



ASRAT WELDEYES HEALTH SCIENCE CAMPUS

SCHOOL OF NURSING & MIDWIFERY

DEPARTMENT OF NURSING

**ABNORMAL UTERINE BLEEDING AND ITS ASSOCIATED FACTORS AMONG
REPRODUCTIVE AGE WOMEN IN WOLDIA TOWN, AMHARA REGION, ETHIOPIA,
2023**

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DEBRE BERHAN, ETHIOPIA

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Abstract

Introduction: Abnormal uterine bleeding is the most common complaint among reproductive age women. The prevalence of abnormal uterine bleeding varies significantly from country to country. It seriously affects women's quality of life, productivity, and ability to engage in social and professional interactions. However, data on abnormal uterine bleeding in Ethiopia are limited and also the factors that affect abnormal uterine bleeding are inconsistent.

Objective: -This study aimed to assess the prevalence of abnormal uterine bleeding and associated factors among reproductive-age women in Woldia town, North-Wollo, Ethiopia, 2023.

Methods: Community-based cross-sectional study design was employed from April 1 to April 15 /2023. One thousand two hundred thirty-two (1232) women were selected by using simple random sampling technique (computer generator random number). Data was collected by using pre-tested structured interviewer-administered questionnaire. The collected data was checked for its completeness and coded, then entered into EPI data version 4.6 and exported to SPSS version 26 for analysis. Bi-variable and multivariable binary logistic regression were used to identify an association between the outcome and predictor variables.

Result; - A total of 1200 women participated in the present study with a response rate of 97.4%. Out of the total study participants 36.5% 95% CI (33.8-39.3) participants had abnormal uterine bleeding. The most prevalent patterns were heavy menstrual bleeding (20%). Multi-variable logistic regression analysis revealed that late reproductive age (AOR=4.11, 95% CI: (2.99-5.63), regular smoker (AOR=1.78, 95% CI: (1.04-3.05), hypertension (AOR=2.25, 95%CI (1.13-4.47) and had high stress (AOR=4.69, 95% CI: (3.57-6.19) were statistically significant associations with abnormal uterine bleeding.

Conclusion & recommendation:

The findings of this study suggested that advanced age, high blood pressure, regular cigarette smoking, and high levels of stress all contributed to abnormal uterine bleeding. Women should change their lifestyles to lower their blood pressure, feel less stressed, and stop smoking in order to control abnormal uterine bleeding. Women in their late reproductive years should also receive additional therapies, examinations, and counseling.

Keywords: Abnormal uterine bleeding, Reproductive age, Woldia, Ethiopia.

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Abbreviations /Acronyms

AOR:	Adjusted Odd Ratio
AUB:	Abnormal Uterine Bleeding
BMI:	Body Mass Index
COR:	Crude Odd Ratio
DBU:	Debre Berhan Universty
FIGO:	International Federation of Gynaecology and Obstetrics
HMB:	Heavy Menstrual Bleeding
IMB:	Inter menstrual Bleeding
NGO:	Non-Governmental Organization
QoL	Quality of Life
US:	United States

1. Introduction

1.1 Background

Abnormal uterine bleeding (AUB) is a general term used to describe any deviation from normal menstruation or from the normal menstrual cyclic pattern and characteristics. Prior to the previous ten years, there was much ambiguity due to the inconsistent usage of the term "menstrual" to refer to both normal and pathological uterine bleeding. The Terminology used to describe abnormal uterine bleeding has been varied and inconsistent. The International al Federation of Obstetrics and Gynecology (FIGO) recently established new definition and a standardized classification system for menstrual disorders [1, 2].

The classification is based on frequency, length, regularity, volume, and inter-menstrual bleeding and incorporates a conventional menstrual pattern index. Acute AUB is a bleeding episode in a woman of reproductive age who is not pregnant that is severe enough to call for emergency medical attention in order to stop future blood loss. In contrast, chronic AUB is described as uterine bleeding that is unusual in frequency, duration, and/or volume that has existed for the past three months. A typical menstrual cycle has a frequency of 24 to 38 days, lasts 2 to 8 days, and results in average menstrual blood loss which can't interfere with the woman's physical, emotional, social and maternal quality of life [1-3].

Prior definitions of heavy menstrual bleeding identified it as blood loss greater than 80 mL per cycle or episode. The more modern, patient centered definition proposed by National Institute for Care and Excellence (NICE) defines Heavy Menstrual Bleeding (HMB) as an excessive menstrual loss that affects with the physical, social, emotional, maternal quality of life rather than utilizing PBAC (Pictorial Blood Assessment Chart) scores or objective measurements of volume [4, 5]. Assessment of patients' menstrual abnormality is standard of care for clinicians caring for menstruating individuals [6].

Abnormal uterine bleeding is one of the most prevalent gynecologic complaints among women of reproductive age, its magnitude varies from 30 % to 65 % worldwide[7, 8]. The worldwide impact of AUB varies from modest to severe disruption of work productivity and quality of life to contribution to maternal morbidity and mortality for pregnant women with preexisting AUB-related anemia [9, 10] .The effect AUB more significantly affect in all sub scales of the SF-36 scale quality of life [11].

In the developing world, the high prevalence of iron deficiency in women has been linked to a number of factors, including abnormal uterine bleeding [12].In Ethiopia the prevalence and associated factor of abnormal uterine bleeding is limited and which may differ from other country due to socio-demographic, nutrition, and genetic factors [13]. Therefore, this study was done to assess the prevalence and its associated factors of abnormal uterine bleeding among reproductive age women in Woldia town.

1.2. Statement of the Problem

In the entire world, at least one in three women will experience abnormal uterine bleeding at some point in their lives. These abnormalities are most common during reproductive age [14]. In an estimated 1.4 million cases of AUB are reported annually in the United States (US) [15, 16]. Abnormal uterine bleeding occurs more frequently in Asia between 38.7% and 64.2% of cases [17, 18].

AUB prevalence varies across Africa, 3.77 % to 19.4 % in Cameroon and Bloemfontein, South Africa respectively [19, 20]. According to a study conducted in Jimma, Ethiopia, 34.1 percent of women experienced abnormal uterine bleeding [13]. Abnormal uterine bleeding leads to negative views that restrict social and professional interactions [21]. These problems can have a variety of effects, such as social exclusion, reduced educational chances, loss of fertility, and developing anemia [22].

Abnormal uterine bleeding is known to have a significant impact on productivity, an increase in the utilization of healthcare services, and a cost associated with medicines and surgical procedures [7, 23]. Abnormal uterine bleeding can result in anemia, which can affect pregnant women's perinatal outcomes [12]. It has a longer-term effect on later life conditions such as osteoporosis, infertility, future diabetes mellitus (DM), and cardiovascular disease [24, 25].

Numerous nighttime toilet visits to switch off menstruation protection cause sleep loss in many women [26]. According to a US research, each patient suffers annual financial losses of more than \$2,000 because of missed work and home maintenance costs [27]. The effects of AUB on Quality of Life (QoL) have been well-documented, including more days off from work or school, higher rates of depression, and lower QoL scores compared to those without AUB [28]. According to a study conducted in Pakistan, AUB has a detrimental impact on anemia, fatigue, and some sub dimensions of quality of life [29].

Abnormal uterine bleeding problem have a serious impact on the life of the women and the community at large [7, 30]. AUB is a serious worry since it could be particularly strong indication of some serious illnesses in women and because it could interfere with the daily activities of women. But the women by themselves, their partners, and the community give less attention and concerns to mitigate its consequent in psychosocial and maternal and birth outcomes related implications [31].

The majority of published studies conducted on menstrual disorders in Ethiopia revealed the severity of dysmenorrhea, premenstrual symptoms, and associated factors [32]. However, none of them examined the magnitude of and associated factors of abnormal uterine bleeding among women of reproductive age except the study done in Jimma and Debre-Berhan.

Even though the study done in Debre-Berhan was institutional (among university students) and concentrated on the same age group [33]. But this study is conducted in community among all reproductive age group. Whereas the study done in Jimma was used previous AUB pattern terminology [13]. In addition to that the factor that affect abnormal uterine bleeding are inconsistent. In this respect, this study was conducted by adding some variable, increase sample size, more clear and updated terminology.

Therefore, this research aids in determining the magnitude and associated factor of abnormal uterine bleeding among women of reproductive age in Woldia town, North Wollo, Ethiopia. by using the standard of abnormal uterine bleeding definition and terminology which was prepared by International Federation of Obstetrics and Gynecology [1].

1.3. Significance of the study

This research aids in determining the prevalence and associated factor of abnormal menstrual bleeding in Woldia town. This research aims to bridge the gap in research about prevalence and associated factor of abnormal uterine bleeding among reproductive age women. It provides a fresh perspective and it's contribute factor for abnormal uterine bleeding.

This will make it assist for local health planners, organizations, bureaus, and decision-makers to carry out their plans and apply them for evidence-based practice. This study will also serve as a tool for policy makers in their effort to address this crucial social problem in the perspective of prioritizing area of national concern. Additionally, the findings can be utilized as a reference by people who want to intervene and, in fact, by those who want to cite this study as a secondary source.

2. Literature Review

This section reviewed the related literature and built upon previous research regarding to prevalence & associated factor of AUB. The researcher reviewed various studies by different International scholars. Socio demographic, reproductive, life style related, chronic and history of underline disease factor may have association with AUB.

