ASSESSMENT OF MENSTRUAL HYGIENE MANAGEMENT (MHM) PRACTICE ASSOCIATED FACTORS AND IT'S EFFECTS AMONG SCHOOL GIRLS OF NORTHERN SHEWA, ETHIOPIA

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Declaration and Investigator's Assurance

I the undersigned investigator would like to assure that this work entitled "**Assessment of menstrual hygiene management (MHM) practice, associated factors and its effects among school girls of Northern Shewa, Ethiopia**" is my original work. Any reference used in the work is dully acknowledged. As an investigator, I have agreed for the provision of required progress and amendments of the research report as per the terms and conditions of the Department.

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As thesis research advisor/examiner, I hereby certify that I have read and evaluated this Thesis prepared under my guidance by Engidashet Tsedeke entitled "Assessment of menstrual hygiene management practice, associated factors and its effects among school girls of Northern Shewa, Ethiopia". I recommend that it be submitted as fulfilling the Thesis requirement.

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Acronyms

AA- Addis Ababa

AOR- Adjusted Odd Ratio

AAU- Addis Ababa University

ETB—Ethiopian Birr

FGD- Focus Group Discussion

ICPD-International Conference on Population Development

JMP- Joint Monitoring Program

LMIC- Low and Middle Income Countries

MHD- Menstrual Hygiene Day

MHM- Menstrual Hygiene Management

MOH- Ministry of Health

NGOs-Non-Governmental Organizations

NRR-Non Response Rate

NYP- National Youth Policy

PMS- Premenstrual symptoms

SPSS- Statistical Packages for Social Science

TV- Television

UN- United Nations

UNICEF- United Nations International Children's Emergency Fund

WaSH- Water, Sanitation and Hygiene

WHO- World Health Organization

Abstract

Back ground: Menstrual hygiene management (MHM) is a process of managing menses with necessary supplies and conditions by health and development promoted. Adolescents and youths especially school girls in the rural area are the prime victims of MHM problems. MHM challenges in low and middle income countries gain global attention recently. Generating context specific evidences would have paramount importance to design proper interventions.

Objective: To assess menstrual hygiene management practice, associated factors and its effects among school girls of Mida Woremo District in North Shewa, Amhara Region, Ethiopia, 2019/20

Method: School based cross-sectional study design with stratified sampling procedure was applied. Samples were selected by lottery method from each stratum. Data was collected by self-administered questionnaire, FGDs and observation. Data was entered to Epidata version 4.6.2 and exported to SPSS version 25 for analysis. Both descriptive and binary logistic regression conducted for quantitative and thematic analysis for qualitative part. Association expressed in terms of COR and AOR with 95% CI by using p-value<0.05 as cutoff point.

Result and Conclusion: Response rate of the study was 98%. MHM practice among school girls was 39% (95%CI: 35%, 44%). Good knowledge, father's occupation (government employ, other), family income ≤3350, have no pocket money, having TV and having private water line were significantly associated with MHM practice. Both health related (depression, illness/pain,) and development related (absenteeism, distraction of concentration etc.) problems were common among school girls. Improving knowledge of school girls and the general public, strengthening existing intervention and its monitoring and evaluation and cooperation and integration would have benefit of in improving MHM practices among school girls.

Key Words: Menstrual hygiene, MHM practices, effects of MHM, school girls

1. Introduction

1.1. Background

Menstruation is one of the critical changes that occur during adolescence for almost every girl. It entails bleeding on average every 28 days for about 5 days. It is completely a normal biological process, just as normal as the fact that many men will grow a beard(1, 2). Menstrual hygiene management (MHM) is a process of using clean products to absorb or collect menstrual blood and changes in privacy for the duration of menstruation which includes water, sanitation, and hygiene(WaSH) facilities, and having access to dispose of sites(3). According to the Ethiopian ministry of health (MOH), MHM practice requires four minimum standard packages which are comprehensive awareness, WaSH facilities, supply of sanitary pads, and management and disposal of sanitary materials(1).

Despite its blessing menstruation brings challenges for menstruating girls/women especially related to its hygienic management. Menstruation poses social restrictions and influences school attendance and educational performance and presents significant challenges for women in lower-income settings(4). Young girls in resource-limited countries face emotional and physical challenges when experiencing menarche, especially in the rural setting. Their acceptance and ability to overcome difficulties have been poor due to limited resources, solutions used are suboptimal and sometimes hazardous, not well prepared for menarche, unable to share or seek reassurance, and transition through menarche mostly alone. To address the issue, appropriate intervention should be designed and implemented at the individual, community, and structural levels (5-8).

MHM in low-income settings has been considered a female-only issue, taboo, and very rarely disclosed especially in rural contexts. Given the degree of the problem varied across countries or within countries, cultures, religious practices, and traditional beliefs affect MHM in African countries including Ethiopia. The lack of safe, dignified practices to manage menstruation and inappropriate perceptions within society have created a culture of silence around this important and very positive lifecycle change. The use of appropriate sanitary wear is not a priority in most families in Ethiopia and also that low-income families cannot afford to buy it for their children (1, 9, 10). Besides the above factors sociodemographic factors, WaSH related, information and knowledge of menstruation and its management have influenced the menstrual hygiene management practice (MHMP) (8, 11-13). May 28th is Menstrual Hygiene Day (MHD); a day dedicated to bringing awareness around the vital role that good MHM plays in empowering women and adolescent girls worldwide to become all that they can be. The vision behind MHD is a world in which every woman and girl can hygienically manage her menstruation- in safety, privacy, and with dignity- wherever they are. This may help to create inclusive (including men) awareness and information about MHM and to conduct advocacy besides other high-impact interventions conducted by different actors(14).

1.2 Statement of Problem

Women empowerment is a key issue to improve the health status and development of individual girls/women, communities and nations. Since adolescence is among the critical window of intervention, adolescent health becomes a global agenda(15, 16). Adolescence is a process of change where a person is a distinct transition phase from childhood adulthood of rapid dynamics with the emergence of new characteristics like menstruation and other physiological and emotional changes(17). Effective as well as timely education is a very crucial cross-cutting tool to empower women besides other important high impact interventions where their natural menstruation appears to hinder their school performance. Early age MHM intervention initiative is believed to be cost-effective and sustainable too and menstrual hygiene (MH) is the sexual and reproductive right of all women including adolescent school girls(18, 19).

MHM is not much of a problem in developed nations, rather non-hygienic menstrual disorders are rarely be encountered to school girls in some settings(20) where as in developing countries school girls' menstrual hygiene is among the critical priorities. For instance, a study in Indonesia has indicated that 64.1% of school girls exercise poor MHM practices, and 11.1% had missed one or more days of school during their most recent menstrual period (21). Another study conducted on WaSH status of rural schools of different African countries including Ethiopia found inadequate access to basic WaSH services and non-secured privacy in schools. Notably, rates of access to basic sanitation and hygiene services were very low which have associations with adverse health outcomes and poor school attendance (22) on the contrary school-based interventions have exhibited positive impact on MHM practices which again improve their school performance (23, 24).

Sub Saharan school girls face challenges as a result of menstruation and its management. Of the enrolled participants only 24 % use disposable pads, 22 % use re-usable pads, and the remaining proportion use rags and toilet paper. They faced both health and educational related challenges though physically present in the school, reported reduced performance due to poor concentration (10, 25, 26). In recent years, MHM challenges have faced by schoolgirls in low-income-country contexts have gained global attention (27). Studies in Ethiopia have indicated that knowledge and practice of menstrual hygiene are low (28). Educational status of the respondents and access to WASH facilities have association with good practice of menstrual hygiene. A study among Harbu school girls indicated that more than half (57.7%) of girls were absent from their class from 1 to 7 days per month during their menstrual period due to lack of disposable sanitary napkins and sanitation facilities at schools which are higher among rural girls(29, 30).MH is a sexual and reproductive rights issue and poor MHMP has affected school girls' health and their academic performance by different means. It can be more pronounced, especially, among those from rural and poor families. Now a day, academic performance of girls is still not as good as boys despite the increment of their enrolment.

Factors influencing MHMP have varied across different societies due to their socio-demographic and cultural variations. Evidence/recommendations for certain area may not apply to the other; and so conducting context-specific study would be helpful to get evidence on context specific issues. On the other hand, most studies conducted in Ethiopia on MHM practices had concentrated on large cities/towns which may not be representing the majority rural school girls. Statements from different literature warranted to conduct investigation to generate evidence and contribute for.

1.3 Significance of the Study

Designing and implementing high-impact evidence-based interventions is necessary to practice safe menstrual hygiene management and reduce menstrual management-related problems. So the finding of this research will help to contribute to evidence gap on menstrual hygiene management practice and associated factors which may help for decision making and planning of interventions so different stakeholders like health bureau, education bureau, and other partners can use to develop evidence strategies that can reduce the effect of menstrual hygiene problems on youth girls. The result also may help to design projects that can improve the MHM practices of school girls to help in their academic success as per their immense potential to learn and improve their health-related to MHM. Research and academic institution can use the finding of this study as a baseline or reference for future studies or for meta-analysis on the area of menstrual hygiene of youth girls especially in the country side and also students can use the outcome of this research paper as a reference or guide when they conduct their essay/ paper.

2. Literature Review

2.1. Puberty and Menstruation

The global average median age was 29.6 years, half of the world population were below 29.6 years. Quarter of global population (26%) were younger than 14 years. Since youths/ adolescents took big share of global population, making this segment of population healthy, productive and capable in every aspect of their life would need prime concern of global community. Low-income countries tend to have a lower median age due to, they have a younger population overall, and high fertility rates Sustainable development goals (SDGs) agenda 2030 provide the highest focus on youths/adolescents to ensure that all human beings can fulfill their potential in dignity and equality and a healthy environment (no one left behind). UN member countries signed commitment to have better adolescent and youth health policies and practices through the implementation of SDGs (31, 32)

Puberty is a time of significant change physically, psychologically and emotionally for young people and by which girls experience a turbulent period, which includes stressful events like menarche, considered as a landmark of female puberty(16). For years, the unique health issues associated with adolescence have been little understood or, in some cases, ignored. But that has now changed. Investments in adolescent health bring a triple dividend of benefits for adolescents now, for their future adult lives, and the next generation(33). The youth bulge in many African countries particularly in Sub-Saharan Africa (SSA) due to high fertility and improvements in child health (34) but adolescent sexual and reproductive health remains a major public health issue in the region(35). Every year the new cohort of learners reaches puberty, yet, despite the urgent and recurring need, there is little systematic and comprehensive guidance on this vital issue for the education sector. The onset of puberty occurs in a time frame when many learners are still attending school and is marked by the first menstruation for females. On average females begin puberty between 10 and 11 years of age (age varies depending on nutrition and other factors) (36). Girls begin to menstruate anytime between nine and fourteen years. But some girls will start as early as 8years, whilst others may be as late as 17 years. Menarche (first menstruation) and subsequent menstrual cycles are normal physiological processes that occur once puberty sets in (37).

A Study in India has found that the mean age of menarche was 12years (38) but studies in Ethiopia found that the mean age of menarche of the respondents were 15±1.1(39), 14.0±1.2(40), 15.6±1.0(41), and 13.95±1.0 years (1). Although menstruation is a normal biological process and a key sign of reproductive health, yet in various cultures, it is treated as something negative, shameful, or dirty (42). A systematic review in both low and middle-income countries (LMICs) showed that barriers faced for MHM with some form of disability were very serious than none (37).

2.2. Knowledge and Practice of MHM

Proper MHM practice has varied across different communities due to different common and context-specific factors such as menstrual, environmental, and socio-demographic related attributes. A study in India showed that 54% of the girls were aware of the menstrual cycles. Approximately 60% of subjects of the same study had reported that mothers were the main source of information about menstrual cycles (10).

A multi-country project including five African countries to which Ethiopia comprised one of those, revealed that even teachers were victims of menstrual hygiene-related problems. The finding of this project had indicated that more than 80 percent of girls know about puberty in general; they know the stages of body change but have limited know-how on handling the changes including menstruation; and still, on average, 66% of the girls had not known about menstruation before it started and they were not told anything specific about menstruation, especially, the physiological basis where the menstrual flow comes from and how to manage it until their first personal experience of it. Also, respondents of the same study had reported the onset of menarche as a shocking or fearful event in all five countries where more than 80 % of the girls interviewed agreed that mothers are their source of information, followed by school and media, respectively. The survey result indicated that schools do not provide specific and sufficient lessons on menstruation and menstrual hygiene. According to the survey result from a similar study, 67% of respondents from Ethiopia, and 52 % from Zimbabwe agree that there is no MHM-related education given in the schools and the remaining respondents from both countries claim that some kind of awareness on MHM is given. In schools' knowledge of teachers and counselors on MHM is not sufficient as they are not engaged in MHM-related training nor have tailored MHM guidelines to support them.

Unlike in the other countries, in Zimbabwe's Masvingo district 84% of the schools reportedly provide guidance and counseling services for girls on MHM (38, 39, 43).

The leading sources of information about menarche and menstrual hygiene management for Ethiopian school girls were mothers, teachers, sisters and peers and the correct (appropriate & safe) practice of MHM in school girls have been much lower than their knowledge about it (40). A community based comparative cross-sectional study conducted in Bahirdar city (inclusive of the rural and urban kebeles) showed that only 24.5% of the participants implemented safe MMH practice during their menstrual period with no statistically significant variation between the rural and urban kebeles of Bahirdar adolescent girls, but adolescent girls of the urban resident who use sanitary pads were significantly higher than the rural counter (44). Another study conducted in Sebeta town on grade 7 and 8 students indicated that despite their highly prevalent awareness about MHM (79.2%) only 21% of menstruating youth girls have proper practice of MHM and mothers were the major source of information about menstruation before menarche and MHM as well (41). A Descriptive cross-sectional study in Tigray had found that 34.8% got information from more than one source, and others from teachers (18.1%), friends (13.8%), mothers (13.2%), sisters (12.7%), reading (5.8%) and brothers and fathers contribute below 1% each. And 60.3% reportedly exercise proper MHM. Regarding to preparation for menarche, 39.5% prepared by themselves and 23.5% their mother prepared for them (45).

2.3. Factors Affecting MHM and Its Effects

Different factors can affect MHM directly or indirectly either positively or negatively. These factors could be menstrual-related, socio-demographic, and environmental. A systematic review in LMICs with a focus on menstrual-related waste disposal showed that disposal of menstrual waste is often neglected MHM and sanitation value chains, leading to improper disposal and negative impacts on users, the sanitation systems, and the environment (46). Research findings in Zimbabwe revealed deeply embedded power relations, a culture of silence around MHM, noninvolvement of men in MHM issues, limited availability in terms of information, and a girl unfriendly infrastructure, and limited access to menstrual hygiene products due to poverty and poor management and disposal practices. The effects ranged from poor class participation, lack of concentration and constrained interactions with peers and teachers, low self-esteem, anxiety, and the general feeling of being discriminated against (12).

