowing prevalence and associated factors of unintended pregnancy is essential to health facilities and regional health bureau, to guide program planning, implementation, monitoring and evaluation of feasible interventions through providing recommendations and suggestions. Moreover, the study will be used to write a thesis for partial fulfilment of specialty certificate in obstetrics and gynecology for the principal investigator.

4. Procedure and duration: I will be interviewing the women using a questionnaire to provide me with pertinent data that is helpful for the study. There are 36 questions to answer where I will fill the questionnaire by interviewing the women. The interview will take about 15 minutes.

5. Risks and benefits: The risk of being participating in this study is very minimal, but only taking few minutes from the women's 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 women as well as for the health planners.

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

7. Rights: Participation: for this study is fully voluntary. Participants have the right to declare to participate or not in this study. If they decide to participate, they have the right to withdraw from the study at any time and this will not label them to for any loss of benefits which you otherwise are entitled. They do not have to answer any question that they don't want to answer. The hospital 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 promises.

8. Contact address: If there are any questions or enquires any time about the study or the procedures, please contact: Principal investigator: Dr. Hussen Fatudin. E-mail: hussenfatudin3@gmail.com. Mobile phone: +251920832147

Haramaya University College of Health and Medical Sciences IHRERC at 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 procedure, the risk and benefits, issue of confidentiality, the right 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 the participant have the right to withdraw from the study at any time or not to answer any question that they do not want. I am also informed that the Hospital has 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 promises. Therefore I declared my voluntary consent on behalf ofHospital/health center management to allow this study to be conducted in.....hospital/health center.

Name and signature of Head of the facility.....Date.....

Name and signature of Principal InvestigatorDate.....

9.2. Information Sheet and Informed Voluntary Consent Form for study Participant 18 and above Years old.

1. Introduction: Hello! My name isI am working as a data collator for the study to be conducted in public health facilities of harari region, Eastern Ethiopia by Dr. Hussen fatudin, who is studying for his specialization in Obstetrics and Gynecology at Haramaya University, the Collage of Health & Medical Science. I kindly requesting you to give me your attention to explain you about the study and being selected as the study participant.

2. The study title: Unintended pregnancy and associated factors among pregnant women attending first ANC in public health facilities of harari region, Eastern Ethiopia.

3. Purpose of the study: Knowing prevalence and associated factors of unintended pregnancy is essential to health facilities and regional health bureau, to guide program planning, implementation, monitoring and evaluation of feasible interventions through providing recommendations and suggestions. Moreover, the study will be used to write a thesis for partial fulfilment of specialty certificate in obstetrics and gynecology for the principal investigator.

4. Procedure and duration: I will interview you using questionnaire to provide me with pertinent data that is helpful for the study. There are 36 questions to answer here and I will fill the questions by interviewing you. The interview will take about 15 minute. So I kindly request you to 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 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. The decision not to participate or withdraw will not affect any aspects of your future benefits from the hospital, social welfare

and medical care you need. Therefore, you have the right to declare to participate or not in this study. If you decided to participate, you have the right to withdraw from the study at any time. 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: Dr. Hussen fatudin

E-mail:hussenfatudin3@gmail.com. Mobile phone: +251920832147

Haramaya University College of Health and Medical Sciences IHRERC at 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 procedure, the risk and benefits, issue of confidentiality, the right 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 don't want. Therefore I declared my voluntary consent to participate in this study with my signature.

Name and signature of participant.....date.....

Name and signature of data collector.....date

9.3. Information Sheet and Informed Voluntary Consent Form for Parents/ Guardians/Husbands of Women below 18 years old.

1. Introduction: My name is _____. I am working as a data collector for the study being conducted in this hospital by Dr. Hussen Fatudin who is studying for his Gynecology and Obstetrics Specialty Certificate program at Haramaya University, College of Health and Medical Sciences. I kindly request you to lend me your attention to explain to you the study and your wife/daughter's participation.

2. The study title: Unintended pregnancy and associated factors among pregnant women attending first ANC in public health facilities of harari region, Eastern Ethiopia.

3. Purpose of the study: Knowing prevalence and associated factors of unintended pregnancy is essential to health facilities and regional health bureau, to guide program planning, implementation, monitoring and evaluation of feasible interventions through providing recommendations and suggestions. Moreover, the study will be used to write a thesis for partial fulfilment of specialty certificate in obstetrics and gynecology for the principal investigator.

4. Procedure and duration: I will be interviewing your daughter/wife using a questionnaire to provide me with pertinent data that is helpful for the study. There are 36 questions to be answered and I will fill out the questionnaire by interviewing her. The interview will take about 15 minutes. So I kindly request your daughter/wife to spare me this time for the interview.

5. Risks and benefits: The risk of participating for your daughter/wife in this study is very minimal, but only taking a few minutes from her time. There would not be any direct payment for participating in the study. But, the findings from this research may reveal important information for 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/wife in particular. The findings of the study will be general for the study community and will not reflect anything particular about individual persons. 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 in this study is fully voluntary. You have the right to declare whether to allow your daughter/wife to be involved in this study or not. If you would allow your daughter/wife for this study, you have the right to withdraw her from the study at any time and this will not label you/ your daughter/wife for any loss of benefits to which you/ your daughter/wife otherwise are entitled. She doesn't have to answer any question that she doesn't as well.