2.1 Prevalence of Abnormal Uterine Bleeding

Around 3% to 30% of women are thought to experience abnormal uterine bleeding globally. In the United States, it is estimated that 1.4 million cases of AUB are reported each year [27]. European study, 27.2% of respondents reported having two or more of the HMB symptoms within the preceding year [12, 15]. According to a Population-based cross sectional study conducted in Tehran, Iran showed that, a total of 35.8% of the participants suffered from one or more types of AUB [7]. Similarly, a Population-based cross sectional survey conducted in Beijing, China showed that prevalence of AUB was 18.2% [34]. Besides a national survey research carried out in Japan, 13.1% of women had abnormal uterine bleeding [35]. Another a study done Palpa, Nepal showed prevalence of abnormal uterine bleeding was (8.9%) [36].

Similarly, an institution based cross sectional study conducted in Cameroon showed that the frequency of AUB was 3.7% [19]. Other study done in Bloemfontein, South Africa showed 19.4% prevalence of AUB particularly HMB [20]. In Ethiopia, a community -based cross-sectional study was conducted in Jimma, and Debre-Berhan Ethiopia, revealed 34.1% and 32.6 % experienced Abnormal uterine bleeding respectively [13, 33].

2.2 Menstrual Patterns

According to a Cross sectional analytical study conducted in Pakistan Naval Ship (PNS) Shifa Karachi showed that, The most common presentation was HMB (50.54%) followed by irregular menstrual bleeding (17.93%) [37]. A sectional study conducted in Tehran, Iran showed that, 10.6% of them had disturbances of regularity, 23.8% reported experiencing disturbances of frequency [7]. Similarly, study conducted in a tertiary care hospital Pradesh, India showed that heavy menstrual bleeding in 64% followed by inter menstrual bleeding in 18% of cases [38].

A study conducted in Western Kenya showed that prolonged bleeding was the most common (41.7%) [39]. Similarly a study conducted at Yaounde Cameroon showed that, heavy menstrual bleeding was the most common reason for consultation [19]. A cross sectional study done in jimma

Ethiopia showed that the prevalence of irregular menstrual bleeding, heavy menstrual bleeding, inter-menstrual bleeding, frequent, and absence of menstrual bleeding in reproductive aged women was 59 (26.2%), 54 (24%), 46 (20.4%), 35 (15.5%), and 25 (11.1%), respectively[13].

2.3 Factors Associated with Abnormal Uterine Bleeding

2.3.1 Socio-demographic factors

According to a population based cross-sectional study conducted in Iran showed that the proportions of women with AUB rose in the early and late reproductive years [7]. A study done in Beijing, China showed that younger age women were significantly associated with the presence of HMB [34]. A Study done in US family physician reported that age had related with ovulatory dysfunction result in abnormal uterine bleeding [40, 41]. A community-based cross-sectional descriptive survey conducted in Swedish suggested that younger women (< 26 years old) are significantly more likely than older women (> 37 years old) to regard moderate blood loss as very heavy [21]. In line with the study done in India, Pakistan and Korea [37, 42-45].

According to a Cross sectional analytical study conducted Pakistan Naval Ship (PNS) Shifa Karachi revealed that 95 (51.63%) cases of AUB were of middle socioeconomic group, 67 (36.41%) of low and 22 (11.95%) of higher socioeconomic status [37]. Similarly, an institution-based cross sectional study conducted in, Uttar Pradesh, India. [43]. However the study done in jimma (age, marital status, occupational status, educational status and level of income were not significant association with abnormal uterine bleeding[13].

2.3.2 Menstrual and Reproductive Characteristics

According to a descriptive cross-sectional study conducted in University of Ibadan, Nigeria, there was no statistically significant association between age at menarche and prevalence of menstrual disorder [46]. In line with a cross sectional survey conducted at University of Uyo, South Eastern Nigeria [47]. Similarly, a study done in Debre Berhan university revealed that early menarche had not significantly associated with AUB [33].

According to a Cross sectional analytical study conducted in Pakistan Naval Ship (PNS) Shifa Karachi showed that, AUB was common in parous women [37]. A prospective cohort study done in the Medical College and Hospital, Silchar, Assam found that AUB is more common with high parity [44]. Similarly, an observational study conducted in Bangladesh [48]. in line with an observational study conducted, at Kerala tertiary care hospital, India [43, 49]. Similarly prospective cross sectional study conducted at `Hospital of Yaounde, Cameroon showed that

Women who had at least one pregnancy were the most affected by AUB [19].

2.3.3 Life style related factors

An observational study conducted at a multispecialty hospital, India excessive weight and a high BMI in women is expected to increase incidence of abnormal uterine bleeding [50]. Similarly, a study conducted in Shahrood city, Samnan, Iran reported a strong association between obesity and AUB [51]. In addition to another study in Fudan University, Shanghai, China also showed that BMI is positively associated with menstrual blood loss in women of reproductive age [52]. consistent with the study done in Iran AOR= 1.05 (1.02 3.04) [7].

A Population-based cross sectional survey conducted in Beijing, China showed that HMB women who regularly consume Alcohol were more likely to have HMB than women who Never consume alcohol (OR=2.88; CI 95% 1.32–6.28). [34]. A similar result was obtained from the Danish web-based pregnancy planning study, which linked high alcohol consumption (≥ 14 drinks per week) with a 48% increase in risk of heavy periods [53]. Across sectional study done in Korea smoking had significantly associated with abnormal uterine bleeding [54, 55]. Consistently, other Prospective cohort study conducted in new York Smoking is Associated with Increased Risk of abnormal uterine Bleeding [56]. It is supported by another study smoking affect ovarian hormone [57].

A cross sectional study conducted in China revealed that students who had high stress were correlated with abnormal uterine bleeding [58-60]. A study conducted in Imam Abdulrahman Bin Faisal University, Dammam, Saudi Arabia showed strong association between stress and AUB [60]. More over another study's showed that chronic stress had significantly associated with abnormal uterine bleeding [61-63]. Another study conducted in debre-berhan Ethiopia's showed that a high level of perceived stress was associated with AUB (AOR =3.322 (1.858–5.940) [33].

2.3.4 Chronic and History of Underlying Disease

A prospective longitudinal study done in Australian women showed that chronic hypertension increase risk of abnormal uterine bleeding, specifically heavy and irregular menstrual bleeding [64]. Supported by study done in (Toronto), Canada [65].

A retrospective cross sectional study done in china Showed that about 30.8 % of women with AUB have a comorbidity medical problem with Hypertension followed by diabetes and thyroid disorders [66, 67]. A cross-sectional study conducted in Tertiary Care Center of Walled City of Delhi, India found that the prevalence of hypothyroidism and hyperthyroidism in patients with

menstrual disorders is almost two times higher than in the control population [68]. A prospective study conducted in India also concludes that there is a high prevalence of thyroid disorders in cases which are clinically diagnosed as abnormal uterine bleeding [69]. Another study conducted in Debre-Berhan Ethiopia thyroid disorder had significant association with abnormal uterine bleeding (AOR=3.927) (CI 1.325–11.636) [33].

A Population-based cross sectional survey conducted in Beijing, China showed that multiple abortions (≥ 3) was associated with a more than two-fold increase in the risk of AUB particularly HMB (AOR=2.70; 95%CI: 1.51–4.80) [34]. While no incremental risk was found among women with fewer numbers of abortions [8]. Moreover a study conducted in Jimma, Ethiopia showed that, participants who had history of abortions were associated with a more than one and half fold increase in the risk of AUB (AOR=1.5, 95% CI: 1.02–2.41) [13].

A population-based cross sectional survey conducted in Beijing, China also showed that history of uterine fibroid was associated with a more than one and half fold increase the risk of abnormal uterine bleeding (HMB) [34]. In line with a study done in a tertiary care hospital in Bihar, India [42]. According to a population based cross-sectional study conducted in Jimma, Ethiopia showed that, History of uterine fibroids was associated with AUB (AOR= 3.83, 95% CI: 1.85-7.94) [13]. A study done in India showed that Women having a history of IUCD usage increases the risk of AUB [70]. According to a population based cross-sectional study conducted in Jimma, Ethiopia showed that, Women having a history of IUCD usage increase the risk of AUB (AOR =2.1, 95% CI: 1.39–2.97) [13].

According to a study done in India History of STIs was associated with an increase in the risk of AUB [71]. Similarly population based cross-sectional study conducted in Jimma History of abnormal uterine bleeding was significantly higher among the women with history of Sexually transmitted diseases (AOR=2.2, 95% CI: 1.33–3.66) [13]. Von Willebrand's disease is the most prevalent of all inherited bleeding disorders and is associated with heavy menstrual bleeding in adolescents [72]. A study conducted in KIMS University, Karad, Maharashtra, India, Anemia had statically significance with abnormal uterine bleeding [73]. Another study conducted in Debre-Berhan Ethiopia demonstrated that there was a significant association b/n previous history of diagnosed anemia and abnormal uterine bleeding AOR=2.145 (1.337–3.441) [33].

3. Conceptual Framework

Socio demographic, reproductive, life style related, chronic and history of underline disease factor may have association with dependent variable. It was adapted after reviewing different literature.