The findings in Malawi suggested that girls' knowledge about MHM positively associated with MHM practices and better school attendance. The use of disposable pads was positively associated with school attendance during menses. Interestingly, increased MHM knowledge of boys was associated with negative effects for girls, such as teasing and absenteeism. Menses is seen as soothing u hygienic and girls are restricted from different activities (47). Another study in Zambia reported participants didn't learn about the issue before menarche and faced MHM-related challenges, including use of nonabsorbent and uncomfortable menstrual cloth and inadequate provision of WASH facilities in schools. In particular, toilets did not have soap and water or doors and locks for privacy and had a bad odor. Girls 'school attendance and participation in physical activities were compromised when menstruating due to fear of teasing (especially by boys) and embarrassment from menstrual leakage. Bad odor, behavioral changes, friction burn on their inner thighs and school absenteeism are among the effects of poor MHM (40). Age of the girls, Age of menarche, educational status of parents', good knowledge about MHM, Economic status and exposure to advertisement on sanitary napkins, associated with safe MHM practice (41).

Qualitative study on menstrual belief in Tigray showed that recurrent themes identified by participants included descriptions of the biology of menstruation (which were sometimes fanciful); the general unpreparedness of girls for menarche; cultural restrictions imposed by menstruation on females, the prevalence and challenges of unmet menstrual hygiene needs at schools (including lack of access to sanitary pads and the absence of acceptable toilet/washing facilities); and the stigma and shame associated with menstrual hygiene accidents in public (1).

During the menstrual cycle, most women and girls suffer a varying degree of pain and discomfort which varies from person to person and can change significantly over time. Abdominal cramps, nausea, fatigue, feeling faint, headaches, back ache and general discomfort are experienced by most girls and women during periods. Due to hormonal changes, they experience emotional and psychological changes such as heightened feelings of sadness, irritability, or anger(42). A systematic review on MHM of disabled girls identified pre-menstrual symptoms (PMS) and or related behavior, including menstrual cramps, mood swings, fatigue, irritability, anger, social withdrawal, decreased concentration, increased hyperactivity, self-injury, and inappropriate handling of menstrual blood or hygiene products experienced by people with intellectual impairments (43).

In general, MHMP has affected or influenced by socio-demographic characteristics of both girls and their families, WaSH factors, and information and knowledge related factors by influencing on knowledge of MHM or directly on MHMP. Those girls who have poor MHM practice (especially those from rural areas) have faced different challenges (effects) like health effects (infection, psychological burden, etc.) and development-related effects (poor academic performance and others) (see figure 1 below).

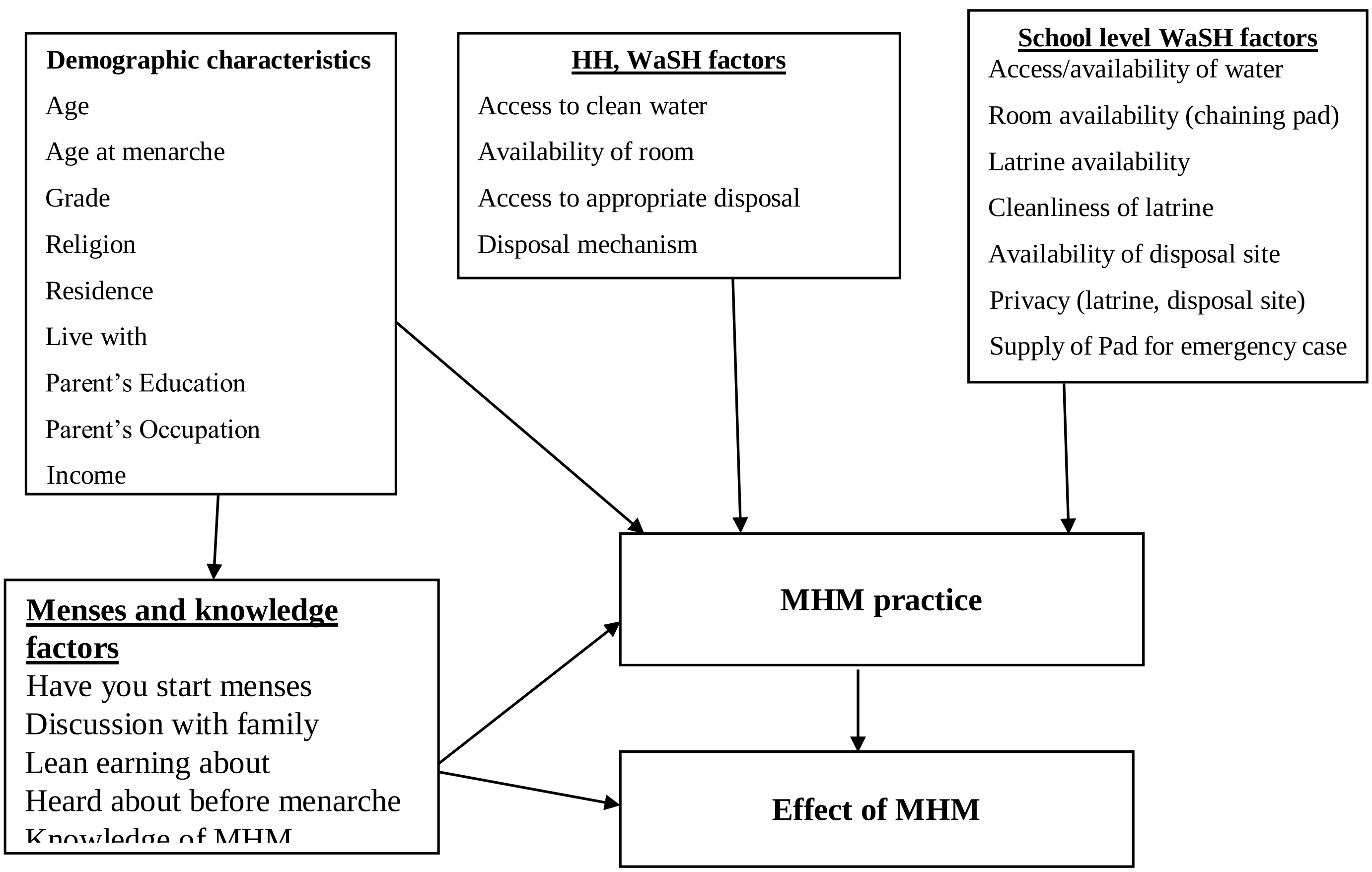

Figure 1: Modified conceptual framework of the study on MHMP, associated factors and its effects among school girls of North Shewa, Ethiopia, 2020(48)

3. Objective

3.1 General Objective

To assess menstrual hygiene management practice, associated factors and its effects among school girls of Mida Woremo District North Shewa, Amhara, Ethiopia, 2019/20

3.2 Specific Objectives

To assess the magnitude of menstrual hygiene management practice among school girls of Mida Woremo District North Shewa, Amhara, Ethiopia, 2019/20

To identify factors affecting menstrual hygiene management practice among school girls of Mida Woremo District North Shewa, Amhara, Ethiopia, 2019/20

To explore the effects of menses on health and academic affairs of school girls of Mida Woremo District of North Shewa, Amhara, Ethiopia, 2019/20

4. Method and Materials

4.1. Study Area and Period

The study was conducted on secondary school girls of Mida Woremo Woreda North Shewa, Amhara region. Mida Woremo Woreda is one of the 27 Woreda of North Shewa Zone and found on bridging area of North Shewa Amhara, North Shewa Oromia, and South Wollo. The District is 230 Km far away from the capital of Ethiopia in the northern. This District has 24 kebeles with an estimated population of 114,719 (57,148 / 57,621 male to female ratio). The District has two secondary schools in Rema town and the other one is at Meragna town. The total number of students in the two secondary schools is 2750; from this 1342 are female students. The data collection period was from 25 October to 30 October 2020.

4.2. Population

4.2.1. Target Population

Secondary school girls of Mida Woremo Woreda

4.2.2. Study Population

Secondary school girls of Mida Woremo Woreda who attend regular schooling

4.2.3. Sample Population

All randomly selected secondary school girls

4.2.4. Sampling Unit

Sampling unit of this study was the individual students. Section level list of female students took as a sampling frame to select candidate from each section by lottery method.

4.3 Inclusion and Exclusion Criteria

4.3.1. Inclusion Criteria

Those school girls who attended regular program schooling/learning were included in the quantitative study. Heads/Officers (responsible) from Woreda health office, Woreda women and children affairs office, education office, WaSH office, schools, and health center were included in the focus group discussion (FGD).

4.3.2. Exclusion Criteria

School girls who dropped out/completed a certain level of educations, with vision impairment and conditions of incapability of filling the tool were excluded from the quantitative study. And one who has speech impairment was excluded from qualitative parts.

4.4. Study Design

This study applied a mixed-method (cross-sectional design and explorative design) research design. Qualitative exploration applied to respond the third specific objective and to substantiate quantitative finding of the study on the first two objectives by extracting information from participants which were difficult to measure or extract quantitatively.

4.5. Sample Size (SS) Determination

4.5.1. Sample size for the first Objective

Sample size was determined using both single population proportion formula presented as below:

$$n= (Z_{a/2})^2 P (1-P)/d^2$$

Where

$Z_{a/2}$= expected confidence level considered to be 96 % (2.05)

P= proportion of good menstrual hygiene practice among youth school girls was 30% (48)

d = margin of error (4%).

As per the above formula, the calculated sample was 552 students, since the population was below 10, 000, adjustment was conducted.

$$\text{Adjusted } n= \frac{n}{1+{n}/{N}} \quad =394$$

Where n= calculated sample

N= total female students in the study schools

4.5.2 Sample size for the second objective

Sample size for the second specific objective calculated using double population proportion formula and calculation could be carried out using statcalc sample size and power calculation software by considering Zα/2: 95% confidence level, power (Z_B=80%), ratio of exposed to unexposed(r), the probability of event in the unexposed (P1), the probability of event in the exposed (P2), AOR: Adjusted odd ratio of independent variable with practices of menstrual hygiene

Table1: Sample size determination for the second objective using double population proportion formula, North Shewa Ethiopia, 2020

S.No	Variables	P1	P2	Zβ: power	OR	P1/p2	sample size
1	Age>18 years	0.62	0.38	80%	3.53	1.6	65
2	>grade 10	0.42	0.58	80%	1.76	0.72	255
3	Have exposure to advertisement	0.63	0.37	80	2.36	1.27	262

From the above alternative sample sizes 394 was the highest, took and considere 15% non-response rate (NRR). Final sample sizes were (n final =n/1-NRR) 463

4.5.2Sample Size for Qualitative Part

Sample size for qualitative part of the study was determined based on information saturation for FGD (School girls) and observation were conducted in both schools.

4.6. Sampling Method

4.6.1. Sampling Method for Quantitative Part

Since heterogeneity has been assumed between schools, grade levels and sections, a stratified sampling method was applied for quantitative component of the study with a proportional allocation of samples for each stratum at each level of stratification. First, the calculated sample size (456) was stratified in to two secondary schools proportionally. Secondly, samples allocated for each school were stratified to grade level and proportional allocation applied as to the first stratification. Thirdly, samples allocated for each grade level were stratified into sections of each grade level. Finally, number of samples from each section were selected by simple random sampling method (See figure 2 as schematic procedure presented underneath).

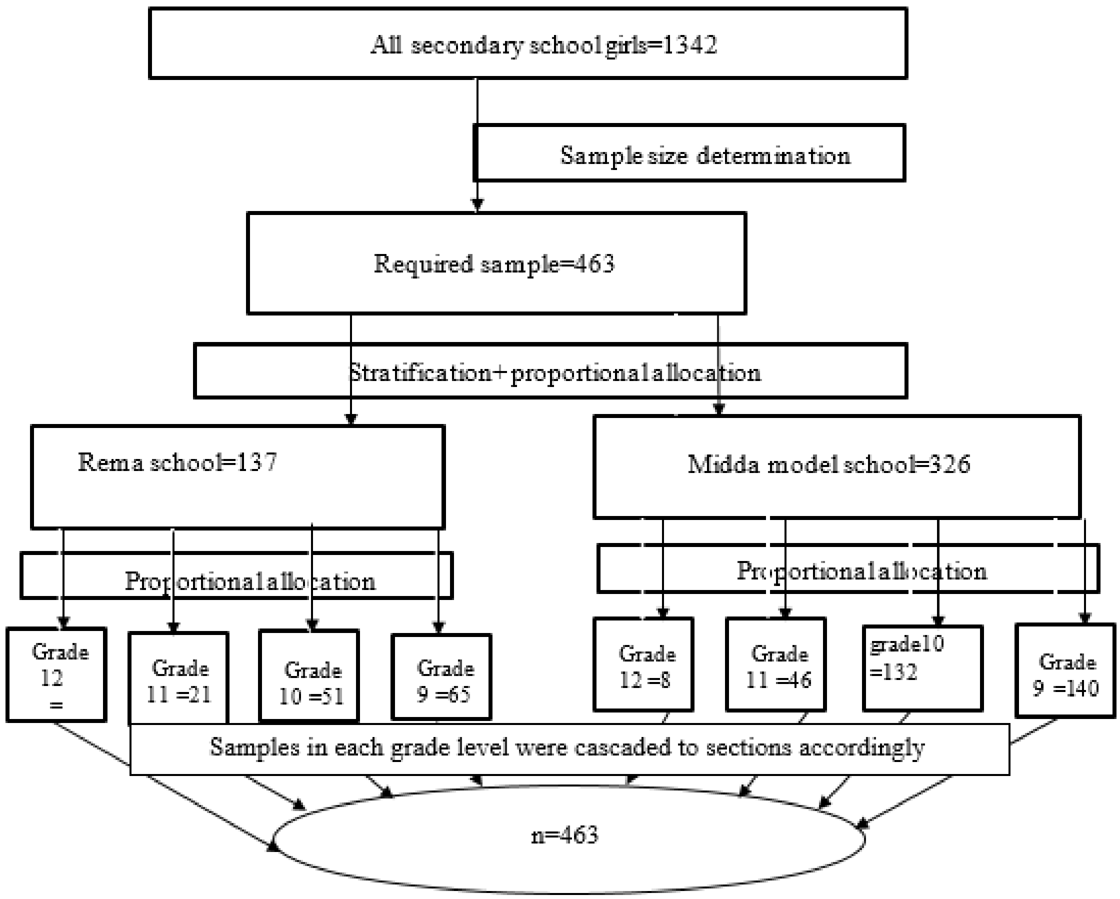

Figure 2: Schematic presentation of sampling procedures for the study of MHMP, associated factors and its effects among secondary school girls of Shewa, Ethiopia, 2020

4.6.2. Sample for Qualitative Part

Purposive sampling is employed to ensure maximum variation (recruit participants from different cohorts of school girls based on variability on residence area, academic status, socio-economic conditions, and socialization with in school) and to get the required information

4.7. Data Collection Tools and Procedures

Data was collected by both quantitative method (self –administered questionnaires) and qualitative methods (FGD and Observation) in October 2020 G.C. The qualitative data were collected immediately after quantitative data collection.

4.7.1 Tool and Procedure for Quantitative Part

Self-administered structured tool was used. The tool was developed with great care for wording, content and flow by referring to different literature, consulting advisors and other academicians. Finally, the tool was translated into Amharic language (the mother tongue and working language) then reverse translation to English by PI. Then pretesting of tool conducted on 5% of sample size (23) on non-sampled school and necessary modification was conducted. Two female teachers were recruited and trained as the data collector for each school (quantitative part) on tool and supervised by PI. One note-taker was used for FGD part.