8. Contact address: If there are any questions or enquires any time about the study or the procedures please contact: Principal investigator: Dr. Hussien fatudin

E-mail:hussenfatudin3@gmail.com. Mobile phone: +251920832147

Haramaya University College of Health and Medical Sciences IHRERC at 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 procedure, risks and benefits, issues of confidentiality, the rights of participating, and the contact address for any queries. I have been allowed to ask questions about things that may have been unclear. I was informed that I have the right to withdraw my daughter/wife from the study at any time or not to answer any question that she doesn't want. Therefore, I declare my voluntary consent to allow my daughter/wife to participate in this study

Name and Signature of parent/guardian/husband.....Date

Name and Signature of Data Collector:Date

9.4. Information Sheet and Informed Voluntary Consent Form for study Participant 18 and above Years old (Afan Oromo Version)

1. Seensa: Maqaan Koo _____jedhama. Amma kanan dalagu akka odeeffannoo funaanaa qorannoo hospitaala ispeeshaaliitii yuunversiitii hiwoot faanaa kessatti Dr. Hussen fatudin (haramaayaa yuunversiitii koollejii fayyaa fi meedikaalaatti Barataa ispeeshaaliitii ulfaa fi gadaamessaa) tiin gaggeeffamu irratti. Kanaafuu waa'ee qorannichaa fi qorannichaaf akkamitti akka filatamtan akkan isiniif ibsu gurra akka naaf laattan kabajaan isin gaafadha.

2. Mata duree qorannoo: babal'ina fi sababoota ulfa hin yaadamne dubartoota ulfaa dhaabbilee fayyaa hawaasaa magaalaa harar keessatti bara 2024tti kunuunsa dahumsa duraa hordofan biratti

3. Kaayyoo qorannoo: Kaayyoon qorannoo kanaa qorataa muummichaaf ogummaa addaa fayyaa dubartootaa fi da'umsaa gartokkoon guutuuf akka barbaachisummaa gartokkee ta'ee qorannoo gaggeessuu fi dhaabbilee fayyaa hawaasaa magaalaa Harar keessatti dubartoota ulfaa biratti ulfa hin yaadamne keessatti babal'inaafi sababoota kanaan walqabatan beekuuf nu gargaara magaalaa.

4. Adeemsa qorannoo fi yeroo fudhatu: Gaaffii barreeffamaan odeeffannoo ijoo qorannoof ta'an argachuuf hirmaattota nan haasofsiisa. Gaaffiin barreeffamaas gaaffilee 26 kan qabuudha. Innis haadhoo dahan haasofsiisuun kan guutamuu dha. Gaaffilee guutuf daqiiqaa 15 waan fudhatuuf, akka nu faana taatan kabajaan siin gaafadha.

5. Faayidaa fi miidhaa: Qorannicharratti hirmaachuun kee miidhaa baay'ee xiqqoo qabachuu danda'a, kunis yeroo keetirraa daqiiqaa muraasa fudhachuu ta'a. Kanfaltii kallattii tokkollee hin qabu, haata'u malee odeeffannoon qorannichaan argamu qaama karoora fayyaa baasaniif iddoo guddaa qaba.

6. Iccitii eegu: Odeeffannoowwan qorannicharraa fuunannu kamiyyuu iccitiin isaa eegamaa dha. Odeeffannoon kophaatti adda baasee si ibsu hin jiru. Adeemsa qorannichaf hanga danda'ametti odeeffannowwan maqaan keessan osoo hin taane lakkoofsa koodii kennameef fayyadamna. Maqaan keessan qorannoo kanaan wal qabatee warreen walitti dhufeenya qabnuun odeeffannowwan maxxanfaman irrattin hin bahu.

7. Mirga hirmaattootaa: Qorannoo kana keessatti hirmaachuun guutummaan guututti fedhii keessanirratti hundaa'a. Qorannicharratti hirmaachuu fi dhiisuu mirga qabda. Amma

qorannorratti hirmaachuuf eeyyamtanis sa'a fedhetti yaada keessan jijjiiruu ykn hirmaachuu dhiisuu ni dandeessu. Kunis miidhaan sirraan geessisu hin jiru. Gaaffii deebisuu hin feene deebisuuf dirqama hin qabdu.