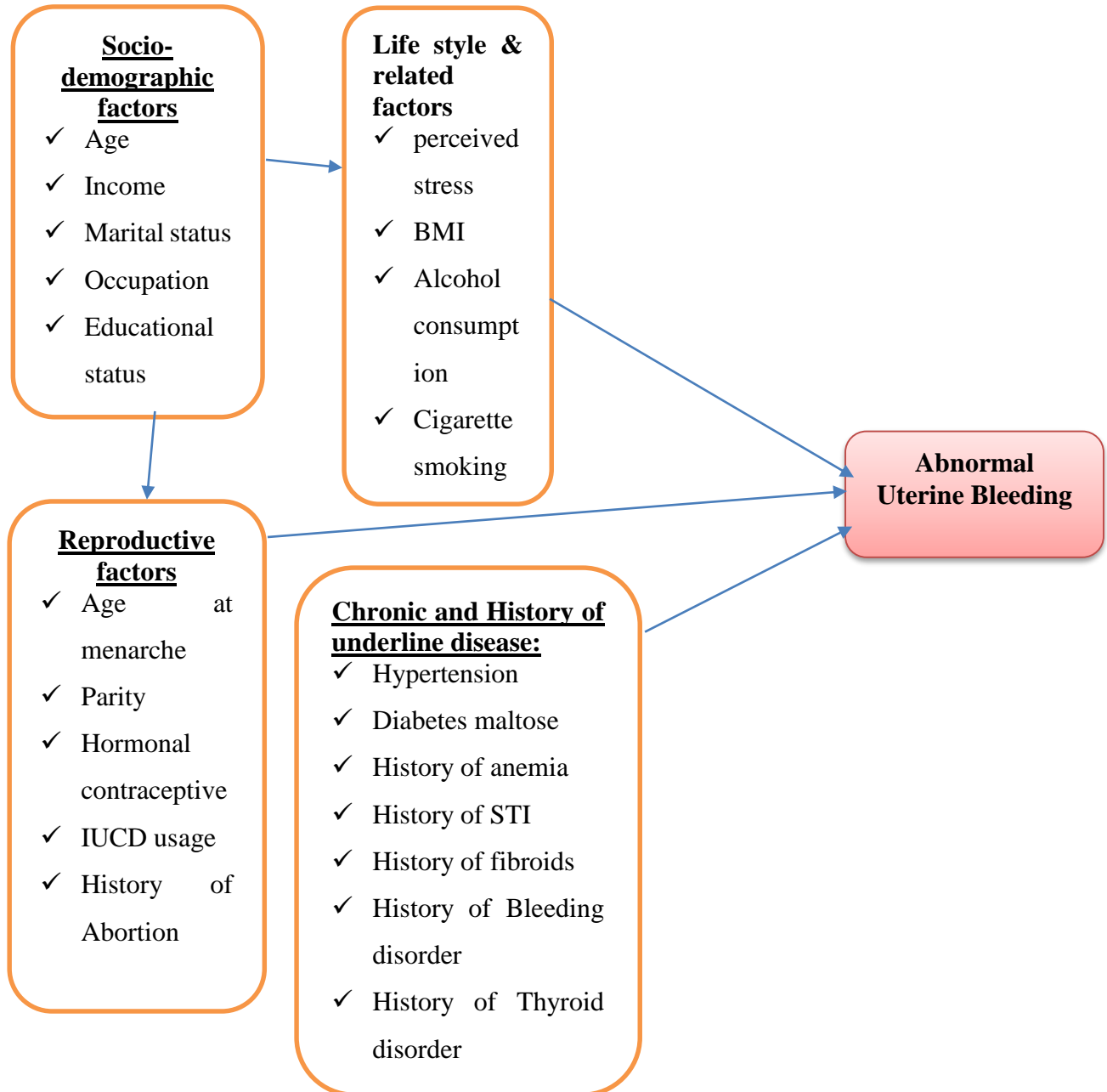


Figure 1: Conceptual Framework to assess factors associated with AUB among reproductive age women of Woldia town, Nort East Ethiopia, 2023.

[7, 8, 13, 19, 33, 34, 44, 49, 50, 52].

4. Objectives

General Objective

- To assess the prevalence of abnormal uterine bleeding and associated factors among reproductive age women of Woldia town, North Wollo, Ethiopia, 2023.

Specific Objectives

- To determine the prevalence of abnormal uterine bleeding among reproductive age women of Woldia town, North Wollo, Ethiopia, 2023.
- To identify factors associated with abnormal uterine bleeding among reproductive age women of Woldia town, North Wollo, Ethiopia, 2023.

5. Method and material

5.1 Study Area and Period

The study was conducted in Woldia town, North Wollo, Ethiopia. Woldia is a capital city of North Wollo which is located 521kms from Addis Abeba, the capital city of Ethiopia, 358km south west from Bahir Dar city of Amhara regional state. The town has 15 kebele and the estimated total population of the town is 83,806 of which male population constitute 42,976 and female account for 40,830. out of the total population 18,356 of them were reproductive age group [74]. Regarding the health service, the town comprises one comprehensive hospital, two health centers, eight medium private clinics and one non-profit non-governmental Organization (NGO) (family guidance association).

5.2 Study Design & period

A community based cross sectional study was conducted from April 1 to April 15/2023.

5.3. Source population

All reproductive age women who are living in woldia town were source of population.

5.4 Study population

Selected reproductive age woman who are living in the selected Kebele of woldia town was the study population.

5.5 Inclusion and exclusion criteria

5.5.1 Inclusion criteria

All women of reproductive age group who had been living in selected kebeles of Woldia town for at least 6 months.

5.5.2 Exclusion criteria

Women of reproductive age group who are pregnant, had hysterectomy, oophorectomy, early menopause, severely sick and breastfeeding women were excluded.

5.6 Sample Size Determination

The sample size for this study was determined by using a single proportion formula by considering the following assumptions: take a $p=0.341\%$ (prevalence of AUB) [13], 95% level of confidence, and 5% margin of error.

$$\text{Thus, } n = \frac{(Z \alpha/2)^2 p (1-p)}{d^2} = \frac{(1.96)^2 0.341(0.659)}{0.0025} = 346$$

Where:

n = the desired calculated sample size

$Z_{\alpha/2}$ = is the standard normal variable at $(1-\alpha)$ 100% confidence level and α is mostly 5%.

d = margin of error (5%) = 0.05

p = 34.1% (prevalence of AUB taken from previous study conducted in Jimma, Ethiopia)

$q=1-p=1-0.341=0.659$.Moreover, the total sample becomes 346.

For the second objective which is to identify associated factors calculated using Epi-info version-7 by adding proportion of variable among unexposed and exposed, which is taken from previous studies and the calculated sample size is displayed in the table below.

Table 1; Sample size calculation for the second objective (selected associated factors) using Epi-info assuming two-sided confidence level = 95%, power = 80% and ratio.

S.no	Associated factors	AOR	P1= proportion among unexposed	P2 = proportion among exposed	n = total sample size	Ref.
1	History of Abortion	1.5	14%	20.5	1120	[13]
2	History of STI	2.2	11.2%	20.4%	552	[13]
3	History of uterine fibroids	3.8	35.5%	20.9%	324	[13]
4	IUCD usage	2.1	23.4%	38.4%	320	[13]
5	Regular-Alcohol consumption	2.78	15.5%	34.5%	182	[34]
6	High-perceived stress level	3.32	28.5%	63.8%	76	[33]

Therefore, the largest sample were $n = 1120$ and 10% non-response rate, the final sample size becomes $n= 1232$

5.7 Sampling techniques

Eight Kebeles were selected randomly from total of 15 Kebeles of Woldia town. The final sample size was proportionally allocated to each kebele based on the number of reproductive age women. Based on the information given from Woldia city administrative health bureau and each kebele health extension workers, there are a total number of 10,041 reproductive age women in all selected kebeles. The total number of reproductive age women in each Kebele is: kebele 01 (1351), kebele 04 (1221), Kebele 06 (1206), Kebele 09 (1276), kebele 10 (1220), Kebele 11 (1236) kebele 12 (1249) and Kebele 15 (1282).

Reproductive age women were selected by simple random sampling technique (computer random number generator) from list of family folder available in the health post. When there is a reproductive age women but closed houses during data collection, try again three times the following day.

