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COLLEGE OF MEDICINE AND HEALTH SCINCE

SCHOOL OF PUBLIC HEALTH

DEPARTMENT Of Environmental Health

Assessment of Menstrual Hygiene Practice and Associated Factors Among Female High School Students in Motta Town East Gojjam, Amhara Regional State, Ethiopia, 2021

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A THESIS SUBMITTED TO THE DEPARTMENT OF ENVIRONMENTAL HEALTH, SCHOOL OF PUBLIC HEALTH, COLLEGE OF MEDICINE AND HEALTH SCIENCES BAHIRDAR UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE MASTER OF DEGREE IN WATER SANITATION AND HYGIENE.

July, 2022

Bahir Dar, Ethiopia

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First of all, I would like to thank the supernatural power of GOD, who gives me pleasure and time to do my day-to-day activities.

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ABSTRACT

Background: Unhygienic menstrual practices can affect the health of the girls and there is an increased vulnerability to reproductive tract infections and pelvic inflammatory diseases and other complications.

OBEJECTIVE: To assess the menstrual hygiene practice and associated factors among female high school students in Motta town East Gojjam, Amhara Region Ethiopia 2021.

METHODS: An institutional based cross-sectional study design was conducted from November 1 to November 30, 2021 in Motta town, East Gojjam Ethiopia. A total number of 571 female students were participated. Systematic random sampling technique was used to select the study participant. Data was collected by health extension workers by using self-administered questionnaires. The data was entered into EPI info and exported to (SPSS) version 23 software for analysis. Binary logistic regression was used to identify associated variables. Variable with p-value less than 0.05 in the multivariate analysis was considered as significant association with the menstrual hygiene practice.

Result: The prevalence of safe menstrual hygiene management practice was 50.3% (95% CI: 46.2, 54.4). There are different factors which affect MHP. Student's age 18-20 years and live in urban were 1.48 and 1.45 times more likely practice safe MHM than those counterparts (AOR=1.48; 95% CI: 1.02, 2.14; P=0.039) and (AOR=1.45; 95% CI: 1.01, 2.08.; P=0.043) respectively. Female high school adolescents who had positive attitude and good knowledge on MHM were (AOR=1.90; 95% CI: 1.06, 3.41; P=0.032), and (AOR=1.90; 95% CI: 1.31, 2.76, P=0.001) time more likely practice good MHM than their counterparts respectively.

High school adolescents' females who use sanitary or homemade pad for MHP and who learn about menstruation in the school were 1.44 and 1.94 times more likely to practice safe MH than those who use other materials and who did not who learn about menstruation in the school (AOR=1.44; 95% CI: 1.01, 2.04, P= 0.043) and (AOR=1.94; 95% CI: 1.21, 3.11.; P=0.006) respectively.

Conclusion: More than half of the participants had safe level of menstrual hygiene practiced. Age, residence, types material used for MHM, knowledge and Attitude towards MHM were identified as the factors having stronger significant associated with the practices of menstrual hygiene in female students. Therefore, local government, health practitioners, the local Medias, school teachers and directors should do a lot to improve menstrual hygiene practice of female students in school levels.

Key words: Menstruation, hygiene, practices, adolescent girls, secondary schools, Motta town.

ACRONYMS AND ABBREVIATION

LMIC	Low- and middle-income country
MHM	Menstrual Hygiene Management
UDS	University for Development Studies
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
SDGs	Sustainable Development Goal

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1. INTRODUCTION

1.1. Background

Menstrual hygiene management (MHM) refers to the specific hygiene and health requirements of girls and women during menstruation, including the information, materials and facilities needed to manage menstruation effectively and privately. Girls and women in low and middle- income countries (LMICs) can face significant challenges in managing their menstruation, Inadequate knowledge, lack of access to quality sanitary materials, taboos around menstruation and MHM, and poor water, sanitation and hygiene (WASH) facilities are common challenges that can negatively affect education, employment, health and psychosocial outcomes(1, 2).

In school settings, lack of clean, functional, private and gender- specific WASH facilities, fear of blood leaking, poor access to sanitary materials and inappropriate responses by male students and teachers are commonly reported to be associated with poor MHM and absenteeism due to menstruation Fatigue and pain during menstruation also contribute to reduced attention and participation. In turn, frequent episodes of reduced participation and absenteeism can result in poor school performance, drop- out and reduced educational attainment, which can have long- term consequences for gender equality, economic and health outcomes. However, schools are also important settings to improve MHM. They present a powerful platform to reach large numbers of adolescents with educational interventions to improve MHM knowledge and practices, and address harmful misconceptions and stigma (3).

The United Nations defines adequate menstrual hygiene management as "women and adolescent girls using a clean menstrual management material to absorb or collect blood that can be changed in privacy as often as necessary. During the menstruation period, using soap and water for washing the body as required and having access to facilities to dispose of used menstrual management materials"(1, 4, 5). Women in low-income setting have low awareness for menstrual hygiene management due to cultural restriction which cause for different medical and psychological outcomes resulting in reproductive diseases, urinary tract infection, school absenteeism and social isolation. Menstrual hygiene management practices are still clouded by taboos and socio-cultural restrictions resulting girls and women remaining unaware of sanitary

pads and other hygienic health. In our society, the issues about menstruation are not allowed to discuss openly and this causes adverse effect in health of women (6-8).

With accessible water and adequate sanitation facilities that are safe, socially and culturally acceptable within the school premises, women and girls are able to manage menstruation in privacy and with dignity and do not have to miss out on their studies when they menstruate (9). MHM- related knowledge, attitudes, practices and impacts among girls in Ethiopia are not well understood and, as a result, an evidence- base for programming and interventions to improve MHM is lacking. To address this information gap, a school- based survey among adolescent girls was conduct in Motta high school to assess MHM practices and their associated factors.

1.2 Statement of problem

Millions of women throughout the world are unable to manage their menstrual periods. Menstrual hygiene has been routinely ignored by professionals in the education sector and to nearly 113 million adolescent girls at risk of dropping out of school due to the start of menarche. Only 36.95% of the girls were aware of menstruation before menarche (10).

In developing countries menstrual hygiene is a problem for adolescent girls. Adolescent girls are faced with challenges related to the management of menstrual hygiene in public places. The UNICEF estimates that 1 in 10 school age African girls do not attend school during menstruation. Similarly, World Bank statistics indicated that students have been absent from school 4 days every 4 weeks because of menstruation (11).

In the study conduct of Bangladesh in 2019 the prevalence of school absenteeism was (35.1%) among a sample of 442 school going adolescent girls.(2) During menstruation, girls have been facing both practical and strategic gender problems. These have negative impacts for their personal lives and development opportunities absent from their work and mobility, increased stress, early marriage, early and premature childbirth and higher infant mortality, obstetric fistula, complicated labor and potential vaginal and uterine infections resulting in the worst condition in infertility. Reproductive age women who had not well hygienic practices are also prone to infertility(2).

Study conducted in Ethiopia showed that from 791 adolescent girls participated in that study, 68.3% unable to manage of menstruation. The magnitude of unsafe MHM among females were 60% in Nekemte, 53.5% in Ambo Oromia regional state, 75.5% in Bahir Dar, Amhara regional state, 49.8% in Addis Ababa, in 2020. The management of menstruation presents significant challenges for adolescents in lower income countries like Ethiopia (12).

The effect of poor menstrual hygiene management, however, remains unclear even though menstrual hygiene management can affect the reproductive tract. Menstrual hygiene is an issue which has no enough study and no given adequate attention in the study area in the reproductive health in east Gojjam Motta town. So, giving special attention for menstruation and menstrual hygiene management for adolescent girls helps to develop the knowledge of adult's menstrual hygiene through their life. Therefore, to manage menstrual complications, essential reproductive health services and youth friendly services should be well addressed.This study critically

addresses an issue that every adolescent secondary school girl in Motta town faces with the aim of providing viable information for managing menstrual hygiene in adolescent girls. This study helps to identify gaps relevant to attitude, knowledge, practices, environmental, social and health factors and challenges of menstrual hygiene practice among adolescents in secondary schools.

1.3 Significance of the Study

According to Motta town health office, a total of 1960 adolescent girls in the two secondary schools have registered, 2021 but there is no clear plan of health service delivery for those adolescent girls on the issue of menstruation and menstrual hygiene management.

Therefore, this study will serve as an important intervention measure to the programmers and providing information for the Motta town health office, east Gojjam Zone health department, and Amhara regional state health Bureaus for any possible program interventions that improve menstrual hygiene management. The study findings will contribute positively to the health professionals and other stakeholders in the study area by giving the current level of MHM. This study will also support for researchers as an article for literature review.

2. LITERATURE REVIEW

2.1. Over view menstrual hygiene practice

Different literature from global to local research was reviewed on menstrual hygiene practice and associated factor. Menstruation is normal physiology in the females' life, if not managed safely; it can interrupt daily activity and may lead to health problems. Good menstrual hygienic practices is a very important issue that every girls and women face in their life but the topic is not so openly discussed in society as it is considered as subject of shame as is lack of awareness on menstruation and menstrual hygiene management(4, 13).

2.2 Menstrual hygiene practice.

Menstruation is a natural event that is a physiological and psychological milestone in women's reproductive life. But MPM continues to be a monthly challenge for adolescent girls in low-income countries, including Ethiopia harming their school attendance, health, and daily life (5, 6,14).

As cross-sectional study conducted on practice of menstrual hygiene among adolescent school girls in Dang District, Nepal, 2020 showed that, 67% adolescents have good menstrual hygiene practice (15). As cross-sectional study in Ghana, 2019, indicated around 50.8% of girls had good menstrual hygiene management (1). The study using descriptive quantitative research explained menstrual hygiene behavior among students in Ummul Mukminin Islamic Elementary School, Bandung district showed that 53.1% had good menstrual hygiene. The majority of participants washes used sanitary napkin (78.1%), use cotton underwear to absorb sweat (78.1%), replace underpants if affected by menstrual blood (93.8%), did not change sanitary napkin every 3-4 hours (78.1%) and did not replace the sanitary napkin at school (62.5%)(16). As systematic review and meta-analysis research done on menstrual hygiene practice among female adolescents in Ethiopia, 2022 explained that 52.69% of the participants were safe MHM (17).