8. Teessoo: Waa'ee qorannicha ykn waa'ee adeemsa qorannichaa gaaffii yoo qabaattan teessoo itti aanu kanaan fayyadamaa.

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Yuunversiitii Haramayaa kolleejjii fayyaa fi meedikaalaa. Waajjira dhimma naamusaa qo'annaa fayyaa dhaabbatichaa Bilbila biiroo 025-4662011 Lakk/saanduqa poostaa, 235 Harar, Itoophiyaa

9. Guca walii galtee fedhiirratti hundaa'ee: Gucha odeeffannoo hirmaattota dubbise/naaf dubbifamee jira. Kaayyoo qorannichaa, adeemsa, faayidaa fi miidhaa, iccitii, mirga hirmaattootaa fi teessoo gaaffii yoon qabaadhe akkan gaafadhu sirritti hubadhee jira. Wanta naaf hin galle akkan gaafadhu carraan naaf kennamee jira. Yeroo kamiyyuu qorannicha addaa kutuu yoon barbaade mirga addaan kutuu akkan qabuu fi dabalataanis gaaffin deebisuu hin barbaanne yoo jiraate akkan hin deebifne hubadhee jira.

Kanaafuu qorannicharratti hirmaachuuf mallattoo kiyyaan nan mirkaneessa.

Maqaa fi mallattoo haadhaa:.....Guyyaa.....

Maqaa fi mallattoo odeeffannoo sassaabaa/bduu:Guyyaa.....

9.5. Information Sheet and Informed Voluntary Consent Form for Parents/Guardians/Husbands of Women below 18 Years (Afan Oromo version)

1. Seensa: Maqaan Koo _____jedhama. Amma kanan dalagaa jiru hospitaala ispeeshaalii yuunversiitii hiwoot faanaa keessatti qorannoo Dr.Huseen fetudiin (haramaayaa yuunversiitii koollejii fayyaa fi meedikaalaatti Barataa ispeeshaaliitii ulfaa fi gadaamessaa) tiin hoogganamu irratti odeeffannoo funaanaa ta'eeni. Kanaafuu waa'ee qorannichaa fi qorannichi akkamitti akka filatame akkan isiniif ibsu gurra akka naaf laattan kabajaan isin gaafadha.

2. Mata duree qorannoo: Haadholii da'umsaa bara 2024GC tti hospitaala yunivarsiitii addaa Hiwoot Faanaa, Harar, Itoophiyaa seenan keessatti babal'ina isaa, sababoota walqabataniifi bu'aa battalaa haala dha'annaa onnee daa'ima gadameessa keessa jiru kan hin tasgabboofne madaaluuf

3. Kaayyoo qorannoo: Kaayyoon qorannoo kanaa qorataa muummichaaf ogummaa addaa fayyaa dubartootaa fi dahumsaa gartokkoon guutuuf akka barbaachisummaa gartokkeetti qorannoo gaggeessuudha. Akkasumas, haadholii da'umsaa bara 2024GCtti hospitaala addaa Hiwoot Faanaa, Harar, Itoophiyaa seenan biratti babal'ina, wantoota walqabataniifi bu'aa battalaa haala dha'annaa onnee daa'ima gadameessa keessa jiru kan hin tasgabboofnee murteessuuf odeeffannoo ni kenna

Akkasumas, argannoon qorannoo kanaa HFCSUH, hojjetaa fayyaa baha Itoophiyaa, Biuroo Fayyaa Harar fi Dhaabbilee Mit-mootummaa (NGO) adda addaatiif gahee olaanaa qaba.

4. Adeemsa qorannoo fi yeroo fudhatu: Gaaffii barreeffamaan odeeffannoo ijoo qorannoof ta'an argachuuf Haadha manaa ykn intala kee nan haasofsiisa. Gaaffiin barreeffamaas gaaffilee 35kan qabuudha. Innis haadholee dahan haasofsiisuun kan guutamuu dha. Gaaffilee guutuf daqiiqaa 15 waan fudhatuuf, Haati manaa ykn intalli kee akka nu faana taatu kabajaan siin gaafadha.

5. Faayidaa fi miidhaa: Qorannicharratti hirmaachuun intalaa/haadha manaa kee miidhaa baay'ee xiqqoo qabachuu danda'a, kunis yeroo isheetirraa daqiiqaa muraasa fudhachuu ta'a. Kanfaltii kallattii tokkollee hin qabu, haata'u malee odeeffannoon qorannichaan argamu qaama karoora fayyaa baasaniif iddoo guddaa qaba.

6. Iccitii eeguu: Odeeffannoowwan qorannicharraa fuunannu kamiyyuu iccitiin isaa eegaamaa dha. Odeeffannoon intalaa/haadha manaa kee adda baasee ibsu hin jiru. Adeemsa qorannichaaf hanga danda'ametti odeeffannowwan maqaan ishee osoo hin taane lakkoofsa koodii kennameef fayyadamna. Maqaan ishee qorannoo kanaan wal qabatee warren walitti dhufeenya qabnuun odeeffannoowwan maxxanfaman irrattin hin bahu.

7. Mirga hirmaattotaa: Qorannoo kana keessatti hirmaachuun guutumaan guututti fedhii isheerratti hundaa'a. Intalli/haati manaa kee qorannicharratti hirmaachuu fi dhiisuu ishee murtteessu mirga qabda. Amma qorannoorratti hirmaachuuf eeyyamtanis sa'a fedhetti yaada ishee jijjiiruu ykn hirmaachuu dhiisuu ni dandeessi. Kunis intala/haadha manaa keerratti miidhaan geessisu hin jiru. Gaaffii deebisuu hin feene deebisuuf dirqama hin qabdu.

