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KNOWLEDGE, PRACTICE AND ASSOCIATED FACTORS WITH MENSTRUAL HYGIENE MANAGEMENT AMONG MEKDELA SECONDARY SCHOOL GIRLS, AMHARA REGION, NORTHEAST ETHIOPIA, 2020

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A RESEARCH THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY, COLLEGE OF HEALTH SCIENCES, SCHOOL OF NURSING AND MIDWIFERY, DEPARTMENT OF MIDWIFERY; IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR DEGREE OF MASTER SCIENCES IN MATERNITY AND REPRODUCTIVE HEALTH NURSING.

JUNE, 2020

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THIS THESIS BY ZERU SHIKUR SHUMIE (BSc) IS ACCEPTED IN ITS PRESENT FORM BY BOARD OF EXAMINERS AS SATISFYING THESIS REQUIREMENT FOR THE DEGREE OF MASTERS IN MATERNITY AND REPRODUCTIVE HEALTH NURSING

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ABSTRACT

Background: Menstrual hygiene management is a neglected and silent issue especially among communities in which talking about menstrual hygiene, is taboo in their culture. Women in rural settings particularly in schools suffer from stigma and lack of services and facilities to help them cope with the physical and psychological pains they undergo during their menstrual periods.

Objective: To assess knowledge, practice, and associated factors with menstrual hygiene management among Mekdela secondary school girls, Amhara region, Northeast Ethiopia, 2020.

Method: School-based cross-sectional study was conducted among Mekdela secondary school girls. A total of 441 study participants were recruited. A stratified and simple random sampling technique was used to select study participants. Data was collected using a pretested structured self-administered questionnaire. Data were cleaned, coded, and entered into Epi-data version 4.6 Software, and then exported to Statistical package for social sciences version 25 for statistical analysis. Variables with a p-value<0.25 in the bivariate analysis were a candidate for multivariable logistic regression and those with a p-value<0.05 in the multivariable analysis were considered as having statistically significant association with the practice of menstrual hygiene.

Results: Out of 441 respondents, 286(64.9%) girls had good knowledge of menstrual hygiene management. After multivariate analysis, good knowledge of menstrual hygiene management was more among those girls whose their grade level (educational status of respondents) were grade 11 & 12 [AOR=2.23, 95% C.I (1.19-4.16), Pv, 0.012], and girls whose age of respondents were greater than or equal to 19 years [AOR=3.45, 95% C.I (1.78-6.69), Pv, 0.000]. On the other hand, 275(62.4%) have good menstrual hygiene practices. And also, knowledge of the respondents [AOR=1.73, 95% C.I (1.07-2.80)], Pv, 0.025), and parents having a private shower (access to WASH facilities) [AOR=2.04, 95% C.I 2.04(1.24-3.37)], Pv, 0.005) showed a significant association with their menstrual hygiene practice.

Conclusion: More than half of respondents had good knowledge and good practice of menstrual hygiene management. Majority of them were from the urban area of residence.

Recommendation: Although knowledge was better than practice, girls should be educated about the process, use of proper pads or absorbents, and its proper disposal.

Keywords: menstrual hygiene, sanitary napkin, menstruation, schoolgirl.

ABBREVIATIONS AND ACRONYMS

AOR	Adjusted Odds Ratios
COR	Crude Odds Ratio
CSA	Central Statistical Agency of Ethiopia
IRB	Institutional Review Board
MHM	Menstrual Hygiene Management
NGO	Non-Governmental Organization
PI	Principal Investigators
RTIs	Reproductive Tract Infections
SNV	Sanitary napkin vendor
SPSS	Statistical package for social sciences
SRS	Simple random sampling
UNICEF	United Nations International Children's Emergency Fund
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

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1 INTRODUCTION

1.1 Background

Menstruation is the periodic shedding of the inner lining of the uterus through the vagina along with blood under the control of the hormones of the hypothalamus-pituitary-ovarian axis (1). Globally, around 52% of the female population is of reproductive age. Women begin menstruation at an average age of 13 and continue menstruating till on average age 51. The menstrual cycle is frequently around 28 days but can fluctuate from 21 to 35 days. The menstrual bleeding averagely lasts between two and seven days, with some lighter flow and some heavier flow days. The cycle is often irregular for the first year or two after menstruation begins. Each cycle involves the release of an egg (ovulation), which moves into the uterus through the fallopian tubes. Menarche, or the onset of menstruation, is a landmark feature of female puberty and signals reproductive maturity (2–4).

Adolescence is a transitional phase of growth and development between childhood and adulthood that manifest among girls and boys between the age of 10 and 19 years. Early adolescence is a time of physical, intellectual, emotional, and social development during which physical and sexual maturation occurred. And it is the period under the influence of hormones when the child experiences physical and sexual changes and confront the questions like; self-concept and social relationship (3).

Menstrual hygiene management is the use of clean materials to absorb menstrual blood that can be changed secretly, safely, hygienically, and as often as needed during their menstruation. Managing menstruation is dealing with menstrual blood flow as well as in continuing regular activities like going to school, playing and dancing, doing routine activities (5).

Globally women's have their strategies to cope with menstruation with great variation from country to country, and within countries, depending on an individual's personal preferences, available resources, economic status, local traditions, and cultural beliefs and knowledge or education (6).

According to Indian society, menstruation is generally considered as unhygienic. Isolation of the menstruating girls and restrictions being imposed on them in the family have reinforced a negative attitude towards menstruation. The subject of menstruation is too often taboo and has many negative cultural attitudes associated with it (7). For Example, in Egypt because of cultural and religious beliefs, menstruation is not considered an appropriate topic of discussion that leads to a lack of accurate information for girls to manage their menstruation hygienically (8). Similarly in Ethiopia, most of the adolescent girls didn't discuss menstrual issues, due to fear, shame, taboos, religious reasons, and the fact that it is not customary to talk about it (9).

Due to the misconception associated with menstruation, most adolescents do not have adequate information about how to maintain hygiene during menstruation (10). For girls to live healthy, productive, and dignified lives, they must be able to manage menstrual bleeding effectively. This requires access to appropriate water, sanitation, and hygiene services, having somewhere private to change clothes or disposable sanitary pads, facilities to dispose of used cloths and pads, and access to information to understand the menstrual cycle and how to manage menstruation hygienically (11).

Schools, particularly those in developing countries, often completely lack drinking-water and sanitation and handwashing facilities; even, where such facilities exist, they are often inadequate in both quality and quantity. The available sanitation facilities in most secondary schools are poor in construction design and not convenient. Girls are more likely to be affected in different ways from inadequate water, sanitation, and hygiene conditions in schools, because of the lack of such facilities they cannot attend school during menstruation (12,13).

From the female reproductive cycle, menstruation is one of the signs of puberty that starts at the time of puberty when girls become sexually mature. It is a natural process in a women's life and needs special care from a physical and psychological point of view (14).

1.2 Statement of the problem

According to World Health Organization (WHO), globally, 2.3 billion people lack safely managed sanitation like, facilities for menstrual hygiene management Further, owing to high cost and ignorance, women and girls often use old rags, clothes or other unhygienic materials as menstrual absorbents, which may lead to ascending infections and many health problems (15).

United Nations International Children's Emergency Fund (UNICEF) estimates that 1 in 10 school-age African girls do not attend school during menstruation (16). Unavailability of sanitation facilities including menstrual hygiene facilities will influence the attendance of girls in school and the inability to have affordable sanitary napkins force the girls to use insanitary rag which is leading to the development of bad odor, reproductive tract infections (RTI) and skin problems. This leads to young girls being anxious, restless, and absent from school (17).
In Ethiopia, 17% of girls miss class due to menstruation with a roughly equal proportion of urban and rural girls missing school. The most common reasons for the missing class are pain/discomfort, fear of having an accident at school, embarrassment, and having nothing to manage their periods. The likelihood of absenteeism seemed to vary based on the girls' method for managing their periods (18).

Menstruation is not somewhat to be honored. It is surrounded by silence, shame and social taboos that are further showed in social practices that in many cultures restrict mobility, freedom, and access to normal activities and services. Menstruating women and girls are considered impure, unhygienic, and unfit for the public sphere. This perception is exacerbated by the lack of washing and bathing facilities, materials, and spaces that can help women and girls manage menstrual discharge with dignity and safety (19).

The unhygienic exercise of menstruation can raise the incidence of reproductive tract infection (RTI). Thus, the consequences of RTIs are severe and may result in a significant negative impact on a woman's health including pelvic inflammatory disease, dysmenorrhea (painful periods), and in severe cases infertility. Approximately every year 10 % of women worldwide are exposed to genital infections including bacterial vaginosis, urinary tract infections and 75 % of women

have a history of a genital infection (20). Women and girls in rural settings and schools suffer most from stigma and lack of services and facilities to help them cope with the physical and psychological pains they undergo during their menstrual periods (9). In Ethiopia, studies found that 25% of girls do not use any MHM products to manage their periods and isolate themselves during menstruation. And only 25% of schoolgirls had learned about menstruation and its hygienic management in school (21).

Different studies indicate that good menstrual hygiene is practiced among those girls whose mothers were literate, girls studying in more than grade 10 in school, older girls, having prior knowledge about menstruation before menarche, presence of proper sanitary latrine at home, exposure to advertisements regarding usage of sanitary napkins (22).

In Ethiopia various sectors the Ethiopian government, international donors, local NGOs, and social enterprises are making efforts to improve MHM. Though several NGOs have started to address the issue, there is no national-level policy direction or program focused on menstrual hygiene management (9).

Several schools do not support school girls or female teachers in handling menstrual hygiene with dignity. Insufficient water and sanitation facilities make managing menstruation very difficult, and poor sanitary safety materials can result in blood-stained clothes causing stress and embarrassment. Teachers and male members of staff, in particular, can be unaware of girls' desires, in some cases refusing to let them visit the latrine. As a consequence, girls have been reported to miss school during their menstrual periods or even drop out completely (7).

Menstrual hygiene is practiced differently following, social, educational, and economic status of the community. However, school environment, and family concern were not considered in the previous studies that are reviewed. Therefore, a study focusing on the influence of family concern and school environment on menstrual hygiene management must be required.

1.3 Significance of the study

Addressing menstrual hygiene management among adolescent girls has a multidimensional effect on sustainable development of a nation such as reduction of school absenteeism or school dropout, ensuring the quality of education, prevention of related RTIs, gender equality and women empowerment. And also, the study of this paper will be significant for the following reasons: -

- It will break the silence on menstrual hygiene management by creating awareness on the topic and the impact of it on women and girls, exploring and sharing lessons of the management aspects, and promoting the integration of menstrual health management in health and hygiene/life orientation strategies.