4.7.2 Tool and Procedures for Qualitative Part

FGD and observation were used to collect qualitative data using FGD and observation guide respectively. Four FGD were conducted, 3 among students (8 girls per FGD and 1 among stakeholders (6 participants per FGD) which constituted 30 participants. FGDs generated data recorded by both notebook and audio recorder.

4.8. Study Variables

4.8.1. Dependent Variables

Menstrual hygiene management practice, Effects

4.82. Independent Variables

Socio-demographic variables: age, age of menarche, grade, religion, residence, parent's education, parent's occupation, family income

Information sources related variables (knowledge): school learning about MHM, discussion with parents and information before Menarche

WaSH related variables: access of WaSH facilities (water, latrine and waste disposal), availability of dressing room

4.9. Operational Definitions

School Girls: Girls who are regularly actively enrolled in secondary schools of Mida Woremo District.

MHM practices: Students' practice of menstrual hygiene score was calculated out of the practice-specific questions (15 items). Each correct response earned one point, whereas any wrong or don't know response earned zero and the maximum sum score of expected correct practice was calculated (15 points). The mean score of menstrual practice (8.6) was used to decide the cutoffs of the rank. Good practice of menstrual hygiene was given to those respondents who scored 8.6–15 points and poor practice of menstrual hygiene was given to those respondents who scored below 8.6 points. Each correct response earned one point, whereas any wrong attracted zero (43).

Knowledge of MHM: Knowledge was calculated using 12 knowledge-specific items. Each correct response earned one point, whereas any wrong or don't know response earned zero marks. By taking mean score(6.2) as cut-off point, school girls with knowledge score of above mean considered as having good knowledge and those below mean as poor knowledge(49).

Access to water supply: Sufficient water collection points and water-use facilities are available in the school to allow convenient access to, and use of, water for drinking, personal Hygiene, cleaning and laundry (49).

Adequacy of safe water: is the availability of 5 liters per person per day for all School children and staff at day schools(50).

Availability of latrine: availability of latrine in school in 1: 20 ratio of student to latrine with convenience to menstruating girl and clean surfaces (no observable wastes)(50).

Availability of waste disposal site: It is the area/site used for disposing of menstrual pads after use in the way privacy of menstruating girls is ensured(48).

Effects: Any problem/challenges faced by school girls due to their menses and/or menstrual hygiene management which could be health or other academic-related effects.

Depression: For this particular study, depression(felt) referred that any temporal felling (short period) of downing of pleasure, deviate from normal mood, hard to concentrate on tasks, feeling of fear, feeling of sickness etc. during their menses.

4.10. Data Analysis

4.10.1 Analysis of Quantitative Data

After the data collection, quantitative data were entered into Epidata version 4.6.2. Then data were cleaned and exported to SPSS version 25 for analysis. Descriptive analysis was run, and normality assumption was checked for continuous variables. Simple binary logistic regression was conducted to select candidate variables (10 variables were identified) for the multiple regression analysis by using p-value < 0.25 as cutoff point. After checking multicollealiltiy using variance inflation factor (VIF) 10 predictor variables were entered to multiple logistic regression and analyzed accordingly. Both model adequacy check (Hosmer and Lemeshow test, P-value > 0.05 indicate fit model) and sample adequacy check of Kaiser-Meyer-Olkin (KMO) test which was 0.8 (proportions 0.8 to 1 considered as indicator of adequate sample). Strength of association was expressed using odd ratio (OR) and adjusted odd ratio (AOR) in combination with 95% confidence interval (CI). P-value < 0.05 was taken as cutoff point to determine the significance of the association. Finally, the findings of the study were reported/presented using Texts, Tabulations, Graphs and Charts depending on the nature of the variables.

4.10.2 Analysis of Qualitative Data

Right after the FGD, the audio data were transcribed verbatim of the language of FGD medium. Then transcribed data were translated to English language. Finally, the transcribed and translated data were thematically analyzed accordingly and output triangulated with quantitative finding

4.11. Data Quality Management (DQM)

4.11.1. DQM for the Quantitative Part

To improve the quality of data, the tools were developed very carefully, especially, on the contents, idea flow, and wording (articulation). Maximum effort was made to clarity the operationalization of variables. Pretesting of the tools was conducted in a non-sampled school before the actual data collection date and the reliability test was proven good. Explanation on the purpose, risks, and benefits during data collection was conducted (to improve the likely response rate and to help to get real data). Regular supervision, completeness checks, and consistency ascertainment were made integral parts. Data exploration, cleaning, and model adequacy checks were also conducted.

4.7.2 DQM for the Qualitative Part

Maximum variation of FGD participants was ensured and FGDs were conducted in the way that encouraged all participants to provide rich of information. Both note-taking and audio recording were applied for FGDs and observation were conducted by the same person among both schools using an observation guide.

4.12. Ethical Consideration

The study was ethically cleared from Addis Ababa University School of public health. The purpose, risk and benefit of participating in the study were explicitly communicated with appropriate expression by DCs. Randomness of selection and voluntary participation were ensured. And DCs told them that they have right to refuse, terminate the study at any stage without any precondition or skip questions whenever they want. Confidentiality of information ensured by not mentioning the name of organization and individuals on the tool and data were used only for study purposes. Given the above conditions, Permission was asked for their participation as well as audio recording. Written (quantitative part) and Verbal (qualitative) informed consent was obtained from the participants. Their participation was voluntary and selected purposively to fit the study objective. Refreshments were secured during FGD. Observation was conducted by taking permission from a particular organization.

5. Result

5.1 Socio-Demographic Characteristics

A total of 447 school girls participated in the study from the two secondary schools which made a response rate of 96.54%. Of the total participants, 71.14 % (318) were from Mida model services secondary school and the rest 28.9% (129) were from Rema secondary school. Of the total 96.9% were 15 and above years old. The mean age of school girls' were16.88±1.34 (range 14 to 23).

Table 2:Sociodemographic characteristics of school girls on the study of MHMP, associated factors and its effects, North Shewa Amhara region Ethiopia, 2020

Characteristics		Frequency	Percent (%)
Grade level	Grade 9th	202	45.2
	Grade 10th	172	38.5
	Grade 11th	65	14.5
	Grade 12th	8	1.8
Religion	Orthodox	386	86.4
	Muslim	55	12.3
	Protestant	6	1.3
Marital status	Single	399	89.3
	Married	29	6.5
	Divorced/widowed	19	4.2
Literacy level of mother	Illiterate	208	46.5
	Can read and write	142	31.8
	Primary school	23	5.1
	Secondary school	31	6.9
	Colleges and above	43	9.6
Literacy level of fathers	Illiterate	143	32.0
	Can read and write	158	35.3
	Primary school	30	6.7
	Secondary school	49	11.0
	Colleges and above	67	15.0

Of the total school girls, 81% (362) were live with their mother and father but the remaining were living with a single mom, a single father, and with relatives 14.5%(65), 2.2%(10),2.2%(10) respectively. And 65.5 % (293) attended their school by living with their family but the remaining attended their school either by living with relatives or rental house.

As illustrated above (see table 1), 78.30% (350) of mothers and 67.30 % (301) of fathers were either illiterates or can read and write, and only16.60 % (74) of mothers and 26% (116) of fathers have a literacy level of secondary school and above.

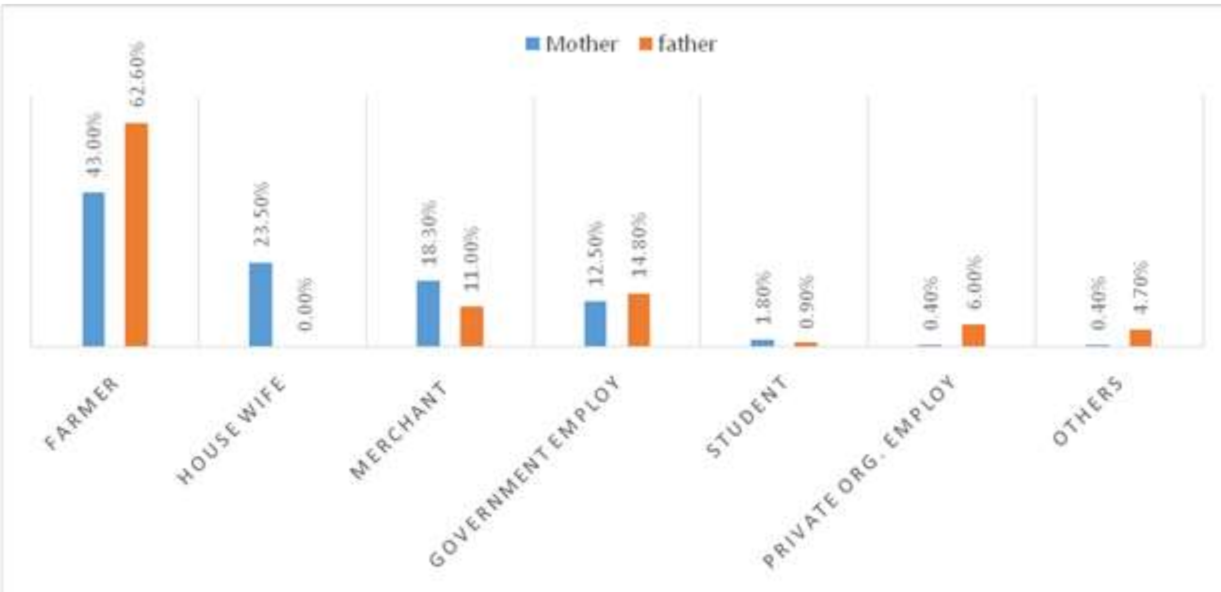

Figure3: Occupation of parents on the study of MHMP, associated factors and its effects among school girls of North Shewa, Ethiopia, 2020

Farmer, merchant, and government employment were the three common occupations of the students' parents (both mother and father) but housewife was the second commonest occupation for mothers only. Among the total school girls, 63.10% (282) have mentioned that the estimated monthly income of their family, ranged from 300 ETB to 30,000 ETB with a mean of 5925.07 ETB. Of the total family by which their monthly income was mentioned, 59.57% (168) had a monthly income below the mean whereas 40.43% (114) had above the mean. Out of the total school girls who participated in this study 63.3% (283) had a pocket money budget from their family (caretaker) but not the rest 36.7 % (165). The mean pocket money of schoolgirls was 204.54 ETB with a range of 10 ETB to 500 ETB. About 63.3% (179) of school girls have pocket money below the mean and the rest 36.7% (104) have pocket money above the mean.

5.2 Information and Knowledge of MHM

The mean age menarche of schoolgirls was 14.43 years with 95% CI (14.32, 14.53) and ranged from 12 years to 19 years. Good knowledge of menses and its management was 44.5 % (199) (95% CI: 40%, 49%) among participants but 55.3% (247) have poor knowledge of the matter. From the total participants, 80.5% (360) believed that girls should know about menses and their hygienic management before their menarche but only 43.8% (196) discussed with their family members and 60.4% learned about menses at school. Among the total participants, 79.4% (355) have gotten menarche information about menses.

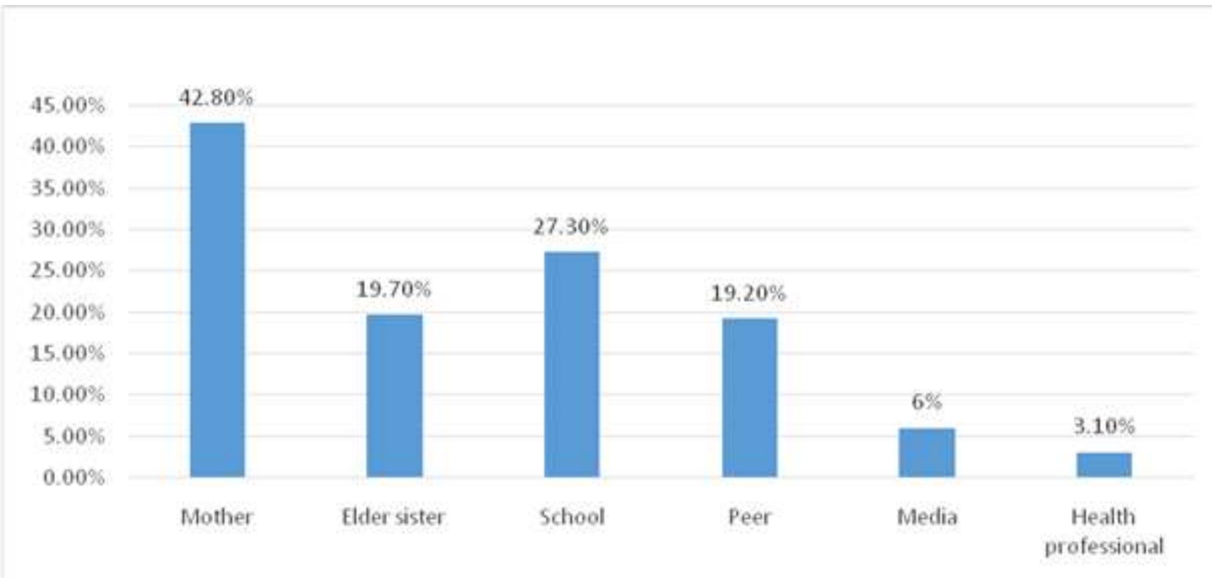

Figure 4: Premenarche sources of information on the study of MHMP, associated factors and its effects among secondary school girls of North Shewa, Ethiopia, 2020

Participants reported that the common age of menarche is 10-12 years, 12-14 years, 14-16 years, and 12-16 years with proportions of 4.7%(21), 30%(134), 60.4%(270),4.9%(22) respectively. Of the total 8.9 % (40), 49.4% (221), 38.3% (171), and 3.1% (14) reported that common intermenstrual interval is below 25days, 25 to 28 days, 28 to 35 days and above 35 days respectively. Learning about MHM in school is not common, only 39.6% (177) remember that they learned about MHM in their school but not the larger segment of 60.4% (270). Discussion with family about MHM was also not common which was practiced by only 43.8 % (196) school girls but not by 56.2% (251).

Their source of information included mother, elderly sister, school learning, peer, media, and health professional. And mother, elder sister, and school learning were among the commonest source of information. FGD discussion revealed that six participants had no experience of discussion with family members including their mothers. They considered menses as a curse than a blessing [FGD1 and FGD2]. It also showed that urban girls had a better chance of discussion with their family due to environmental influences and literacy differences of family. Mother, elder sister, and peers were preferred to discuss with. Their discussion with parents was conditional even among urban school girls unless conditions forced to discuss with most of FGDs participants did not prefer to discuss with and conditioned discussion was common among male discussant than female ones. Unless asked by family members, participants would not want to tell reasons for the money they have requested to buy menstrual pads [FGD1, FGD2, and FGD3]. One married participant shared her experience that she has lived with her husband and he has been helpful when she has menses by bringing pads from a shop, treating her, and giving money if needed. She preferred to discuss with him than even her mother, she has feared her mother to discuss menses till [FGD1, 20 years grade12 student].