Another systematic review and meta-analysis research done on menstrual hygiene practice among female adolescents in Ethiopia, 2021 indicated that around 48.98% had poor menstrual hygiene practice(18). According to school-based cross-sectional research done among Secondary School girls in East Hararghe Zone, Eastern Ethiopia, 2017 around 58.3% of the girls had good menstrual hygiene management practices(5). As cross-sectional mixed method conducted in

Ambo City, Oromia state, Ethiopia, 2018, around 53.6% of the school females MHM practice was unsafe. In this study, the most poorly managed was the frequency of washing genitalia in which 28% of the female didn't wash their genitalia during bleeding till blood stop and 48.7% reported they clean their genitalia every two days or more(6).

As institutional based cross-sectional study conducted in knowledge and menstrual hygiene practice among adolescent school girls at Gedeo zone high schools, southern Ethiopia, 2019 indicated 60.3% of girls had poor menstrual hygienic practice(19). According to descriptive school-based cross-sectional research conducted on menstrual hygiene practices in Batu High School in Batu Town, East Shewa, Ethiopia, 2018 showed that 66.8% practiced good menstrual hygiene(20).As school-based cross-sectional study done on knowledge of menstruation and practice of menstrual hygiene among school adolescent girls in central Ethiopia, 2019 indicated only 34.7% had adequate MHM practice(7). According to institution based cross sectional study done on Practice of Menstrual Hygiene among Female Mehalmeda High School Students in Amhara Regional State, Ethiopia, 2014 indicated that majority of the participants 90.9% practiced good menstrual hygiene(21).

2.3. Factors associated with menstrual hygiene practice

There are several reasons why the practice of poor menstrual hygiene practice has continued of these socio demographic and economic factors (Age, educational status, residence, occupation, marital status, income), environmental related factors like, incompletely constructed of toilet, poor accessibility and availability of water, condition of toilet, privacy, safety, prestige and knowledge, behavior related factors (believes and attitudes, knowledge regarding possible harms due to poor menstrual hygiene practice, culture and tradition) all of them factors good MHP(22).

2.3.1 Socio demographic factors related with menstrual hygiene practice.

As cross-sectional study was conducted in Dang district, Nepal, 2020 explained that mother's education, father's education, and size of family had significantly associated with menstrual hygiene practice. In this study adolescent girls whose mothers were literate were 0.52 times less likely to have good practices regarding menstrual hygiene and its management. However, the odds of having good menstrual hygiene practice were high among girls whose fathers were from literate backgrounds and less among those who have 5 or more members in the family(15).

Descriptive cross-sectional study was conducted among adolescent girls studying in selected schools of Chitwan district stated that Adolescent girl's age and grade, and occupation status of their father were significantly associated with menstrual hygiene practice (23).

Within this study School based cross- sectional study done in Ghana showed that around 54.8% of the participants were aged 14 to 16 years. In this study the ages of 10 to 13 years had 2.62 times poor MHM than those aged 17 to 19years. The adolescent whose father were farmers and unemployment had 58%and 76% of less likely poorly MHM those compared to others respectively (1). Study conducted in kenya,2018 explained that age and religion were significantly associated with poor MHM practices(24). A School-based cross-sectional study done in Northern Ghana showed that, Mothers' education and parents' socio-economic status were significantly associated with menstrual hygiene management(25).

As cross-sectional mixed method conducted in Ambo City, Oromia state, Ethiopia, 2018, indicated that students age >= 18 years of females were 84% less likely to be MHM practice was unsafe than less 18 years. As indicated with in this study majority of female fathers 'educational level was 7-12 grade which was 33% and 31.8% of them was degree and above. Females whose fathers were attended degree and above were 72% with less likely their menses was poorly managed compared to those whose father can't read or write (6). institution-based cross-sectional, study was conducted in Ethiopia Adama stated that mothers education status, source of money for sanitary materials, respondents feeling on comfort ability of the school were that significantly associated with level of knowledge about menstrual hygienic practice(26). Another study conducted at Secondary School Girls in East Hararghe Zone, Eastern Ethiopia explain that residency, mother's educational status towards menstruation and its hygienic practices were found to be independent predictors of MHM practices. Girls from urban areas were 2.59 times more likely to have good MHM practices compared to their counter-parts. Girls whose mother's educational status was secondary school and above were about 2 times more likely to have good MHM practices compared to those whose mothers had no formal education(5)

In descriptive school-based cross-sectional research conducted in Addis Ababa, Ethiopia, 2018 indicated adolescents who live in the urban and used sanitary pads had good menstrual hygiene practice than students who live in the rural area and used other types of sanitary materials respectively. In this research religion, parents' educational status and family monthly income

was a statistically significant association with menstrual practice(20). As school-based cross-sectional study done on knowledge of menstruation and practice of menstrual hygiene among school adolescent girls in central Ethiopia, 2019 explained that students who were from the urban residence were 2.62 times more likely to have safe MHM practice than those from rural residences(7). As institutional based cross-sectional study conducted in knowledge and menstrual hygiene practice among adolescent school girls at Gedeo zone high schools, southern Ethiopia, 2019 explained adolescent girls aged less than 15years 1.7 time more than age >= 15 years in poor MHM practice(19).

According to institution based cross sectional study done on Practice of Menstrual Hygiene among Female Mehalmeda High School Students in Amhara Regional State, Ethiopia, 2014 revealed that the practice of good menstrual hygiene was 2.38 time more among students who live in the urban than those students who live in the rural area(21). Facility based cross-sectional study done in North Wollo, Ethiopia revealed that being grade 10 students and having good practice of menstrual hygiene had positive association with menstrual hygiene knowledge. Maternal education level, being grade 10 students was associated factors for practicing menstrual hygiene. Being grade 10 students, age ≥18 years were statistically and positively associated with the attitude of menstrual hygiene(27).

2.3.2. Knowledge and attitude related on menstrual hygiene practice

Study conducted in Indian states and rural Nepal indicted that knowledge gap among girls is a lack of awareness regarding the origins of menstrual blood no more than a third of girls correctly identified the uterus as the source of menstrual blood(15). One study in a Indian state reported that almost no girls being aware of the source of their blood (2.5%), while another nearly two-thirds being aware 63.3%(28). Another study conducted in Indonesia Demographic and Health Survey reported that a quarter of adolescent girls had not discussed menstruation with anyone before menarche and 17% were not aware that menstruation was a physical sign of puberty (22).

Study done in low-and middle-income countries girls were entering puberty with limited knowledge and misunderstanding to menstruation(29). As cross-sectional survey Study done in Kenya revealed that poor knowledge and discussion about menstruation were significantly associated with poor MHM practices (24). Study conducted in Kenya, very few girls were able to

describe menstruation in biological terms and learnt about menstruation from teachers, but not from their mothers(29).

Study conducted in Nigeria showed that, Majority (96.4%) of the adolescents have heard about menstruation before menarche while 55.9% had good knowledge of menstruation and menstrual hygiene. Despite the high level of knowledge, about 64% of the respondents describe their response to their first menses as scary, discomforting or emotionally disturbing. Also, only 25% of the respondents had good menstrual hygiene practice. Factors that were significantly associated with good knowledge of menstruation and menstrual hygiene in this study were older adolescent age (15-19 years) (30).

As study conducted in Ethiopia status that 68.3% adolescent school girls had low perception related to bleeding of menses (19). As another systematic review and meta-analysis research done on menstrual hygiene practice among female adolescents in Ethiopia, 2021 indicated that female adolescents who had poor knowledge were 2.6 times more likely to have poor menstrual hygiene practice as compared to counterparts(18). As cross-sectional mixed method conducted in Ambo City, Oromia state, Ethiopia, 2018, indicated around 72.9% of participants had awareness about menses before menarche and main source of information was their mother for 46.3%. Females who reported that frequently discuss about menses with their mother were 70%, less likely their menstrual hygiene management practice was unsafe. Within this female who reported that they use source of information about menses their school teacher were 3.75 times more likely to be unsafe used media (electronic/books) (6). As institutional based cross-sectional study conducted at Gedeo zone high schools, southern Ethiopia, 2019 explained that girls who had poor knowledge was 1.5 time practiced poor MHM than those who had good knowledge in practice. In this study menstruation flow greater than five per day was 2.5 time more practice poor MHM than those who had menstruation less than three per day(19).

As school-based cross-sectional study done on knowledge of menstruation and practice of menstrual hygiene among school adolescent girls in central Ethiopia, 2019 explained that adolescent girls who had good overall knowledge about menstruation were almost 2 times more likely to practice adequate or safe MHM than those who had poor knowledge. In this study girls who experienced health problems during menstruation were 2.6 times more likely to practice adequate MHM than those who did not experience and students who ever experienced any

whitish or gray discharge through the vagina were 2.8 times more likely to have adequate MHM practices than those who did not experience it. Within this study adolescents' girls who got information about menstruation before menarche from their mothers were 2.17 and from their teachers 5.09 times more likely to practice safe MHM than those who did not. As school-based cross-sectional study done in central Ethiopia, 2019 indicated that girls who missed their school for one day and did not miss during their menses were 3.69 and 4.2 times more likely to practice safe MHM than those who missed more than one day respectively(7).

Another study done in east Hararghe zone, eastern Ethiopia on the MHM practices among school girls showed that girls' knowledge status towards menstruation and its hygienic practices were found to be independent predictors of MHM practices. Sixty-eight-point eight percent of student had good knowledge. The likelihood of practicing good MHM was 2.78 times higher among those students who had moderate knowledge and 3.87 times more likely among those who had good knowledge compared to those who had poor knowledge (5).

According to institution based cross sectional study done on practice of menstrual hygiene among female Mehalmeda high school students in Amhara regional state, Ethiopia, 2014 revealed that students who had high level of knowledge about menstrual hygiene 5.8 times more than those students who had low level of menstrual hygiene knowledge. Participants whose source of information was teacher 7.6 times better menstrual hygiene practice than students whose source of information was mother(21).