- It will discuss ways of supporting the sanitary campaign for women and girls, by informing the society of the need for females' access to appropriate, decent, affordable and quality health care, information, and related services.

- It will provide information that strengthens preventive programs that promote women's sanitary health.

And finally, the finding of this study will be helpful for school-related health policymakers in the understanding of the practice of menstrual hygiene and associated factors among Mekdela secondary school girls. The identified gaps and recommendations will also assist the policymakers, program planners, managers, donors, field workers as inputs to include the concept of menstrual hygiene management in the health care policy and education curriculum in the school.

2. LITERATURE REVIEW

According to UNICEF Water, Sanitation and Hygiene (WASH) in Schools manual needs of adolescent girls increasingly, evidence has shown that the absence of toilets or separate toilets in schools for girls is a major reason parents keep their daughters from attending school (5). Different studies on menstrual hygiene revealed that access to adequate information on menstruation and reproductive health can help girls and women in understanding their menstrual cycle and in practicing proper menstrual hygiene (23).

2.1 Knowledge about menstruation and its hygienic management

Menstrual hygiene management is defined as "when women and adolescent girls use clean material to absorb or collect menstrual blood and this material can be changed safely, privately as often as necessary for the duration of menstruation. MHM also includes using soap and water for washing the body as needed and having access to facilities to dispose of used menstrual management materials. For women and girls to live healthy, fruitful, and dignified lives, they must be able to manage menstrual bleeding effectively (24).

A mixed cross-sectional study conducted in Nepal supposed that about 92% of the participants had heard about menstruation before their menarche and identified that mothers (51%), sisters (41%), and friends (36%) are the main sources of information about menstruation before menarche. The result is fairly consistent with the source of information about menstrual hygiene and management. Only about one-fifth respondents mentioned that they learned about these issues from teachers (14).

A descriptive, cross-sectional study conducted in India suggests that 42% of the girls knew about menstruation before their onset of menarche, the main source of knowledge being mother and sister (45%). Also, about one-third of the population did not have the correct knowledge of the actual cause of menstruation and only 17.9% of the adolescent girls knew that uterus was the source of blood in menstruation. The majority (62.6%) of the girls used only cloth as their menstrual absorbent (22).

Another study conducted in India, Bangalore shows that 73.3 % of the students knew correctly that menstruation is a physiologic process and 57.9% had acquired knowledge regarding menstruation before attaining menarche, the main source of knowledge being a mother (55.1%), followed by friends (17.4%) and sister (14.2%). Also, (89.1%) knew that menstruation was a phenomenon unique only to females. 50.8% felt that the menstrual cycles have an important physiological role in females while the rest of them (45.7%) were undecided. A large proportion of the students thought that menstruation was a lifelong process (46.5%) while 31.8% said that it was not a lifelong process (25).

A quantitative cross-sectional study in Ghana supposed that every female adolescent student is aware of MHM, the first source of information on MHM is their mother (77.9%). Majority of them (91%) also receive information on MHM in school. The commonest menstrual hygiene materials known to the adolescents are the disposable menstrual pad and the cloth (80.7% each) and tampon (22%). Although less than half (49%) of them agree that menstruation is controlled by hormones, 65.8% confirm that older women experience menopause. And also, in this study about six-in-ten know that after menarche, they can become pregnant if they engage in unprotected sex. A little over half (52.7%) know that menstrual blood comes from the uterus and 73.3% know that menstruation is a normal biological process. Most of them (69.4% and 78.6%) rightly agree that menstruation is a sign of puberty and that normal menstruation occurs monthly respectively (26).

A study conducted in Nigeria suggests that the majority of the respondents (96.42%) had heard about menarche before menstruation and the main source of information was the respondents' mothers (41.83%) while friends and television also contributed. More than half of the respondents describe menstruation as a pathological process. About 38.93% said it is caused by hormones (27).

A mixed cross-sectional study was done in South Africa supposed that majority of girl learners participating in the study had prior knowledge about menstruation before their first menarche and the main source of information is that mothers (55.2 %), followed by sisters (14.1%), grandmother (12.1%), auntie (7%), and friends (6%) (28).

A study conducted in Nekemte town revealed that (60.9 %) of the respondents had good knowledge about menstruation and its hygienic management. Most of (76.9 %) of girls knew that menstruation was a physiological process, (9.7 %) of the girls believed that it was a curse from God. More than half of (62.9 %) knew that the cause of menstruation was a hormone, (60.9 %) of the respondents knew the origin of the menstrual blood was from the uterus. Most of them (79.3 %) knew about menstruation before attaining menstruation. The main source of information being (67.8), (57), (50.4), (35.1), (17.9) friends, mass media, teachers, mothers, and books respectively. More than half (63.6 %) knew that there was a foul smell during menstruation (29).

A mixed cross-sectional study conducted in North Wollo Habru Wereda shows that (51.36%) of participants had good knowledge about menstruation and its management, but there is a knowledge gap in specific areas, i.e., only (8.35%) and (23.05%) of them knew exactly as menstruation is due to hormones and the menstrual bleeding is from the uterus, respectively. (86.75%) had heard about menstruation before they had menarche; were the leading sources of information were sisters, 204 (42.68%), followed by mothers, 183 (38.28%), friends 141 (29.50%) and teachers, 64 (13.39%). Regarding knowledge about menstruation; 319 (57.89%) of them knew correctly that menstruation is a physiologic process. (5.4%) of them discussed within the family (their mothers and elderly sisters) about menstruation and its hygienic management (21).

2.2 Respondents hygienic practices during menstruation

A comparative cross-sectional study conducted in India, Mangalore found that only 56.55% (49.24% in rural and 65.17% in urban) of adolescent girls use absorbent material during menstruation (30). Another cross-sectional study among rural adolescent girls in India showed that 89.2 % of girls use sanitary pads as a menstrual absorbent and the remaining 7.2% and 3% uses fresh cloth and reusable cloth respectively (31).

An interventional study conducted in Bangladesh found that only 24% of girls use menstrual pad even after the health intervention with a 16% baseline. The remainder used poor quality

cloths dyed with toxic pigments, which might make them susceptible to uterine pain(32). A school-based cross-sectional study conducted in Iran showed that More than half of adolescents have moderate practice and 95.6% of the participants were using disposable pads during menstruation (33).

Another study revealed in Nepal suggested that only 40% of school adolescent girls have practiced good menstrual hygiene. Among these (30%, 76%) use factory-made sanitary pads followed by, homemade and reusable pads respectively(34). However, only 39% of them change their pad in every 4 –6-hour period. Majority (68%) of the respondents washed their hands after changing a sanitary napkin. A similar study conducted in Nigeria found that 93.8% of the school girls that have commenced menstruation use sanitary pads as absorbent during their menstruation. The remaining uses any available piece of cloths or rags that they discarded after use (23).

A quantitative exploratory and descriptive study done in Swaziland suggested that about 99.9 % of school girls use sanitary napkins to contain menstrual blood during menstruation this is because flush toilets were found to be the only type of sanitary facility used in all three schools (19). The major difficulty implicated in this finding is that toilet blockage problems are more likely to occur in the flush toilets in schools. The use of sanitary napkins also implies that used napkins are more likely to be disposed of in the general waste rubbish bins in the school's premises if a proper and effective management program of such waste is not put in place and implemented (19).

A descriptive cross-sectional study in South Africa also showed that the majority of adolescent girls use sanitary pads to manage their menstruation. But when there is a shortage of money to purchase a pad, they resorted to using newspapers, toilet paper, and old cloths (28). However, these methods of management are not only ineffective and uncomfortable but also may expose them to the risk of urogenital infections.

A cross-sectional study done in rural areas of Bangalore shows that personal practices and hygiene play a very important role during their monthly period. It was found that during

menstruation 34.7% of the study population use cloth, 44.1% use a sanitary pad, and 21.2% use both cloth and sanitary pad. The frequency of change during the time of menstruation revealed that 39.8% changed sanitary pad or cloth twice a day, 29.5% three times a day, and 21.7% once a day. 43.2% of girls use only water and 88.8% of the girls took a bath every day during menstruation (25).

A quantitative survey in rural Uganda found that only 36% of schoolgirls use sanitary pads as their primary absorbent. The remaining most uses cloth. Half of those who use reusable absorbents hid them to dry after washing, most commonly under the bed. But No girls were found disposing at community rubbish heaps, burning or burying pads (35).

A cross-sectional study among school girls in Ethiopia, Addis Ababa shows that around 52 % of school adolescents utilize napkins and the rest one uses homemade cloth and underwear as menstrual soak-up during their mensuration. This study also evidenced that the prevalence of menstruation-related school absenteeism at least once in a month is 64.3%. The pain was the major reason for school absenteeism during menstruation (79.03%) followed by lack of washing facility at school (78.49%) and absence of a private place to change sanitary pad (48.12%)(36).

A school-based study in western Ethiopia also found that 60.1% of school adolescent girls have a poor practice on menstrual hygiene. Around 66.2 % of girls use commercial made sanitary pads as absorbent material during menstruation, but only 20.2 % of girls dispose of their used sanitary pads in the dustbin (29). A Similar study in Adama town shows that 43% of adolescent school girls have a poor level of menstrual hygiene practice (37).

A cross-sectional study in eastern Shoa zone Boset woreda revealed that 70.2% of girls have a good practice on menstrual hygiene management and 46.3% use commercially made disposable sanitary pad. While 33.0% of girls change their used pad three times and above per day, more than half of the girls was changed used pad only one times per day. On the other hand, 65.3% of adolescent girls throw used menstrual pads in the open field (38). A similar study in North Wollo zone Habru woreda shows that only 35.38% of students use sanitary napkins for hygienic management of their menstruation and the remaining one uses homemade cloth and underwear

as a menstrual soak-up. Most of the students who use soak-up other than sanitary napkins reuse the materials used before (21).

A school-based cross-sectional study conducted in the Amhara region North Shoa zone also found that all adolescents use menstrual absorbent during menstruation and from a total of 70.9% of them use commercially made sanitary pad, 26.01% homemade sanitary pad and 3.4% use underwear and sponge. It is also evidenced that 51.4% of girls dispose of used menstrual soaking materials in the toilet pan and 45(9.1%) throw used pad in the open field and only 37.4% of participants wash their genitalia twice per day (3).