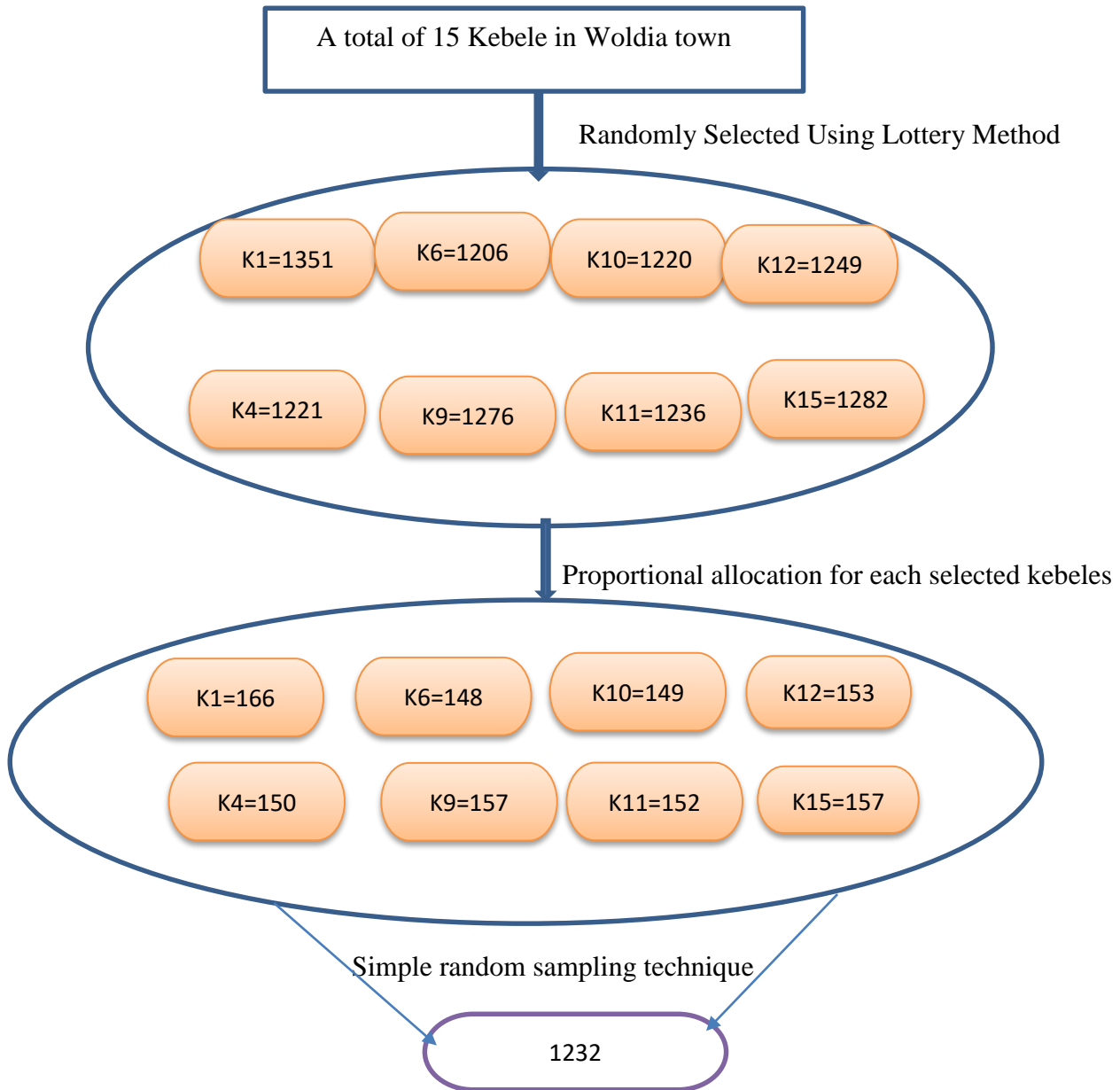


Figure 2; Schematic presentation of sampling procedure of the study on the assessment AUB and its associated factors among reproductive age women in Woldia town, 2023.

5.8 Data Collection method and quality assurance

Data were collected by using by using Amharic version interviewer administered pre-tested, structured questionnaire which is adopted from similar studies [7, 8, 13, 19, 33, 34, 37, 49, 52, 56]. It has 4 parts, the first containing questions on socio-demography information. The second part address Information regarding menstruation and reproductive characteristics. The third part concerning chronic and history of diagnosed disease. The final part address life style related factors. Eight female diploma midwives for data collection and two BSc midwife supervisors were recruited. One day training to data collectors and supervisors were given by principal investigator. Supervisors and principal investigator were closely follow the data collection process.

Height and weight were assessed on the same day after the interview completed by trained data collectors using standardized techniques and equipment. Weight was measured in kilogram, using a standard portable weighing scale and Height was be taken in meters using portable stadiometer. Perceived stress level was measured with the Perceived Stress Scale (PSS). In each day, principal investigator and supervisors were collect the completed questioners from the data collectors and checked for missed and incomplete data. Data quality was maintained by using carefully designed questionnaire translating from English to Amharic and back to English. A one day training for data collectors and supervisors were given.

Before actual data collection, pretest was carried out with 5% of reproductive age women in Dessie town to check the soundness of data collection tool and to determine the time taken for data collection. Data collectors and supervisors were giving necessary introduction and instruction to the woman and give clarification on the questions or any problem that was raised during data collection. The supervisors were check the activities of each data collectors and all the filled questionnaires for its completion, clarity and completeness.

5.9 Study Variables

5.9.1 Dependent variable

Abnormal uterine bleeding

5.9.2 Independent Variables

Socio-demographic variables: age, educational status, monthly income level, occupation, and marital status.

Life style related factors; Body mass index, alcohol consumption and cigarette smoking, perceived stress.

Reproductive characteristics; Parity, age at menarche, hormonal contraceptive IUCD usage & history of Abortion.

Chronic and History of underline disease; history of uterine fibroids, History of STI, Hypertension, history of diagnosed anemia, Diabetes maltose, history of bleeding disorder and thyroid disorder.

5.10 Operational Definitions

Abnormal uterine bleeding (AUB): is defined as any variation from the normal menstrual cycle including alteration frequency, duration and amount of blood loss over the previous three month and menstrual irregularity assess by asking shortest to longest variation over a period of six month. If any one of bleeding pattern doesn't fall under the typical range is considered abnormal uterine bleeding [1, 7, 8, 13].

Absent menstrual bleeding (amenorrhea): No bleeding in a 90-day period [1, 7, 13].

Body mass index (BMI): It is defined as a person's weight in kilograms divided by the square of the person's height in meters (kg/m²). Based on the calculated BMI, the study participants were classified as underweight (BMI < 18.5), normal weight (BMI 18.5–24.9), overweight (BMI 25–29.9), and obese (BMI ≥ 30) [13, 75].

Age at menarche: is the age at which the participants start their first menstruation and for the purpose of this study it's categorized as: Early menarche: ≤ 12 years old, Medium/average menarche: 13-14 years old and Late/Delayed menarche: ≥ 15 years old [33].

Smoking status is divided into three categories: non-smoker, occasional, regular (at least one cigarette per day for at least six consecutive months [13, 34].

Alcohol consumption is categorized as non-drinker, occasional (drinking alcohol less than one time per week), regular (drinking alcohol at least one time per week) [13, 34].

Perceived stress level is measured by Perceived Stress Scale (**PSS**), there are 7 questions to ask them about their feelings and thoughts. Individual scores on the PSS can range from 0 to 21 .Each answer was scored 0 to 3. PSS is scored by summing across all scale items. The cut-of values for stress limit were set at 15.The scores less than the cut of values considered low stress and also scores greater than or equal to cut-of values considered as high perceived stress level [33].

5.11 Data process and analysis

The collected data was checked for its completeness and coded, then entered to Epi-data version 4.6 and transported to SPSS version 26 for analysis. Descriptive analysis, such as frequencies, percentage, and means, was done. Bivariable and multivariable binary logistic regression were used to identify an association between the outcome and predictor variables. Independent variables having a p value less than 0.25 in the bivariable analysis was taken to the final model. Then variables were transported to multivariable binary logistic regression to identify significant variables and to control the confounding effects. In the multivariable adjusted odds ratio with its 95% confidence interval and a p value of less than 0.05 was used to identify statistically significant factors. Hosmer and Lemeshow's goodness-of-fit test were done and the value was 0.126.

5.12 Ethical consideration

Ethical clearance was received from the Institutional Review Board (IRB) of Debre-Berhan University (DBU), Asrat Woldeyes health science campus. The official letters were submitted and permission were obtained from zonal health offices, and Woldia city administrative health bureau. Data collectors were trained on keeping confidentiality of the respondents and consistence of all variable. The participants were informed about the purpose of the study, their right to refuse and assurance of confidentiality. The participants were also informed of their full right to skip or ignore any questions or terminate their participation at any stage.

5.13 Dissemination Plan

The results of thesis will be presented and submitted to Debre-Berhan University Asrat Woldeyes Health Sciences campus, School of Nursing and Midwifery, department of nursing. A copy of findings will be disseminated to Woldia town health offices, North Wollo zonal health offices and other concerned body. Furthermore, efforts will be made to disseminate the result on different professional conferences and publish on reputable international journals.

6. Result

6.1 Socio-demographic characteristics of participants

A total of 1200 participated in this study, yielding a response rate of 97.4 %. The mean (\pm SD) age of the respondent was 32.5 (\pm 8.74) years, ranging from 15 to 49 years. The majority of respondents 846 (70.5%) were married. Regarding educational status of participants, 428 (35.7%) were not formally educated, and 462 (38.5%) had primary education. Concerning the occupation of the participants, 596 (49.8%) were house wife and 149(12.4%) were employer. The mean (\pm SD) average income of respondents were 2424 \pm 1580 ETB (Table 2).

Table 2 Socio-demographic characteristics of women for abnormal uterine bleeding among reproductive age women in Woldia town, North east Ethiopia, (n=1200).

Variable	Category	Frequency (n)	Percent (%)
Age	15-19	147	12.3
	20-40	738	61.5
	41-49	315	26.2
Marital status	Single	234	19.5
	Married	846	70.5
	Divorce	90	7.5
	Widowed	30	2.5
Educational status	Had no formal Education	428	35.7
	Primary school	462	38.5
	Secondary & above	310	25.8
Occupational status	House Wife	596	49.8
	Daily-laborer	154	12.8
	Merchant	300	25
	Employer	149	12.4
Income (ETB)	<1000	198	16.5
	1000-1999	324	27
	2000-2999	330	27.5
	\geq 3000	348	29

6.2 Life style characteristic of participants.

More than three fourth of study participants, 961 (80%), had normal body mass index. Sixty-seven respondents (5.6%) were regular drinker. Seventy-nine (6.6%) were regular cigarette smokers. (Table-3)

Table3: Lifestyle characteristics of women for abnormal uterine bleeding among reproductive age women in Woldia town, North East Ethiopia, 2023 (n=1200).