2.3.3. Behavioral and environmental for MHM

Study conducted in Indian states and rural Nepal revealed that absence or insufficiency of sanitary products and materials of all types, water and soap, and sanitary facilities influences the achievement of poor MHM among the adolescent girls (15). As cross-sectional study conducted in Kenya, 2018 showed that lack of pad, lack of water, lack of latrine privacy and teasing by boys were significantly associated with poor MHM practices (24)**.**

As systematic review and meta-analysis research done on menstrual hygiene practice among female adolescents in Ethiopia, 2022 showed that majority (88.18%) (95% CI: 83.8–92.5, 91%), of adolescent girls wash their genitalia during menstruation. However, 45.85% (95%CI: 39.5, 52.2, I2 95.9%) of schoolgirls reported only used water for genital cleaning and 50.69% (95%CI:

41.5, 59.8, of schoolgirls used both soap and water for genital cleaning. Regarding the frequency of genital cleaning, less than half (41.67%) (95%CI: 27.1–56.2) of schoolgirls reported wash their genitalia daily or two-time a day during menstruation. Daily washing during menstruation was less common in the Harari region 27.9% (95%CI: 22.8, 33.0) and higher in the Oromia region 51.84% (95%CI: 17.7, 85.9). On the other hand, the use of both soap and water for genital cleaning was higher in the SNNP region 69.50% (95%CI: 66.3,72.7), and lower in Addis Ababa 29.5% (95%CI: 26.2,32.8). Within this study disposal of absorbent material into the latrine was 62.2% in Ethiopia. This practice in each region, Oromia, Amhara, Addis Ababa and Harar was 65.38%, 62.44%, 54.20% and 52.40% respectively. About 26.96% in Oromia and 27.35% in Amhara region of schoolgirls put absorbent in dust bins and disposed of by wrapping with paper. Around 15.85% of schoolgirls threw the absorbent in open field; this was higher in Addis Ababa 46.20% and 11.8% of them burning of absorbent material(17).

As school-based cross-sectional study done in central Ethiopia, 2019 indicated that students whose school toilets had female toilets with inside lock were 2.82 times more likely to have safe or adequate MHM practices than those who did not have(7). According to institution based cross sectional study done on Practice of Menstrual Hygiene among Female Mehalmeda High School Students in Amhara Regional State, Ethiopia, 2014 revealed that students who have access for water 6.5 times more menstrual hygiene practice than those who didn't have access for water(21). As cross-sectional study done in Bahir Dar town showed that using sanitary pad good practice was 2.49 times higher among those who use other sanitary pads(32).

2.4. Conceptual frame work

Conceptual frame work that ware adapted from different literature and modified for the study is provided as follows.

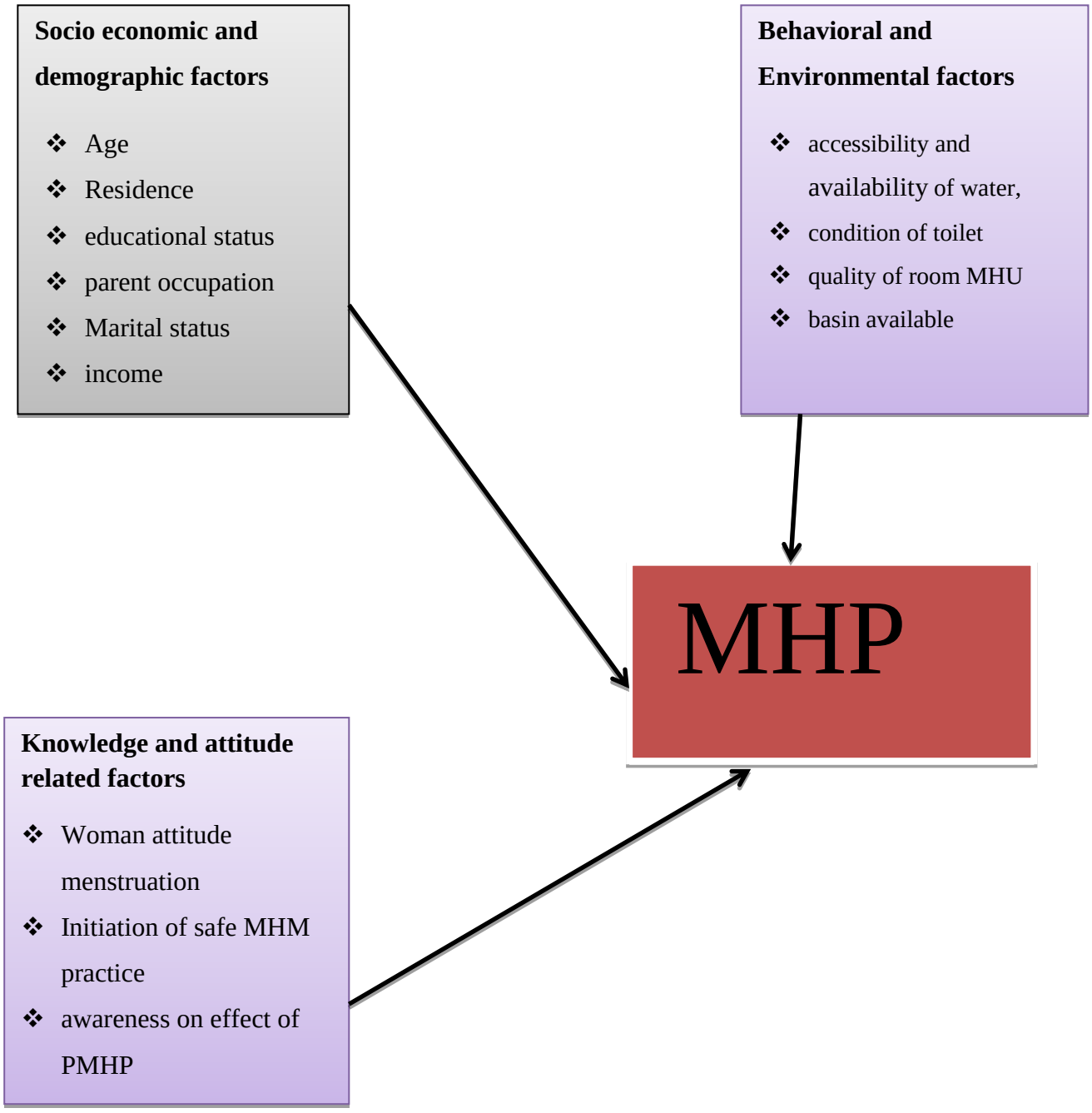

Figure 1 Conceptual Frame work for menstrual hygiene practice in Motta town secondary school 2021, adapted from different literatures.**(1, 21, 28)**

3. OBJECTIVES

3.1. General Objective

To assess the menstrual hygiene practice and associated factors among female high school students in Motta town, East Gojjam, Amhara Region, Ethiopia, 2021.

3.2. Specific Objectives

1. To assess menstrual hygiene practice among adolescent girls in public high Schools in Motta town, East Gojjam, Amhara Region, Ethiopia, 2021.
2. To identify factors associated with menstrual hygiene practice among adolescent girls in high schools of Motta town, East Gojjam, Amhara Region, Ethiopia, 2021.

4. METHOD AND MATERIAL

4.1. Study Setting & Period

This study was conducted from April 2021 to January 2022 in high school Motta town. In East Gojjam zone, there are 21 woreds. From those Motta town is the one of woreda which has town administration. The administers of the town of this woreda is located 202 kms from D/Markos .as projected from 2013E.C the woreda had a total population of 52560**.** Administratively the woreda is subdivided in to 6 urban kebeles.

The population lived in town but economically dependent on farming and trade. The woreda is situated 2455 meter above sea level and its climatic condition were generally woynadega with annual temperature range b/n 12 to $18c^0$. Concerning school infrastructure, the woreda has five private Kindergartens, four junior school, two high secondary school and one preparatory school centres.

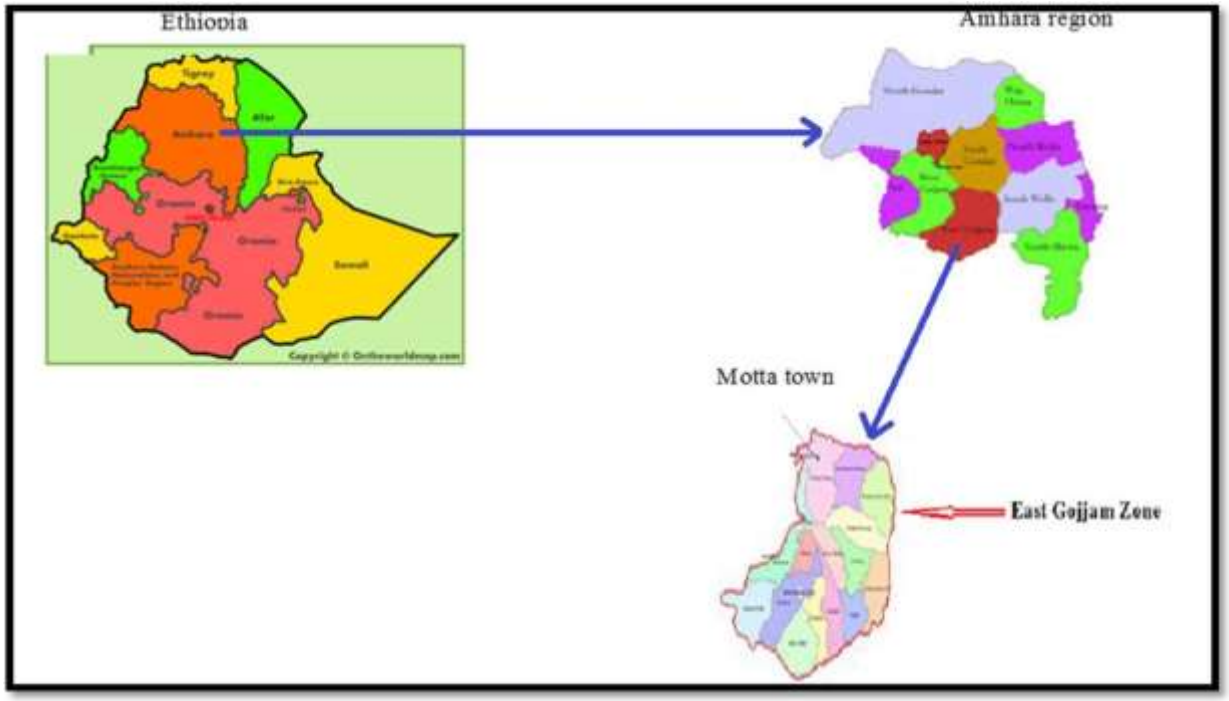

Figure 2;Map of Motta Town.

4.2. Study Design

An institutional based cross-sectional study design was conducted.

4.3. Source population

The source population of this study was all female Motta town high school students.

4.4. Study population

The study populations were selected female students in Motta high school.

4.5. Inclusion and exclusion criteria

4.5.1. Inclusion criteria

Female students enrolled in Motta high school in 2021 regular program volunteer to participate in the study.