8. Teessoo: Waa'ee qorannicha ykn waa'ee adeemsa qorannichaa gaaffii yoo qabaattan teessoo itti aanu kanaan fayyadamaa.

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9. Guca walii galtee fedhiirratti hundaa'ee: Gucha odeeffannoo hirmaattota dubbise/naaf dubbifamee jira. Kaayyoo qorannichaa, adeemsa, faayidaa fi miidhaa, iccitiin, mirga hirmaattootaa fi teessoo gaaffii yoon qabaadhe akkan gaafadhu sirritti hubadhee jira. Wanta naaf hin gallee akkan gaafadhu carraan naaf kennamee jira. Yeroo kamiyyuu intalli/haati manaa kiyya qorannicha addaa kutuu yoo barbaade mirga adaan kutuu akkan qabuu fi dabalataanis gaaffin deebisuu hin barbaanne yoo jiraate akkan hin deebifne hubadhee jira. Kanaafuu haati manaa ykn intalli koo qorannicharratti akka hirmaattu mallattoo kiyyaan nan mirkaneessa.

Maqaa fi mallattoo warraa yknabbaa manaa: Guyyaa.....

Maqaa fimallattoo odeeffannoo sassabaa/bduu:Guyyaa.....

9.6. Information Sheet and Informed Voluntary Consent Form for study Participant 18 and above Years old (Amharic Version)

1. መግቢያ፡ እኔ ስሜ _____ የተባልኩ። በሀሮማያ ዩኒቨርሲቲ በጤናና ህክምና ሳይንስ ኮሌጅ የማህፀንና የጽንሰና ስፔሻሊቲ ሰርተፍኬት ፕሮግራም እየተማረ የሚገኘው ዶክተር ሁሴን ፈቱዲን በዚህ ሆስፒታል እያካሄደ ላለው ጥናት መረጃ ሰብሳቢ ሆኜ እየሰራሁ እገኛለሁ። በመሆኑም ስለ ጥናቱ እንዲሁም የጥናት ተካፋይ ሆኖ መመረጥዎን አስመለከቶ ለማስረዳት ጥምናዎን እንዲሰጡኝ በአክብሮት እጠይቃለሁ።

2. የጥናቱ/የፕሮጀክቱ ርዕስ፡- በምስራቅ ኢትዮጵያ የሐረር ከተማ የህዝብ ጤና ተቋማት ላይ ለመጀመሪያ ጊዜ ለቅድመ ወሊድ እንክብካቤ በመጡ ነፍስ ጡር እናቶች ላይ ያልተፈለገ እርግዝና መስፋፋት እና ተያያዥ ምክንያቶች ላይ ነው።

3. የጥናቱ ዓላማ/ዓላማ፡- ያልተፈለገ እርግዝና ሰርጭትን እና ተያያዥ ምክንያቶችን ማወቅ ለጤና ተቋማት እና ለክልል ጤና ቢሮ፣ የፕሮግራም እቅድ ማውጣትን፣ አተገባበርን፣ ክትትልን እና ምክሮችን እና አስተያየቶችን በመስጠት ሊደረጉ የሚችሉ እርምጃዎችን ለመገምገም አስፈላጊ ነው። ከዚህም በላይ ለዋና መርማሪው ጥናቱ በማህፀንና ጽንሰ ህክምና የምስክር ወረቀት በከፊል ለማሟላት መመሪያ ጽሁፍ ለመጻፍ ይጠቅማል።

4. ሂደት እና የቆይታ ጊዜ፡- ለጥናቱ አጋዥ የሆኑ ተዛማጅ መረጃዎችን ይሰጠኝ ዘንድ መጠይቁን ተጠቅሜ ቃለ መጠይቅ አደርግልዎታለሁ። እርስዎን በመጠየቅ የሚመለሱ በመጠየቁ ወስጥ 36 ጥያቄዎች አሉ። ቃለ መጠይቁም 15 ደቂቃ ያህል ይወስዳል። ስለሆነም ለቃለ መጠይቁ ወደ ጊዜዎችን በአክብሮት እጠይቃለሁ።

5. በመጠይቁ መሳተፍዎ የሚያመጣቸው ጉዳት እና ጥቅሞች፡- ከጊዜዎ ላይ ጥቂት ደቂቃዎችን ብቻ ከመውሰድ ባለፈ በዚህ መጠይቅ ውስጥ መሳተፍዎ ሊያመጣ የሚችለው አደጋ በጣም አናሳ ነው። ምንም እንኳን በጥናቱ ውስጥ ለመሳተፍ ምንም አይነት ቀጥተኛ ክፍያ አይኖርም። ከዚህ ምርምር የተገኙት ግኝቶች ለአካባቢው የጤና እቅድ አውጪዎች እንደ ጠቃሚ የመረጃ ግባት ይሆናል።