Another study was done in this region Bahirdar town supposed that 83.4% of study participant use menstrual absorbent during menstruation and from whom (85.4%) use disposable sanitary materials, (8.8%) use reusable sanitary pads, (4.2%) use a disposable piece of rags and (1.5%) use paper/toilet paper/underwear. Although most of them wash their genitalia during menstruation, 52.6% use only water, and 47.4% use soap and water to wash their genitalia and only 71.3% take bath during menstruation (39).

2.3 Factors associated with knowledge of menstrual hygiene management

A cross-sectional study conducted in Ghana suggests that older adolescent female students had 2.616 times good knowledge about menstruation and menstrual hygiene [AOR= 2.616, 95% CI (1.708, 3.526)] than younger adolescent female students. Female adolescent girls who live with their both parents were 12.3 times having adequate knowledge of MHM [AOR 12.3, 95% CI, (4.143, 29.578)] than compared to those staying alone or with other relatives (26).

A school-based cross-sectional study done in Nekemte town, Oromia region showed that girls whose mother's educational status secondary school and above were 1.51 times [AOR = 1.51, 95 % CI: 1.03–2.22] more likely had good knowledge about menstruation and menstrual hygiene than their counterparts. Girls from families with radio and/or TV were 2.42 times [AOR = 2.42, 95 % CI: 1.64 – 3.56] more likely to have good knowledge about menstruation and menstrual hygiene when compared to those who had no radio/ TV (29).

Another study done in this region in Boset woreda suggested that grade eleven students were 1.5 times [AOR=1.5, 95% C.I (3.7-6.8), PV] more likely to know about menstruation and menstrual hygiene than their counterparts who were in grade nine. On the other hand, students who were living in rural areas were 0.41 times [AOR=0.41, 95% C.I (0.22-0.76)] less likely to know about menstruation and menstrual hygiene than their counterparts who were living in urban (38).

Also, girls from mothers educated from grades 7-12 were 3.13 times [AOR=3.13, 95% CI (1.32-7.37)] more likely to know about menstruation and menstrual hygiene than their counterparts whose were from uneducated mother. On the other hand, girls whose mothers educated diploma and above were 5.94 times [AOR=5.94, 95% CI (1.47-23.95)] more likely know about menstruation and menstrual hygiene than their counterparts. In addition to this, the educational status of senior sisters is also one of the predictors for the girl's knowledge about menstruation and its hygienic management under multivariate analysis. i.e. Girls who have sister educated from grade 1-6, 7-12, diploma and above were respectively 2.96, 6.9 and 11.96 times more likely to know about menstruation and menstrual hygiene than their counterparts whose senior sisters were uneducated [AOR= 2.96, 95% CI: (1.35-6.75)], [AOR= 6.9, 95% CI: (3.32-14.4)] and [AOR= 11.96, 95% CI: (5.53-25.65)] (38).

A school-based cross-sectional study conducted in Addis Ababa supposed that the odds of good knowledge about menstruation and its hygienic management were 31.493 times higher for respondents' mother education collage and above compared to the illiterate (AOR=31.493%, 95% CI: 13.959-71.053). Girls from good income families were 3.199 times [AOR = 3.199, 95 % CI: 1.082-9.454] more likely to have good knowledge about menstruation and menstrual hygiene when compared to those from poor income. Also, girls whose mother's education college and above were 6.101 times [AOR, 95% CI: 1.779-20.919] more likely to have good knowledge about menstruation and menstrual hygiene than their counterparts. Respondents whose mothers from government employees were 10.555 times [AOR = 10.555, 95 % CI: 2.047-54.411] strongly associated with good knowledge about menstruation and menstrual hygiene than their counterparts (36).

Also, odds of good knowledge about menstrual hygiene management among those who learn about menstrual hygiene at school, discuss menstrual hygiene with their parents, heard about

menstruation before attaining menarche were [AOR= 3.110 (95% CI: 1.569-6.162)], [AOR= 10.89 (95% CI: 5.39-21.98)], [AOR= 5.03 (95% CI: 2.21-11.48)] times higher than their counterparts respectively (36).

2.4 Factors associated with menstrual hygiene practice

Several traditional norms and beliefs, socio-cultural conditions can and do influence the practices related to menstruation and its hygienic management. For example, in some cultures, girls are told that during their menstrual cycle they should not bathe (or they will become infertile), touch a cow (or it will become infertile), look in a mirror (or it will lose its brightness) or touch a plant (or it will die) (40).

According to a comparative cross-sectional study in India, there is a statistically significant difference in the utilization of sanitary pads between urban and rural area residents with 49.24% in rural and 65.17% in the urban area. There is also a significant difference in frequency of change sanitary pads as 80.35% of girls in urban schools change their pad every 8 hours and only 25% in the case of rural girls(30). Another study in India found a significant association between the age group and type of absorbent they use (31).

The study conducted in Iran among school girls revealed that being in second class, having a father with elementary education or illiterate, living in undesirable economic status, having peer group and friends as the source of main information, having insufficient information about puberty have a negative relationship with practice, while there is a positive relationship between age at menarche and practice (33).

A cross-sectional study was done in India supposed that the practice of good menstrual hygiene management was 1.6 times higher among students who know about RTIs/ STIs [AOR =1.6,95% CI: (1.5-1.6)] than those students who had poor knowledge (41).

A study done in Uganda revealed that menstruation is a taboo, shameful, and embarrassing issue. It is manifested by girls' nervous laughs, avoidance of eye contact, and the fact that they often turned their faces towards the floor when speaking drew attention to the fact that menstruation

is a shameful and embarrassing experience and the topic of conversation, even in a private, confidential, female-only environment (35).

A study done in Addis Ababa found that the practice of good menstrual hygiene management is 2.47 times higher among students who Learn about menstrual hygiene in the school [AOR=2.47; 95% C.I (1.52-4.01)] than those students who are not learned about menstrual hygiene in the school. And also, girls aged fifteen and above are 2.832 times more likely to have good practice than those aged less than fifteen [AOR=2.832; 95%CI= (1.62-4.97)]. Maternal education, paternal occupation and are the other factors identified in the study which have a statistically significant association with menstrual hygiene practice. Also, found that girls whose age at first menarche greater than thirteen are 2.572 times [AOR=2.572; 95% C.I=(1.409-4.694)] more likely to have good practice about menstrual hygiene compared to those who were less than thirteen years old (36).

Another study in the Amhara region Mehalmeda high school students revealed that the practice of good menstrual hygiene is 2.38 times higher among students who live in the urban [AOR=2.38; 95% CI, (1.137, 3.05)] than those living in the rural area. Those students whose source of information is teachers were 7.645 times higher [AOR=7.645;95% CI, (2.162, 27.032)] than students who received from mother. Students who have access to water were good menstrual hygiene practice [AOR=6.504: 95% CI, (2.082, 20.323)] than students who have no access for water (3).

A similar study in North Wollo zone Habru district supposed that adolescent girls who live in urban are 2.32 times [AOR=2.32; 95% C.I=(1.21 - 4.45)] more likely to have a good practice of menstrual hygiene than those who reside in a rural area (21).

The study done in Adama Town found that money source to buy sanitary materials and feeling the school as uncomfortable are significant predictors of good menstrual hygiene practice for school adolescent girls. Accordingly, the practice of good menstrual hygiene among students who don't feel the school is comfortable is lower by 43.3% compared to students who felt school is comfortable [AOR=0.557; 95%CI= (0.366-0.846)]. students whose source of money is their

parents are 2.3 times more likely to have a good menstrual hygiene practice as compared to those earned by themselves [AOR=2.267; 95% (CI=1.076, 4.772)]. Regarding mothers' educational status, students whose mothers attended secondary and above levels of education are 39.2% less likely to had good menstrual hygiene practice than students whose mother attended below and primary level of education [AOR=0.608; 95% CI=(0.374-0.990)] (37).

Another school-based cross-sectional study in Bahirdar town found that the practice of good menstrual hygiene is 2.708 times higher among students who live in the urban [AOR=2.708; 95% CI, (1.712, 4.285)] than students who live in the rural area, 1.553 times higher among students who had had access for water [AOR=1.553; 95% CI, (0.309, 0.989)] than students who had had no access for water and 2.493 times higher among students who had heard about sanitary materials [AOR=2.493; 95% CI, (1.478,4.207)] than who had not heard (39).

Based on the literature reviewed menstrual hygiene management is practiced differently following, social, educational, and economic status of the community. But, culture, school environment, and religious affiliation were not considered in the previous studies that are reviewed. It is, therefore, important that a study focusing on the influence of culture, religious affiliation, and school environment on menstrual hygiene management is required.

2.5. Conceptual framework

The following graphical frameworks of the study will show the interaction of different independent variables with outcome variable that contains socio-demographic factors, another related factor, family-related variables, school facility / environmental-related factors those affects knowledge and practice of menstrual hygiene management which is developed after a review of different kinds of literature. (29,36,38,39)