4.5.2. Exclusion criteria

Students who are seriously ill at the time of data collection

4.6. STUDY VARIABLES

4.6.1. Dependent variable

Menstrual hygiene practice

4.6.2. Independent variable

- **Socio demographic variables**

  - ✓ Age
  - ✓ Residence
  - ✓ parent Education
  - ✓ parent occupation
  - ✓ Marital status
  - ✓ income

- **Behavioral and Environmental variables**
  - ✓ Toilet design
  - ✓ Distance of toilet
  - ✓ Water accessibility/availability
  - ✓ Toilet characteristics (hygienic condition of toilet,
- **Knowledge and Attitude related variables**
  - ✓ Attitude for MHP
  - ✓ Awareness on effect of PMHP
  - ✓ Awareness on the benefit of MHP

4.7. Sample Size Determination

The sample size is calculated using single population proportion formula basedon the following assumptions.

$n=Z^2p(1-p)/d^2$

Where z=confidence interval n=sample size=population proportion , w=margin of error

Where n is sample size,

P is the proportion good menstrual hygiene practice is 90.9%

q is the proportion poor menstrual hygiene practice is 9.1%based on study conduct the case of, Mehal meda secondary school north shewa zone, Amhara region ,Ethiopia (21).

(Z α/2) = Critical value at 95% CI of certainty (1.96).

D=margin of error between the sample & the Population= 5%

P1=90.9%

n = 127

n = 127+ (127*10%) =140

n = 140

For the second objective by using Epi info version 7 statistical calculators used to calculate the minimum sample size with the assumption of 95% confidence interval and 80% of power test.

Table 1Sample size calculation for the second objective of the study

Variables	Out come in an exposed group %	Out come in the unexposed group %	Ratio unexposed/exposed	COR	AOR	Sample size	Non response (10 %)	reference
Place of residence	6%	94%	1:1.5	2.466(1.311,4.638)	2.38(1.137,3.05)	526	579	(21)
Source of information	7.5%	92.5%	1:2	1.262(1.85, 19.191)	7.645(2.162,27.032)	58	59	(21)
Access for Water	8.1%	91.9%	1:17	1.363(1.427, 7.929)	6.504(2.082,20.323)	10	11	(21)
Knowledge of MHP	5.8 %	94.2%	1:15	11.3628(5.6,23.077)	5.783(2.156, 15.511)	8	9	(21)

So that the total sample size will be 579 by proportional allocation from the second objective

4.8. Sampling Procedure

A Systematic random sampling procedure was used to select the participant of female secondary schools for the study. Both secondary schools included in the study. Samples were selected from grade 9 and 10. The study participants were selected every (3rd) intervals, by dividing the total number of female high school students to the allocated sample size. The study participants were drawn randomly with proportional allocation.

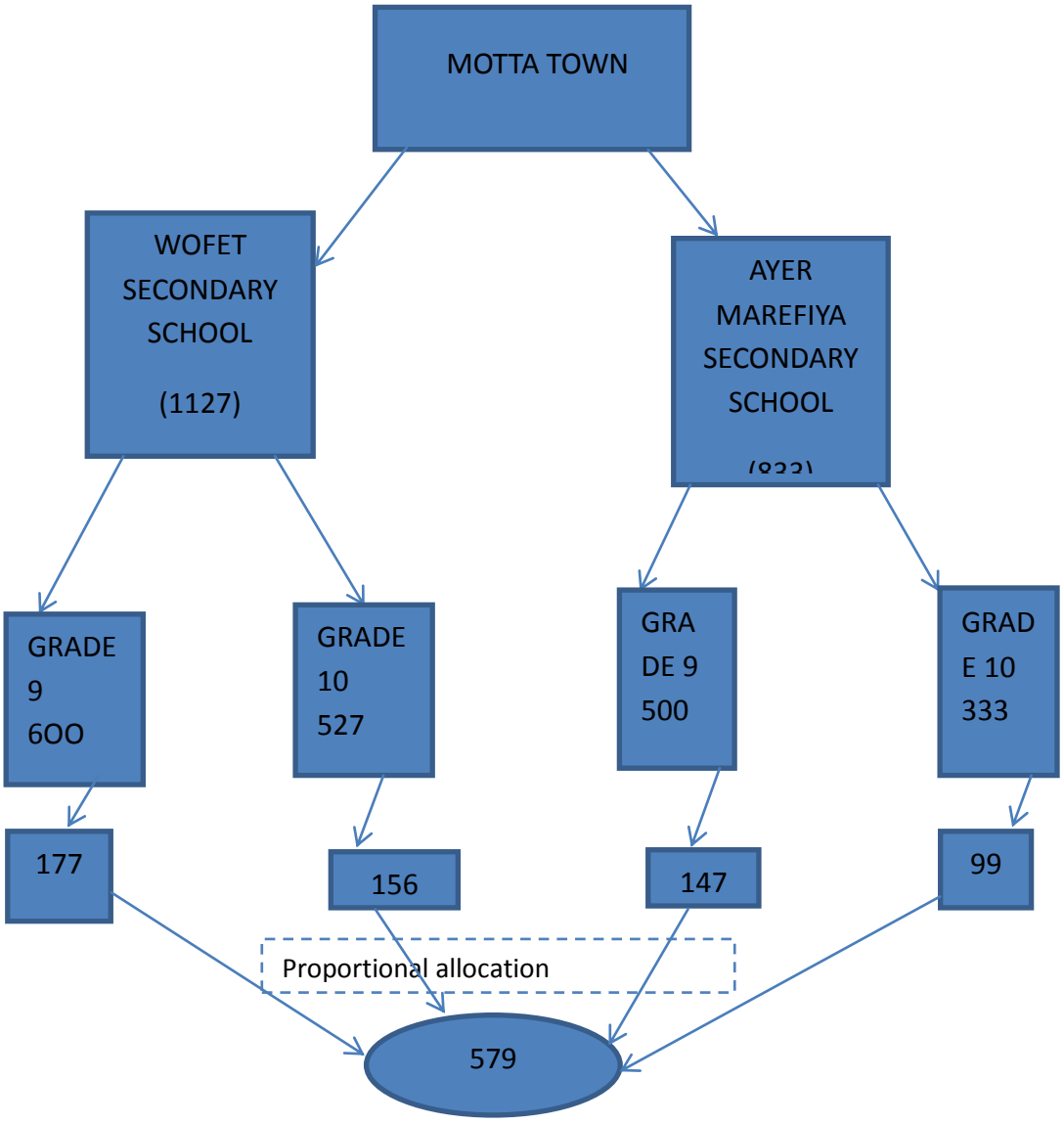

Figure 3 schematic diagram of sampling procedure, 2021.

4.9. Data Collection Tools and Technique

4.9.1. Data collection tools

The questionnaires were developed after a reviewing of different national and international relevant literatures. The questionnaire was first prepared in English and then it was translated in to Amharic version and then back to English in order to ensure its consistency. The questionnaires composed of socio demographic characteristics, knowledge of MH, sources information and resources of materials, attitude and practice of MH. Prior to the beginning of data collection each question was reviewed so as to understand what variable is being measured in each question.

4.9.2. Data collection technique

Data were collected using a structured self-administered questionnaire which prepared in English and translated to Amharic version. The data was collected by health extension workers. Two health extension and two MSC in public supervisors were employed. Data quality was collected with a pretested with both close and open-ended questions. closely follow the day-to-day data collection process and ensure completeness and consistency of collected questionnaires was done.

4.10. Operational definition

Menstrual Hygiene Management: "use of clean menstrual management material to absorb or collect menstrual blood that can be changed in privacy as often as necessary for the duration of a menstrual period, using soap and water for washing the body as required, and having access to safe and convenient facilities to dispose of used menstrual management materials" (21).

Knowledge on MHP: The response of knowledge questions about MH practice were summed up and a total score is computed from 10 questions related to MH. The scores 50%, indicates good knowledge and <50%, indicates poor knowledge toward MH practice (21).

Attitudes towards MHP: It is individual belief on MH practice and assessed from 4 questions by sum statements related to this belief which scored using Likert-scale and above mean indicates high attitude on MH practice and below mean indicates low attitude towards MH practice (15).

Menstrual Hygiene practice: The measurement of practice of menstrual hygiene focus on use of material during menstruation. To measure the respondent's menstrual hygiene practice. 10 closed ended menstrual hygiene practice related questions were presented and for each correct answer 1 point and 0 for incorrect ones given. This focus on use of material during menstruation (assign 1 point for use of sanitary pad and home pad, 0 other sanitary materials), methods of disposal of materials (0 for open field, 1 for other proper disposal), cleaning of external genitalia (1 for cleaning 2 or more times/day, 0 for <2 times/day), frequency of sanitary pad change (1 for changing pad 2 or more times/day, 0 for <2 times/day), bath during menstruation (1 for bathing 2 or more times/day, 0 for <2 times/day) and materials used for cleaning purpose (1 for washing with soap and water or with plain water, and 0 for not washing). Respondents who scored five and above were considered as having good menstrual hygiene practice and a score 0-4 was considering as having poor menstrual hygiene practice (21, 26,31).

4.11. Data Quality Control

The qualities of data were assured through skillful design, translation and retranslation of the questionnaires. Training was provided for data collectors and supervisors for two days before actual data collection. The training was focused on how to fill the questionnaire and how to approach the respondents. Pre-test were done to assess the applicability of procedures and tools using 5% of participant's neighborhood school which is not actually included in the main study for relevant amendment and corrective modifications were done on the questionnaire based on the result of pretest. Data were collected by self-administer questioner for female students who was available during the data collection by the health extensions workers. During data collection time, a clear introduction that explains the purpose and objectives of the study were provided to participants.

4.12. Data Processing and Analysis

Data was checked visually, coded and entered into Epi info and was exported to SPSS (Statistical Package for Social Science) version 23 software package for further statistical analysis.The data was analyzed using Bivariable and multivariable logistic regression to determine the effect of various factors on menstrual hygiene practice. All variables with p value of 0.25 and below in the bi-variable analyses were entered into multiple logistic regression models, during this time back ward stepwise regression method was used. The goodness of fit of these models was assessed by

the Hosmer-Lemeshow test. Odd ratio at 95% CI was used to measure strength of association between outcome and predictor variables and those variables having p value of less than 0.05 ware considered to declare statistically significant association with menstrual hygiene practice.