"I am from the family with a higher literacy level but never discuss with her father and brother and never ask money from them for menstrual pad. If conditions has not forced me, I would not have discussed with family especially with male family members. Unless my mother needs justification, I didn't ask like give me money to buy menstrual pad directly rather prefer to use another reason to get money."**[**19 years, grade 11 students, FGD participant]

"I have menstruating for the last 3 years but I didn't tell nobody even to my mother except my friends. So nobody knew whether I have menstruated or not. Community members including my mother perceived that early menarche is sign of starting sexual practice. I heard my mother's reflection for my elder, 'today's children are rude and they start sex early that is why they see period earlier than what she experienced. When I need money for menstrual pad, I have asked for another reason like for books, tea, or subsidizing pocket money." [19 years grade11, FGD participant]

Table 3: Knowledge of MHM on the study of MHMP, associated factors and its effects among school girls of North Shewa Amhara Region, Ethiopia, 2020

Variables		Frequency	Percent
Which one is common inter-menstrual duration?	below 2 days	25	5.6
	2 to 3 days	90	20.1
	3 to 5 days	245	54.8
	above 5 days	87	19.5
Heard about before menarche	Yes	355	79.4
	No	92	20.6
Pads are menstrual soak-up items?	Yes	395	88.4
	No	51	11.4
What is menstruation?	physiologic cycle	305	68.2
	Disease/abnormality	20	4.5
	due to sin	69	15.4
	I don't know	53	11.9
What is the cause of menstruation?	Hormone	179	40.0
	Sin	116	26.0
	Disease	6	1.3
	I don't know	141	31.5
	Other	5	1.1
Where is the source of menstrual blood?	Uterus	270	60.4
	Vagina	44	9.8
	Gallbladder	26	5.8
	Abdomen	20	4.5
	I don’t Know	84	18.8
	Other	3	.7
Girls can get school during menstruation	Yes	208	46.5
	No	239	53.5
Girl can conceive during menstruation	Yes	169	37.8
	No	278	62.2

FGD participants from education sector, women and children affairs, and health sectors including health care facilities reported that they have done almost nothing in awareness creation and knowledge buildup of school girls about menses and in making the school conducive for menstruating school girls. They also agreed that lack of integration and horizontal accountability was the critical problem they could not pass yet, as a cause for their failure. Curriculum-based formal learning within school was not comprehensive, especially MHM was not addressed. FGD participant school girls have gaps in knowing about menses and their management in one or another way. Participants correlate age of menarche, menstrual interval, and duration of menses with their own experience than what scientific evidence said about. On the other hand, almost all have confusion on anatomic presentation of uterus and over, even their difference. Similarly, very few participants understand the role of hormones for menstruation. Knowledge of participants is greatly affected by their residence, those who come from urban have a better understanding of the menses and their management.

" Menstruation is a natural event (bleeding) of all females when they reached 12 to 14 years every 28 days for 5 to 7 days. It is due to aging and comes from ovary. She believed menses is a curse and the bleeding is dirty which make dirty the girl as well." [15 years, grade 9 FGD participant].

"Menstruation is natural process of bleeding originated from ovary starting from the year of 13, every 28 days. Every matured girl produced eggs. When the eggs matured, it became ready for fertilization and need sperm cell to do so unless it would be shaded out from uterus to outer genital organ." [19 years, grade 12 FGD participant]

"Menstruation is secondary sexual characteristics of mature girl (sexually mature) but I don't know the cause and the sources." [19 years, grade 11 FGD participant]. "Menstruation is unwanted bleeding. Mature eggs produced by girls ready for fertilization but if the girl has no sexual practice, unfertilized eggs shaded out and source of menstruation is uterus." [18 years, grade 10 FGD participants]

“As a sector, we have worked on awareness creation and resource mobilization to create conducive environment for school girls especially for those who are menstruating. And as chair of integrated committee of different sectors (stakeholders) on women empowerment, we have coordinated activities in line with their goals. But most tasks led by committee are seen as optional task and means of accountability has not been very functional for what one fails to achieve. We have tried to provide menstrual pads for students but which couldn’t be sustainable due to budget problems.” [50years old male gender officer]

"As a health center, we have experienced adolescent girls come up with cases of dysmenorrhea and abortion. To avert such scenarios, we want to provide adolescent health education at school especially secondary schools and we had asked the schools to arrange schedules but the school management hasn’t given attention to the issue. Due to lack of integration, we could not go ahead even the problem is visible” [33 years old Male OPD physician (HO)]

5.3 MHM Practices of School Girls

Good MHM practice of school girls was 39 % (95%CI: 35%, 44%) and the remaining 61% of school girls lied on the poor MHM practice category. From school girls, 74%(331), 9.2%(41), 2.5%(11) 11.9%(53), and 2.2%(10) ever used menstrual pad, new cloth parts, Old cloth parts, Combination of menstrual pad and cloths and others respectively. Whereas menstrual pad, new cloth parts, old cloth parts, combination of pads and cloths, others with percentage of 72.7%(325), 16.3%(73), 3.1%(14), 4.7%(21), and 2.9%(13) respectively. Schoolgirls had felt good when they use menstrual pads for the reason of comfortable (54%), excellent absorption of fluid, and prevention of discoloration of cloths (15.7%).

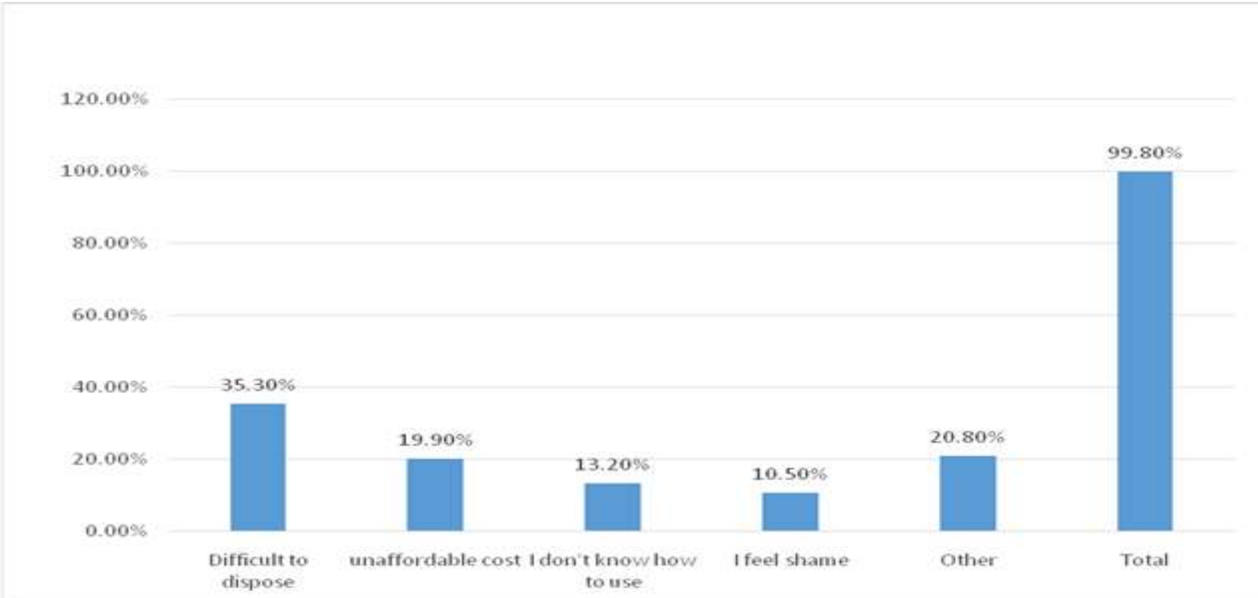

Figure 5: Reasons for not using menstrual pad on the study of MHMP, associated factors and its effects among secondary school girls of North Shewa Ethiopia, 2020

Frequency of changing menstrual pads or other alternative absorbents were varying from once a day to more than three times per day. They were changing once a day, twice a day, three-time a day, and greater than three times a day with the proportion of 21.3%(95), 39.1%(175), 32.7%(146), and 6.5%(29) respectively. Of the total 33.8 % (151) changed their menstrual absorbent at school but not the remaining 65.8%. Again from those who didn't change at school 18.6%(55) due to minimal bleeding and 81.4%(241) were not changing due to inconvenience of the school environment for menstruating girls like absence of changing room, water scarcity, latrine cleanliness, and privacy issue, etc.

From participants, 12.5%(56), 46.5%(208),16.8%(75), 6.9%(31), 2.0%(9) were dried their reusable menstrual pad out of home, place which has sun, private place(hiding), place which has no sun, mix with other cloths respectively. They commonly stored their reusable pad in plastic (pestal), with other cloths and shower room with the highest frequency of in plastic (pestal).

Table 4: MHMP, associated factors and its effects among school girls of North Shewa Amhara region Ethiopia, 2020

Variables		Frequency	Percent
Vaginal cleaning	Yes	302	67.6
	No	144	32.2
Exterior vaginal cleaning	Yes	242	54.1
	No	204	45.6
Exterior vagina cleaning products	Water and soap	155	34.7
	Water only	58	13.0
	Soft tissue	29	6.5
Hand washing	Yes	370	82.8
	No	76	17.0
Hand washing products	Water and soap	353	79.0
	Water only	17	3.8
	Total	370	82.8
Showering	Yes	346	77.4
	No	100	22.4
When have you start showering	First day	67	15.0
	Second day	69	15.4
	Third day	73	16.3
	Last day	137	30.6
Showering products	Water and soap	302	67.6
	Water only	35	7.8
	Other	9	2.0
Menstrual waste disposal	Open field	37	8.3
	Latrine	279	62.4
	Waste container	120	26.8
	Other	10	2.2
Reused absorbent washed by	Water and soap	391	87.5
	Water only	47	10.5
	Other	8	1.8

As evidenced from the three FGD discussions very few participants (5/24) have good MHMP but the larger segment of participants have poor MHMP either due to non-conducive environment at home/school (WaSH facilities, privacy issue), lack of knowledge, financial problems, and community pressures(influence). More than half of the study participants took shower at the last date of menses and frequency of changing pads were two times per day or once per day. Similarly, observations of school environment revealed that there was no conducive school environment for menstruating school girls in both schools included in the study. Mida model services senior secondary school has 20 latrines for 1636 school community. Out of which only 8 latrines have allowed for school girls. Latrine which allowed for teachers only relatively clean than those of students and student latrine have either nonfunctional door or has no door.

There was only 2000-liter water reservoir for the whole school activities and there was no water line near the latrine. So, when they take water to the latrine especially male students could make them feel shame. Whereas Rema secondary and preparatory school has 12 latrines (4 for staffs) for the whole 693 school community and no functional water reservoir despite it is found in water scarcity area. Due to lack of water, cleanliness of latrine is very poor in this school than in the former one. Both schools have no arranged room for menstruating school girls to change their menstrual pads when they need to do so. Since there is no menstrual waste disposal site, it is also difficult to dispose of menstrual waste in the school compound since the girls feel shame to dispose of it in the usual waste disposal site.

"I took shower every day, and I know menstrual pad should change every 6 hours unless it may cause infection. But due to the inconvenient school environment, she has never changed her menstrual pad at school despite her need to change."[19 years, grade 11, urban resident FGD participants,]. **"**I took shower on the last day of my menses flow. I don't think that using pads for a day (two times per 24 hours causes harm so, I changed my pad twice per day (24 hours). Incase, if I need to change my pad in school, the conditions didn't allow me to do so."(18 years, grade 10, rural resident FGD participant)

"Achieving good school health package is one of the criteria of model kebel besides other health extension packages. School health packages includeWaSH facilities and menstrual pad changing rooms in addition to other components. But there was no organizational culture of ensuring accountability for failure of plan so health extension workers could not put their maximum effort to create model kebele by which creating healthy school environment, conducive for menstruating girls." [26 years old officers, from Woreda health office] "Menstrual hygiene has not been considered as a key activity of education office so it didn't get adequate attention as far. Since it has lead by committee ensuring accountability has been difficult for long. On the other hand, since it has not been seen as key activity, there has not allocated budget. So it has to be difficult to implement menstrual-related activities unless we got budget from donor." [52 years old male Officer from education office] "

The school (leaders) has understood the existence of the problem but we have not given weighted concern as the issue need. And the school was not conducive for menstruating girls. Budget deficiency and structural issues (no sanitation officer or cleaner position allowed for the school) are the challenges to make the school conducive for the school community especially for menstruating girls." [32 years old male vice-principal of school]

5.4 Effect of Menstruation on School Girls

Table 5: Thematic presentation of effects of menses and challenges in school among secondary school girls of Midaworemo Woreda, North Shewa Ethiopia, 2021

Effects of menses (FGDs)		Challenges at school (Observation)
Health and health related effects	Academic Effects	
Back ache Head ache Pelvic pain Abdominal pain Psychological problems(depression and Mood disorder) Bad odor Itching	School absenteeism Reduced/unable to concentrate Reduced school performance Affect class activity like class room participation Class miss(one or more session)	Number of latrine were not adequate(1:2 1:57 for Mida and Rema school) Were not clean and privacy was not secure(no door or not functioning) No water access in or near latrine Very low water reservoir(2000l) No room for pad changing No convenient disposal site for menstrual related wastes

Menstruation and its poor hygienic management have different negative effects on menstruating women, severe among adolescent school girls. Half of the school girls, 49.1 %(219) forced to stay at home during their menses for different reasons related to menstruation and its management and 46% (205) were absent from school in the last month 1 to 5 days and the mean of absentee was 1.4 days. Of those who were absent 46% (205) from school, 89.3 %(183) were due to menstruation and related issues, and the rest 10.7 % (22) due to unspecified reasons.

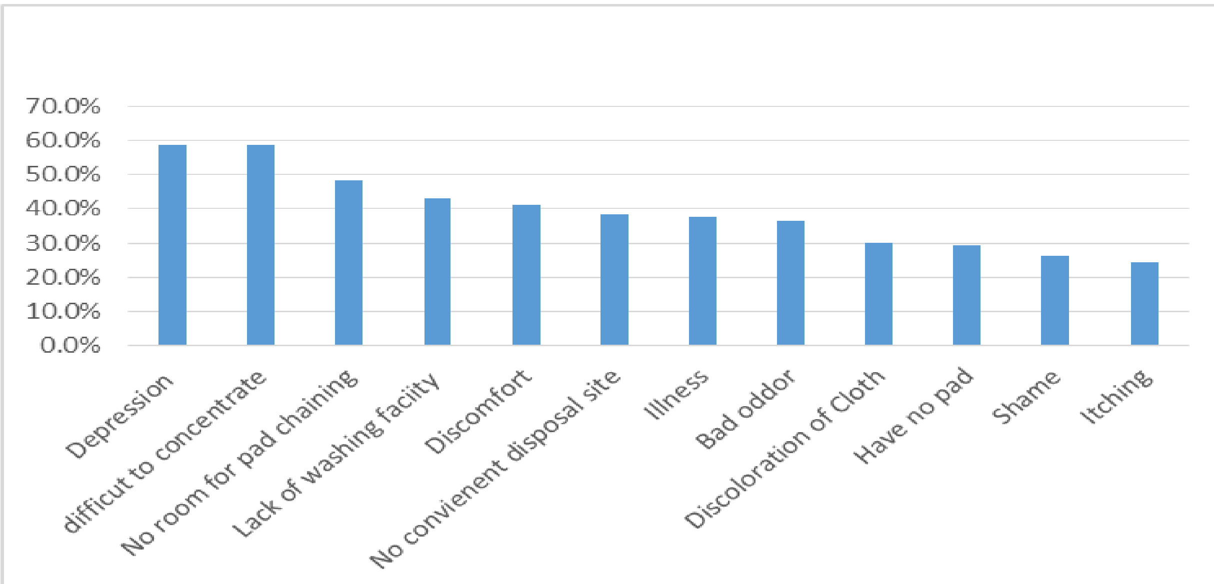

Figure 6: Reasons of school absenteeism (could be effects simultaneously) on the study of MHMP, associated factors and its effects among secondary school girls of North Shewa, Ethiopia, 2020

School girls experienced felt depression (downing of pleasure, deviate from normal mood, hard to concentrate on tasks, feeling of fear, and feeling of sickness) with a varying time of occurrence but the remaining 40% had no experience of felt depression. They believed that 23.5%(105), 12.3%(55), 12.3%(55), 8.1%(36), 1.3%(6), and 1.6(5) of depression was due to hormonal change, worrying about menses, bad odor, illness, itching, and others respectively.