Variable	Category	Frequency(n)	Percentage (%)
Body Mass Index (BMI)	Under weight	33	2.8
	Normal	961	80
	Overweight	158	13.2
	Obese	48	4
Perceived Stress level	Low Stress	666	55.5
	High Stress	534	44.5
Alcohol consumption	Never	978	81.5
	Occasionally	155	12.9
	Regularly	67	5.6
Smoking	Never	1069	89.1
	Occasionally	52	4.3
	Regularly	79	6.6

6.3 Reproductive characteristic of participants.

Out of 1200 respondents, 47(3.9 %) women had history of abortion. From all, 492(59%) of the study respondents have ever used contraceptive. From this 208 (17.3%) have ever used an IUCD. Regarding to parity; 246 (20.5), 450 (37.5) and 504(42%) were nulli-para, primi-para and multi-para respectively. The majority of respondents regarding to menarchal age 566 (47.1) were delayed. (Table 4).

Table4: Reproductive characteristics of women for abnormal uterine bleeding among reproductive age women in Woldia town, North East Ethiopia, 2023(n=1200).

Variable	Category	Frequency(n)	Percentage (%)
Hormonal Contraceptive	Yes	492	59
	No	708	41
History of Abortion	Yes	1153	96.1
	No	47	3.9
History of IUCD	Yes	208	17.3
	NO	992	82.7
Menarcheal-age	Early	152	12.7
	Average/Normal	482	40.2
	Delayed	566	47.1
Parity	Nulli-para	246	20.5
	Primi-para	450	37.5
	Multi-para	504	42

6.4 Chronic and underline disease characteristics of participants

Concerning with chronic disease Fifty-one (4.3 %) had hypertension and Sixty-four (5.3%) had diabetes. Of the total of participants 78(6.5), 129(10.8%), 16(1.3%), 45(3.8%) had history of STIs, Anemia, bleeding disorder and thyroid disorder respectively (Table5).

Table 5: Chronic and History of underline Disease characteristics of women for abnormal uterine bleeding among reproductive age women in Woldia town, North East Ethiopia, 2023 (n=1200).

Variable	Category	Frequency(n)	Percentage (%)
Hypertension	Yes	51	4.3
	No	1149	95.7
Diabetes	Yes	64	5.3
	No	1136	94.7
Uterine Fibroid	Yes	122	10.2
	No	1078	89.8
STIs	Yes	78	6.5
	No	1122	93.5
Anemia	Yes	129	10.8
	No	1071	89.2
Bleeding Disorder	Yes	16	1.3
	No	1184	98.7
Thyroid Disorder	Yes	45	3.8
	No	1155	96.2

6.5 Prevalence and pattern of abnormal uterine bleeding

Out of the total study participants, 438 (36.5%) 95% CI (33.8-39.3) respondents had abnormal uterine bleeding.

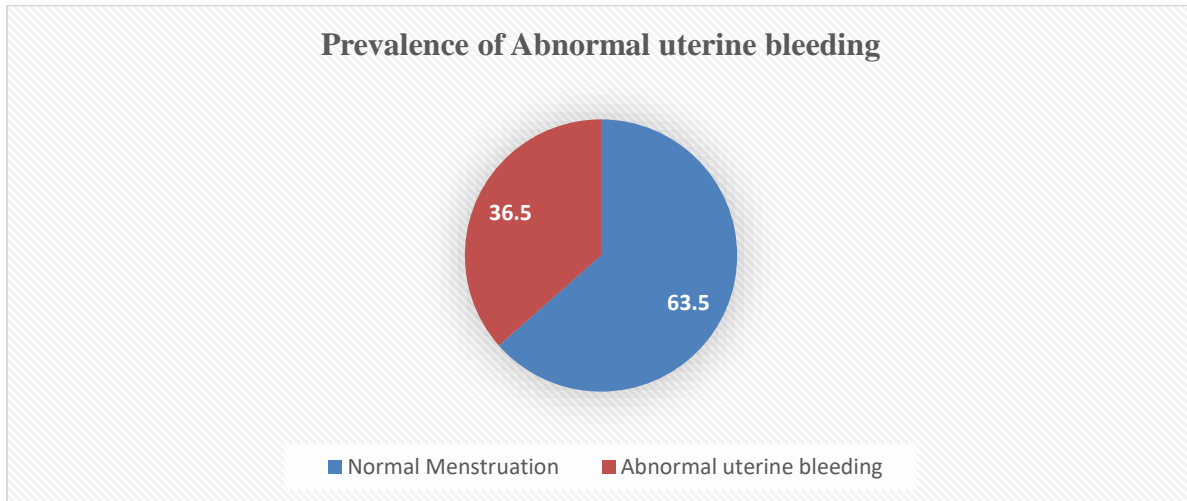


Figure 3: Prevalence of abnormal uterine bleeding among reproductive age women in Woldia town, North East, Ethiopia, 2023(n=1200).

Among those who had AUB, the prevalence of heavy period, Inter-menstrual bleeding, prolong period, frequent, Infrequent, irregular, and absence of menses was 240 (20%), 234 (19.5), 114 (9.5), 114 (9.5), 102 (8.5), 90 (7.5), and 60 (5%) respectively.

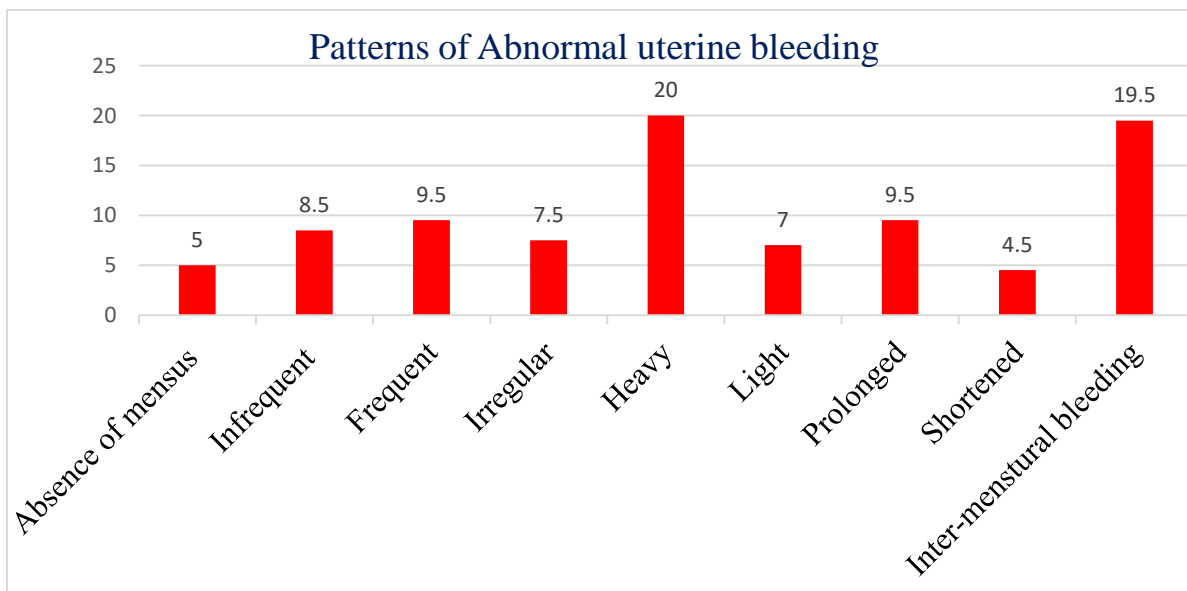


Figure 4; Pattern of abnormal uterine bleeding among reproductive age women in Woldia town North East, Ethiopia 2023(n=1200)

6.6 Factor Associated with Abnormal Uterine Bleeding (AUB)

In bivariate analysis age, history of abortion, history of STI, hypertension, Diabetes, Drink alcohol, stress, body mass index (BMI) and smoking cigarette were significantly associated with abnormal uterine bleeding(AUB) at a p-value ≤ 0.25 . In adjusted analysis, age (late reproductive age), high stress level, had hypertension and regular smoking remained significantly associated with abnormal uterine bleeding.

According to the present regression, the odd of abnormal uterine bleeding among women of late reproductive age was 4.11 times more likely when compared with women with mid reproductive age group (AOR=4.11, 95% CI: (2.99-5.63)). Women with hypertension were 2.25 times more likely than non-hypertensive women to experience abnormal uterine bleeding (AOR=2.25 95%CI; (1.13-4.47)). Women who smoke cigarette regularly were two 1.78 times more likely to had abnormal uterine bleeding compared to non-smokers (AOR=1.78, 95% CI:(1.04-3.05)). Moreover, the odds of abnormal uterine bleeding among women who had high stress were 4.69 times higher when compared with their counterparts (AOR=4.69, 95% CI: (3.57-6.19) **(Table-6)**).

Table 6: Bi-variable and multivariable logistic regression analysis of factors associated with abnormal uterine bleeding of women among reproductive age women in Woldia town, North East Ethiopia, 2023 (n=1200).