4.13. Ethical consideration

Ethical approval was obtained from department of environmental health, Behirdar University College of medicine and health science school of public health in Environmental health department ethical review board and Motta town worda educational write a permission letter to me. Written informed consent was obtained from each participant. Confidentiality was assured at all levels of the study using a password-protected computer and identification of each participant was deleted and done through numerical coding. Furthermore, all information that was obtained from the respondents kept confidential. The data was not being provided to a third party without the participant's permission. Participants were having the right to refuse to participate in this research and they also were the full right to withdraw from the interview at any time they wish Safety of adolescent girls was be kept.

5. RESULT

5.1. Socio-demographic characteristics of respondents

A total of 571 female students, from two secondary school of Motta town district was include in the study with a response rate of 98.6%. Of the total female students, the Mean age of the study participants was 17.98±0.4 years. Among the participants 387 (67.8%) of them were in the ageGroup of 18-20 years and 184 (32.2%) were 15-17years of respondents. Among the respondents, 444(77.8%) were orthodox Christian and all participants were (100%) were Amhara Ethnic group. The majority of the respondents, 488(85.5%) were single and 357(62.5%) urban dwellers.

Pertaining to educational status of mothers and fathers were 13 (2.3%) and 24(4.2%) of them had no formal education, 180(31.5%) and 165(28.9%) them were able to read and write, 91.5(15.9%) and 79(13.8%) of them were had secondary and above education level respectively (Table 2).

Table 2 Socio-demographic characteristic of female high school students in Motta town, Amhara regional state, Ethiopia, 2021

Variables	**category**	**Frequency**	**Percentage**
Age	15- 17 years	184	32.2
	18-20 years	387	67.8
Religion	Orthodox Christian	444	77.8
	Muslims	121	21.2
	Protestant	6	1.1
Residence	urban	357	62.5
	Rural	214	37.5
Mothers 'education	illiterate	13	2.3
Status	write and read	180	31.5
	Primary education	142	24.9
	Secondary education	91	15.9
	diploma and above	145	25.4
Fathers' education	illiterate	24	4.2
status	write and read	165	28.9

	Primary education	172	30.2
	Secondary education	79	13.8
	diploma and above	131	22.9
Family monthly	2000-3000	103	18
income	3001-6000	418	73.2
	6001- 9000	50	8.8

5.2. Source of Information about Menstrual Hygiene

The main source of information about menstrual hygiene was mothers for 171(29.9%) followed by sister for 159(27.8%). four hundred sixty-eight (82%) didn't learn about menstrual hygiene in the class and 295(51.7%) didn't speak about menstrual hygiene with any one (table 3).

Table3 Source of information about menstrual hygiene among female high School students in Motta town Amhara regional state, Ethiopia, 2021

Variables	**Category**	**Frequency**	**Percent**
Class learns about	Yes	103	18
menstrual hygiene	No	468	82
Speak about	Yes	276	48.3
menstrual hygiene	No	295	51.7
With whom discuss	Friends	239	86.3
for Menstrual	Teachers	20	7.2
hygiene	Sisters	18	6.5
	Friends	131	22.9
Source of	Teachers	72	12.7
information	Sisters	159	27.8
	Mothers	171	29.9
	Media	38	6.7

5.3. Knowledge about Menstrual Hygiene

The main materials known by 366(64.1%) respondents were commercially made sanitary pad. Four hundred three (70.6%) of participants known before start menstruation and three hundred

eighty-eight (68%) participants aware that poor menstrual hygiene predisposes for infection, 418(73.2%) participants aware that sanitary pad should be changed frequently and 359(62.9%) respond that genitalia should be washed frequently (table 4).

Table 4. Knowledge and attitude of menstrual hygiene among female high school students in Motta town Amhara regional state, Ethiopia, 2021

Variables	category	Frequency	Percent
Know about	Yes	403	70.6
menstruation before	No	168	29.4
menses			
First reaction of	Cried	102	17.9
menses	Happy	75	13.1
	Scared	162	28.4
	Told mother	104	18.2
	Embarrassed	83	14.5
	Annoyed	45	7.9
Materials	Homemade	175	30.6
Known for	commercially made	366	64.1
Menstrual	Underwear	30	5.3
Soaking	homemade	165	28.9
Materials	commercially	384	67.3
Menstrual	soft	16	2.8
Absorbent	paper	6	1.1
	Yes	388	68
Poor menstrual	No	183	32
Hygiene predispose			
Infection			73.2
Pad should be	Yes	418	26.8
Changed	No	153	
Frequently			62.9
Genitalia	Yes	359	37.1

Washed Frequently	No	212	
Knowledge	Good	385	67.4
	Poor	186	32.6
Attitude	Good	246	43
	Poor	325	57

5.4. Menstrual Hygiene Practice of Respondents

Majority of respondents uses, menstrual absorbent; 377(66.0%), commercially made sanitary pad, 164(27.7%), homemade sanitary pad and 30(5.3%) uses other methods such as underwear and soft. Most respondents were not reuse sanitary pad 382(66.9%) only One hundred eighty-nine (33.1%) of the participants reuse sanitary pad. Two hundred sixty-one (45.7%) throw used menstrual soaking materials in the other waste and one hundred eighty-one (31.7%) throw used pad in the toilet pan, one hundred twenty-three (21.5%) of respondents throw used menstrual soaking materials in the latrine and only six (1.1%) respondents are throwing used materials open field. two hundred twenty-one (38.7%) participants washed their genitalia twice per day and 6(1.1%) haven't washed during menstruation. Majority of them, 413(72.3%) washed their genitalia with water and one hundred fifty-eight (27.7%) participants used for soap with water (table 5).

Table 5. Practice of menstrual hygiene among female Motta town high school students in Amhara regional state, Ethiopia, 2021

Variables	Category	Frequency	Percentage
Class for menstrual Hygiene in school	Yes	104	18.2
	No	467	81.8
Use of sanitary materials during menses	Yes	536	93.9
	No	35	6.1
Materials used for menstrual Absorbent	Commercial	120	21
	Homemade	126	22
	Other martial	325	57
Reuse of sanitary pad	Yes	189	33.1

	No	382	66.9
Place where dispose used pad	with other waste	261	45.7
	Toilet pans	181	31.7
	Open filed	6	1.1
Frequency of Washing genitalia per day	Latrine	123	21.5
	Once	213	37.3
	Two times	221	38.7
	Three times	78	13.7
	Four and above	53	9.3
	No wash during Menstruation	6	1.1
Materials used for washing genitalia	Water only	413	72.3
	Soap and water	158	27.1
Bath during your period	Yes	307	53.8
	No	264	46.2

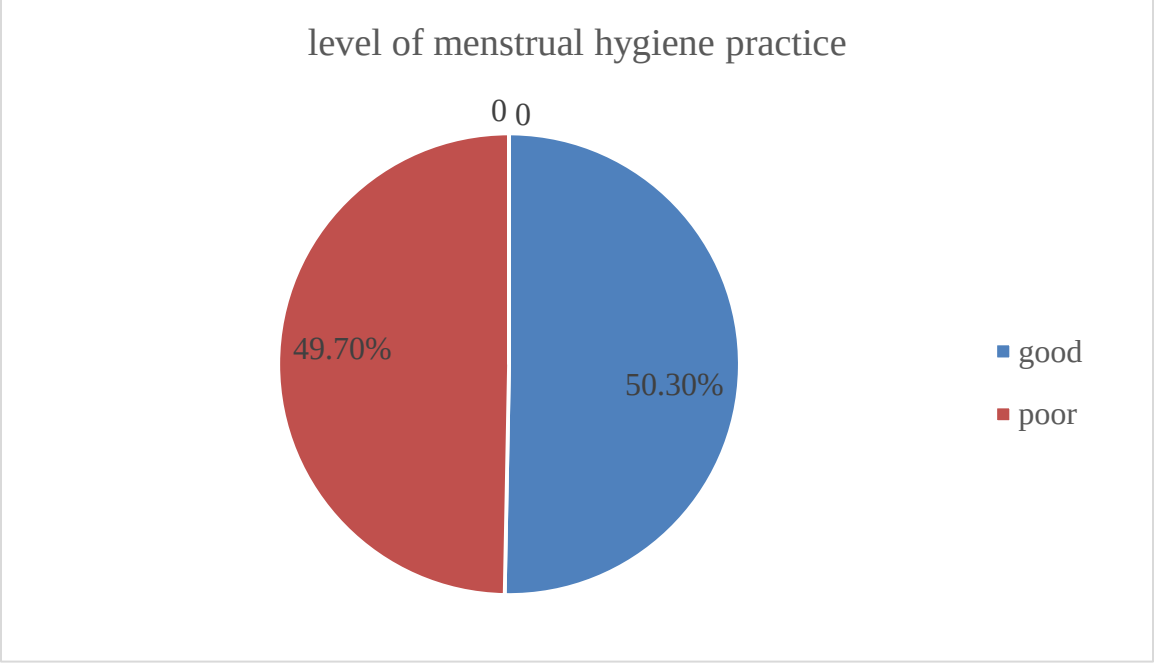

Figure 4. Practice of menstrual hygiene among female Motta town high school students in Amhara regional state, Ethiopia, 2021

5.5. Behavioral and environmental Characteristics of respondents

Table 6. Behavioral and environmental factors of menstrual hygiene among female high school students in Motta town Amhara regional state, Ethiopia, 2021

Variables	Category	Frequency	Percentage
clean water in school	Yes	243	42.6
	No	328	57.4
Access hygiene kit in your school	Yes	122	21.4
	No	449	78.6
Share materials to keep menstrual hygiene	Yes	114	20
	No	457	80
Wash hands before changing pad	Yes	262	45.9
	No	309	54.1
Wash hands after changing pad	Yes	411	72
	No	160	28
Types of material used during menses	Commercial sanitary	297	52
	pad	232	40.6
	Reusable cloth pad	22	3.9
	Disposable cloth	20	3.5
	Cotton and underwear		
Change of absorbent material during menses	Yes	294	51.5
	No	277	48.5
Disposal place of used absorbent	Dustbin	315	55.2
	Toilet	242	42.4
	Open environment	4	0.7
	Burn	10	1.8
Feel comfortable in school while menstruating	Yes	145	25.4
	No	426	74.6
Absent from school during menstruation	Yes	243	42.6
	No	328	57.4
Menstruation interferes school performance	Yes	426	74.6
	No	145	25.4

5.6. Factors Affecting the Practice of Menstrual Hygiene

Both bivariate and multivariable logistic regression analyses were done to identify factors associated with MHM practices. In Bivariable analysis: age, learn about menstruation in the school, parental educational status, residence, types of material used to MHP, knowledge and

attitude of respondent about menstrual hygiene practice have an association with unsafe MHM practice. After running multivariate analyses, variables like age, mother educational status, residence, knowledge, types of material used for MHP and attitude were significantly associated with unsafe menstrual hygiene management practice.