Depression occurred in three-time periods of menstruation which was premenstrual time during menses time post menstrual time. Out of the total school girls, 27.3% (122) had experience of menses related infection (pelvic pain, foul smelling discharge following menses) but not 72.3% (323). Of those who had infection experience, 45% (55) had get medical care and the rest 55% (67) had not get medical care. The reason mention for not got medical care were no nearby health care facility, shame, had no money and no concern with proportion of 6%(4), 40%(27), 23.9% (16) and 29.9%(20) respectively.

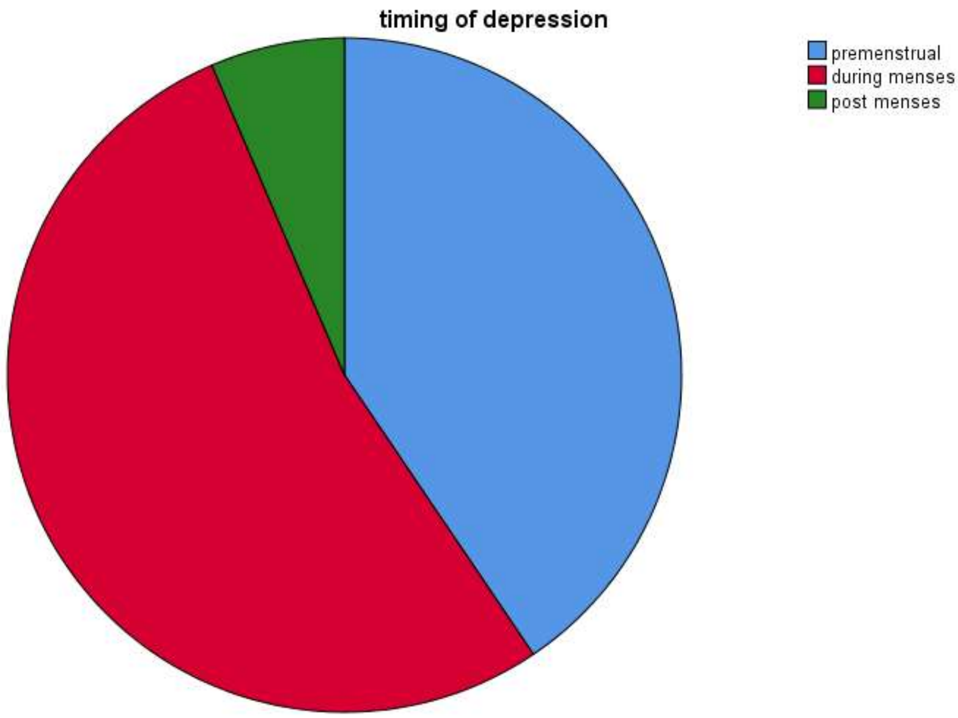

Figure 7 Timing of depression on the study of MHMP, associated factors and its effects among secondary school girls of North Shewa, Ethiopia, 2020

Qualitative evidence indicated that bleeding is the tip of ice burg for menstruating girls. Given lack of enabling environment was not available, girls tried to control bleeding by using different recommended as well as non-standardize absorbents but Backache, head ache, instability (mood change), loss of concentration are the common health challenges which could again affect their school attendance or academic performance. What every they apply absorbent, they are always worrying about leak of blood on cloths which reduce concentration on learning. More attention has been given for leak of bleeding, of course it deserves but psychological problems (depression, mood change, and loss of concentration) were undermined. Even girls come to school with proper precautions, it could not provide guaranteed confidence not to leak of bleeding on cloths. Imagine, How the pressure could be, for those who have poor awareness and are economically incapable of sanitary pads. So absenteeism is tips of the ice burg, the severe form and no body consider it as a problem is loss of concentration for learning due to depression, pain, itching, irritation and others.

Effect of menstruation might vary from person to person but every girl has experienced at least some effect. People in the community including their male peers (classmates) perceived that leaked blood is sign of rape, having sexual practices or it is due to girl's unhygienic behavior. Such perception of people around push them to be absent from school. Such feelings might be sustained for weeks or more. So menstruating school girls prefer to stay home for a few days (duration of menses).

"I know one rural girl who budgets only for round trip. She has no additional budget for purchasing sanitary pads. One day she experienced emergency bleeding and leaked on her cloth. Male classmate teasing (lough on her) and humiliation. And this event makes her very depressed. Then she has missed class for five days. When she come after five class days' pressure from male students persisted for long." [19 years old grade 11, FGD participant]. "My classmate experienced emergency bleeding without any readiness. When the bell ranged for a break she wait on her sit and finally after the last period she leave the class lately due to fear of teasing by students particularly male students." [17 years old grade 10 FGD participant]

5.5 Factors Associated with MHM Practice

Candidate variables for MLR were recruited from bivariable analysis (10 candidate variables by considering p-value<0.25 as cutoff point). From bivariable analysis output, marital status, educational status of mother, educational status of father, occupation of mother, occupation of father, monthly income of the family, pocket money (yes/no),having TV, having private water line and knowledge about menses and its management have fulfilled criteria of candidate variable and included in to multiple models. So, ten candidate variables (p-value<.25) were included in multiple logistic regression model.

Among the ten modeled variables in MLR, six variables had a significant association with MHMP which include fathers occupation (government employ, other), family monthly income ≤3350, have no pocket money budget, Having TV, having private water line, and having knowledge of menses and its management, All these six predictor variables had a positive significant association with MHMP among secondary school girls of Midda Woremo district. The remaining predictor variables (marital status, educational status of mother, educational status of mother, and mother occupation) had association with outcome variables but were not significant.

Table 6: Association of predictor variables with MHMP on the study of MHMP, associate factors and it effects North Shewa Amhara Region, Ethiopia, 2020

Predictor variable		MHM practice		COR	AOR(95%CI)
		Good MHMP	Poor MHMP		
Marital status	Single	61.2%(244)	38.8%(155)	1	
	Married	34.5%(10)	65.5%(19)	0.3	0.70(0.1, 7.3)
	Divorced	89.5%(17)	10.5%(2)	5.4	0.20(0.1, 6.7)
Educational status of mother	Illiterate	55.8%(116)	44.2%(92)	0.8	0.00(0.0, 1.0)
	Read and write	65.5%(93)	34.5%(49)	1.2	0.20(0.01, 2.1)
	Primary	82.6%(19)	17.4%(4)	3.1	0.00(0.0, 0.1)
	Secondary	54.8%(17)	45.2%(14)	0.8	0.40(0.13, 11.4)
	≥College	60.5%(26)	39.5(17)	1	
Educational status of father	Illiterate	65.7%(94)	34.3%(49)	1.6	5.30(0.23, 124.24)
	Read and write	61.$(97)	38.6%(61)	1.3	1.42(0.07, 27.23)
	Primary	63.3%(19)	36.7%(11)	1.4	4.52(0.12, 160.10)
	Secondary	49%(24)	51%(25)	0.8	6.63(0.24, 185.33)
	≥College	55.2%(37)	44.8%(30)	1	1
Mother occupation	Farmer	56.8%(109)	43,2%(83)	1	1
	Housewife	58.1%(61)	41.9%(44)	1.1	2.02(0.43, 9.63)
	Merchant	69.5%(57)	30.5%(21)	2.1	5.06(0.61, 41.98)
	Govt employee	64.3%(36)	35.7%(20)	1.4	3.19(0.07, 154.72)
	Others	66.7%(8)	33.3%(4)	1.5	2.42(0.67, 87.85)
Father occupation	Farmer	64.6%(181)	35.4%(99)	1	1
	Merchant	75.5%(37)	24.5%(12)	17	2.01(0.22, 18.00)
	Govt employee	53%(35)	47%(31)	0.6	23.02(1.6, 25.22)**
	Others	34.6%(18)	65.4(34)	0.3	9.47(1.9, 37.20)**
Family monthly income (n=282)	<=3350	67.6%(40)	32.4%(31)	0.5	14.95(2, 112.3)**
	3351-5000	67.1%(41)	32.9(32)	0.5	4.10(0.80, 21.53)
	5001-8300	47.9%(37)	52.1%(34)	0.7	8.37(1.16, 60.31)
	>=8301	58.2%(49)	41.8%(18)	1	
pocket money	Yes	74.8%(211)	25.2%(71)	1	
	No	36.4%(81)	63.6%(73)	0.4	9.5(1.9, 47.8)**
Is there TV in your home	Yes	57%(114)	43% (86)	0.8	3.8(1.2, 12.1)**
	No	63.4%(156)	36.6%(90)	1	
	Yes	55.9%(100)	44.1%(79)	0.72	3.4(1.1, 10.8)**

Have private water line	No	63.7%(170)	36.3%(97)	1	
Knowledge	Good	84.4%(168)	15.6%(31)	7.6	93.2(14.5, 100)**
	Poor	41.7%(103)	58.3%(144)	1	

6. Discussion

MHM practice is one of and critical issues in adolescent health delivery, especially among school girls. This study revealed that MHM Practices among school girls of Mida Woremo district was 39 %(95%CI: 35%, 44%) which was higher than findings among Wogera district (29.8%) secondary school girls (39) but lower than finding among Harbu school girls(38). MHMP among Mehal Meda (90.9%) and Indonesia (88.2%) secondary school girls were more than double of the current finding(51),(28, 43). The finding was contrary to temporal advantage and efforts of different stakeholders in the area directly or indirectly. This discrepancy might be due to temporal (Wogera), measurement, socio-demographic and cultural variation across areas within a country or between countries.

A study in Nepal revealed that having a literate mother was negatively associated with MHMP whereas literate father was positively associated with MHM Practices. In the current study, maternal education status (illiterate, read and write, primary and secondary) were negatively associated with MHM Practices ($p<0.05$) as compared to those who were college and above whereas father's educational status (illiterate, read and write, primary and secondary) positively associated with MHM Practices ($p>0.05$). Mothers' literacy level college and above was favored of good menstrual practice than the counter. "Uneducated mothers sometimes couldn't understand the problem well and may perceive early menarche as a sign for initiation of sexual practice" [FGD participant].A study in Ethiopia indicated that maternal education (≥ secondary school) is an important positive predictor of good MHM Practices (37). This might be because low literacy level of mothers correlated to lower-income generation opportunity, poor knowledge about menses and MHM, given, they served as primary source of information and preferred among the family to discuss with.

This study showed that father's occupation (government employee others (NGO, daily labor, etc.)) had a positive significant association with MHM Practices than those who were farmer. School girls from the family of government employee and other category had 23 and 10-fold higher chance to have good MHM Practices than those from farmer father respectively. It was similar for maternal occupation categories as compared to farmer but not significantly associated. Study in rural India indicated that age, culture, awareness, and socioeconomic status affects menstrual hygiene practices(43). Another study in AA also showed that fathers' occupation (employed in private organization) could increase the chance of good MHM Practices by 3.7 times (43, 48).

Estimated monthly income of the family (≤3350) were positively associated ($p<0.05$) with good MHM Practices (AOR=14.95). Those school girls from family with estimated monthly income≤3350 had higher chance to exercise good MHM Practices than those from family of earning ≥8301. Similarly, school girls who had permanent pocket money were less likely to exercise good MHM Practices than those who had not permanent pocket money but the proportion of good MHM Practices were higher among those who had permanent pocket money (74.8%) than those who had no pocket money budget from their family or somebody else. Studies in Addis Ababa and Wogera district showed that having permanent pocket money had significant positive association with good MHM Practices but a small effect (28, 39, 43, 48). The paradoxes might be due to socio-demographic variations like high earning families were farmers who had low literacy level which might influence helpfulness of the family and knowledge of school girls on menses and its management as well. And those most school girls who had permanent pocket money were from rural part, separate for weeks or months during schooling, they were from family with lack of awareness, inadequate pocket money, and in accessibility of WaSH facilities in the rental house. "Most of school girls from rural area had no adequate pocket money. "My families gave me money only for round trip transport fee. This was not only due to unable to afford for better pocket money but it also due to lack of awareness and I feared to ask for pad. So, even my family have good income, I have low pocket money or sometimes have no pocket money" [FGD participant].

Different studies indicated that good knowledge of menstruation and MHM was statistically significant association (positive) with good menstrual hygiene practice than those with poor knowledge of menstruation and its hygienic management (1, 36, 50). Similarly, the finding of the current study was consistent with what literature reported. Good MHMP was higher among knowledgeable school girls (84.4%) which was more than two-fold proportion among school girls with poor knowledge (41.7%). school girls with good knowledge of menstruation and its hygienic management had 93.2-fold higher chance of exercising good MHM Practices (AOR=93.2)or those who had poor knowledge of menstruation and its hygienic management had 99% lower chance to be among good MHM Practices category (low chance of exercising good MHM practices) than those knowledgeable school girls. So knowledge had very strong influence on MHM Practices of school girls. This might be explained as school girls' good knowledge of menses and its hygienic management might indicate better literacy of family (mother has been primary and preferred source of information), access to media, urban residency.

Study among secondary school girls of Wogera district revealed school girls who have exposure to media advertisements (menses and its management) had positive association with MHM Practices. Similarly, this study indicated that having TV had positive association with MHMP because, media streaming exposure (advertisement) within the household (family) could increase awareness and knowledge of both school girls and other family members on menses and its management.

Guidelines and peer-reviewed articles indicated that availability of WaSH facilities like latrine, waste disposal site, water supply, and shower are very important determinants of MHM. Keep clean genital areas and general body, washing clothes, and reusable menstrual pads are important to prevent bad consequences of menstruations like infection, bad odor, and psychological burden secondary to leak out of bleeding. Finding of this study indicated that having private water line have a positive significant association with MHM Practices. Those who have private water line had 3.4 fold higher chance to exercise good MHM Practices due to the earlier mentioned facts of WaSH facilities benefits, especially during menstruation.