6. ሚስጥራዊነት፡- የምታቀርቡልን መረጃ ሚስጥራዊ ይሆናል። በተለይም እርስዎን የሚለይ መረጃ አይኖርም። የጥናቱ ግኝቶች ለጥናት ማህበረሰብ አጠቃላይ ምልክታዊ ይሆናል እንጂ የግለሰቦችን የተለየ ግኝት አያንፀባርቅም። መጠየቂያው የተሳታፊዎችን ስም ከማሳየት ለመገደብ ኮድ ይደረጋል። ተሳታፊዎችን ከጥናቱ ጋር ሊያገናኙ የሚችሉ የቃልም ሆነ የጽሁፍ ዘገባዎች ማጣቀሻ እንዲሆኑ አይደረግም።

7. የተሳታፊ መብቶች፡- የዚህ ጥናት ተሳትፎ ሙሉ በሙሉ በፈቃደኝነት ላይ የተመሰረተ ነው። በዚህ ጥናት ለመሳተፍም ሆነ ላለመሳተፍ የመወሰን መብት አለዎት። ለመሳተፍ ከወሰኑ በኋላም በማንኛውም ጊዜ ከጥናቱ የመውጣት መብት አልዎት ይህን ማድረግዎም እርስዎ ያለዎትን ማንኛውንም አይነት ጥቅም ወይም መብት ሊያሳጣዎት አይችልም። በመጠይቁ መሃከልም መመለስ የማይፈልጓቸውን ማንኛውንም ጥያቄ መመለስ አይጠበቅብዎትም።

8. አድራሻ፡- ስለ ጥናቱ ወይም አካሄዶቹ ማንኛውም አይነት ጥያቄዎች ወይም ገላጭችን መጠየቅ ከፈለጉ እባክዎን ያነጋግሩን፡-

ዋና መርማሪ፡- ዶ/ር ሁሴን ፈቱዲን ኢ.ሜል፡ hussenfatudin3@gmail.com

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የሀረማያ ዩኒቨርሲቲ ጤና እና ህክምና ሳይንስ ኮሌጅ ተቋማዊ ምርምር ስነምግባር የግምገማ ኮሚቴ (IHRERC) በቢሮ ስልክ: 0254662011፣ ፖ.ሳ. ቁ: 235, ሀረር, ኢትዮጵያ

9.በመረጃ ላይ የተመሰረተ የፈቃደኝነት ስምምነት መግለጫ:- የተሳታፊውን መረጃ ወረቀት አንብቤአለሁ/ ተነበልኛል። የጥናቱን አላማ፣ አሰራሩን፣ ስጋቱን እና ጥቅሞቹን፣ ሚስጥራዊነትን ጉዳዮችን፣ የመሳተፍ መብቶችን እና ለማንኛውም ሊኖረኝ ለሚችሉ መጠይቆች የመገናኛ አድራሻውን በግልፅ ተጠቁሜያለሁ። ግልጽ ባልሆኑ ጉዳዮች ላይ ጥያቄዎችን እንድጠይቅ እድል ተሰጥቶኛል። በማንኛውም ጊዜ ከጥናቱ የመውጣት ወይም የማልፈልገውን ማንኛውንም ጥያቄ ላለመመለስ መብት እንዳለኝ ተነገሮኛል። ስለዚህ፣ በዚህ ጥናት በራሴ ተነሳሽነት ለመሳተፍ ፈቃደኝነቴን ሰጥቻለሁ።

የተሳታፊው ስም እና ፊርማ:-..... ቀን

የመረጃ ሰብሳቢው ስም እና ፊርማ:- ቀን.....

9.7. Information Sheet and Informed Voluntary Consent Form for Parents/Guardians/Husbands of Women below 18 Years (Amharic version)

1. መግቢያ: እኔ ስሜ _____ የተባልኩ። በሀሮማያ ዩኒቨርሲቲ በጤናና ህክምና ሳይንስ ኮሌጅ የማህፀንና የጽንሰና ስፔሻሊቲ ሰርተፍኬት ፕሮግራም እየተማረ የሚገኘው ዶክተር ሁሴን ፈቱዲን በዚህ ሆስፒታል እያካሄደ ላለው ጥናት መረጃ ሰብሳቢ ሆኜ እየሰራሁ እገኛለሁ። በመሆኑም ስለ ጥናቱ እንዲሁም የጥናት ተካፋይ ሆኖ መመረጥዎን አስመለከቶ ለማስረዳት ጥምናዎን እንዲሰጡኝ በአክብሮት አጠይቃለሁ።

2. የጥናቱ ርዕስ በምስራቅ ኢትዮጵያ የሐረር ከተማ የህዝብ ጤና ተቋማት ላይ ለመጀመሪያ ጊዜ ለቅድመ ወሊድ እንክብካቤ በመጡ ነፍሰ ጡር እናቶች ላይ ያልተፈለገ እርግዝና መስፋፋት እና ተያያዥ ምክንያቶች ላይ ነው።