Female high school students who aged from 18-20 years were 1.48 times more likely practice safe MHM than those who aged from 15-17 years high school students (AOR=1.48; 95% CI: 1.02, 2.14; P=0.039). Students who live in urban were 1.45 times more likely to practice good MHM than those who live in the rural area (AOR=1.45; 95% CI: 1.01, 2.08.; P=0.043). Female high school students who learn about menstruation in the school were 1.94 times more likely practice safe MHM than those students who did not learn about menstruation in the school (AOR=1.94; 95% CI: 1.21, 3.11.; P=0.006).

High school female adolescents who use sanitary or homemade pad were 1.44 times more likely to practice safe MHM then those students who use other material for MHM (AOR=1.44; 95% CI: 1.01, 2.04, P= 0.043). Female high school adolescents who had positive attitude and good knowledge on MHM were (AOR=1.90; 95% CI: 1.06, 3.41; P=0.032), and (AOR=1.90; 95% CI: 1.31, 2.76, P=0.001) time more likely practice good MHM than their counterparts respectively (table 6).

Table 6; Bivariable and multivariable logistic regression analysis of factors associated with menstrual hygiene practice among women in secondary school of Motta Town, east Gojjam, Amhara region, Ethiopia, 2021

Variables		**MHM practices**		**Odd ratio**		**p- value**
		Good	Poor	COR With 95% CI	AOR With 95% CI	
Age						
	18-20	208	179	1.54(1.08-2.20)	1.48(1.02-2.14)	0..039*
	15-17	79	105	1	1	
Residence						
	Urban	197	160	1.70(1.21-2.39)	1.45(1.01-2.08)	0.043*
	Rural	90	124	1	1	

Knowledge						
	Good	218	167	2.21(1.54-3.17)	1.90(1.31-2.76)	0.001**
	Poor	69	117	1	1	
Attitude						
	good	265	243	2.03(1.78-3.51)	1.90(1.06-3.41)	0.032*
	Poor	22	41	1	1	
Types of martial used						
Sanitary/homemade pad		141	105	1.65(1.18-2.30)	1.44(1.01-2.04)	0.043*
Other materials		146	179	1	1	
Learn about menstruation in school						
	Yes	67	36	2.10(1.35-3.28)	1.94(1.21-3.11)	0.006**
	No	220	248	1	1	

Note; 1= reference category *P< 0.05 significant, **P<0.01 highly significant, ***P<0.001 very highly significant. CI = Confidence Interval, COR = Crude Odds Ratio, AOR= Adjusted Odds.

6. DISCUSSION

Understanding MHM practice and its determinant factor will aid in planning and successful implementation of scheme in the study area. It will also aid in exposing areas where effort need to improve females' menstrual hygiene practice.

In this study, about 50.3% of the school females MHM practice was good/safe. This study similar with systematic review and meta-analysis in Ethiopia, 51.02% and 52.69% and another study conducted in Oromia state, Ambo City 46.4% (6, 18).

This finding is lower when compared to studies conducted in East Hararghe Zone, Batu Town in East Shewa and Mehalmeda High School Ethiopia, in which prevalence 58.3%, 66.8% and 90.9% respectively (5, 20,21). The possible reason for this observed discrepancy may be due to differences in cultural practices. Moreover, it may be due to the difference in social relationships and social value that each environment gave for women in preserving their health and menstrual hygiene management.

Whereas it was high as compared to a study conducted in Ethiopia (Gedeo zone high schools, central Ethiopia) which showed that 39.7%, 34.7% (7, 19). This might be due to study period, globalization which increase easily access of information and increase awareness about menstrual hygiene management. Parent educational status in this study was higher than those above two study conducted on the previous.

Female high school students who aged from 18-20 years was 1.48 times more likely practice safe MHM than those who aged from 15-17 years high school. This finding is supported by study conducted in Ethiopia (Ambo city and Gedeo zone high schools in Oromia and in North Wollo zone in Amhara region) in Ghana, Kenya and Chitwan district state (1, 6, 19, 23, 24, 27).

Students who live in urban were 1.45 times more likely to practice good MHM than those who live in the rural area. This supported by study conducted in Ethiopia Addis Ababa which was significant and another study conducted in central Ethiopia, East Hararghe Zone and Mehalmeda High School Students in Amhara Regional State (7, 20, 21). This might be due to difference in the urban students have easily access health information and sanitary pads by mass media, internet. In addition to that urban students are more likely to be aware of the physiology of menstruation and supported intimately and openly with their parents to deal problem and as well as to discuss openly on menstrual hygiene(14, 31).

Female high school students who learn about menstruation in the school were 1.94 times more likely practice safe MHM than those students who did not learn about menstruation in the school. It is true that learning can change the knowledge, attitude and practice of students in MHM and increase commitment to practice good MHM. This was congruent to the study conducted in Ethiopia (Oromia state in Ambo City, central Ethiopia, Mehalmeda High School Students in Amhara Regional State) (6, 7).

Female high school adolescents who had good knowledge about practice of menstruation were 1.9 time more likely practice good MHM than those students who had poor knowledge for menstruation practice. This may be due to the fact that students who have good knowledge may have the tendency to accept the advantage and practice good MHM and the adolescents had poor knowledge they would have a high probability of having poor menstrual hygiene practice. This may be due to the fact that knowledge plays a great role and it is a prerequisite for practice. This study is similar to the study conducted in Ethiopia (Central Ethiopia, another meta-analysis study done in Ethiopia, Gedeo zone high schools, Hararghe zone and Mehalmeda High School Students in Amhara Regional State) and in Nigeria (7, 19, 21, 30).

Female high school adolescents who had positive attitude towards MHM practice were 1.9 times more likely to practice good MHM than their counter part. This may be because of favoring to practice may influence MHM. It might be due to that positive attitude towards menstrual hygiene management is the main factors to know and practice which made them ready to practice safe hygienic management.

Female high school adolescents who use sanitary/ homemade pad for MH were 1.44 time more likely to practice good MHM than those students who use other materials for menstrual management. This might due to that knowledge on sanitary pads increase freedom to ask for sanitary materials from their parents and to consider it is a natural phenomenon to manage without frustration. This study supported by study done Bahir Dar town (32).

6.1. Limitation of study

The menstrual hygiene issue is something considered taboo in the community and too sensitive to discuss openly. This may contribute to social desirability bias.

Study design was cross-sectional study, it is difficult to establish a cause-and effect relationship between dependent and independent variables.

It was difficult to acquire the exact age of menarche as there may be recall bias. To minimize it attempt was made to link with their grade level and time of menarche and identify the exact age of their first menstruation.

7. CONCLUSION

More than half of the participants had safe level of menstrual hygiene practiced in Motta secondary schools. It is low level of MHP. Age, residence, learning about Mendes in the school, materials used for MHM, knowledge and Attitude towards MHP were identified as the factors having stronger significant associated with the practices of menstrual hygiene in female students.

8. Recommendations

For Managers

Minister of education and minister of health collaboration with regional education and health bureau should develop curriculum to teach high school students about MHM.

Regional, Zonal, Woreda and high school level managers should give priority for rural high school students to teach about MHM.

Respective high school managers should establish awareness for students, teachers and parents to improve MHM practice in school by giving health education programs and should also give special attentions towards making schools a comfortable place for girl's menstrual hygiene practice by continuous provision of sanitary pad especially for the neediest ones.

Any programs working to improve the MHM should target the age of the female, mothers and Teachers, sustainable information source for females so that their program will be a success.

Further research with qualitative methods is especially recommended as this is a sensitive issue needing a study for adolescents' better understanding of menstrual hygiene practice.

Community level suggested to:

Different stakeholders should be involved in developing information, education and communication for promoting positive attitudes towards management of menstruation and related problems among the adolescent girls.

Community health development army should do to increase the mothers' knowledge and attitude to menstrual hygiene management practice. Because they are the main source of information about menstruation to their daughters.

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ANNEXES

Annexes 1 Participant information sheet

Bahir Dar University Collage of Medicines and Health Science, School of Public Health Department of Environmental Health

Dear participants

Good morning/afternoon;

My name is----------I am working as a data collector for the study being conduct by Dereje Almaw who is studying his Master's degree at Bahir Dar University College of Medicine and Health Sciences School of public health, Department of Environmental health. Currently, He will be conducting research on a topic entitled as Assessment of menstrual hygiene practice and associated factor among female high school students in Motta town East Gojjam Amhara Region Ethiopia. I kindly request you to lend me your attention to explain you about the study and being selected as the study participant.

The purpose of the study: - The purpose of this study is to assessmenstrual hygiene practice and associated factor among female high school students in Motta town East Gojjam Amhara Region Ethiopia.Motta town and their surrounds knowing this has paramount importance for the district health office to plan strategies that can create safe practice of menstrual hygiene in school level and its sustainability system in the area.

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

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

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 and will not reflect anything particular of individual persons.

Contact address

If there are any questions or enquires any time about the study or the procedures, you can contact by using the following addresses. Principal investigator:

Name: Dereje Almaw

Mobile phone: +251-9 21 28 79 31 E- mail: derejealmaw12@gmail.com

Name of advisers: Dr. Meskerem Girma

Mobile phone: +251-9 11368114 E- mail: grimam280@gmail.com

Are you voluntary to participate in the interview?

A) If yes → takes the consent form & continues the interview

B) If No--→Thank you and stop the interview

Annexes 2 Declaration of informed voluntary consent

I have read for me the participant information sheet. I have clearly understood the purpose of the research, the procedures, the risks and benefits, issues of confidentiality, the rights of participating and the contact address for any queries. I have been given the opportunity to ask questions for things that may have been unclear. I was informed that I have the right to withdraw from the study at any time or not to answer any question that I do not want. I have been told that my answers to the questions will not be given to anyone else and no reports of this study ever identify me in any way. Therefore, I declare my voluntary consent to participate in this study with my signature as indicated below.

_____ ___ _____Participant code number

date signature

Instruction; circle the appropriate answer provided and where applicable write the required response in the space provided.