Different MHM guidelines recommended building of menstrual sanitary pad changing room with necessary inputs for better MHM Practices(13, 27). But the finding of this study indicated that not changing sanitary pads at school had positive association with good MHM Practices (AOR=8.5, $p<0.05$). Schoolgirls who didn't change their sanitary pad at school had 8.5-times higher chance of exercising good MHM Practices or those who change their sanitary pad at school had 88% lower chance of practicing good MHM. From the total school girls, only 33.8% have experience of changing menstrual sanitary pads at school and a larger share had no experience for the reason of nonconductive school environment (81.4%) and no need to change (minimal bleeding) (18.6%).“There were no adequate water storage and distribution, low latrine to school community ratio, not clean, privacy was not secured and absence of rest room for menstruating school girls” [Observation]. So this non conducive school environment might contribute the above association.

Age greater than 18 years, urban residence, live with whom, were significantly associated with MHM practice among school girls in Wogera district, Harbu and Mehal Meda but this study found no significant association with MHM Practices which might be due to socio-demographic, temporal and setting differences.

Studies indicated that school girls, especially in developing countries faced many challenges during menstruation. Menstruation reduced school participation, distraction of concentration and induced stress, including concern that someone would know they were menstruating; fear about bloodstaining accidents and being bullied by classmates. In school toilets, there was a lack of privacy, cleanliness, water for handwashing, soap, toilet paper, and absorbent materials(25, 52). Also menstrual-related pain (82.2%), fear of staining clothing (70.3%), fear of being teased (70.3%), non-availability of sanitary pad (63.4%), and lack of private place to manage period at school (60.4%) were the common reasons mentioned for menstrual-related school absenteeism(15, 16). In the current study, Half of school girls (49.1%) were forced to stay at home during their menses for different menstrual-related reasons and 46% were absent from school in the last month for 1 to 5 days. Depression (58.6%), loss of concentration (50.8%), no room for pad changing (48.5%), no washing facility (43%) and discomfort (41.2%) were frequently mentioned as reasons for school absentee. Prevalence (as a reason) of shame (fear of teasing) (26.2%), fear of cloth staining (30.2%), non-availability of pads (29.1%) and lack of room (48.5%) were lower than what evidence revealed in literature cited above. Similarly, study in Harbu indicated that school performance of girls declined after their menarche (58%) and school dropout was common among school girls who experienced teasing and humiliation by classmates when bloodstains were seen on their cloth due to lack of proper sanitary pads. Barriers to MHM Practices of school girls may hamper progress towards Sustainable Development Goals3 (ensure healthy lives and well-being for all at all ages), Goal 4 (ensure inclusive and equitable quality education and promote lifelong learning opportunities for all), Goal 5 (promote gender equality and empower all women and girls) and Goal 6 (ensure the availability and sustainable management of water and sanitation for all).

7. Strength and Limitation

7.1 Strength

The study applied a mixed-method which help to extract reality and to triangulate evidence from both methods. Adequate samples were used for the qualitative part of the study by considering available options (sample adequacy check conducted) and maximum variation of FGD participants was ensured.

7.2 Limitation

Even alternative sample size calculation applied to get maximum sample size, statistical outputs showed very wide CI which was sign of small sample size. Data was collected immediately as the school opened after the lockdown. So Percentage of absenteeism in the last month and absenteeism due to menses might be affected by recall bias or misinterpreted by the respondents. Proper depression was not measured, rather the felt depression, this might be the reason for inflated depression rate. Similarly family or HH income was not measured accurately, it was solely based on the guessing of school girls (difficult to measure especially for farmers).

8. Conclusions

- Below half of secondary school girls have exercised good MHMP in Mida Woremo District.
- Good knowledge, father's occupation (government employ, other), family income$\leq$3350, no pocket money, having TV and having private water line had a significant association with good menstrual hygiene management practice.
- Both health-related (depression/mood change, illness/pain) and development-related (school absenteeism, loss of concentration, difficulty to participate, missing class/exam) problems were common among school girls.

9. Recommendations

The finding of the study showed that knowledge and related issues and WaSH factors have important role in MHM. So, based on the finding of the study the following points would be recommended.

- Institutions like schools, education offices, women and children affairs offices, and health offices including health facilities should work with strong integration and by setting shared vision on raising awareness of school girls families of school girls as well as the general community on the nature and related behaviors, how to manage menses, challenges related to menses and how can families, other individual and the community could support for those who are in need. Designing and or using proper media/channels (like mainstream media, minimedia, publications, clubs etc.) to reach to the audiences have an important issue during awareness creation activities. Integrating MHM with health extension programs to reach to all community members and health professionals should deliver health educations on adolescent health including MHM for school girls by arranging scheduled programs (weekly or monthly).
- Health sector should work on strengthening WaSH status of the community through health extension programs and others through proper utilization of resources (public and donor). Schools, education offices, women and children affairs offices, health offices including health facilities and WaSH office with other stakeholders should work together to create conducive school environment for menstruating girl by preparing fully furnished room, build adequate, clean and with secured privacy for school girls, preparing adequate water storage and distribution for the school community and having conducive waste disposal site to dispose their menstrual waste without teasing. Strengthening school health program, gender and health cubs and minimedia platform and improve the engagement and beneficence of school girls in such programs and activities.
- Qualitative finding indicated most challenges of teasing and humiliation at school and within the community emanate from males, so school and other responsible bodies should work to improve male engagement. Absenteeism, loss of concentration, difficulty of participation during menses declined the academic performance of school girls, as a result they need compensation session. So school and staffs shall to commit to deliver special class for girls to make them empowered and competent with males. And psychosocial consulting services shall be strengthened, preferred to deliver by female counselor/ teacher.

- Staff (academic teachers), Gender officers, and health professionals with in respective organizations should design projects on enhancing MHM practices and academic performance of school girls, by using different fund raising mechanisms like searching for project funder (NGOs), mobilizing the community, and other income generation systems.
- Special attention shall be given for the implementation of the school health program and allocate necessary resources. Science textbook (biology) tells the student only about hormonal change and from where menses (bleeding) come. It misses the hygienic management and what if poor hygienic management is practiced. So MOH and MOSHE shall work interestedly to revise the curriculum and incorporate how hygienic management practice could carry out and what would be the consequence of poor MHM practice starting from junior schools.
- Improving MHM of school girls needs the engagement of different responsible bodies (multi-sectoral task) and MHM is considered as a secondary duty of different sectors not as their primary activities. Moreover monitoring and evaluating (M&E) multi-sectoral tasks have been challenging in our country. So, taking MHM as primary objective and establishing horizontal accountability and measurable M&E system would have crucial value on the improvement of MHM among school girls
- Further large-scale studies on the effect of poor MHM practices on health and school performance to generate strong evidence for decision makers that help them to act accordingly.

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11. Annexes

11.1 Annex1: English Version Questionnaires

11.1.1Information Sheet and Consent form

Title of Study: assessment of menstrual hygiene management practice, associated factors and its effects among school girls of Mida Woremo district, north Showa, Amhara region, Ethiopia

Background: The objective of this study is to assess menstrual hygiene management practice and associated factors among youth school girls of Mida Woremo district north Shewa, Amhara region, Ethiopia, 2019/20. You are being requested to take part in a research study. Before you decide to take part in this study, it is important that you realize why the research is being done and what it will involve. I will brief you on the study and you can ask whatever you want related to the research topic.

Study Procedure: You are selected from the class by simple random selection method. Your estimated time commitment for this study is: 25-30 minutes. If you do not want to be in the study, you may choose not to participate and terminate at any time during interview.

Risks: The risks of this study are negligible. The topics in the survey may indignity some respondents. You may decline to answer any or all questions and you may terminate your involvement at any time if you choose.

Benefits: There will be no direct benefit to you for your participation in this study. However, we hope that the information obtained from this study may be useful for planning an intervention measures at school setting.

Confidentiality: Please do not write any identifying information on your questionnaire. Your Responses will be unnamed.

Costs to Subject: There are no costs to you for your participation in this study except your time.

Compensation: There is no financial compensation to you for your participation in this study. But there are some refreshments for FGD participants.

Consent

I confirm that I have read and understood the information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to take out at any time, without giving a reason and without cost.

I Agree …………….   I Disagree ……………………….

If you have any question now or late, you can contact the principal investigator through the following addresses:

Name of principal investigator: Engidashet Tsedeke, Addis Ababa University, SPH

Email: engida.tsedeke@gmail.com,

Mobile: +251-911-791-047 / +251-964-654-727

11.1.2 English version Questionnaires

School identification code………………. Participant's identification code…………

1. Questionnaires about socio-demographic data

S.No.	Questions	Possible answers	Skip
1.1	Your Age (years)	---------------	
1.2	Your Grade	---------------	
1.3	Your religion	1. Orthodox 2. Muslim 3. Protestant 4. Catholic 5. Others (specify) ---------------	
1.4	Your marital status	1.Single 2. Married 3. Divorced 4. Widowed 5. Not applicable	
1.5	With whom do you live?	1. Both parents 2. Mother only 3. Relatives 4. Father Only 5. Others (specify) ---------------	
1.6	What is your mother's educational status?	1. Illiterate 2. Read & write 3. Primary 4. Secondary 5. College and above	

1.7	What is the father's educational status?	1. Illiterate 2. Read & write 3. Primary 4. Secondary 5. College and above	
1.8	What is the mother's occupational status?	1. Farmer 2. Housewife 3. Student 4. Merchant 5. Private organization employee 6. Governmental employee 7. Daily laborer 8. Others (specify) ---------------	
1.9	What is the father's occupational status?	1.Farmer 2. Merchant 3. Student 4. private organization employee 5. Governmental employee 6. Driver 7. Daily laborer 8. Others (specify) --------------	
1.10	Your family's monthly income (ETB)	---------------------	
1.11	Do you have the following household assets and utilities	Possible answers	
	Radio	1. Yes 2. No	
	TV	1. Yes 2. No	
	Mobile phone	1. Yes 2. No	
	Line phone	1. Yes	

		2. No	
	Computer	1. Yes 2. No	
	Indoor water plumps	1. Yes 2. No	
	Private shower	1. Yes 2. No	
	Refrigerator	1. Yes 2. No	
	Washing machine	1. Yes 2. No	
	Electrical cooking machine	1. Yes 2. No	
	Private owned house	1. Yes 2. No	
	Bicycle	1. Yes 2. No	
	Automobile	1. Yes 2. No	
	Latrine	1. Yes 2. No	
	Cattle	1. Yes 2. No	
1.12	Do you earn permanent pocket money from the family	1. Yes 2. No	
1.13	If you say yes for Q.1.12 how many birrs per month?	………………..	

2. Questionnaires about knowledge of menstruation and its management

2.1	Have you start menses	1. Yes 2. No	
2.2	Age at menarche(in years)	…………………	
2.3	**Common age ranges of menarche? (years)**	1. 10-12 years 2. 12-14 years 3. 14-16 years 4. 12-1 years	
2.4	**Do You learn about menstrual hygiene in the school?**	1. Yes 2. No	
2.5	**Do You discuss about menstrual hygiene with their parents and friends?**	1. Yes 2. No	
2.6	**Which one is correct Inter menstrual interval? (days)**	1. Less than 25 2. 25 to 28 3. 28 to 35 4. More than 35	
2.7	**Duration of menstrual cycle during each period (days)**	1. Less than 2 2. 2 to 3 3. 3 to 5 4. More than 5	
2.8	**Did you hear about menstruation before attaining menarche?**	1. Yes 2. No	If you say no, skip to 2.9
2.9	What was your source of awareness about menarche?	1.Mother 2. Father 3.Elder sister/s 4. Elder Brother/s 5. School (mini media, teacher, clubs) 6. Friends/ peers 7. Health professional 8. Internet (Google, Social media) 9. Main stream media	
2.10	Do you Know about menstrual hygiene?	1.Yes	

		2. No	
2.101	**Sanitary pads are menstrual soak up items?**	1. Yes 2. No	
2.12	1. **What is menstruation?**	2. Physiological process 3. Pathological process 4. Curse from god 5. Don't know 6. Others (specify) ---------	
2.13	**What is the cause of menstruation?**	1. Hormones 2. Curse of god 3. Caused by disease 4. Don't know 5. Others (specify) ---------------	
2.14	**Where is the source of menstrual blood?**	1. Uterus 2. Vagina 3. Bladder 4. Abdomen 5. Don't know 6. Others (specify) -------	
2.15	There is foul smelling during menstruation	1. Yes 2. No	
2.16	Menstrual blood is unhygienic	1. Yes 2. No	
2.17	Pain during menstruation means that someone is sick?	1. Yes 2. No	
2.18	It is harmful for a woman's body if she runs or dances during her period?	1. Yes 2. No	
2.19	**Do you think that girls can got school during menstruation**	1. Yes 2. No	
2.20	Girl should take more nutritious diet during menstruation?	1. Yes 2. No	
2.21	One should know regarding menstruation before menarche?	1. Yes 2. No	

2.22	**Do you think that girl can conceive during menstruation?**	1.Yes 2. No	
2.23	Menstruation is not a lifelong process?	1. Yes 2. No	

3. Questionnaires about practice of menstruation hygiene management

3.1	What materials do you use for absorbing blood?	anitary pads eces ces y) …………….	
3.2	What materials do you used during the last menstrual period?	1.Disposable sanitary pads 2.New cloth pieces 3.Old cloth pieces 4. Other (specify) …………….	
3.3	**What is your perception about sanitary napkins?**	1. comfortable 2. Adequate absorption 3. Do not stain clothes 4. Others (specify) ---------------	
3.4	**What is your reason for not using sanitary pad?**	1. Cost 2. Difficulty in disposal 3. Lack of knowledge 4. Shyness 5. Others (specify) ---------------	
3.5	How often do you change absorbent material per day?	1. Once 2. Twice 3. Three times 4. More than three times	
3.6	**Do you change absorbent materials in school?**	**1. Yes** **2. No**	
3.7	**If you say no for Q 3.6 what was your reason?**	**……………….**	
3.8	Do you clean your genitalia?	1. Yes 2. No	If no, skip to 3.10
3.9	What material do you use for genital cleaning?	1. Soap and water 2. Water only 3. Plain paper/soft tissue 4. Others (specify) ---------------	

3.10	Do you clean your external genitalia?	1. Yes 2. No	If no, skip to 3.12
3.11	What material do you use for cleaning your external genitalia?	1. Soap and water 2. Water only 3. Plain paper/soft tissue Others (specify) ---------------	
3.12	**Do you have experience of hand washing during your menses?**	**1. Yes** **2. No**	If no skip to 3.14
3.13	What material do you use for Hand Washing?	1. Water 2. Soap and water 3. Others (specify) ------------------	
3.14	Do you take shower during menstruation	Yes No	If no ,skip to 3.17
3.15	When do you start taking shower during menstruation?	1. First day 2. Second day 3. Third day 4. Last day 5. Others (specify) ---------------	
3.16	What materials do you use for showering during menstruation?	1. With soap and water 2. With water, only 3. Others (specify) ---------------	
3.17	Where do you dispose of menstrual material used at school?	1. Open field 2. Latrine 3. Waste bins 4. Others (specify) ---------	
3.18	Where do you drying of washed reusable cloth?	1. In the shade, outside 2. In the shade, inside 3. In the sunlight, inside 4. In the sunlight, outside 5. Hidden under other clothes 6. Hidden elsewhere 7. Others (specify) ---------------	

3.19	What materials do you use for Washing of the reusable cloth?	1. With soap and water 2. With water, only 3. Others (specify) ---------------	
3.20	Where do you store reusable cloth between uses?	1. In plastic bag, separately 2. With other clothes 3. In the bath room 4. Others (specify) ---------------	

4. Questionnaires about the effect of poor menstrual hygiene management practices on school girls

4.1	How many days did you miss school during the last month?	……………………	
4.2	How many days did you miss school because of your period?	……………………	
4.3	Does your period forced you to stay at home?	1. Yes 2. No	
Have you experience the following/Available			
4.4	Blood staining my clothes.	1. Yes 2. No	
4.5	Afraid teasing on me	1. Yes 2. No	
4.6	Pain	1. Yes 2. No	
4.7	Feeling of discomfort	1. Yes 2. No	
4.8	Distraction of concentration	1. Yes 2. No	
4.9	Bad odor	1. Yes 2. No	
4.10	Washing facility	1. Yes 2. No	
4.11	Disposal site	1. Yes 2. No	

4.12	Have sanitary pad	1. Yes 2. No	
	Room	1. Yes 2. No	
4.14	Itching	1. Yes 2. No	
4.15	Depression	1. Yes 2. No	
4.16	If you say ‘’ yes’’ for Q- 4.15 when it happened	1. Premenstrual 2. Post menstrual 3. Both pre and post menstrual	
4.17	What do you think about the cause of depression	1.Thinking of the event 2.Thinking of bad odor 3.Thinking of itching 4.Thinking of pain 5.Hormonal changes 6. Others (specify)………………..	
4.18	Did you experience genital infection due to or following menstruation?	1. Yes 2. No	
4.19	Did you get treatment for it	1. Yes 2. No	
4.20	If you say ‘’No’’ for 4.19 what is the reason	1. I have no access to HCFs 2. I feel shame 3. I have no money for it 4. I didn’t consider it as serious issue 5. Others (specify)……………….	