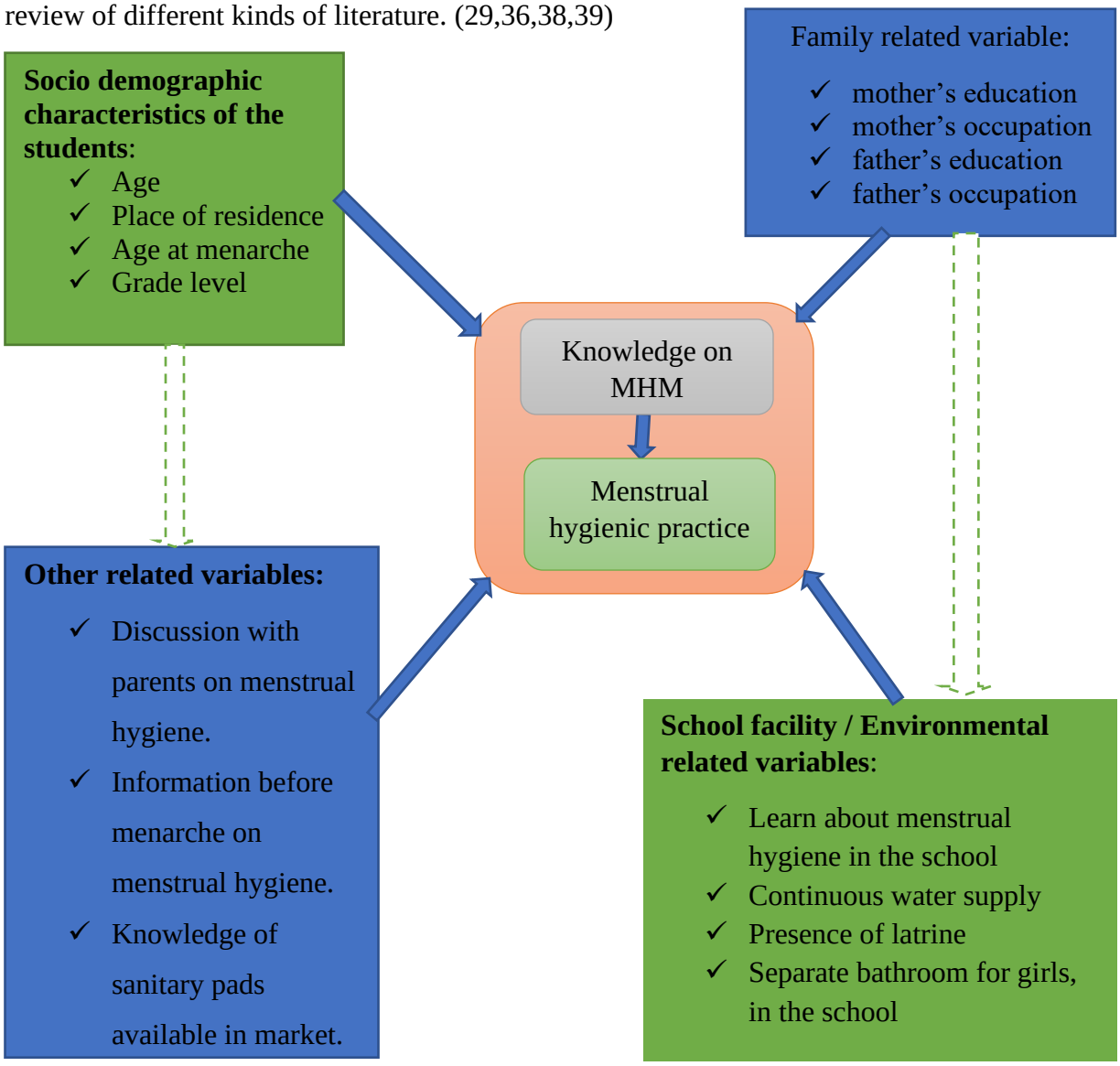

Figure 1: -Conceptual framework of knowledge, practice, and associated factors with menstrual hygiene management among Mekdela secondary school girls, Amhara region, northeast Ethiopia, 2020 Source: Developed by the principal investigator after reviewing different kinds of literature (29,36,38,39).

3. OBJECTIVE

3.1. General objective

- To assess Knowledge, Practice and associated factors with menstrual hygiene management among Mekdela secondary school girls, Amhara region, Northeast Ethiopia, 2020

3.2. Specific objectives

- To measure knowledge level about menstrual hygiene management among Mekdela secondary school girls, Amhara region, Northeast Ethiopia, 2020.
- To identify factors associated with knowledge of menstrual hygiene management among Mekdela secondary school girls, Amhara region, Northeast Ethiopia, 2020.
- To determine menstrual hygiene practice among Mekdela secondary school girls, Amhara region, Northeast Ethiopia, 2020.
- To identify factors associated with menstrual hygiene practice among Mekdela secondary school girls, Amhara region, Northeast Ethiopia, 2020.

4. METHODS AND MATERIAL

4.1 Study area and period

The study was employed in Mekdela district which is one of the districts in the South Wollo zone, and its capital city is Masha located 553 km away from Addis Ababa, 635 km from Bahirdar and 152 km from Dessie. Based on the 2007 national census conducted by the Central Statistical Agency of Ethiopia (CSA), this district has a total population of 142,654, of whom 69,626 are men and 73,028 women; 5,115 or 3.59% are urban and 137,539 or 96.41% rural inhabitants. The location of the woreda has a latitude and longitude of 11°30′N and 38°45′E with an elevation of 2800 meters above sea level. The woreda is administratively divided into twenty-nine kebeles. The woreda has one primary hospital, 10 health centers, and seven private clinics. There is 1 high school and 1 preparatory school in the District. Mekdela secondary school is established in 2003 G/c which are the only secondary and preparatory school in the Mekdela district, currently, the school has a total of 1707 female students from grade 9^{th} to grade 12^{th}. The study period was from March 05 to March 15, 2020.

4.2 Study design

- An institution-based cross-sectional study was employed.

4.3 populations

4.3.1 Source population

- All-female students who have attended their education in secondary schools in Mekdela district.

4.3.2 Study population

All-female students who were selected from the source population and who meet the inclusion criteria.

4.4 Inclusion and Exclusion criteria

4.4.1 Inclusion criteria

- All-female students from grade 9^{th} to 12^{th} who have attended their education at least one semester in the school were included.

4.4.2 Exclusion criteria

- All-female students who have seriously ill & observable psychiatric problem was excluded.

4.5 Sample size and sampling procedure

4.5.1 Sample size determination

The sample size is calculated using single population proportion formula and STAT CALC with the following assumptions: - A 95 % confidence interval, 5% margin of error and 51.36 % female adolescent students had good knowledge about menstruation and its management from the previous study conducted in Habru district (21), considering 10% non-response rate the calculated sample size is 422.

$$N = \frac{(Z_{\alpha/2})^2 \times P(1-P)}{d^2}$$

where: -

n = sample size

P = percentage from the previous study

d = desired degree of precision

Z= is the standard normal value at the level of confidence desired, usually at a 95% confidence level.

Table 1: - Sample size calculation for associated factors or variables by STAT CALC of epi-info version 7.2.3.1 as follows.

S. N	Associated factor/variable	%outcome in the unexposed group	The ratio of unexposed to exposed	AoR	Power %	CI %	Calculated sample size (n)	reference
1	Learn about menstrual hygiene in the school	37.2	1.04	2.47	80	95	175	(36)
2	Heard about sanitary pads	68.75	0.21	2.49	80	95	401	(39)
3	Residence	74.75	0.45	2.71	80	95	286	

Therefore, the final sample size was calculated by adding a 10% non-response rate, **401+ 40** = **441** of study participants were included in the study.

4.5.2 Sampling procedures

The study was conducted in Mekdela secondary and preparatory school. A stratified sampling technique was used to allocate female students by their grade level (year of study) because the students have heterogeneous by their grade level or knowledge and age of maturity. Four strata will be formed. Strata A (all grade 9^{th} female students), Strata B (all grade 10^{th} female students), Strata C (all grade 11^{th} female students), and Strata D (all grade 12^{th} female students). Each stratum has sections. From each stratum, sections will be selected proportionally by the lottery method. That is 6 sections from 20, grade-9^{th} sections, 5 sections from 18, grade-10^{th} sections, 3 sections from 10, grade-11^{th} sections, 2 sections from 6, grade-12^{th} sections. Finally, from selected sections, a proportional number of female students were allocated. Then, a simple random technique was used to recruit the desired samples by using the student list as a sampling frame.

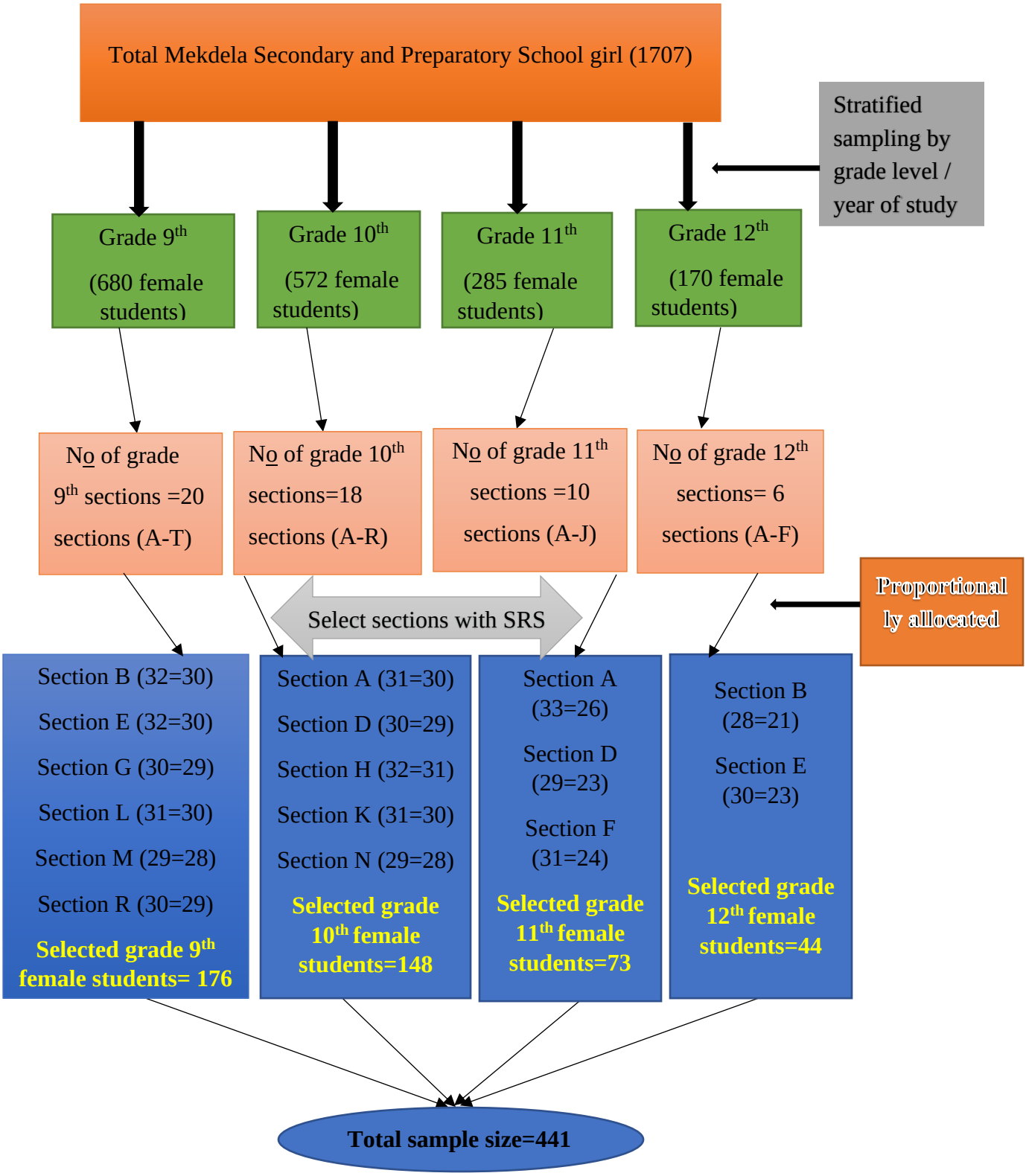

Figure 2: -Schematic presentation of the sampling procedure

4.6 Data collection procedure

4.6.1 Instrument

Data were collected by using pretested structured self-administered Amharic version questionnaires adapted from a review of related literature in Amharic and English version(29,36,39). It consists of four sections (socio-demographic information/ economic/ family-related, knowledge about menstrual hygiene management related, menstrual hygiene practice-related, and school or environmental related questions).