3. የጥናቱ ያልተፈለገ እርግዝና ስርጭትን እና ተያያዥ ምክንያቶችን ማወቅ ለጤና ተቋማት እና ለክልል ጤና ቢሮ፣ የፕሮግራም አቅድ ማውጣትን፣ አተገባበርን፣ ክትትልን እና ምክሮችን እና አስተያየቶችን በመስጠት ሊደረጉ የሚችሉ እርምጃዎችን ለመገምገም አስፈላጊ ነው። ከዚህም በላይ ለዋና መርማሪው ጥናቱ በማህፀንና ጽንሰ ህክምና የምስክር ወረቀት በክፍል ለማሟላት መመሪያዎች ጽሁፍ ለመጻፍ ይጠቅማል።

4. ሂደት እና የቆይታ ጊዜ:- ለጥናቱ የሚረዳ ጠቃሚ መረጃ እንዲሰጡኝ መጠይቁን ተጠቅሜ ሴት ልጅዎን/ሚስትዎን ቃለ መጠይቅ አደርጋለሁ ። እሷን በመጠየቅ መጠይቁን የምሞላበት 36 ጥያቄዎች መመለስ ይጠበቅባታል። ቃለ መጠይቁ 15 ደቂቃ ያህል ይወስዳል። ለዚህም ሴት ልጃችሁ/ሚስትዎ በዚህ ጊዜ ለቃለ መጠይቁ ለማሳተፍ የርስዎን መልካም ፈቃድ በትህትና አጠይቃለሁ።

5. አደጋዎች እና ጥቅሞች:- በዚህ ጥናት መሳተፍ ለሴት ልጅዎ/ሚስትዎ የሚሰጠው እድሉ በጣም አናሳ ነው፣ ነገር ግን ከእርሷ ጊዜ ጥቂት ደቂቃዎችን ብቻ ነው የሚወስደው። በጥናቱ ውስጥ ለመሳተፍ ምንም አይነት ቀጥተኛ ክፍያ አይኖርም። ነገር ግን፣ ከዚህ ምርምር የተገኙት ግኝቶች ለአካባቢው የጤና አቅድ አውጪዎች ጠቃሚ መረጃን ሊያሳዩ ይችላሉ።

6. ሚስት ጥራት:- ከዚህ ጥናት የምንሰበስበው መረጃ ሚስት ጥራት ይሆናል። በተለይ ሴት ልጅዎን/ሚስትዎን የሚገልጥ መረጃ አይኖርም። የጥናቱ ግኝቶች ስለሚጠናው ማህበረሰብ አጠቃላይ ይሆናል እንጂ የግለሰቦችን የተለየ ነገር አያንፀባርቅም። ከመለኪያዎቹ የምንሰበስበው መረጃ ስሞችን ማሳየትን ያስወግዳል። ተሳታፊዎችን ከጥናቱ ጋር ሊያገናኙ የሚችሉ የቃል ወይም የጽሁፍ ዘገባዎች ላይ ማጣቀሻ አይደረግም።

7. መብቶች:- የዚህ ጥናት ተሳትፎ ሙሉ በሙሉ በፈቃደኝነት ነው። ሴት ልጅዎን/ሚስትዎን በዚህ ጥናት ውስጥ እንድትሳተፍ ወይም እንዳትሳተፍ ለመፍቀድ የመወሰን መብት አልዎት። ሴት ልጅዎን/ሚስትዎን ለዚህ ጥናት ከፈቀዱ በማንኛውም ጊዜ ከጥናቱ የማስወጣት መብትም አሎት እና ይህ እርስዎ/ሴት ልጅዎ/ሚስትዎ በሌላ መልኩ እርስዎ/ሴት ልጅዎ/ሚስትዎ ሊያገኟቸው ከሚችሉት ጥቅማ ጥቅሞች እርስዎን/ሴት ልጅዎን/ሚስትዎን አያግድም። እሷም ፈቃደኛ ያልሆነችውን ማንኛውንም ጥያቄ መመለስ የለባትም።

8. የመገኛ አድራሻ:- ስለ ጥናቱ ወይም አካሄዶቹ ማናቸውም ጥያቄዎች ወይም ጊዜ የሚጠይቅ ከሆነ እባክዎን ያነጋግሩ:- ዋና መርማሪ:- ዶ/ር ሁሴን ፈቱዲን ኢሜል: hussenfatudin3@gmail.com

የሞባይል ስልክ: +251-92083217

የሀረማያ ዩኒቨርሲቲ ጤና እና ህክምና ሳይንስ ኮሌጅ ተቋማዊ ምርምር ስነምግባር የግምገማ ኮሚቴ (IHRERC) በቢሮ ስልክ: 0254662011፣ ፖ.ሳ. ቁ: 235, ሀረር, ኢትዮጵያ