Variable	Category	AUB		(COR 95% CI)	AOR (95%CI)
		Yes	No		
Age	15-19	55	92	1.65 (1.14-2.40)	1.38 (0.93-2.08)
	41-49	187	128	4.04 (3.06-5.33)	4.11 (2.99-5.63)***
	20-40	196	542	1	1
Abortion	Yes	27	20	2.44 (1.35-4.40)	1.79 (0.92-3.498)
	No	411	742	1	1
STI	Yes	35	43	1.45 (0.91-2.31)	1.32 (0.77-2.25)
	No	403	719	1	1
Stress level	High	294	240	4.44 (3.45-5.71)	4.69 (3.57-6.17)***
	Low	144	522	1	1
Smoking	Occasional	16	36	0.81 (0.45-1.48)	1.17 (0.60-2.27)
	Regular	44	35	2.29(1.45-3.65)	1.78 (1.04-3.05)**
	Never	378	691	1	1
Hypertension	Yes	32	19	3.08 (1.73-5.51)	2.25 (1.13-4.47)**
	No	406	743	1	
Diabetes	Yes	35	29	2.19 (1.32-3.64)	1.74 (0.92-3.28)
	No	403	733	1	1
Body Mass Index(BMI)	Under	12	21	1.03 (0.50-2.12)	0.43 (0.16-1.12)
	Over	65	93	1.26 (0.89-1.78)	1.17 (0.78-1.76)
	Obese	18	30	1.08 (0.59-1.97)	1.27 (0.65-2.49)
	Healthy	343	618	1	1
Drinking-Alcohol	Occasional	60	95	1.08 (0.77-1.54)	0.74 (0.49-1.12)
	Regular	19	48	0.68 (0.39-1.18)	0.76(0.42-1.39)
	Never	359	619	1	1
***Significant association p<0.01					
**Significant association p(0.01-0.05)					

7. Discussion

This study assessed the prevalence and factors associated with AUB among reproductive age women in Woldia town, Amhara region, North East Ethiopia. According to this study, 36.5% 95% CI (33.8-39.3) of women had abnormal uterine bleeding and also its prevalence was higher when the age confined to older women. The finding was in line to the study conducted in Jimma and Tehran (Iran) with a prevalence of 34.1 & 35.8% respectively [7, 13]. This resemblance may be explained by the fact that both studies were community-based studies that focused on women in their reproductive years.

On the other hand, this finding was higher than that of study which was conducted in Debre-Berhan with a prevalence of 32.6% [33]. This discrepancy might be due to difference in study setting and study period. Also the prevalence of AUB in this study was higher than in studies done in Cameroon, South Africa, China, Japan, and Nepal, which revealed 3.7%, 19.4%, 18.2, 13.1, and 8.9 correspondingly [19, 20, 34-36]. This discrepancy might be due to the inadequate health service coverage, poor attitude toward health, and lack of health education programs. In the present study heavy menstrual bleeding was most prevalent pattern of abnormal uterine bleeding (20%) among women. This is supported by a study conducted in (Tehran) Iran and china [7, 34]. The similarity may be both research include reproductive age women's participants.

However HMB in the present study lower than the study done in Kenya, Europe, India and Pakistan with the prevalence of 41.7%, 27%, 64 and 50.4 % respectively [12, 37-39]. The possible reason might be due to study setting (this studies conducted community based cross sectional study), which may decrease the prevalence of heavy menstrual bleeding. Inter-menstrual bleeding in the present study was 19.5 (95% CI (17.3 -21.7) in line with the study done in Jimma, western Kenya, and India with a prevalence of 20.4%, 18.5% and 18% respectively [13, 38, 39].

In addition to reporting the magnitude and pattern of abnormal uterine bleeding among reproductive age women, the present study was also aimed at identifying factors associated with abnormal uterine bleeding. Accordingly, late reproductive age women, had high stress level, had hypertension and regular smokers were independent factor associated with abnormal uterine bleeding.

The likelihood of having abnormal uterine bleeding among women of late reproductive age was 4.11 times more likely when compared with women with mid reproductive age group (AOR=4.11, 95% CI: (2.99-5.63)). This result is in line with the study done in Tehran (Iran) [7]. On contrary the study done in China, Swedish and India early reproductive age significantly associated with abnormal uterine bleeding [21, 34, 37]. This might be there were fewer teenage girls (12.3%) in this study than in others and difference in study setting. However, the study conducted in Korea found that getting older was the most protective factor against abnormal uterine bleeding [45]. This study's inclusion of more women's who were over 40 may be the cause of the disparity

According to several research, abnormal uterine bleeding become more common in the year's nearest to menopause. Ovulation irregularities are typical during peri-menopause and are not always an indication of underlying disease. Ovulatory dysfunction frequently results in menstrual bleeding that is irregular, heavy, or prolong duration. In this regard ovulatory cycles has a significant etiology for abnormal uterine bleeding during menopausal transition [40, 41].

In this study abnormal uterine bleeding among women who had high level of perceived stress were 4.69 times higher when compared with low stress level (AOR=4.69, 95% CI: (3.57-6.19). This finding is supported by a study conducted in Debre-Berhan and also agreed with another study's done in Korea, stress had a significant association with abnormal uterine bleeding [61, 62]. Moreover the current study also in line with the study done Saudi Arabia, and china [33, 58, 60]. This could be due that stress can an increase in endorphins and cortisol secretion which interrupt menstrual cycle by creating an imbalance in the level of reproductive hormone. As a result, women who are under a lot of stress may have abnormal uterine bleeding compared to those who did not sense as much stress [63].

The likelihood of having abnormal uterine bleeding among women who had hypertension was 2.25 times more likely when compared with a woman who did not have hypertension (AOR=2.25 95%CI ; (1.13-4.47). In line with the study done in Austria, chronic hypertension had a significant association with abnormal uterine bleeding [64]. This could be as a result of the fact that high blood pressure can harm body blood vessels, including those in the uterus. This injury impair

blood flow to the uterus and ovaries, causing irregular periods, heavy bleeding, or even menstruation to not occur [65].

This study showed that women who had regular smokers were 1.78 times more likely to had abnormal uterine bleeding compared to non-smokers(AOR=1.78, 95% CI: (1.04-3.05). This finding is in line with the study done in Korea smoking habit were significantly associated with abnormal uterine bleeding [54, 55]. It is agreed with a prospective cohort study conducted in New York smoking is associated with increased risk of abnormal uterine Bleeding [56].

However, according to a study conducted in Jimma and Debre Berhan, smoking were not significantly association with abnormal uterine bleeding [13, 33]. The difference in the study setting and the number of smokers may be the cause of this discrepancy. This is due to the fact that Smoking alters hormone levels, specifically androgen production over estrogen production, and may cause a hypo-estrogenic state that results in abnormal uterine bleeding. This is accomplished by raising the levels of HPA axis hormones, such as adrenocorticotrophic hormone, cortisol, and dehydroepiandrosterone [57].

8. Conclusion

The prevalence of abnormal uterine bleeding among reproductive age women in Woldia town was 36.5%. The most prevalent patterns were heavy menstrual bleeding (20%), inter-menstrual bleeding (19.5%), and prolonged duration 9.5%, frequent (9.5%), infrequent 8.5 % & irregular 7.5% respectively. Women who had high stress, hypertension, regular smoker and late reproductive age were the variable associated with abnormal uterine bleeding.

9. Recommendation

The following recommendations are made for the following relevant bodies based on the study's findings.

To Ethiopian Ministry of health and their stakeholder should;-

- Establish national guidelines for handling cases as well as conduct extensive national research on abnormal uterine bleeding.

To health care providers should;-

- Provide extra medical attention for women with abnormal uterine bleeding in their late reproductive years since they may be clinical indicators of underlying diseases that pose a major risk to their health.
- Provide evidence-based counseling to reduce perceived stress level.
- Screening, medication, and lifestyle change counseling for a hypertensive woman to decrease blood pressure.
- Take the menstrual cycle into account as a "vital sign" that can indicate the need for a medical examination.

To reproductive age women

- Should discard all of the cigarettes, lighters, and ashtrays they have in their house and automobile. As well as avoiding situations that you are aware make you desire to smoke.
- Get more physical activity, minimize phone use and screen time, practice self-care ,spend time with friends and family to lower stress level is recommended.

To researchers:-

- Finally, advised to conduct a longitudinal study to assess abnormal uterine bleeding among women's, their quality of life as well as behavior in terms of seeking medical attention.

10. Strength and limitation of the study

Strength

- Community based, with a relatively large sample size would allow for an effective investigation.
- To lessen social desirability bias, only female data collectors were assigned.

Limitation

- The cause-and-effect relationship maybe affected by temporality issues due to the nature of the cross-sectional study design.

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12. Annexes

Annex I: information sheet and Consent form

DEBRE-BERHAN UNIVERSITY
ASRAT WOLDEYES HEALTH SCIENCE CAMPUS
DEPARTMENT OF NURSING
STUDY ON ABNORMAL UTERINE BLEEDING AND ITS ASSOCIATED FACTORS
AMONG REPRODUCTIVE AGE WOMEN OF WOLDIA TOWN, ETHIOPIA, 2023.

Information Sheet

Greeting: Good morning/afternoon!

My name is----- . I am working as a data collector for the study being conducted on Prevalence of Abnormal Uterine Bleeding and its associated factors among reproductive age women of woldia town, Ethiopia, 2023.

The Aim of this study is; to assess the prevalence of Abnormal Uterine Bleeding and its associated factors among reproductive age women of Woldia town, Ethiopia, 2023.

Confidentiality: The information you will provide me will be confidential. There will be no information that will identify you in particular.

Rights: Participation for this study is fully voluntary. You have the right to declare to participate or not in this study. If you decide to participate, you have the right to withdraw from the study at any time. Some of the questions may be very personal and might be difficult to answer or talk about them but for many it is found to be helpful / useful opportunity to talk. You are just kindly requested to share your experience; you may stop the interview or fail to answer questions that might make you uncomfortable. Participation to this study has neither directly benefit nor risk. However your answers have their own contribution to understanding the issues and helping other women in the country. Some of the questions may have more than one answer.