Annex 1.3: Focus group discussion guidelines for students

Good morning /Good afternoon my guests, thank you for coming for the discussion. The issue that brings us to discuss on is menstruation and its hygienic management. As you know it is manifested on females only. And hygienic management of menses is important for health and development of school girls. The purpose of this discussion is to generate ideas that would be good enough to answer the research questions of study. By saying well come again I would directly go to the discussion. The following are questions that we need to discuss on:

What is menstruation? Where it comes? How it happens?

1. What is menses/ menstruation and what do you think / believe about? is it as curse
2. How is the perception of our community about menstruation? How it affects MHM?
3. What are the negative effects of menstruation on school girls?
4. What are the risk factors that contribute for poor MHM?
5. How can we reduce effects of poor menstrual management on school girls?
6. What are good and bad in your school for menstruating girl?
7. Any experience concerning MHM (self, or peer experience)?

Annex 1.4: Focus group discussion guidelines Stake holders

Good morning /Good afternoon my guests, thank you for coming for the discussion. The issue that brings us to discuss on is menstruation and its hygienic management. All you ladies and gentleman welcome to this discussion which could give proper input for the proposed study. As you know even menstruation is an event that only occurs on females the problem associated with menstruation may not restricted to females only. Engagements of different stokeholds have been very important for the betterment of MHM practice because menstruation is a multi-sectoral issues that needs the hands of different stakeholders. So, as a stakeholder all of us will discuss on the following questions.

1. What do you know about MHM?
2. Do you think that you have responsibility on MHM as an individual or as sector?
3. If yes, what would be your/your sector responsibility?
4. As a sector whatever you did on MHM or what did you contribute?
5. Concerning MHM, what challenges did you face during implementation of your tasks?
6. Where are the sources of these challenges? Any strategy for the improvement of MHM?
7. How do you judge coordination and integration of works among stake holders?

Annex 1.5: Observation guideline

Observation is planned to address issues that couldn't get through quantitative data collections and FGD regarding to environmental hygiene and sanitation like latrine, water supply, waste disposal and dressing room/sanitary pad changing room. So observation team would focus on the following parameters.

Regarding latrine:

Number of pits…………….

Have door…………No door……….

Access to water…………………….

Cleanliness………………………….

Separated for male and female Water supply:

Is there Water supply? Yes…………… No…………………

Is there any reservoir for emergency Yes…………? No………….

Storage capacity of the reservoirs..

Water sources…………………………………………………………

Dressing room:

Is there any room for this service? Yes................No……….

Is it convenient? (Look for area, cleanliness, and door) Yes……No……. Waste disposal

Is there any waste disposal site? Yes……………. No……………….

Type / mechanism of disposal…………………………………………

Is the disposal site convenient for girls? Yes……………. No…...

Annex2: የአማርኛ ቃለ መጠይቆች

ቅጽል1: -የጥናቱ ማብራሪያ እና ስምምነት መጠየቂያ ቅፅ

ሀ. የጥናቱ ማብራሪያ

የጥናቱአርዕሰት፡የወርአበባንጽህናአያያዝ፤የሚያስከትለዉችግርእናተያያዥሁኔታዎችበአማራክልልሰ/ሸዋዞንሚዳወረሞወረዳበሚገኙየሁለተኛደረጃሴትተማሪዎችላይጥናትማካሄድ

መግቢያ:በአማራክልልሚዳወረሞወረዳበሚገኙየ2ኛደረጃትምህርትቤቶችበመማርላይየሚገኙሴትተማሪዎችየወርአበባንጽህናአጠባበቅ፤የሚያስከትለዉችግርናተያያዥሁኔታዎችላይየዳሰሳጥናትመድረግየጥናቱዋነኛአላማዉነዉ፡፡አንችበዚህጥናትላይእንትሳተፊየተመረጥሽስለሆነወደጥናቱከመግባትሽበፊትከዚህእንደሚከተለዉግልጽያላሆነእናተጨማሪማብራሪያካስፈለገሽመረጃመጠየቅትችያለሽ፡፡

የጥናቱአተገባበርሂደት፡አንቺበዚህጥናትአንዲትሳተፊየተመረጥሽዉበሎተሪዘዴነዉ፡፡ስለሆነምፈቃደኛሆነሽበጥናቱየምትሳተፊከሆነመጠይቁንሞልቶለመጨረስከ 25-30 ደቂቃሊፈጅይችላል፡፡በጥናቱመሳተፍካልፈለግሽአለመሳተፍይቻላልወይምለመሳተፍከወሰንሽበኋላማቋረጥእናመመለስያልፈለግሽዉንጥያቄማለፍይቻላል፡፡

ጉዳት:

ጥናቱምንምአይነትጉዳትየለውም፡፡የጥናቱአይነትሊያሳፍሩየሚችሉሃሳቦችሊነሱበትይችላሉ፡፡ለመመለስየሚያስፈራሽ/የሚያሳፍርሽንጥያቄማለፍወይምከጥናቱራስሽንማግለልትችያለሽ፡፡

ጥቅም:በዚህጥናትበመሳተፍሽበቀጥታየምታገኝውምንምአይነትጥቅምባይኖርምከጥናቱበሚገነውመረጃበትምህርትቤቱውስጥለሚሰሩስራዎችግብዓትይሆናል::

ሚስጥርጠባቂነት:ስለ ራስሽ ማንነት የሚገልጽ ምንም አይነት መረጃ በመጠይቁ ላይ አይጻፍም፡፡

ለ.ፍቃደኝነት- ጉዳዩን በሚገባ ተረድቻለሁ፡፡ ተሳትፎዬ በፍቃደኝነት ሲሆን በማንኛውም ሰዓት ምንም ምክንያት ያለ ምንም ቅድመ ሁኔታ ከጥንቱ ራሴን ማግለል እችላለሁ፡፡ በፍቃደኝነት ጥናቱ ላይ ለመሳተፍ ተስማምቻለሁ፡፡ (በፊርማሽአረጋግጪ) ፈቃደኛነኝ..........ፍቃደኛ አይደለሁም............................

ማሳሰቢያ፡ጥናቱንበተመለከተጥያቄካለዎትወዲያውኑመጠየቅምንምዘግይተዉምነኝተመራማሪንበሚመለከተውአድራሻመጠየቅይችላሉ፡፡

የጥናቱመሪሙሉስም፡እንግዳሸትጸደቀ **አድራሻ**፡አዲስ አበባ ዩኒቨርሲቲ የህብረተሰብ ጤና ት/ቤት

ስልክ.ቁጥር: +251-946-708-511/+251-964-654-727 **ኢ-ሜል**: engida.tsedeke@gmail.com

ቅጽ 2፡የአማርኛመጠይቆች

የትምህርትቤቱመለያ……………………………………….

የጥናቱተሳታፊመለያ……………………………

1. የማህበራዊናስነ-ህዝብመረጃ

የጥ.ቁ	ጥያቄዎች	ሊሰጡየሚችሉመልሶች	እለፍ/ዝለል
1.1	እድሜ	-------------	
1.2	የትምህርትደረጃ	-------------	
1.3	ሀይማኖት	ኦርቶዶክስ 2. ሙስሊም ፕሮቴስታንት 3. ካቶሊክ 4. ሌላ(ይገለፅ) ---------------------	
1.4	የጋብቻሁኔታ	1. ያላገባች 2. ያገባች 3.የፈታች 4. የሞተባት 4. የማይመለከታት	
1.5	የአኗኗርሁኔታ	በጋራ 2. እናትብቻ 3. ዘመድ 4.ጥገኛ 5. ሌላ (ይገለፅ) --------------------	
1.6	የእናትየትምህርትደረጃ	1. ያልተማረች 2. ማንበብናመፃፍ 3. የመጀመሪያደርጃ 4. ሁለተኛደርጃ 5. ኮሌጅእናዩንቨርሲቲ	

1.7	የአባትየትምህርተደረጃ	1. ያልተማረች 2. ማንበብናመፃፍ 3. የመጀመሪያደርጃ 4. ሁለተኛደርጃ 5. ኮሌጅእናዩንቨርሲቲ	
1.8	የእናትየስራሁኔተ	1. ገበሬ 2. የቤትእመቤት 3. ተማሪ 4. ነጋዴ 5. የግልድርጅትሰራተኛ 6. የመንግስትሰራተኛ 7. የቀንሰራተኛ 6. ሌላ (ይገለፅ)) -------------------	.
1.9	የአባትየስራሁኔታ	1. ገበሬ 2. ነጋዴ 3. ተማሪ 7. የግልድርጅትሰራተኛ 5. የመንግስትሰራተኛ 6.ሹፌር 7. የቀንሰራተኛ 8.ሌላ (ይገለፅ)------------------	
1.10	ወርሃዊየቤተሰብገቢበብር	------------------	
1.11	የቤትንብረትእናመገልገያቁሳቁሶችየተመለከቱጥያቄዎች		
	የቤትንብረት | 1. አለ 2. የለም	የቤትንብረት | 1. አለ 2. 2. የለም	

	ሬድዮ	1. አለ 2. የለም	የልብስመጠቢያማሽን	1. አለ 2. የለም	
	ቴሌቭዥን	1. አለ 2. የለም	በኤሌክትሪክየሚሰራየምግብማብሰያ	1. አለ 2. የለም	
	ሞባይል	1. አለ 2. የለም	የግልቤት	1. አለ 2. የለም	
	የቤትስልክ	1. አለ 2. የለም	ሳይክል	1. አለ 2. የለም	
	ኮምፒዩተር	1. አለ 2. የለም	መኪና	1. አለ 2. የለም	
	የቤትዉስጥየዉሃቧንቧ	1. አለ 2. የለም	መጸዳጃቤት	1. አለ 2. የለም	
	ሻወር	1. አለ 2. የለም	እንስሳት	1. አለ 2. የለም	
	ፍሪጅ	1. አለ 2. የለም			
1.12	ከቤተስብገንዘብይሰጥሻል		1. አዎ 2. አይሰጠኝም		
1.13	ለጥያቄቁጥር 1.12 መልስሽአዎከሆነበወርስንትብርይሰጥሻል		....		

2. የወርአበባንፅህናአጠባበቅግንዛቤየተመለከቱጥያቄዎች

2.1	የወር አበባ ማየት ጀምረሻል	1. አዎ 2. አይ	
2.1	የወርአበባማየትየጀመርሽበትእድሜ?	----------------------	
2.2	**በአብዛኛዉየወርአበባየሚጀመርበትየእድሜክልልየቱነዉ?**	1. 10-12 ዓመት 2. 12-14 ዓመት 3. 14-16 ዓመት 4. 12-16 ዓመት	
2.3	**የወርአበባንፅህናአጠባበቅንበተመለከተት/ቤትተምረሽታዉቂያለሽ?**	1. አዎ 2. አላዉቅም	
2.4	**ስለወርአበባንፅህናከቤተሰብሽጋርትወያያለሽ?**	1. አዎ 2. አልዎያይም	
2.5	**የወርአበባበየስንትቀኑይመጣል?**	1. ከ 25 ቀንበታች 2. ከ 25 እስከ 28 ቀን 3. ከ 28 እስከ 35 ቀን 4. ከ 35 ቀንበላይ	
2.6	**የወርአበባመጥቶእስኪሄድያለዉየቀንብዛት?**	1. ከ 2 ቀንበታች 2. ከ 2 እስከ 3 ቀን 3. ከ 3 እስከ 5 ቀን 4. ከ 5 ቀንበላይ	
2.7	**የወርአበባከማየትሽበፊትስለየወርአበባሰምተሽታዉቂያለሽ?**	1. ሰምቻለሁ 2. አልሰማሁም	መልስሽ 2 ከሆነወደ 2.9እለፊ
2.8	ስለወርአበባየስማሽዉከማንነዉ?	1. እናት 2. ትምህርትቤት 3. ጓደኛ 4. ታላቅእህት	

		5. ቴሌቪዥን 6. ጤናባለሙያ 7. የመረጃመረብ (ኢንተርኔት) 8. አባት 9. ሌላ (ይገለፅ)------------------	
2.9	ስለየወርአበባንጽህናአጠባበቅታዉቂያለሽ?	1. አዎ 2. አላዉቅም	
2.10	**የወርአበባመጠበቂያሞደስየወርአበባንመምጠጥይችላል ?**	1. አዎ 2. አይመጥም	
2.11	**የወርአበባምንድነዉ?**	1. የተፈጥሮዑደት 2. በበሽታየሚመጣ 3. የእግዚአብሄርእርግማን 4. አላዉቅም 5. ሌላካለ (ይገለፅ)-----------	
2.12	**የወርአበባመንስኤምንድንነዉ?**	1. ሆርሞን 2. የእግዚአብሄርእርግማን 3. በበሽታየሚመጣ 4. አላዉቅም 5. ሌላካለ (ይገለፅ)------------	
2.13	**የወርአበባምንጭከየትነዉ?**	1. ማኅፀን 2. ከረቤዛ 3. የሽንትፊኛ 4. ሆድ 5. አላዉቅም	