9. በመረጃ ላይ የተመሰረተ የፈቃደኝነት ስምምነት መግለጫ፡-የተሳታፊውን መረጃ ወረቀት አንብቤአለሁ/ አንብቤያለሁ። የጥናቱን አላማ፣ አሰራሩን፣ ስጋቱን እና ጥቅሞቹን፣ ሚስጥራዊነትን ጉዳዮችን፣ የመሳተፍ መብቶችን እና ለማንኛውም መጠይቆች አድራሻውን በግልፅ ተረድቻለሁ። ግልጽ ባልሆኑ ጉዳዮች ላይ ጥያቄዎችን እንድጠይቅ እድል ተሰጥቶኛል። ሴት ልጄን/ባለቤቴን በማንኛውም ጊዜ ከጥናቱ የማስወጣት ወይም የማትፈልገውን ማንኛውንም ጥያቄ ላለመመለስ መብት እንዳለት ተነግሮኛል። ስለዚህ፣ ሴት ልጄ/ባለቤቴ በዚህ ጥናት እንድትሳተፍ መፍቀዴን በፈርማዬ አረጋግጣለሁ

የወላጅ/አሳዳጊ/ባል ስም እና ፊርማ፡-..... ቀን

የመረጃ ሰብሳቢው ስም እና ፊርማ፡-_ቀን

9.8. Questionnaires

1. Code of Participant (given by PI)

2. Date of Interview in G.C

3. Name of institution.....

Part I: Socio-Demographic factors

No.	Variables	Response	Skip
1	Maternal age (in years)years	
2	Place of residence	1. Rural 2. Urban	
3	Religion?	1. OrthodoxChristian 2. Muslim 3. Protestant 4. Other -----	
4	Marital status?	1. Not marride 2.Married 3. Divorced 4. Widowed	
5	Are you the only wife for your husband?	1. Yes 2. No	
6	Marital Satisfaction Inventory (MSI) tool used to assess marital satisfaction (indicate how much you agree or disagree for each question with scale of (1= Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5=Strongly Agree)		
	My partner and I communicate openly and honestly		
	We discuss our problems in a constructive manner		
	I feel that my partner listens to me attentively		
	I feel emotionally supported by my partner.		
	We regularly express affection towards each other (e.g., hugs, kisses)		
	I feel loved and appreciated in this relationship		
	I feel close and connected to my partner		
	My partner understands my feelings and needs		
	. I am comfortable sharing personal thoughts and feelings with my partner		
	I am satisfied with the frequency of our sexual activity		
	My sexual needs and desires are adequately met		
	We communicate openly about our sexual preferences and needs		
	We effectively resolve conflicts		

	without escalating them		
	I am satisfied with the way we handle disagreements.		
	My partner and I work together to address and solve problems		
	We have similar long-term goals and aspirations.		
	Our core values and beliefs are aligned		
	We plan our future together in a way that is mutually satisfying		
	I am content with the roles and responsibilities I have in the relationship		
	My partner and I have a clear understanding of our respective roles		
	The division of responsibilities in our relationship feels fair to me		
	Overall, I am satisfied with my relationship		
	This relationship contributes positively to my overall happiness.		
	I feel fulfilled in my relationship		
7	Your educational status?	1. No formal education 2. Primary 3 Secondary. 4 Collage and above	
8	Your husband/partner educational status?	1. No formal education 2. Primary 3 Secondary. 4 Collage and above	
9	Your main occupation?	1. Housewife 2.Farmer 3. Merchant 4.Government employee 5. Private employee	
10	Your Husband/partner main occupation?	1.Farmer ...2.Merchant 3. Government employee 4. Private employee	
11	Average monthly income of family in ETB??	
12	Family size in number??	
13	Number of under five children in the house?	
14	How many minutes does it take for you to travel from your home to the nearest health facility?"	a) Less than 10 minutes, b) 10-19 minutes. c) 20-29 minutes. d) 30-39 minutes) e).40 minutes or more	

Part II: Reproductive factors

No.	Variables	Response	Skip
1	. Your age at first marriage?years old	
2	Your age at first pregnancyyears?	
3	Your age at first birth.....?years?	
4	Gravidity	
5	Parity	
6	How many alive children do you have?	
7	Sex of your children?	Male.....and female.....	
8	Age of your last child?"		
9	Do you have history of stillbirth?	1.Yes 2.No	
10	Did you have history of abortion?	1.Yes 2.No	
11	What type of abortion was it?	1. Induced 2. Spontaneous	
12	Do you have history of unintended pregnancy?	1. Yes 2. No	
13	If unintended, reason?	1. No use of contraceptive 2.Method failure 3.Husband/partner pressure 4.Others.....)	
14	Current pregnancy intended?	Yes 2. No	
15	If yes, type of up?	1.Mistimed 2.unwanted	