4.6.2 Data collection technique

Self-administered questionnaires were distributed to the students by four trained female midwives with experience on data collection, and the data was collected in classrooms and two female teachers were facilitated the orientation and dissemination of the questionnaire. Finally, the filled questionnaires were checked for completeness and consistency of the data by the data collector's supervisors and principal investigators.

4.7 Variables

4.7.1 Dependent variables

- Knowledge and practice of MHM.

4.7.2 Independent variables

- Socio-demographic and family-related variables;
    - ✓ Age
    - ✓ Grade level
    - ✓ Place of residence
    - ✓ Age at menarche

- ✓ Religion
- ✓ Parent's education
- ✓ Parent's occupation
- ✓ Monthly income

- Suitability of the school environment for girls during menses:

  - ✓ Presence of latrine facility
  - ✓ Continuous water supply
  - ✓ Learn about menstrual hygiene in the school
  - ✓ Separate bathroom for girls,
  - ✓ Privacy to manage period at school

- Other-related Variables including:

  - ✓ Discussion with parents on menstrual hygiene.
  - ✓ Information before menarche on menstrual hygiene.
  - ✓ Knowledge of sanitary pads available in the market.

4.8 Operational definition and definition of terms

Menstrual hygiene management: - the practice of secondary school girls using clean materials to absorb or collect menstrual blood that can be changed privately, safely, hygienically, and as often as necessary for the duration of the menstruation period, using soap and water for washing the body as required, and having access to facilities to dispose of used menstrual management materials(36).

The students' practice will be scored using a scoring system adapted from a past study(39). Each correct response under practice-related questions was attracted one point, whereas any wrong or don't know the answer was attracted no (0) mark. The measurement of the practice of menstrual hygiene focuses on the use of material during menstruation (assign 1 point for use of the sanitary pad, 0 other sanitary materials), materials used for cleaning purpose (1 for washing with soap and water or with plain water, and 0 for not washing), for taking shower (1 for >2 times /day, 0

for <=2 times/ day). Correct responses for the other questions under practice will attract one (1) point each and the wrong answers will attract no mark. This will give a total score of fourteen (14) points for practice (39).

Good knowledge of MHM: - The level of student's knowledge about MHM was measured by 8 items. Of the eight items measuring the knowledge level of the student about the MHM score ranges from (0-8) with the mean and standard deviation of (M=5.33, SD=1.90) respectively. Those who scored greater than or equal to the mean value (5.33) were considered as having good knowledge i.e. respondents who scored 5-8 points from 8 knowledge questions were declared as having good knowledge(39).

Poor knowledge of MHM: - Those who scored less than the mean value(5.34) was considered to have poor knowledge i.e. respondents who scored 0-4 points from 8 knowledge questions were declared as having poor knowledge(39).

Good practice of MHM: - The level of student's menstrual hygiene practice was measured by 11 items. Of the eleven items measuring menstrual hygiene practice of the students were scored ranges from (3-11) with the mean and standard deviation of (M=6.34, SD=1.98) respectively. Those who scored greater than or equal to the mean value(6.34) were considered as having good practice i.e. respondents who scored 6-11 points from 11 practice questions were declared as having good practice(39).

Poor practice of MHM: - Those who scored less than the mean value(6.34) was considered to have poor knowledge i.e. respondents who scored 0-5 points from 11 practice questions were declared as having poor practice(39).

Secondary school: - a high school or a senior high school which provides secondary education, intermediate between elementary school and college; usually grades 9 to 12 after primary school and before higher education(36).

Age at menarche: - the age of onset of menstruation, which is a physiologic process of female puberty and signals of reproductive maturity that occurs at an average age of 13 at a regular monthly interval(2).

Grade level: - the level of the educational program studied by the student from grade 9 to grade12.

4.9 Data analysis

The data will be cleaned, coded, and entered into Epi-data version 4.6 software, and then exported to Statistical package for social sciences (SPSS) version 25 for statistical analysis. The first descriptive summaries including frequency, proportions, and measures of the mean were carried out for both independent and dependent variables. The bivariate analysis was done to identify the association between the independent and the dependent variables. Those variables with a p-value<0.25 in the bivariate analysis were a candidate for multivariable logistic regression, and then those variables with a p-value<0.05 in the multivariable analysis were considered as having statistically significant association with menstrual hygiene practice.

4.10 Data quality management

The quality of data was assured at the maximum attainable level by using a structured questionnaire adapted after reviewing related kinds of literature and following the necessary procedures to get the intended results. To ensure the quality of data, the pre-test of data collection tools was done on schoolgirls in Addis Ababa Entoto Amba secondary school by taking 5% of the total sample size. Data collectors and supervisors have orientation one day before data collection. The questionnaire was checked for completeness and correctness daily by immediate supervisors.

4.11 Ethical consideration

The study was conducted after full approval and ethical clearance is obtained from Addis Ababa University, College of Health Sciences, School of Nursing and Midwifery, Department of Midwifery. Written requests to conduct the study were made to the Mekdela district education office and the permission to conduct the study was granted by Mekdela secondary and

preparatory school. School directors and directresses were briefed on the objectives of the study and permission to conduct the study were obtained from participating schools.

The consent form was written in Amharic and English. The researcher ensured that participants understood the information about the study. Participation in this study is voluntary; the participants can also withdraw at any time from the study if they feel uncomfortable. Refusal to participate was not affected by any of the teaching-learning processes in any way. Those participants whose age is <18 years and >/=18 years were provided assent and informed verbal consent respectively. Written informed consent was obtained from the parents of those participants whose age is <18 years by sending the information sheet and consent form to ask their parent's consent before data collection.

By participating in this study and answering these questions, you will not receive any direct benefit. However, the information will help the researcher to understand factors influencing the practice of menstrual hygiene management among Mekdela secondary school girls to appropriately identify future interventions related to the problem to be found. Your participation in this study will not involve any risks. If a question makes you feel uncomfortable, you may choose not to answer

To ensure that the participants' rights to anonymity and confidentiality are protected, the researcher taken the following measures: The participants were assured that all of the information given by them would be treated in strict confidence and would only be used for the study; The researcher was made sure that the collected raw data was kept safe and confidential, locked up in a secure place and the files were password-protected, and names of the participants were not written in study records and data was reported in a manner that doesn't identify or link the participants with the information. Confidentiality was assured by using codes rather than names.

4.12 Dissemination of results

The finding of this research will be presented and submitted to Addis Ababa University, College of health science, School of Nursing and Midwifery, Department of Midwifery. The results will also be disseminated to the respective secondary schools. The effort will be made to present it in different seminars, research conferences, and workshops. Finally, it will be published in international health journal

5: RESULTS

5.1 Socio-demographic characteristics of the study population

A total of 441 female secondary school girls were participated in this study, with a response rate of 100%. Among the total respondents, 176 (39.9), 148 (33.6%), 73 (16.6%) and, 44 (10.0%) were grade nine, ten, eleven, and twelve respectively, and half of them 225 (51%) came from the urban area. The mean age of the study participants was 17.72 with SD $\pm$ 1.487 years, while their age range between 15-23 years. The mean age of menarche of the respondents was 13.92 with SD $\pm$ 0.919 years.

More than half of the respondents 243 (55.1 %) were Muslim followers followed by 186 (42.2%) and 12 (2.7%) were orthodox and protestant followers respectively. One hundred seventy-eight (40.4%) and 145(32.9%) of the respondents' mothers and fathers had no formal education respectively. One hundred ninety-four (44.0 %) of the mothers of the respondents were housewives and 202 (45.8 %) of their fathers were farmers. Two hundred eighty-two (63.9%) of the respondent's parents have a private shower. Most of 323 (73.2 %) of the respondents get permanent pocket money from their families.

Table 2: Participants Socio-demographic, and family-related characteristics in Mekdela secondary school girls, Amhara Regional State, Northeast Ethiopia, 2020 (n=441)

Variable	Response category	N	%
Age of respondents	15-18	331	75.1%
	>/= 19	110	24.9%
Menarcheal age	12-14	318	72.1%
	>/= 15	123	27.9%
Grade	9-10	324	73.5%
	11-12	117	26.5%
Residence	Urban	225	51.0%
	Rural	216	49.0%
Religion	Orthodox	186	42.2%
	Muslim	243	55.1%
	protestant	12	2.7%
Marital status	Single	407	92.3%
	Married	34	7.7%
With whom do you live	Both parents	250	56.7%
	Mother only	55	12.5%
	relatives	35	7.9%
	Father only	38	8.6%
	Other (specify)	63	14.3%
Educational status of the father	No formal education	145	32.9%
	Primary	116	26.3%
	Secondary	86	19.5%
	College and above	94	21.3%
Educational status of a mother	No formal education	178	40.4%
	Primary	152	34.5%
	Secondary	75	17.0%
	College and above	36	8.2%
Occupation of father	farmer	202	45.8%
	merchant	88	20.0%
	government employee	81	18.4%
	private organization employee	16	3.6%
	daily laborer	35	7.9%
	driver	19	4.3%
Occupation of mother	Housewives	194	44.0%
	Farmer	92	20.9%
	Merchant	81	18.4%
	Private organization employee	13	2.9%
	Government employee	33	7.5%
	Daily laborer	28	6.3%
Parents provide money regularly	Yes	323	73.2%
	No	118	26.8%
Parents have a private shower	Yes	282	63.9%
	No	159	36.1%

5.2 Knowledge about menstrual hygiene management

The level of student's knowledge about menstrual hygiene management was measured by 8 items. Of the eight items measuring the knowledge level of the student about MHM score ranges from (0-8) with the mean and standard deviation of (M=5.33, SD=1.90) respectively. Only 3 students who scored 0 out of eight items. From the data obtained from the participants, 286 (64.9 %) of the respondents had good knowledge about MHM. From 441 study participants, 343 (77.8 %) of girls knew that menstruation was a physiological process, 210 (47.6 %) knew that the cause of menstruation was a hormone. More than half, 300 (68.0 %) of the respondents knew that uterus is the origin of the menstrual blood. 308 (69.8%) knew the normal menstrual bleeding duration was 2-7 days, 168 (38.1%) of girls knew the normal duration of the menstrual cycle was 20-35 days. 374 (84.8 %) knew that there was a foul smell during menstruation. The majority of the respondents 399 (90.5%) knew that the availability of sanitary pad in the market and 324 (73.5%) knew about reproductive tract infections or sexually transmitted infections. 201 (45.6%) of the respondents discussed menstrual issues with their parents and friends. More than half of the respondents, 306 (69.4 %) got information about menstruation before attaining menarche from their mothers, teachers, and mass media 160 (36.3%), 116 (26.3), 30 (6.8%) respectively.