		6. ሌላካለ (ይገለፅ)------------	
2.14	የወርአበባመጥፎጠረንሊያሥከትልይችላል?	1. አዎ 2. አይደለም	
2.15	የወርአበባንጹህያልሆነእንደሆነይታወቃል?	1. አዎ 2. አይደለም	
2.16	አንድትሴትበወርአበባጊዜህመምከተሰማትታማለችማለትነው?	1. አዎ 2. አይደለም	
2.17	አንዲትሴትበወርአበባወቅትመደነስወይምመሮጥጉዳትያደርሳል?	1. አዎ 2. አይደለም	
2.18	**በወርአበባወቅትአንዲትልጃገረድወደት/ቤትመሄድየለባትም?**	1. አዎ 2. አይደለም	
2.19	በወርአበባወቅትየተሻለአመጋገብያስፈልጋል	1. አዎ 2. አይደለም	
2.20	አንድሴትየወርአበባከማየቷበፊትስለወርአበባማወቅአለባት	1. አዎ 2. አይደለም	
2.21	**በወርአበባወቅትአንዲትልጃገረድልትጸንስትችላለች**	1. አዎ 2. አይደለም	
2.22	የወርአበባኡደትእድሜልክይኖራል	1. አዎ 2. አይደለም	

3. የወርአበባንፅህናአጠባበቅትግበራንየተመለከቱጥያቄዎች

3.1	ምንአይነትየወርአበባንፅህናመጠበቂያተጠቅመሽታውቂያለሽ?	1. ሞዴስ 2. አዲስቁራጭጨርቅ 3. አሮጌቁራጭጨርቅ 4. ከላይያሉትንበጋራ 5. ሌላካለ (ይገለፅ)-----------	
3.2	ባለፈዉየወርአበባሽወቅትየተጠቀምሽዉየንፅህናመጠበቂያምንድነዉ?	1. ሞዴስ 2. አዲስቁራጭጨርቅ 3. አሮጌቁራጭጨርቅ 4. ከላይያሉትንበጋራ 5. ሌላካለ (ይገለፅ)-----------	

3.3	**በወርአበባውቅትየንፅህናመጠበቂያሞዴስተጠቅመሽከነበርያለሽል ምድምንይመስላል?**	1. ምቹነት 2. በብቃትፈሳሽመያዝ 3. ልብስአያስቀልምም 4. ሌላካለ (ይገለፅ)-----------	
3.4	**የንፅህናመጠበቂያሞዴስየማትጠቀሚበትምክኒያትምንድነዉ?**	1. የዋጋዉዉደነት 2. ለማስወገድአስቸጋሪስለሆነ 3. ዕዉቀቱስለሌለኝ 4. ስለማፍር 5. ሌላካለ (ይገለፅ)-----------	
3.5	ማንኛውምየንፅህናመጠበቂያየምትጠቀሚከሆነበቀንምንያህልጊዜየመቀያየርልምድአለሽ?	1. አንድጊዜ 2. ሁለትጊዜ 3. ሶስትጊዜ 4. ከሶስትጊዜበላይ	
3.6	**በወርአበባወቅትየንፅህናመጠበቂያት/ቤትዉስጥትቀይሪያለሽ?**	1. አዎ 2. አልቀይርም	
3.7	**ለጥያቄቁ.3.6 መልስሽአልቀይርምከሆነምክንያትሽምንነበር?**	....	
3.8	በወርአበባወቅትከረቤዛየማፅዳትልምድአለሽ?	1. አዎ 2. የለኝም	መልስሽየለኝምከሆነወደጥያቄቁጥር 3.10እለፊ
3.9	በወርአበባወቅትከረቤዛንለማፅዳትምንትጠቀሚለሽ ?	1. ሳሙናናዉሃ 2. ዉሃብቻ	

		3. ሶፍት 4. ሌላካለ (ይገለፅ)---------	
3.10	በወርአበባወቅትከረቤዛዉጪየማፅዳትልምድአለሽ?	1. አዎ 2. የለኝም	መልስሽየ ለኝምከሆ ነወደጥያ ቄቁጥር 3.12እለፊ
3.11	በወርአበባወቅትከከረቤዛዉጪለማፅዳትምንትጠቀሚለሽ ?	1. ሳሙናናዉሃ 2. ዉሃብቻ 3. ሶፍት 4. ሌላካለ (ይገለፅ)-------	
3.12	**በወርአበባወቅትእጅሽንየመታጠብልምድአለሽ?**	1. አዎ 2. የለኝም	መልስሽየ ለኝምከሆ ነወደጥያ ቄቁጥር 3.14እለፊ
3.13	በወርአበባወቅትእጅሽንለማፅዳትምንትጠቀሚለሽ?	1. ሳሙናናዉሃ 2. ዉሃብቻ 3. ሌላካለ (ይገለፅ)--------------	
3.14	በወርአበባወቅትገላሽንትታጠቢያለሽ?	1. አዎ 2. አልታጠብም	መልስሽአ ልታጠብ ምከሆነወ ደጥያቄቁ ጥር 3.17እለፊ
3.15	በወርአበባወቅትገላሽንመቼመታጠብትጀምሪያለሽ?	1. የመጀመሪያቀን 2. ሁለተኛቀን 3. ሶስተኛቀን	

		4. መጨረሻያቀን 5. ሌላካለ (ይገለፅ)----------------	
3.16	በወርአበባወቅትገላሽንለመታጠብምንትጠቀሚያለሽ?	. 1. ሳሙናናዉሃ 2. ዉሃብቻ 3. ሌላካለ (ይገለፅ)--------------	
3.17	የንፅህናመጠበቂያየትታስወግጃለሽ?	1. ሜዳላይ 2. መፀዳጃቤት 3. የቆሻሻማጠራቀሚያ 4. ሌላካለ (ይገለፅ)-------------	
3.18	አጥበሽመልሰሽየምትጠቀሚዉንልብስበምንታጥቢያለሽ?	1. ሳሙናናዉሃ 2. ዉሃብቻ 3. ሌላካለ (ይገለፅ)--------------	
3.19	አጥበሽመልሰሽየምትጠቀሚዉንልብስየትታደርቂያለሽ?	1. ከቤትዉጪ 2. ቤትዉስጥ 3. የፀሀይብርሀንበሚያገኘዉቦታ 4.የፀሀይብርሀንበማይደርስበት 5. ከሌላልብስስር 6. ድብቅቦታ 6. ሌላካለ (ይገለፅ)---------------	

3.20	መልሰሽየምትጠቀሚዉንልብስየትታስቀምጫለሽ?	1. በፌስታልተለይቶ 2. ከሌሎችልብሶችጋር 3. መታጠቢያቤት 4. ሌላካለ (ይገለፅ) -----------------	

4.ደካማየወርአበባንጽህናአጠባበቅሊያስከትለዉየሚችላቸዉችግሮችንየተመለከቱመጠይቆች

4.1	ባለፈዉአንድወርዉስጥስንትቀንከትምህርትቤትቀርተሻል	------------------------	
4.2	በወርአበባምክንያትበወርዉስጥስንትቀንከትምህርትቤትቀርተሻል?	------------------------	
4.3	የወርአበባሽቤትእንድትቀመጪእድርጎሽያውቃል ?	1. አዎ 2. አያውቅም	
በወርአበባሽምክንያትቤት/ትቤትየምትቀሪዉ/ :(ከ4.4 - 4.13)			
4.4	ልብስሽስለሚበላሽ	1.አዎ 2. አይደለም	
4.5	ስለምታፍሪ	1. አዎ 2. አይደለም	
4.6	ስለሚያመኝ	1. አዎ 2. አይደለም	
4.7	ምቾትስለማይሰማሽ	1. አዎ 2. አይደለም	
4.8	ትምህርትሽንበትኩረትመከታተልስለማትችይ	1. አዎ 2. አይደለም	
4.9	መጥፎጠረንስለሚፈጥርብሽ	1. አዎ 2. አይደለም	
4.10	መታጠቢያስለሌለ/ስለማይመች	1. አዎ 2. አይደለም	
4.11	የወርአበባንጽህናመጠበቂያማስወገጃስለሌለ	1. አዎ 2. አይደለም	
4.12	የንጽህናመጠበቂያስለሌለሽ	1. አዎ 2. አይደለም	
4.13	የንጽህናመጠበቂያመቀየሪያክፍልስለሌለ	1. አዎ 2. አይደለም	

4.14	ስለሚያሳክከኝ	1. አዎ 2. አይደለም	
4.15	ስለሚደብተኝ/ስለሚደብረኝ	1. አዎ 2. አይደለም	
4.16	ለጥያቄቁጥር 4.15 አዎከሆነመልስሽመደበቱየሚፈጠረዉመቼነዉ	የወርአበባሽከመምጣቱቀደምብሎ በወርአበባጊዜ ከወርአበባበኋላ	
4.17	መደበቱከምንየሚመጣይመስልሻል	ስለሁነቱማሰብ ስለመጥፎጠረንመሰብ ስለማሳከኩማሰብ ስለህመሙማሰብ በሆርሞንመዛባትምክንያት ሌላካለ(ይገለጽ)……	
4.18	ከወርአበባጋርየተያያዘኢንፌክሽንአጋጥሞሽያዉቃል;	1. አዎ 2. አይደለም	
4.19	ለጥያቄቁጥር 4.18 አዎከሆነመልስሽህክምናአግኝተሽነበር	1. አዎ 2. አይደለም	
4.20	ለጥያቄቁጥር 4.19 መልስሽአይደለምከሆነምክንያቱምንነበር	1. በአካባቢሽጤናተቋምስለሌለ 2. ስለማፍር 3. ገንዘብስለሌለኝ 4.ትኩረትስላልሰጠሁት 5. ሌላካለ(ይገለጽ)…………..	

ቅጽል3 ሀ፡የመረጡተማሪዎችቡድንዉይይትመመሪያ

መግቢያ : እንደሚታወቀዉ የወር አበባበ በሴቶች ላይ ብቻ የሚከሰት ሲሆን :: ይሁን እንጂ በአግባቡ ካለተያዘ በሴቶች እህቶቻችን ላይ የጤናና የእድገት ችግር ይፈጥራል፡፡ የዚህ ዉይይት አላማም ተማሪዎች በወር አበባ ምንነት፤ ተያይዘዉ በሚመጡ ችግሮችና የንጽህና አጠባበቃችን ላይ እክል የሚሆኑ ጉዳዮች ላይ በመዎያየትለጥናቱጠቃሚግብዓትየሚሆኑመረጃዎችንመግነትነዉ፡፡ስለሆነምእንኳንበሰላምመጣችሁእያል ንወደዉይይጡእንገባለን፡፡ለዉይይታችንእንደመነሻየምንወስዳቸዉጥያቄዎችየሚከተሉትናቸዉ፡፡

1. የወርአበባምንድነዉ፣ከየትነዉየሚመጣዉ፤ለመፈጠሩምክንያቱምንድነዉ?
2. የወርአበባንመጥፎነዉ?ለምን?
3. ማህበረሰባችንየወርአበባንበተመለከተያለዉአመለካከትምንይመስላል?ምንስችግርያመጣል?
4. የወርአበባበተማሪዎችላይምንጉዳትሊያመጣይችላል?
5. ከወርአበባጋርተያይዞየሚመጡችግሮችንሊያስከትሉ/ሊያባብሱየሚችሉጉዳዮችምንድናቸዉ?
6. ከወርአበባጋርተያይዞየሚመጡችግሮችንእንደትመቀነስይቻል?
7. ትምህርትቤታችሁአንዲትየወርአበባለምታይተማሪምንጥሩነገርአለዉምንስጉድለትአለበት?
8. ከወርአበባጋርየተያያዘገጠመኝበራሱወይምበጓደኛዉላይየደረሰየሚያጋራንካለ?

በዉይይቱስለተሳተፋችሁእናመሰግናለን፡፡

ቅጽል3 ለ፡የተመረጡለባለድርሻአካላትቡድንዉይይትመመሪያ

መግቢያ:

በዚህዉይይትላይበመሳተፍለጥናቱጥሩግብዓትትሰጣላቹተብሎታስቦየተጠራቹአካላትእንኳንደህንመጣች። እንደሚታወቀዉየወርአበባበሴቶችላይየሚከሰትከመሆኑጋርተያይዞከሁነቱጋርየሚገናኙችግሮችበቅድሚያየ ሚጎዱትባለቤቶቹንቢሰሆንምችግሩወደቤተሰብማይድረስበትምክንያትየለም።የወርአበባንጽህናአጠባበቅን ትግበራንለመሳለጥብዙባለድርሻአካለትተሳትፎአስፈላጊነዉ።ስለሆንምእዚህዉይይትላይየምትሳተፉአካላት እንደአንድባለድርሻቀጥሎበተጠቀሱትጥያቄዎችላይሃሳብእንለዋወጣለን።

1. በጉዳዩላይሃላፊነትአለብኝብለዉያስባሉአለብኝባለዉካሰቡእንደአንድባለድርሻየእርሶ/የመጡበትሴ ክትርሃለሰፊነትምንድነዉ
2. በዚህጉዳይላይእንደሴክተርየተሰራስራብለዉየሚያስቡትነገርአለካለእንድትይገመግሙታል
3. የወርአበባንጽህናአጠባበቅንበተመለከተእንደአንድባለድርሻያጋጠመችግርካለ
4. ያጋጠሙችግሮችምንጫቸዉምንድነዉ?

   የወርአበባንጽህናአጠባበቅንለማሻሻልየሚረዱስትራቴጅአላችሁ ?

በዉይይቱ ስለተሳተፋችሁ እናመሰግናለን።

ቅጽ4፡የመስክምልከታመመሪያ

መስክምልከታዉያስፈለገዉበመጠይቅናበዉይይትያልተደረሰባቸዉንየአካባቢጤናአጠባበቅችግሮችንለማ

ወቅሲሆንየመስክምልከታዉየሚያጠቃልለዉየተማሪዎችመጸዳጃቤትን፡የቆሻሻአወጋገድን፤የዉሃአቅርቦትን

እናየመቀየሪያክፍልንይሆናል፡፡

1.ከመጸዳጃበቤትጋርተያይዞ

1.1 የመጸዳጃቤቱቀዳዳብዛት

1.2 በርያለዉ/የሌለዉመሆኑን

1.3 የንጽህናዉንሁኔታ

1.4 የዉሃአቅርቦትመኖሩን

1.5 የሴትናየወንድመለየቱን

2. ከዉሃአቅርቦትጋርተያይዞ

2.1 የዉሃአቅርቦት1 አለ2 የለም

2.2 መጠባበቂያ1 አለ2 የለም

2.3 የመጠባበቂያመጠን…………………..

2.4 የዉሃምንጩ……………

3. በመጨረሻምለተማሪዎችየንጽህናመጠበቂያመቀየሪያክፍል

1. አለ2. የለም

3.1 ምቾትማረጋገጥ (ስፋት፣በር፤ንጽህና) ምቹምቹአይደለም

4. ከቆሻሻአወጋገድጋርተያይዞ

4.1 የወርአበባንጽህናመጠበቂያቁሶችማስዎገጃ1. አለ2. የለም

4.2 የማስወገጃአይነት

4.3 ምቾት(ከርቀት፤ከአቀማመጥ)