Part III: contraceptive knowledge and utilization

No.	Variables	Response	Skip
1	Have you ever used any form of contraceptive?	1. Yes 2. No	
2	Source of information about contraceptive?	1. radio 2.television 3.health profession 4.friends	
3	Awareness towards contraceptive methods types?	1.pills 2.injectables 3.implants 4.IUCD 5.Sterilization	
4	Spousal communication about contraceptive	1.Yes 2.No	
5	Contraceptive Knowledge Scale (CKS) was used For assessing contraceptive knowledge (1 point for each correct answer.)		
	Which of the following is a method of contraception?"	a) Birth control pills. b) Condoms. c)Intrauterine Device .d) All of the above	
	How frequently should oral contraceptive pills be taken?	a) Daily. b) Weekly. c) Monthly. d) Only during intercourse	
	Which contraceptive method is considered most effective at preventing pregnancy?	a) Condom. b) Birth control pill. c) IUD (Intrauterine Device). d) Withdrawal method	
	What are common side effects of hormonal contraceptives?"	a) Nausea. b) Weight gain. c) Headaches. d) All of the above	

	What is the primary purpose of emergency contraception?	a) To prevent STD b) To prevent pregnancy after unprotected sex. c) To regulate menstrual cycles. d) To treat infertility	
	How long does a contraceptive implant typically last before needing replacement	a) 1 year. b) 3 years. c) 5 years. d) 10 years	
	Which of the following conditions might contraindicate the use of hormonal contraceptives?"	a) High blood pressure. b) Diabetes. c) Asthma. d) Allergies	
6	Do you gate modern contraception at nearby health facility?	1. Yes 2. No	
7	Cultural norms on contraceptive use?	1.yes 2. No	

Part IV: Behavioral and Social factors

1	General Decision-Making Style (GDMS) Scale used for assessing decision-maker autonomy of women in the house. Scale each question 1 to 5 (1=Strongly Disagree 2= Disagree 3. =Neutral 4.=Agree 5.=Strongly Agree)		
	I use a systematic approach to make decisions.		
	I consider all possible options before making a decision		
	I gather all necessary information before making a decision		
	I analyse the pros and cons of each option before deciding.		
	I rely on my intuition when making decisions		
	I trust my instincts when choosing between options		
	I tend to follow my feelings rather than detailed analysis.		
	I prefer to seek advice from others before making a decision		
	I often look for guidance from others when faced with a difficult decision.		
	I consult with friends or family before making important decisions.		
	I find it helpful to get input from others when making decisions.		
	I avoid making decisions when possible.		
	I often put off making decisions until the last		

	minute.		
	I feel uncomfortable making decisions and try to avoid them		
	I tend to delay decision-making to avoid responsibility		
	I make decisions quickly without spending much time on analysis		
	I often make decisions on the spur of the moment.		
	I prefer to make decisions rapidly rather than taking time to deliberate		
	I rely on immediate feelings to make decisions rather than detailed analysis		
2	The HITS scale tool will be used to assess intimate partner violence, Scale each question 1 to 5, (1=Never 2=Rarely 3= Sometimes 4.=Often 5=Very Often)		
	In the past 12 months, how often has your partner hurt you physically?		
	In the past 12 months, how often has your partner insulted or belittled you?		
	In the past 12 months, how often has your partner threatened you with physical harm?		
	In the past 12 months, how often has your partner screamed or shouted at you?		
3	Oslo Social Support Scale (OSSS) tool will be used to assess level of social support		
	How many close friends or relatives do you have?	1. None 2. One .3. Two or three 4.Four or more	
	How often do you have someone to confide in?	1. Never 2. Sometimes 3.Often 4.Always	
	How often do you get the kind of help or support you need from friends or family?	1. Never 2.Sometimes 3. Often 4. Always	
4	Do you drink alcohol or take any other substance?	1. Yes 2. No	

9.9. Curriculum Vitae (CV)

Personal Information

Full name: Hussen fatudin Seman

Sex: Male.

Date of birth: -11/04/1991 G.C

Nationality: Ethiopian

Age: 32 years

Marital Status: married

Place of birth: Somali region, / Zone, Jigjiga

Current Address: Jigjiga, Ethiopia.

Language proficiency: English, Amharic and Somali: Excellent Speaking, Writing, Reading and Listening.

Personal Mobile: +251920832147

E-mail address: hussenfatudin3@gmail.com

Educational background

June, 2010: Certificate of high school completion

August 2012: Ethiopian higher education entrance qualification certificate

Degree of Medical Doctor: Faculty of Medical Science & Department of Medicine October, 2018 G.C Bahir dar University, Ethiopia.

Work experience

I have two years and three months of working experience as general practitioner followed by four years of experience in obstetrics and gynecology as residency.

Interest

I am interested in reading new discoveries and research papers. Helping others in need and participating in charity organization are my hobbies.

9.10. Approval Sheet

Haramaya University
School of Postgraduate Programs Directorate

**Unintended Pregnancy and Associated Factors among Pregnant Women Attending
Public Health Facilities of harari region, Eastern Ethiopia**

Submitted by:

_____	_____	_____
Name of Student	Signature	Date

Approved by:

_____	_____	_____
Name of Major Advisor	Signature	Date

_____	_____	_____
Name of Co-Advisor	Signature	Date

_____	_____	_____
Research Thematic Area Leader	Signature	Date

_____	_____	_____
Name of Chairman, DGC/SGC	Signature	Date

_____	_____	_____
Dean, PGPD	Signature	Date