Part I. Part I: Socio-demographic and economic characteristics

Sr.No	Variable	**Possible answer**	Code
Q101	Age?	……years	
Q102	Religion?	Orthodox Protestant Catholic Muslim ……other	1 2 3 4 5
Q103	Residence?	Rural Urban	1 2
Q104	Marital status?	Single Divorced Married Widowed	1 2 3 4
Q105	Educational status of your father?	Unable to read and write Able to read and write Attend primary school Attend secondary school College diploma and above	1 2 3 4 5
Q106	Educational status of your mother?	Unable to read and write Able to read and write Attend primary school Attend secondary school College diploma and above	1 2 3 4 5
Q107	Monthly income in	…… Ethiopian birr	

Part II source of information

Q201	Did you learn about menstrual Hygiene in school?	Yes No	1 2
Q202	Did you communicate about menstrual hygiene practice in school level?	Yes No	1 2
Q203	If yes Q# 202 With whom discuss about menstrual hygiene?	Friends Mother Teacher Sister	1 2 3 4
Q204	Source of information about menstrual hygiene	Mother Friend Media	1 2 3

Part III: **Knowledge questions**

Q301	Did you know about menstruation before you started menstruating?	yes No	1 2
Q302	What was your first reaction when you experienced your first menstruation?	Cried happy Scared Told mum, sister,grandmother,friend,teacher… Embarrassed annoyed Other specify……	1 2 3 4 5 6 7
Q303	What types materials known for menstrual Soaking?	Homemade pad or cloth Commercially made sanitary pad Underwear	1 2 3 4

Q304	Which type of material Ideal menstrual Absorbent?	Homemade pad or cloth Commercially made sanitary pad	1 2 3 4
Q305	You know Menstrual blood unhygienic?	yes No	1 2
Q306	You know Poor menstrual hygiene predispose to infection?	Yes No	1 2
Q307	During menses pad frequently change is better life?	Yes No	1 2
Q308	Is very important genitalia should be washed frequently during menses?	Yes No	1 2

Part iv Attitude questions

Q401	Is lack of water is the reason for apply poor menstrual hygiene practice?	Strongly disagree Disagree Agree Strongly agree	1 2 3 4	
Q402	Do you agree poor menstrual hygiene is an unsafe practice and should be discouraged?	Strongly disagree Disagree Agree Strongly agree	1 2 3 4	
Q403	Do you agree using public toilet feels discomfort for menstrual hygiene?	Strongly disagree Disagree Agree Strongly agree	1 2 3 4	
Q404	Do you agree most of the illnesses occur as a result poor menstrual hygiene?	Strongly disagree Disagree Agree Strongly agree	1 2 3 4	

Part v. practice questions

501	Do you have separate room/place in your school to change their disposable pad/cloth during menstruation?	yes No	1 2	
502	If yes Q# 202 Do you use it?	Yes No	1 2	
503	Use of sanitary Pad during menses?	Yes No	1 2	
504	If yes Q# 501 what types of Materials used For menstrual absorbent?	Homemade cloth Commercially made Underwear Sponge	1 2 3 4	
505	Tray to reuse of Sanitary pad?	Yes No	1 2	
506	Where place dispose used Pad?	With other waste In the toilet pan In the open field In the latrine	1 2 3 4	
507	How many times washing genitalia per Day during menses?	One times Two times Three times Four and above times No wash during Menstruation	1 2 3 4 5 6	
508	What types of Materials used for washing Genitalia during menses?	With soap and water With water only	1 2	
509	Bath perform during Your period?	Yes No	1 2	

Part vi: Socio-cultural and environmental characteristics

601	Had access to clean water in school?	Yes No	1 2	
602	Do you Bath during menstruation?	Yes No	1 2	
603	Do you have any hygiene kit (Detol, rag/cotton, soap) in your school for using during menstruation?	Yes No	1 2	
604	Do you share the material to keep menstrual hygiene?	Yes No	1 2	
605	Wash hands before changing pad?	Yes No	1 2	

606	How often do you wash your hands before changing your pad?	Always Most of the time Sometimes	1 2 3	
607	Wash hands after changing pad?	Yes No	1 2	
608	What is the type of material used during the last menstrual period?	Commercial sanitary pad Reusable cloth pad Disposable cloth Cotton Underwear/underpants	1 2 3 4 5	
609	How many Change of absorbent material during menses?	Once daily Twice daily Thrice or more daily Do not change until the next day	1 2 3 4	
610	Where is Disposal of used absorbent materials?	Dustbin Toilet Open environment Burn	1 2 3 4	
611	Had access to toilet?	Yes No	1 2	
612	Privacy of the toilet is kept?	Yes No	1 2	
613	Feel comfortable in school while menstruating?	Yes No	1 2	
614	If no Q # 514 Reason for being uncomfortable In school?	No place to dispose used pad	1 2	

		No private place to change sanitary pad No water for washing I had Pain or discomfort	 3 4	
615	Absent from school during menstruating?	Yes No	1 2	
616	If yes Q#515 how many class miss during menstruation?	one day two day three day four day and above	1 2 3 4	
617	If yes Q#515 what are the reasons?	Afraid of staining clothing Afraid of being Pain Lack of private space to manage period at school Lack of disposal facilities for used pad/cloth Cultural restrictions Religious restrictions my parents asked me not to go to school	1 2 3 4 5 6 7	
618	Menstruation interferes school performance?	Yes No	1 2	

If there is any question or comment welcome

1. _____
   _____
   _____

Thank you for your participation!!!

Annexes I Subject Information Sheet (Amharic Version)

በጥናቱዙሪያአጠቃላይመረጃለመስጠትናስምምነትለመውሰድየተዘጋጀቅጽበባህርዳርዩኒቨርሲቲ፣ ጤናሳይንስኮሌጅ፤በህብረተሰብጤናትምህርትቤትበአካባቢጤናአጠባብቅትምህርትክፍል፤ የዋተርሳኒቴሽንእናሀይጅንመርሀግብር

የተከበሩየጥናቱተሳታፊ!

በቅድሚያእንደምንአደራቹሁ/ዋላቹህ!!!
ስሜደረጀአልማውእባላለሁ፡፡በአሁኑስዓትበባህርዳርዩኒቨርሲቲ፣ጤናሳይንስኮሌጅ፤ በህብረተሰብጤናትምህርትቤትበአካባቢጤናአጠባብቅትምህርትክፍል፤ የዋተርሳኒቴሽንእናሀይጅንመርሀግብርየማስተርስድግሪተመራቂተማሪየሆኑትአቶደረጀአልማውበዚ ህወረዳትቤትዉስጥየወርአበባንጽህናሁኔታንምንላይእንደሆነናምኪኒያቶችእናመንስኤዎችንምንእንደ ሆኑለሚያደረገዉጥናታመረጃእንድሰበስቡለትከመረጣቸውባለሙያዎችመካከልእኔአንዱነኝ፡፡ ስለጥናቱእናለጠናቱተሳታፊበመመረጥዎስለአብረሮኖተዎምፍላግዎትንአንዲገልፀልኝበደንብአጠይ ቃለሁ፡፡
እርስዎናሌሎችየጥናቱተሳታፊዎችምበተመራማሪውአማካኝነትስልታዊበሆነመንገድእንዲሳተፉየተ መረጡስለሆንከመሳተፍዎበፊትግንየጥናቱንጠቅላላይዘትእናዓላማእንደሚከተለውላብራራልዎትእወ ዳለሁ፡፡

የጥናቱዋናአላማ፤በወረዳዉ፤ሞጣከተማአስተዳደር፤በምስራቅጎጃምዞን፤
በተማሪዎችዉስጥየወርአበባንጽህናሁኔታንእናመክንያቶችንመገምገምነዉ፣በተጨማሪምየዚህ

ጥናትዋናአላማለዋናዉተመራማሪሙሉበሙሉየመምህራንመርሃግብርየውኃአቅርቦት,
የአካባቢጽዳትናየግልንፅህናአጠባበቅመርሃ-ግብሩንለመመላትናለመርኃ-
ግብርለማሟላትመስፈርትሆኖመቅረፅነው፡፡

ጉዳትእናጥቅሞች፤በዚህጥናትበመሳተፍዎጉዳትበጣምትንሽነው፤ነገርግንጊዜዎንብቻይወስዳል.
በዚህጥናትበመሳተፍዎምንምዓይነትቀጥተኛክፍያአይኖርም.
ነገርግንየዚህጥናትግኝቶችለአካባቢያዊየጤናእቅድአውጭዎችአስፈላጊመረጃንሊያሳዩይችላሉ፡፡

መብትንበተመለከተ፡ተሳትፎዉበፍቃደኝነትላይተመሰረተነዉ፤
በዚህጥናትዉስጥለመሳተፍወይምላለመሳተፍየማድረግመብትአለዎት፤
ላለመሳተፍከወሰኑበማነኛዉምጊዚኤከመጠይቁየማቋረጥመብትአለዎት፡፡
ይህደግሞእርስዎለማያዉቁትማነኛዉምጥቅማጥቅሞችአየሰጥም፡፡
ለመመለስየማይፈለጉትንጥያቄመልስእንዲሰጡአይግደዱም፡፡

ሚስጢርመጠበቅንበተመለከተ፡እኛየሚሰጡንንመረጃበሚስጢርየመያዝሃላፊነትአለብን፤
በተለይእርስዎንሚለይመረጃአይኖርም፡፡
የትናቱግኝቶችመህበረሰቡአጠቃላይናቸዉእናምእናምየግለሰብንወይምየቤቱንልዩነትየሚያንጸባርቅአ
ይደለም፡፡
በቃልወይምበጽሑፍየቀረቡሪፖርቶችተሳታፊዎችንበቀጥታበጥናቱላይሊያገናኙየሚችሉማመሳከሪያ
ዎችአይኖሩም፡፡
ስለጥናቱማንኛውምዓይነትጥያቄቢኖርዎትወይምስለጥናቱየመጨረሻውጤትማወቅቢያስፈልግዎት
በሚከተለውየዋናውተመራማሪአድራሻማግኘትይችላሉ፡፡

ዋናዉተመራማሪ፤

ስም፤ደረጀአልማው

ስልክ፤ 0921287931 ኢሜል፤ derejealmaw12@gmail.com

ዋናዉአማካሪ፤

ዶክተርመስከረምግርማ

ስልክ፡09 11368114 E- mail: grimam280@gmail.com

በአጠቃለይበጥናቱዙሪያበተደረገለዎትገለጻተስማምተውናአምነውበትከሆነበጥያቄውለመሳተፍፈቃደኛነወት?