Table 3: Respondents Overall Knowledge about menstrual hygiene management in Mekdela secondary school, Amhara regional state, Northeast Ethiopia, 2020 (n=441)

Variable	Response category	N	%
Menstruation is	Is a physiological process	343	77.8%
	Is a pathological process	19	4.3%
	I curse from god	47	10.7%
	I don't know	32	7.3%
Cause of menstruation	Hormone	210	47.6%
	Is caused by sin	43	9.8%
	It is a curse of God	84	19.0%
	Is caused by a disease	9	2.0%
	I don't know	95	21.5%
Source of menstrual bleeding	Uterus	300	68.0%
	Vagina	79	17.9%
	Abdomen	42	9.5%
	I don't know	20	4.5%
Normal menstrual bleeding duration	< 2 days	55	12.5%
	2-7 days	308	69.8%
	>7 days	45	10.2%
	I don't know	33	7.5%
Normal duration of the menstrual cycle	< 20 days	93	21.1%
	20-35 days	168	38.1%
	>35days	101	22.9%
	I don't know	79	17.9%
Menstruation is a lifelong process	Yes	151	34.2%
	No	290	65.8%
Menstrual blood is unhygienic	Yes	358	81.2%
	No	83	18.8%
Foul-smelling during menstruation	Yes	374	84.8%
	No	67	15.2%
Heard about menstruation before menarche	Yes	306	69.4%
	No	135	30.6%
Do you know about RTIs/ STIs	Yes	324	73.5%
	No	117	26.5%
Do you know sanitary pads in the market	Yes	399	90.5%
	No	42	9.5%
Discuss menstrual issues with your parents, friends?	Yes	201	45.6%
	No	240	54.4%
Level of knowledge about MHM	Good knowledge	286	64.9%
	Poor knowledge	155	35.1%

As one could see from fig. 3 below, when participants were asked about their source of information about menstruation and its hygienic management their leading source of information about menstruation were mother 160(36.3%) followed by teacher 116(26.3%) and mass media 30(6.8%)

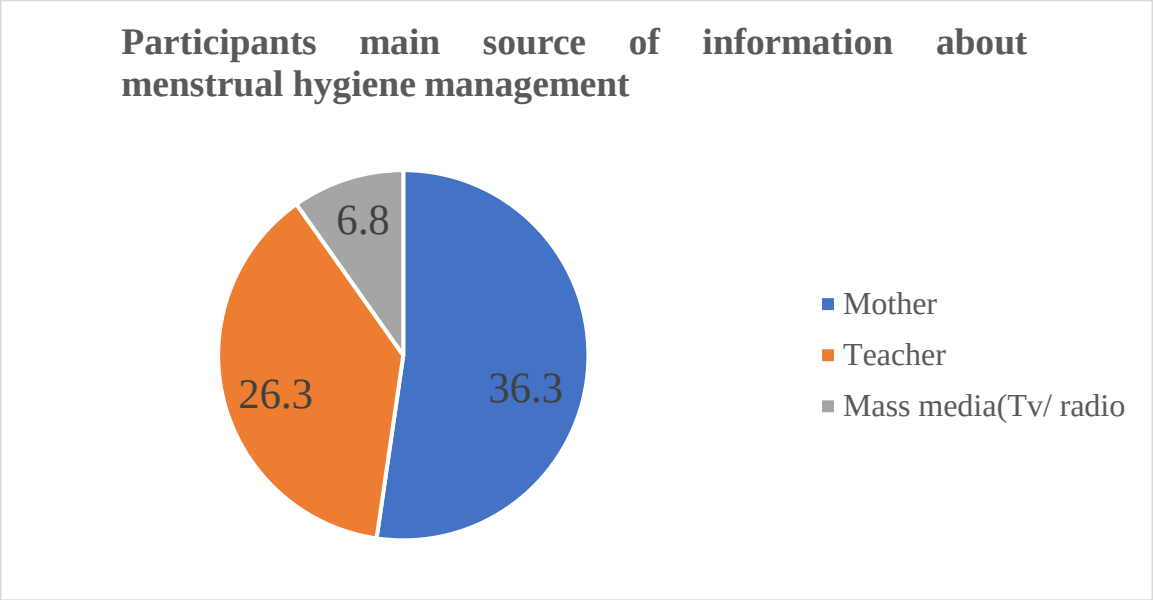

Figure 3: Respondent's main source of information about menstrual hygiene management in Mekdela secondary school, Amhara Region, Northeast, Ethiopia 2020.

5.3 Factors Affecting knowledge about Menstrual Hygiene management

The adjusted value in the multivariate analysis, some of the socio-demographic and other menstrual-related characteristics of the respondents were significantly associated with the outcome variable-knowledge about menstrual hygiene management.

Table 4 below showed that, the association between some of the socio-demographic and other menstrual-related characteristics of participants and overall knowledge about MHM. Under multivariate analysis respondent's age, grade, area of their residence, know sanitary pad in the market and learn about MHM in school showed significant association with that of their knowledge about MHM. Students whose age (>/= 19 years) were 3.45 times more likely to know about menstrual hygiene management than their counterparts who were 15-18 age groups **[AOR=3.45, 95% C.I (1.78-6.69), Pv, 0.000]**. On the other hand, students who grade eleven

and twelve were 2.23 times more likely to know about menstruation and its hygienic management than their counterparts **[AOR=2.23, 95% C.I (1.19-4.16), Pv, 0.012]** who were in grade nine and ten. In addition to this, students who were living in urban areas were 1.90 times more likely to know about menstrual hygiene management than their counterparts **[AOR=1.90, 95% C.I (1.12-3.23), Pv, 0.018]** who were living in rural. Girls who know sanitary pad in the market were 2.67 times more likely to know about menstruation and its hygienic management than their counterparts who don't know sanitary pad in the market **[AOR=2.67, 95% CI (1.19-6.00), Pv, 0.017]**. On the other hand, ever learned about MHM in the school is also one of the predictors for girl's knowledge about menstruation and menstrual hygiene under multivariate analysis. I.e. Girls who have learned about MHM in the school were 1.71 times more likely to know about menstruation and its hygienic management than their counterparts **[AOR=1.71, 95% CI (1.02-2.87), Pv, 0.041]** who have not learned about MHM in the school.

Table 4: Factors associated with knowledge on menstrual hygiene management of Mekdela secondary school girl students, Amhara region, Northeast Ethiopia 2020.

Variable	Response category	knowledge		COR(95% CI)	P.val	AOR (95%CI)	P.val
		Poor (N, %)	Good (N, %)				
Age	15-18	138(41.7%)	193(58.3%)	1		**1**	
	>/= 19	17(15.5%	93(84.5%)	3.91(2.23-6.86) *	0.000	**3.45(1.78-6.69) ****	0.000
Grade	9 & 10	136(42.0%)	188(58.0%)	1		**1**	
	11 & 12	19(16.2%)	98(83.8%)	3.73(2.18-6.39) *	0.000	**2.23(1.19-4.16) ****	0.012
Residence	Urban	59(26.2%)	166(73.8%)	2.25(1.51-3.34) *	0.000	**1.90(1.12-3.23) ****	**0.018**
	rural	96(44.4%)	120(55.6%)	1		1	
Discuss about menstruation with their parents, friends	yes	52(25.9%)	149(74.1%)	2.15(1.44-3.23) *	0.000	1.39(0.81-2.41)	0.240
	No	103(42.9%)	137(57.1%)	1		1	
Know sanitary pad in the market	yes	125(31.3%)	274(68.7%)	5.48(2.72-11.06) *	0.000	**2.67(1.19-6.00) ****	**0.017**
	No	30(71.4%)	12(28.6%)	1		1	
Learned about MHM in the school	yes	82(28.4%)	207(71.6%)	2.33(1.55-3.51) *	0.000	**1.71(1.02-2.87) ****	**0.041**
	No	73(48.0%)	79(52.0%)	1		1	
Parents have a private shower	Yes	80(28.4%)	202(71.6%)	2.25(1.50-3.38) *	0.000	1.41(0.85-2.35)	0.188
	No	75(47.2%)	84(52.8%)	1		1	

NB: Significant at *P-value<0.25, **P-value<0.05

5.4 Practice towards menstrual hygiene management

The level of student's menstrual hygiene practice was measured by 11 items. Of the eleven items measuring menstrual hygiene practice of the students were scored ranges from (3-11) with the mean and standard deviation of (M=6.34, SD=1.98) respectively. Only 2 students scored 11 out of eleven items. According to the data obtained from the respondents, 275(62.4 %) of the respondents had good menstrual hygiene practice. From 441 study participants, 241(54.6%) used commercially made disposable sanitary pad though 86(19.5%), 85(19.3%) used reusable sanitary pads, and disposable pieces of rags respectively. Fifty-eight of the girls (13.2%) changed used pad only once per day whereas 19(4.3%) changed three times and above per day. One hundred seventy-one (38.8%) wash their genitalia with only water. The majority of the respondents, 261(59.2%) do not take a bath at all during the menstrual episode. however, there is a frequency gap taking a bath or washing the genitalia area. As a result, 331(75.1) of the respondents wash their reusable sanitary pad with soap and water.

Nearly half of the respondents 200(45.6%) didn't use commercial made sanitary pads, the reason is 103(23.4) high cost, followed by 44(10%), 37(8.4), 16(3.6) lack of knowledge, unavailability around their and shyness respectively.