Procedure and duration: Totally the questionnaire contains 38 questions. And some of the questions may have more than one answer as alternatives. The interview will take approximately 20-30 minutes. Do you have any questions?

Do you agree to be interviewed?

Yes continue to the next page No Thank the participant

Individual Consent Form

First I would like to thank you for taking your time and participating in our study.

I the undersigned participated in the study on “Abnormal Uterine Bleeding and its associated factors among reproductive age women in Woldia town, April, 2023” on my free will and interest after being oriented about the purpose of the study.

Can you sign for your voluntariness?

Yes ----- No-----

Interviewer name: ----- Signature -----

Date -----

If you have any questions or need further information regarding this study you can contact the principal investigator at the following addresses.

Adem Yesuf +251920793686 Email: ademyesuf333@gmail.com

Do you have any question that you want to ask me about the study?

Assent Form for youth Aged 15-17 years:

I am inviting your child to participate in a research study about" Abnormal uterine Bleeding and associated factors among reproductive age women in Woldia town, Ethiopia, 2023.”

Therefore, I would like to inform you that your child & I would have a short discussion concerning this study. Before we go to our discussion, I will request you to listen carefully to what I am going to read to you about the purpose & general condition/environment of the study.

Are you willing to let your child to participate in this study?

Yes_____ No_____

Signature_____ Date_____

Annex II. English and Amharic Versions Questionnaire

Part I Socio-demographic characteristics of the respondents

S. no	Socio-demographic Questions	Response	Skip	Code
101	How old are you (in completed year)?	----- years		
102	Currently, what is your marital status?	0. Single 1. Married		

		2. Divorced 3. Widowed		
103	What is your educational status?	0. Can't read and write 1. Can read and write 2. Primary school 3. Secondary school 4. College and above		
104	What is your Occupation status?	0. House wife 1. Daily Laborer 2. Merchant 3. Employer		
105	How much is your Monthly average income?	----- ETB		

Part II: Reproductive and menstrual cycle pattern

201	How many pregnancies do you experiences?	-----	
202	How old were you when you start menstruating?	_____ (years)	
203	Did your period return on the same interval/day?	0.Yes 1.No	If yes skip to 206
204	How long was the longest period in the last six month?	-----days.	
205	How long was the shortest period in the last six month?	-----days.	
206	How do you describe your menses volume of flow in the last 3 month?	0. Light 1. Normal 2. Heavy	For all 3 month data list
207	How long does your period last in the last 3 months?	-----days.	For all 3 month data list

208	How long was the interval between the first day of one menses and the first days of next menses?	-----	For all 3 month data list
209	Do you have Spontaneous bleeding occurring between menstrual periods?	0. No 1. Yes	
210	Do you have previous history of abortion?	0. No 1. Yes	
211	If Yes for Q 16 How many abortion do you have?	-----	
212	Do you have previous history of IUCD use?	0. No 1. Yes	
213	Do you take any form of hormonal contraceptives?	0. No 1. Yes	
214	If yes to Q19, what form of contraceptive?	0. Pills 1. Injectable 2. Implant 3. others(Specify)___	

Part III: Medical history

S.no	Questions	Response	Remark/note
301	Do you have previous history of diagnosed STI?	0. No 1. Yes	
302	Do you have previous history of diagnosed Uterine fibroids?	0. No 1. Yes	
303	Do you have previous history of diagnosed anemia?	0. No 1. Yes	
304	Do you have previous history of diagnosed Bleeding disorder?	0. No 1. Yes	

305	Do you have diagnosed Hypertension?	0. No 1. Yes	
306	Do you have history of diagnosed thyroid disorders?	0. No 1. Yes	
307	Do you have diagnosed Diabetes Maltose?	0. No 1. Yes	
Part; IV Life style related factor			
401	Did you smoke cigarette?	0. Non-smoker 1. Occasionally smoke 2. Regularly	
402	How often do you have a drink containing alcohol?	0. Non-drinker 1. Occasionally Drinking 2. Regularly drinking	
Stress Factor			
403	How often have you been upset because of something that happened unexpectedly?	0. Never 1. sometimes 2. Very often	
404	How often have you felt that you were unable to control the Important things in your life?	0. Never 1. Sometimes 2. Very often	
405	How often have you felt nervous and stressed?	0. Never 1. sometimes 2. Fairly often	
406	How often have you felt confident about your ability to handle your personal problems?	0. Never 1. Sometimes 2. Very often	



407	How often have you felt that things were going your way?	0. Never 1. Sometimes 2. Very often	
408	How often have you been able to control irritations in Your life?	0. Never 1. Sometimes 2. Very often	
409	How often have you been angered because of things that happened that were outside of your control?	0. Never 1. Sometimes 2. Very often	

Part V: Anthropometric measurements & physical examination

S. no	Measurement	Response	Code
Q37	Weight	-----kg.	
Q38	Heightm.	
	BMI		

The End

Thank you!!!

የአማርኛ ቅጽ መጠይቅ

ደብረ-ብርሀን ዩኒቨርሲቲ

አስራት ወልደየስ ጤና ሳይንስ ካምፓስ

ያልተለመደ የማህፀን ደም መፍሰስ እና ተያያዥ ምክንያቶች በወልድያ ከተማ ሴቶች፣ ላይ የሚደረግ ጥናት

የመረጃ ወረቀት

ሰላምታ: - እንዴት ነዎት?

የኔ ስም----- ይ ባ ላ ል:: በወልድያ ከተማ በመውለድ ዕድሜ ላይ ባሉ ሴቶች ላይ ባለው ያልተለመደ የማህፀን ደም መፍሰስ ፣ ተያያዥ ምክንያቶች ላይ ለሚካሄደው ጥናት መረጃ ሰብሳቢ ሆኜ እየሰራሁ ነው ::

የዚህ ጥናት ዓላማ; በወልድያ ከተማ፣ያልተለመደ የማህፀን ደም መፍሰስ እና ፣ ተያያዥ ምክንያቶች ለመገምገም የሚጠቅም ጥናት ነው።

ሚስጥራዊነት : የምታቀርቡልኝ መረጃ ሚስጥራዊ ይሆናል። በተለይ እርስዎን የሚለይ መረጃ አይኖርም።

ሙብቶች : የዚህ ጥናት ተሳትፎ ሙሉ በሙሉ በፈቃደኝነት ነው። በዚህ ጥናት ለመሳተፍም ሆነ ላለመሳተፍ ሙብት አልዎት። ለመሳተፍ ከወሰኑ በማንኛውም ጊዜ ከጥናቱ የመውጣት ሙብት አለዎት ። አንዳንዶቹ ጥያቄዎች በጣም ግላዊ ሊሆኑ ይችላሉ እና ስለእነሱ ለመመለስ ወይም ለመናገር አስቸጋሪ ሊሆኑ ይችላሉ ነገር ግን ለብዙዎች ለመነጋገር አጋዥ / ጠቃሚ አጋጣሚ ሆኖ ይህ የምርምር እንዲሳተፉ ተጠይቀዋል. ሆኖም ሊመጡ የሚችሉ አደጋዎች የሉም. "ከ በዚህ ጥናት ውስጥ ለመሳተፍ ምንም ማበረታቻዎች አይሰጡም, ግን በዚህ ጥናት ውስጥ የሚተባበሩ ከሆነ ጥያቄዎች ለዚህ ጥናት ስኬት የራስዎ መዋጮ አለዎት ማለት ነው። የዚህ ጥናት ውጤቶች በሪፖርቶች ውስጥ ጥቅም ላይ ሊውሉ ይችላሉ። የግለሰቡ ምላሽ ሪፖርት እንደማይደረግ እርግጠኛ ነኝ. ይህ ሙሉ ምስጢራዊነትን ለማቆየት ከዚህ በታች መፈረም ማለት ይህንን ቅጽ ተረድተው በዚህ ጥናት ውስጥ ለመሆን ፈቃደኛ እንደሆኑ ያውቃሉ ማለት ነው .

ሂደት እና ቆይታ : በአጠቃላይ መጠይቁ 38 ጥያቄዎችን ይዟል። እና አንዳንድ ጥያቄዎች እንደ አማራጭ ከአንድ በላይ መልስ ሊኖራቸው ይችላሉ። ቃለ መጠይቁ ከ20-30 ደቂቃ ያህል ይወስዳል። ማንኛውም ጥያቄ አለሽ?

ቃለ መጠይቅ ለማድረግ ተስማምተሽል?

አዎ ወደ ቀጣዩ ገጽ ይቀጥሉ

አይ እናመሰግናለን

የግለሰብ ስምምነት ቅጽ

በመጀመሪያ ጊዜዎን ስለወሰዱ እና በጥናታችን ውስጥ ስለተሳተፉ ላመሰግናችሁ እወዳለሁ። በወልድያ ከተማ ያልተለመደ የማህፀን ደም መፍሰስ እና ተያያዥ ምክንያቶች በፍላጎቴ ስለ ጥናቱ አላማ ከተረዳሁ በኋላ በተደረገው ጥናት ላይ ተሳትፎያለሁ።

ለፈቃደኝነትዎ መፈረም ይችላሉ?

አዎ -----አይ

የጠያቂው ስም:----- ፊርማ -----

ቀን -----

ይህንን ጥናት በተመለከተ ማንኛቸውም ጥያቄዎች ካልዎት ወይም ተጨማሪ መረጃ ከፈለጉ ዋናውን መርማሪ በሚከተሉት አድራሻዎች ማግኘት ይችላሉ።

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ስለ ጥናቱ ልትጠይቀኝ የምትፈልገው ጥያቄ አለሽ?