1. አዎ-----ጥያቄውንይቀጥሉ
2. አይደለውም------ስለነበረንቆይታአመሰግናለውበማለትጥያቄውንያቋርጡ

ክፍል1፡አጠቃላይማህበራዊናስነ-ህዝባዊመረጃዎችንበተመለከተ				
ተ.ቁ	ጥያቄዎች	አማራጭ	ኮድ	እለፍ
101	የምላሽሰጪዕድሜ(ዓመት)	.....		
102	የምላሽሰጪእምነትሁኔታ	ኦርቶዶክስፕሮቴስታንት ካቶሊክ ሙስሊም ሌላ	1 2 3 4 5	
103	የመኖሪያቦታ	ገጠር ከተማ	1 2	
104	የጋብቻሁኔታ?	ያላገባች የፈታች ያገባች(አብረውየሚኖሩ) የሞተባት	1 2 3 4	
105	የአባትየትምህርትደረጃምንድንነው?	ማንበብመጻፍየማይችል ማንበብመጻፍየሚችል የመጀመሪያደረጃየተማረ ሁለተኛደረጃየተማረ ድኅሎማናከዛበላይ	1 2 3 4 5	
106	የእናትየትምህርትደረጃምንድንነው?	ማንበብመጻፍየማይችል ማንበብመጻፍየሚችል	1 2	

		የመጀመሪያደረጃየተማረ	3	
		ሁለተኛደረጃየተማረ	4	
		ድኅሎማናከዛበላይ	5	
107	የቤተሰቡገቢ/በወር/	……ኢትብር		

ክፍል2 ከወርአበባንጽህና‚ጋርየተያያዙመጠየቆች

201	ርትቤትውስጥስለወርአበባ ንፅህናትምህርትወስደሽታውቂያለሽ	አወ	1	
		የለም	2	
202	ርትቤትውስጥስለወርአበባ ተወያይታቹሁታውቂያለሽ?	አወ	1	
		የለም	2	
203	ጥከያቂቁ.202 አወከሆነከማን‚ጋርነውየምትወያይው	ከጓደኛ	1	
		ከመምህር	2	
		ከህት	3	
204	በይበልጥስለሥርአበባንፅህናመረጃከማንነውየምታገኝው?	ከጎአደኛ	1	
		ከመምህር	2	
		ከህት	3	
		ከእናት	4	
		ራድዮወይምቴሌቪዥን	5	

III. እወቀትንበተመለከተመጠየቅ

301	የወርአበባከማየትሽበፊትስለወርአበባም ንነትታውቂያለሽ?	አዎ	1	
		የለም	2	

302	በመጀመሪያጊዜየወርአበባስታዩምንስ ሜት·ተሰማሽ?	መከፋት· መደሰት· መፍራለቅርብቤተሰብእናትእህት· ሴትአያት·መምህርመናገር እፍረት· መናደድ· ሌላካለዩግለጹ·	1 2 3 4 5 6 7	
303	የወርአበባንፅጎናንለመጠበቅየት·ኛውን ቁሳቁስት·ጠቀሚያለሽ?	የቤት·ጨርቅ የገቢያሞዴሰ ምንምአልጠቀምም	1 2 3	
304	የወርአበባንፅህናንለመጠበቅተስማሚቁ ሳቁስየት·ኛውነው?	የቤት·ጨርቅ ሞዴስ ሶፍት· ወረቀት·	1 2 3 4	
305	የወርአበባጥሩያልሆነሽታለኖረውይች ላል?	አዎ የለም	1 2	
306	ተገቢያልሆነየወርአበባንጽህናአጠባበቅ ህመምእንደሚያመጣታውቂያለሽ?	አዎ የለም	1 2	
307	በወርአበባጊዚሞዴስቶሎቶሎመቀየርየ ተሻለነውብለሽታስቢያለሽ?	አዎ የለም	1 2	
308	ብልት·ንበወርአበባጊዜቶሎቶሎመታጠ ብጠቃሚነውብለሽታስቢያለሽ?	አዎ የለም	1 2	

V.**አመለካክትንበተመለከተ**

401	ዉሃአለመኖርየወርአበባንጽህናላለመጠበቅምክን ያትነዉ?	በጣምአልስማማም አልስማማም እስማማለሁ በጣምእስማማለሁ	1 2 3 4	
402	የወርአበባንጽህናንአለመጠበቅጎጂነው?	በጣምአልስማማም አልስማማም እስማማለሁ በጣምእስማማለሁ	1 2 3 4	
403	ሽንትቤትንበመጠቀምየወርአበባንጽህናለመጠበ ቅምቸሁአይደለም ?	በጣምአልስማማም አልስማማም እስማማለሁ በጣምእስማማለሁ	1 2 3 4	
404	የወርአበባንጽህናንአለመጠበቅየጤናችግርሊያስ ከትልይችላል?	በጣምአልስማማም አልስማማም እስማማለሁ በጣምእስማማለሁ	1 2 3 4	

V. ተግባራዊየሆነመጠየቅ

501	በትምህርትቤትውስጥለዎርአበባንፅህናመስጫየ ተዘጋጀራሱንየቻለክፍልአለወይ?	አዎ የለም	1 2	
502	ጥያቄቁ 501 አወከሆነተጠቅመሽበትታውቂያለሽወይ?	አዎ የለም	1 2	

503	ንጹህየሆነሞዲስበዎርአበባጊዚትጠቀሚያለሽ?	አዎ የለም	1 2	
504	ጥያቂቁ 503 አዎከሆነየትኛውንቁሳቁስነውየምትጠቀሚው?	የቢትውስጥጨርቅ የገበያሞዲስ ስፖንጅ ምንምአልጠቀምም	1 2 3 4	

505	በሥርአበባጊዚየተጠቀምሽበትንቁሳቁስድጋሚተጠቅመሽበትታውቂያለሽ?	አዎ የለም	1 2	
506	የተጠቀምሽበትንቁሳቁስየትነው? ያስዎገድሽው?	ከሊላቆሻሻጋርበመጨመር ሽንትቤትሳህን ሚዳላይ ሽንትቤትውስጥ	1 2 3 4	
507	በወርአበባጊዚበቀንምንያህልብልትሽንትታጠቢያለሽ?	አንድጊዚ ሁለትጊዚ ሶስትጊዚ አራትእናከዚያበላይ ምንምአልታጠብም	1 2 3 4 5	
508	በወርአበባጊዚብልትሽንበምንድንነውየምትታጠቢው?	በውሃብቻ በውሃእናሳሙና	1 2	
509	በወርአበባዎቅትገላሽንታጥበሻል?	አዎ የለም	1 2	

V. የህብረተሰበንባህል፣ባህሪ፣አመለካከትእናአካባቢንመጠየቅ

601	በትቤትውስጥየወርአበባንጽህናንለመጠበቅበቂየውሂአቅርቦትአለወዱ?	አዎ የለም	1 2	
602	በት/ቤትውስጥየወርአበባንጽህናንለመጠበቅየተዘጋጁቁሳቁሶችሳሙናንጹህቁራጭጨርቅጥጥአሉወዱ?	አዎ የለም	1 2	
603	የወርአበባንጽህናንለመጠበቅቁሳቁስትዋወሳላቹህን?	አዎ የለም	1 2	
604	ሞዴስከመቀየርሽበፊትእጅሽንትታጠቢያለሽወዱ?	አዎ የለም	1 2	
605	ሞዴስከመቀየርሽበፊትእጅሽንሽለምንያህልጊዜትታጠቢያለሽ?	ሁልጊዜ አብዛኛውንጊዜ አልፎአልፎ	1 2 3	

606	ሞዴስከመቀየርሽበሆላእጅሽንት፡ታጠቢያለሽወዱ?	አዎ የለም	1 2	
607	ሞዴስከቀየርሽበሆላእጅሽንሽለምንያህልጊዜት፡ታጠቢያለሽ	ሁልጊዜ አብዛኛውንጊዜ አልፎአልፎ	1 2 3	
608	በቅርብጊዜበወርአበባሰአትምንአዩነት፡ቁሳቁስ፡ተጠቅመሻል?	የገበያንጹህሞዴስ በድጋሚየምት፡ጠ ቀሚበት፡ጨርቅ የሚወገድጨርቅ ሶፍት፡ጥጥ ምንምአልተጠቀን ሁም	1 2 3 4 5	
609	በወርአበባሰአትበቀንሞዴስምንያህልጊዜት፡ቀዱሪያለሽ?	አንድጊዜ ሁለት፡ጊዜ ሶስት፡ጊዜናከዚያበ ላዱ ምንምአልቀዱረም	1 2 3 4	
610	የተጠቀምሽበት፡ንሞዴስጨርቅየት፡ነውየምታስወግጅው?	ቆሻሻማጠራቀሚ ያ ሽንት፡ቤት በሜዳ ማቃጠል	1 2 3 4	
611	በት/ቤት፡ውስጥበቂሽንት፡ቤት፡አለ?	አዎ የለም	1 2	
612	በት/ቤት፡ውስጥየሽንት፡ቤቱንፅህናጥሩነው?	አዎ የለም	1 2	
613	ት/ቤት፡ውስጥየወርአበባሲመጣጥሩስሜት፡ይሠማሻል?	አዎ የለም	1 2	

614	ጥያቄቁ 613 የለምከሆነለምን?	ሞዴስማስወገጃቦ ታስለሌለ ሞዴስለመቀየርም ቹክፍልስለሌለ ለመታጠቢያውሃ ስለሌ ህመምስላለው	1 2 3 4	
615	በወርአበባጊዜከት/ቤትቀርተሻል ?	አዎ የለም	1 2	
616	ጥያቄቁ 615 አወከሆነምንያህልጊዜቀርተሻል?	አንድቀን ሁለትቀን ሶስትቀን አራትቀንናከዚያበ ላይ	1 2 3 4	
616	ጥያቄቁ 615አወከሆነለምን?	ልብሴይነካልብየበ መፍራት ህመሙንበመፍራ ት ምቹየሆነክፍልት/ ቤትውስጥንጽህና መጠበቂያክፍልስ ለሌለ ባህልስለሆነ ሀይማኖትስለሆነ መምህሩእንድሄድ ስላልፈቀደ	1 2 3 4 5 6	
617	የወርአበባበትምርትላይጉዳትለው?	አዎ የለም	1 2	

ጥያቄናአስተያየትካለዎትመጠየቅይቻላል

1. ----------

ስለነበረንቆይታእጅግአመሰግናለው!!!

Declaration Form

Declaration

I, the under signed, declared that this is my original work, has never been presented in this or any other University, and that all the sources and materials used for the research, have been fully acknowledged.

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