Table 5: Respondents Overall Knowledge about menstrual hygiene management in Mekdela secondary school, Amhara regional state, Northeast Ethiopia, 2020 (n=441)

Variable	Response category	N	%
Use sanitary material	yes	441	100.0%
Type of sanitary material used	Disposable sanitary pads	241	54.6%
	Disposable piece of rags	85	19.3%
	Reusable sanitary pads	86	19.5%
	Underwear	29	6.6%
Wash your genitalia during menstruation	yes	308	69.8%
	no	133	30.2%
What medium do you use	Only Water	171	38.8%
	Soap and water	138	31.3%
How often wash your genitalia per day	once	38	8.6%
	twice	168	38.1%
	thrice	67	15.2%
	>/= four times	36	8.2%
Take bath during menstruation	yes	180	40.8%
	no	261	59.2%
How often take bath during menstruation per day	<= Two times in a day	109	24.7%
	> Two times in a day	72	16.3%
Do you change your sanitary material	yes	308	69.8%
	no	133	30.2%
How often change absorbent material per day	once	58	13.2%
	twice	148	33.6%
	thrice	83	18.8%
	more than three times	19	4.3%
How do you dispose of menstrual materials	Open field	0	0.0%
	latrine	303	68.7%
	Put in the bin	138	31.3%
Where store your new or reusable absorbent	Drawers	17	3.9%
	Dress cabinet	105	23.8%
	Bathrooms	76	17.2%
	Store with routine cloth	239	54.2%
	I don't store it	4	0.9%
What materials used for Washing reusable cloth	With soap and water	331	75.1%
	With water only	110	24.9%
Where keep your reusable pads after washing for drying	In the shade outside	33	7.5%
	In the shade inside	129	29.3%
	In the sunlight inside	55	12.5%
	In the sunlight outside	52	11.8%
	hidden under other cloths	143	32.4%
	hidden elsewhere	29	6.6%
Level of Practice about MHM	Good practice	275	62.4%
	Poor practice	166	37.6%

As one could see from fig. 4 below, when participants were asked about the reason not to use commercially made disposable sanitary pads was 103(23.4%) high cost to buy disposable sanitary pads followed by lack of knowledge 44(10%), unavailability 37(8.4%), and shyness 16(3.6%).

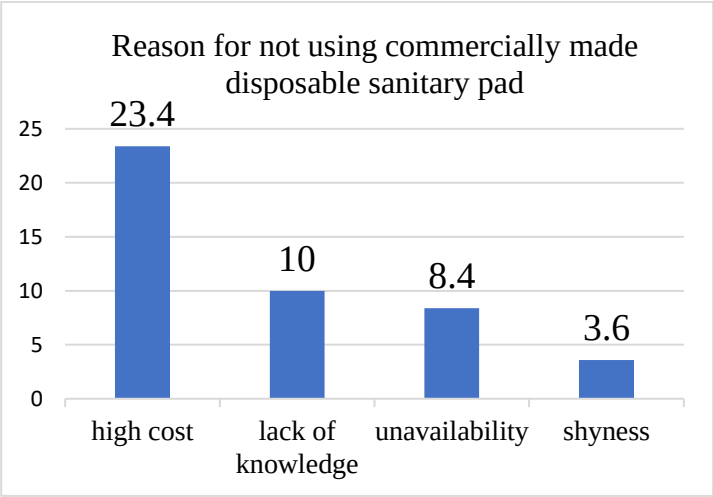

Figure 4: Figure Showing Mekdela secondary school girl's reasons for not using a sanitary pad, Amhara region, Northeast Ethiopia, 2020 (n = 441).

As one can see from fig. 5, during menstruation day's students didn't come to school, or even if they came, they didn't attend class attentively thinking of the sudden leakage or the pain associated with menstruation. This was 171(38.8%) due to fear of odor/being teased/ staining clothes, 114(25.9%) lack of water/place a convenient place to wash, 109(24.7%) unclean/no latrine to change pad, 106(24.0%) due to pain, 88(20%) no access to pads or cloths in school respectively.

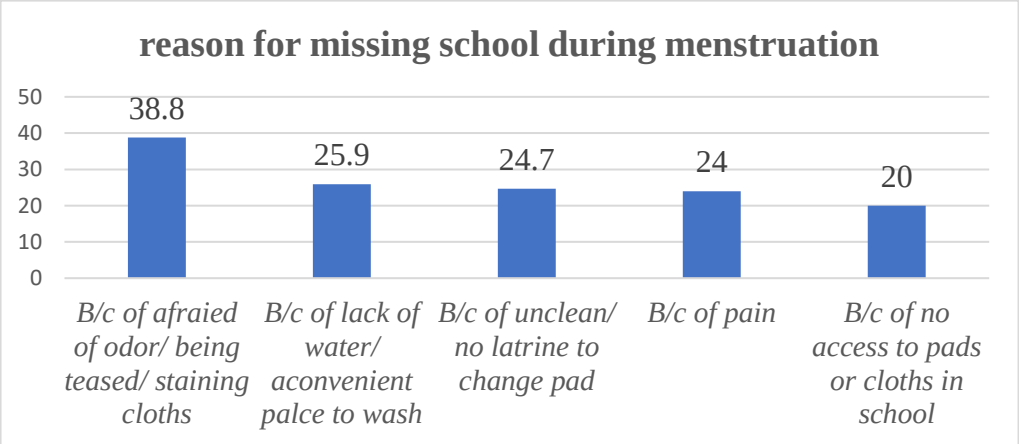

Figure 5: Figure Showing Mekdela secondary school girl's reasons for missing school during menstruation, Amhara region, Northeast Ethiopia, 2020 (n = 441).

5.5 Factors Affecting Menstrual Hygiene practice

The adjusted value in the multivariate analysis, some of the socio-demographic and other menstrual-related characteristics of the respondents were significantly associated with the outcome variable-practice of the menstrual hygiene management.

Table 6 below shows, the association between participant's overall characteristics and menstrual hygienic practice. Accordingly, respondent's area of residence, knowledge about MHM, parents having a private shower, knowing about RTIs / STIs shows statistically significant association with student's menstrual hygiene practice at 95% CI and 0.05 level of significance.

Students who had good knowledge about menstruation and its hygienic management were **1.73** times more likely to practice good menstrual hygiene than their counterparts **[AOR=1.73, 95% C.I (1.07-2.80), Pv, 0.025]**, who had poor knowledge about menstruation and its hygienic management. On the other hand, students who were living in urban areas were **3.76** times more likely to practice good menstrual hygiene than their counterparts who were living in rural **[AOR=3.76, 95% C.I (2.18-6.51), Pv, 0.000]**. Girls who know about RTIs / STIs were 2.46 times more likely to practice good menstrual hygiene than their counterparts who don't know about RTIs /STIs **[AOR=2.46, 95% CI (1.37-4.43), Pv, 0.003]**. In addition to this, students whose parents having private shower were 2.04 times more likely practiced menstrual hygiene than their counterparts whose parents are not having private shower **[AOR=2.04, 95% C.I (1.24-3.37), Pv, 0.005]**.

Table 6: Factors independently associated with menstrual hygiene practice of Mekdela secondary school girl students, Amhara region, Northeast Ethiopia 2020 (n=441)

variable	Response category	Practice		COR (95% CI)	P.val	AOR (95%CI)	P.val
		Poor (N, %)	Good (N, %)				
residence	urban	38(16.9%)	187(83.1%)	7.16(4.60-11.14) *	0.000	**3.76(2.18-6.51) ****	0.000
	rural	128(59.3%)	88(40.7%)	1		1	
Knowledge about MHM	Good	84(29.4%)	202(70.6%)	2.70(1.80-4.05) *	0.000	**1.73(1.07-2.80) ****	0.025
	Poor	82(52.9%)	73(47.1%)	1		**1**	1
Educational status of a mother	No formal education	90(50.6%)	88(49.4%)	0.12(0.04-0.36) *	0.000	0.79(0.24-2.64)	0.706
	Primary	59(38.8%)	93(61.2%)	0.20(0.07-0.59) *	0.003	0.84(0.26-2.72)	0.764
	Secondary	13(17.3%)	62(82.7%)	0.60(0.18-1.98) *	0.398	1.02(0.30-3.54)	0.974
	College and above	4(11.1%)	32(88.9%)	1		1	
Parents having a private shower	Yes	69(24.5%)	213(75.5%)	4.83(3.18-7.34) *	0.000	**2.04(1.24-3.37) ****	0.005
	No	97(61.0%)	62(39.0%)	1		1	
Heard about menstruation before menarche	Yes	92(30.0%)	214(70.0%)	2.82(1.86-4.28) *	0.000	1.03(0.55-1.93)	0.933
	No	74(54.8%)	61(45.2%)	1		1	
Knowing about RTIs/ STIs	Yes	91(28.1%)	233(71.9%)	4.57(2.91-7.16) *	0.000	**2.46(1.37-4.43) ****	0.003
	No	75(64.1%)	42(35.9%)	1		1	
Know sanitary pads in the market	Yes	136(34.1%)	263(65.9%)	4.84(2.40-9.74) *	0.000	1.70(0.73-3.94)	0.216
	No	30(71.4%)	12(28.6%)	1		1	
Discuss menstrual issue with their parents and friends	Yes	41(20.4%)	160(79.6%)	4.24(2.77-6.50) *	0.000	1.24(0.69-2.20)	0.476
	No	125(52.1%)	115(47.9%)	1		1	

NB: Significant at *P-value<0.25, **P-value<0.05

6: DISCUSSION

According to this study, the mean age of the respondents for the first time of menarche was 13.92 ± 0.919. This is consistent with the findings of the study conducted among Addis Ababa school girls (18). In this study, more than half of the respondents 286(64.9%) have knowledge about menstrual hygiene management. The finding is almost nearly similar to the result of the study done in west Ethiopia which showed that only 60.9% had good knowledge about menstruation and menstrual hygiene(29).

The majority of the girls, 306(69.4%) heard about menstruation before its onset, and mothers were the main source of information about menstruation for the students (36.3%), followed by their teacher (26.3%). This result is similar with the finding conducted in Boset district, East Shoa, Oromia region, where 72.8% of the participants had been informed about menarche before its onset and mother was the first person informed about menarche to her daughter (36.5%), followed by teachers (32.4%)(38).