ዕድሜያቸው ከ15-17 ዓመት ለሆኑ ወጣቶች የሚረጋገጫ ቅጽ:-

በ ወልዲያ ከተማ ውስጥ በሚገኙ ከ ወሊድ ዕድሜ ክልል በሚገኙ ሴቶች መካከል "ያልተለመዱ የ ማህጸን ደም መፍሰስ ችግር ጥናት ውስጥ ልጅዎ እንዲሳተፉልኝ እየጋበዝኩዎት ነው። ስለዚህ፣ በዚህ ጥናት ልጅዎ እና እኔ አጭር ወይይት እንደምናደርግ ላሳውቃችሁ እወዳለሁ። ወደ ወይይታችን ከመሄዳችን በፊት ስለ ጥናቱ አላማ እና አጠቃላይ ሁኔታ/አካባቢ የማኑብላችሁን በጥምና እንድታዳምጡ እጠይቃለሁ።

ሌጅዎ በዚህ ጥናት ውስጥ እንዲሳተፍ ፈቃደኛ ነዎት?

አዎ _____ ፊርማ _____ ቀን _____

ክፍል I ማህበራዊ -ስነ-ሕዝብ ባህሪያት

ተቁ	ማህበራዊ -ስነ-ሕዝብ ባህሪያት	ምላሽ	ዝለል	ኮድ
101	ስንት አመትሽ ነው (በተጠናቀቀው አመት)?	----- ዓመታት		
102	በአሁኑ ጊዜ የጋብቻ ሁኔታዎ ምን ነው?	0. ያላገባ 1. ያገባ 2. የተፋታ 3. ባል የሞተባት		
103	የትምህርት ደረጃዎ ምን ነው?	0. ማንበብና መጻፍ አልችልም 1. ማንበብ እና መጻፍ እችላለሁ 2. የመጀመሪያ ደረጃ ትምህርት ቤት 3. ሁለተኛ ደረጃ ትምህርት ቤት 4. ኮሌጅ እና ከዚያ በላይ		
104	የእርስዎ የስራ ሁኔታ ምን ነው ?	1. የቤት እመበት 2. የቀን ስራተኛ 3. ነጋዴ 4. ተቀጣሪ		
105	የእርስዎ ወርሃዊ አማካይ ገቢ ምን ያህል ነው?	----- ብር		

ክፍል II: የመራቢያ እና የወር አበባ ዑደት ንድፍ

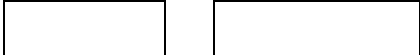
201	ስንት እርግዝና አጋጥሞሽል?	----	
202	የወር አበባ ስትጀምር ስንት አመትሽ ነበር?	_____ (ዓመታት)	
203	የወር አበባዎ በየወሩ በተመሳሳይ ቀን ይመጣል ?	1. አወ <input type="checkbox"/> 2. አይመጣም	(መልስዎ አወ ከሆነ ወደ ቁጥር 206 ይለፉ)

204	መልስዎ አይመጣም ከሆነ ባለፈው አመት ውስጥ የወር አበባይ ዘገየብኝ ያሉት በስንት ቀን ሲመጣ ነዉ ?	___ ቀን	
205	መልስዎ አይመጣም ከሆነ ባለፈው አመት ውስጥ የወር አበባይ ተሎ መጣ ያሉት በስንት ቀን ሲመጣ ነዉ ?	___ ቀን	
206	በራስዎ አስተሳሰብ የወር አበባወን የፍሰት መጠን ምን ያክል ነው ይላሉ ?	1. ቀላል 2. መደበኛ 3. ከባድ	ሶስተ ወር መረጃ
207	በ 3 ወር ውስጥ የወር አበባሽ ከመጣበት እስከሚጠራበት ድረስ ለስንት ቀናት እየፈሰሰ ይቆያል?	-----ቀን።	ሶስተ ወር መረጃ
208	የወር አበባሽ በየስንት ቀን ይመጣል ? ቀናት።	ሶስተ ወር መረጃ
209	በወር አበባ ጊዜያት መካከል የሚከሰት ድንገተኛ የደም መፍሰስ አለሽ ?	1 አዎ 2 አይ	ሶስተ ወር መረጃ
210	ከዚህ ቀደም የፅንሰ ማቋረጥ ታሪክ አለሽ ?	1 አዎ 2 አይ	
211	አዎ ከሆነ ለ Q 301, ስንት ውርጃዎች አደረጉ?	_____	
212	ከዚህ ቀደም የ IUCD አጠቃቀም ታሪክ አለሽ ?	1 አዎ 2 አይ	
213	ባለ ቅመሙን የወሊድ መከላከያ ይወስዳሉ?	1 አዎ 2 አይ	
214	ለጥያቄ 213 መልስዎ አዎ ከሆነ ምን ዓይነት የእርግዝና መከላከያ ዘዴ ተጠቀሙ?	1. የሚዋጥ 2. በመርፊ የሚሰጥ 3. በከንድ የሚቀበር 4. ሌላ ከሆነ : _____ ይጥቀሱ	

ክፍል III: የሕክምና ታሪክ

ተቁ	ጥያቄዎች	ምላሽ	አስተያየት/ማስታወሻ
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301	በጤና ባለሙያ የተረጋገጠ የአባላዘር በሽታአለብዎት ተብለው ያውቃሉ ?	0. አይ 1. አዎ	
302	ከዚህ ቀደም በጤና ባለሙያ የ ማህጽን እጥ አለብዎት ተብለው ያውቃሉ ?	0. አይ 1. አዎ	
303	በጤና ባለሙያ የተረጋገጠ የደም ማነስ ታሪክ አለዎት ?	0. አይ 1. አዎ	
304	በጤና ባለሙያ የተረጋገጠ የደም ግፊት አለብዎት ?	0. አይ 1. አዎ	
305	በጤና ባለሙያ የተረጋገጠ የ ደም መፍሰስ ችግር ታሪክ አለዎት ?	0. አይ 1. አዎ	
306	በጤና ባለሙያ የታይሮይድ ዕጢ በሽታ አለብዎት ተብለው ያውቃሉ?	0. አይ 1. አዎ	
307	በጤና ባለሙያ የተረጋገጠ የ የስኳር በሽታ አለብዎት ?	0. አይ 1. አዎ	
ክፍል፣4 የአመጋገብ እና የባህሪ ጥያቄዎች			
401	ሲጋራ አጭሰው ያውቃሉ?	1. የማያጨስ 2. አልፎ አልፎ ማጨስ 3. በመደበኛነት	
402	አልኮሆል ያለው መጠጦች ይጠጣሉ?	0. የማይጠጣ 1. አልፎ አልፎ መጠጣት 2. አዘውትሮ መጠጣት	
የጭንቀት ሁኔታ ጥያቄዎች			
403	ባልተጠበቀ ነገር የተነሳ ምን ያህል ጊዜ ተቆጥተው ነበር?	0. በጭራሽ 1. አንዳንዴ 2. ብዙ ጊዜ	
404	በሕይወትዎ ውስጥ አስፈላጊ የሆኑትን ነገሮች ለመቆጣጠር እንዳልቻሉ ስንት ጊዜ ይሰማዎታል?	0. በጭራሽ 1. አንዳንዴ 2. ብዙ ጊዜ	
405	ምን ያህል ጊዜ ፍርሃት እና ጭንቀት ተሰምቷችኋል?	0. በጭራሽ 1. አንዳንዴ 2. ብዙ ጊዜ	



406	የግል ችግሮችዎን ለመቋቋም ባለዎት አቅም ምን ያህል በራስ መተማመን ተሰምቷችኋል?	0. በጭራሽ 1. አንዳንዴ 2. ብዙ ጊዜ	
407	ነገሮች አንች በምታስቢው መንገድ ሂደዋል ብለሽ ታስቢለሽ?	0. በጭራሽ 1. አንዳንዴ 2. ብዙ ጊዜ	
408	ብስጭቶችን ለመቆጣጠር ምን ያህል ጊዜ ቻሉ?	0. በጭራሽ 1. አንዳንዴ 2. ብዙ ጊዜ	
409	ነገሮች አንች በምታስቢው መንገድ ሂደዋል ብለሽ ታስቢለሽ??	0. በጭራሽ 1. አንዳንዴ 2. ብዙ ጊዜ	

ክፍል 5: አንትሮጫትሪ መለኪያዎች እና የተሳታፊውን አካላዊ ምርመራ

	መለኪያ	ምላሽ	ኮድ
	ክብደት	-----ኪግ.	
	ቁመትም .	
BMI			

**መጨረሻ
አመሰግናለሁ!!!**

Annex III; Declaration

I declares that Prevalence and its associated factors of abnormal uterine bleeding among reproductive age women in woldia town, north wollo, Ethiopia, it is my own work and that all the sources that I have used have been indicated and acknowledged.

Assurance of Principal investigator

I the undersigned agree to accept all responsibilities for the scientific and ethical conduct of the research project. I was provide timely progress report to my advisor and seek the necessary advice and approval from my advisors in the course of the research.

Principal Investigator: Adem Yesuf Date _____ Signature_____

Advisors:

Main-Advisor: Mr. Yohannes Moges (MSc, Assistant Professor) _____

Name

Signature

Date

Co-Advisor: Mr. Tebabere Moltot (BSc, MSc) _____

Name

Signature

Date

Examiner : Mr. Kassa Mamo (MSc, Assistant Professor) _____

Name

Signature

Date