Under the multivariate analysis of this study, students who were living in urban areas were 1.90 times more likely to know about menstruation and menstrual hygiene than their counterparts. This study agreed with the study conducted in Amhara regional state in Ethiopia that place of residence girls who living in urban 1.80 times more likely to know about menstruation and menstrual hygiene than their counterparts were one of independent predictors of knowledge about menstrual hygiene management(42). And also, the above result agreed with the study conducted with Boset district, Oromia region that area of residence girls who live in rural 0.41 times less likely to know about menstruation and menstrual hygiene than their counterparts(38). The reason could be that in an urban area it may access enough information about menstruation and menstrual hygiene to daughters. Girls from living in urban families may discuss openly sexual and reproductive health issues including menstruation.

This study further discovers that students who attended grades eleven and twelve were 2.23 times more likely to know about menstruation and menstrual hygiene than their counterparts who attended grade nine and ten. This result is in line with the finding conducted in Boset

district, Oromia region that girls with grade eleven 1.5 times more likely to know about menstrual hygiene management than that of girls with grade nine, And also this finding is different from the study done in Amhara regional state which didn't show a significant relationship between knowledge about menstrual hygiene with respondent's educational status(42). This might be because girls learn more about menstruation and its hygienic management as they advance in their school.

Only 241(54.6%) of the respondents use commercially made disposable sanitary pads. This is lower than the findings of the study done in west Ethiopia (29). On the other hand, 148(33.6%) of the girls changed used pad twice per day and 303(68.7%) of the respondents throw used pads in the latrine. This result is consistent with the finding conducted in Mehalmeda were 34.8% of girls changed pads at least twice a day while 51.4% of them throw used menstrual pads in the toilet pan(3). This similarity might be due to culture or economic status.

Of the total 441 respondents who participated in this study, 62.4% have a good practice of menstrual hygiene. This is lower than the finding of the study conducted in Mehalmeda students were 90.9% of the students had a good practice (3). This difference might be because Mehalmeda students had more access to WASH facilities (water supply and sanitation facilities) and get accurate menstrual hygiene management information, from their teachers, who are their primary source of information about menstrual hygiene management.

Consequently, more than half, 260(59.0%) of girls were absent from their class from 1 to 7 days per month during their menstrual period from the factors associated with their knowledge, practice towards MHM. This is mainly from 171(38.8%) due to fear of odor/being teased/ staining clothes, 114(25.9%) Lack of water/ a convenient place to WASH facilities, 109(24.7%) Unclean/ no latrine to change pad, 106(24.0%) due to pain, 88(20%) No access to sanitary pads or cloths in the school.

According to the findings of cross-sectional studies employed in the Amhara region 70.9% and west Ethiopia, 66.2% of study participants use commercially made disposable sanitary pads (3,29). These results were greater than the current study in which only 241(54.6%) of the

respondents used commercially made sanitary pads while 85(19.3%) used a disposable piece of rags. This difference might be due to students in the current study areas were unavailability of disposable sanitary pads, lack of knowledge, shyness or couldn't afford it. According to the finding of this study, Knowledge about MHM and parents having a private shower (access to WASH facilities) were predictors of the student's menstrual hygiene practice.

Students who had good knowledge about MHM were 1.73 times more likely practiced good menstrual hygiene than their counterpart's and those whose parents had a private shower (accessed to WASH facilities) were 2.04 times more likely practiced good menstrual hygiene management than their counterparts, This was in line to the finding of the study employed in Amhara regional state which found that students who have access for water had good menstrual hygiene practice than those who didn't have access for water (3). The practice of menstrual hygiene management has a significant association with the area of residence of respondents. This could be due to girls who live in urban areas may get more information about menstrual hygiene, and access to sanitary pads.

7. STRENGTH AND LIMITATION OF THE STUDY

7.1 Strength of the study

- Data were collected from primary sources
- Data collectors had exposure before this time i.e. well experienced
- Data collection method was employed 100 percent response rate

7.2 Limitations of the study

- Because of the cross-sectional nature of the study, we can infer association but not causation between the outcome and independent variables.
- Because of the sensitivity of the issue, the possibility of social desirability bias is anticipated
- It is hard to get the exact age of menarche as there may be recall bias and also girls do not report their exact age and girls might tend to underestimate or overestimate their age.

8. CONCLUSION

According to this study 64.9% of the respondents showed good knowledge about menstrual hygiene management. And also, the findings revealed that significant association between knowledge about MHM with the age of participants, grade level of respondents, learn about menstrual hygiene in the school, as well as their area of residence.

Most (62.4%) of secondary school girls have a good practice of menstrual hygiene management whereas, knowledge about MHM, knowledge about RTIs/ STIs, educational status of the respondents, parents having a private shower (access to WASH facilities) showed significant association with good menstrual hygiene practice.

Knowledge of menstrual hygiene management was a significant factor for menstrual hygiene practice. Those students who had a high level of knowledge were good menstrual hygiene practice than those participants who had poor menstrual hygiene knowledge.

9. RECOMMENDATION

According to the finding of this study, the investigators argued to forward the following recommendations:

❖ **Parents are advised to:**

- Give correct and appropriate information on menstrual hygiene management to break the silence about menstruation and give her knowledge to her girl child.
- Educate their daughters about the process, good personal hygiene, use of proper pads, and its proper disposal.
- Support their children with sanitary materials for menstrual hygiene.

❖ **To teacher's, health care provider**

- The teachers need to incorporate reproductive health education, including menstrual hygiene to their students in the school curriculum to improve their knowledge and practice.
- The health care provider should educate the community about menstruation and its hygienic management to avoid discrimination and restrictions during menstruation and to educate the girl child about good management of menstrual hygiene.

❖ **To government and school's**

- The government give special emphasis on making the accessibility of water and toilet facility in the school which reduce school absenteeism of female students due to menstruation-related problems.
- The schools should have to create awareness through their girl and also fulfill the accessibility of WASH facilities.

❖ **To researcher's**

- Finally, I recommended that researchers have to do large scale study about MHM by using larger sample size and wider geographic scope employing both qualitative and quantitative methods.

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11 APPENDIXES

Annex 1 -English version informed consent sheet

I. Study Information sheet

Good morning /good afternoon my name is _____. I am working with Zeru Shikur who is researching the partial fulfillment of a Master's Degree in maternity and reproductive health Nursing at Addis Ababa University. I would like to ask a few questions which take around 20-30 minutes about knowledge, practice, and associated factors with menstrual hygiene management among Mekdela secondary school girls. The genuine responses that you are going to give are very important to identify problems related to menstrual hygiene management. You are selected randomly to be a participant of this study if you give me consent after you have understood the following information sheet:

Study title: knowledge, practice, and associated factors with menstrual hygiene management among Mekdela secondary school girls, Amhara region, Northeast Ethiopia, 2020.

Purpose: the purpose of this project is to identify factors affecting the knowledge and practice of menstrual hygiene management. The other purpose is for the partial fulfillment of a master's degree in maternity and reproductive health. The information you provide here will be very helpful to the investigator of this study to write a research paper for the requirement in completion of the master's program. The findings of this project could help in designing priority intervention strategies for better implementation of menstrual hygiene practices that enable us women and girls to live healthily.

Benefits and Risks of the study: By participating in this study and answering these questions, you will not receive any direct benefit. However, the information will help the researcher to understand factors influencing the practice of menstrual hygiene management among Mekdela secondary school girls to appropriately identify future interventions related to the problem to be found. Your participation in this study will not involve any risks. If a question makes you feel uncomfortable, you may choose not to answer.

Confidentiality: you will not be asked your name to be written in the survey questions. All the information you give to us will be kept private. Whatever information you provide will be kept strictly confidential. The information you give will be kept in a locked file cabinet. Only the

researcher will have access to see the answers you give. No information identifying you will ever be released to anyone outside of this data collection activity.

Participation: Participation in the survey is completely voluntary. If you are not comfortable in answering any question you can withdraw any time after you get involved in the study without compromising the services you ought to get from the schools. However, we hope that you will participate in this study since your views are important. If you would like to know more, please contact:

Name of Principal Investigator: - Zeru Shikur Shumie, Address: - Addis Ababa, Ethiopia
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Name of institution - Addis Ababa University, medical faculty IRB Address
Tel: +251-11-5538734

Annex II English Version Assent

Dear study participants!

You are invited to participate in a research project about knowledge, practice, and associated factors with menstrual hygiene management among Mekdela secondary school girls, Amhara region, Northeast Ethiopia, 2020. This self-administered questionnaire will take about 20 to 30 minutes to complete. Participation is voluntary, and responses will be kept anonymous. You have the option to not respond to any questions that you choose. Participation or non-participation will not impact your relationship with the teacher or any other members of the school.

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 ☐

Annex III English Version family consent form

Good morning /good afternoon my name is _____. I am working with Zeru Shikur who is researching the partial fulfillment of a Master's Degree in maternity and reproductive health Nursing at Addis Ababa University about knowledge, practice, and associated factors with menstrual hygiene management among Mekdela secondary school girls. I selected your daughter randomly to be a participant of this study if you give me consent after you have understood the significance of the study.

Parent's response: - I heard the information in the consent sheet and understood what is required from me and what will happen to my daughter if she takes part in the study. I understand that all the information regarding her, like her name and all answers given by her, must not be transferred to the third party. I can also understand that she can withdraw from the study at any time without giving a reason and non-participation will not impact her relationship with their teacher or any other members of the school. Now please tell me if you permit me to participate in the study.

Parents signature_____ date _____

Annex IV English Version Questionnaire

Addis Ababa University; college of health science; school of Nursing and Midwifery Department of Midwifery; Questionnaires for assessment of the knowledge, practice, and associated factors with menstrual hygiene management among Mekdela secondary school girls.

Part 1: -Socio-demographic, Economic and Family related questions			
S. No	**Questions**	Possible answer	Code
101	How old are you now?	I am ---------years old	
102	Your grade level	1. =9th 2. =10th 3. =11th 4. =12th	
103	How old were you at your menarche?	I was --------years old	
104	Your residence	1. Urban 2. Rural	
105	Your religion	1. Orthodox 2. Muslim 3. Protestant 4. Catholic 5. Others (specify) -----	
106	Your marital status	1. Single 2. Divorced 3. Widowed 4. Married 5. Not applicable	
107	With whom do you live?	1. Both parents 2. Mother only 3. Relatives 4. Father Only 5. Others (specify) ----	
108	What is your mother's educational status?	1. No formal education 2. Primary 3. Secondary	

		4. College and above	
109	What is your father's educational status?	1. No formal education 2. Primary 3. Secondary 4. College and above	
110	What is your mother's occupational status?	1. Housewife 2. Student 3. Merchant 4. Private organization employee 5. Governmental employee 6. Daily laborer 7. Others (specify) -----	
111	What is the father's occupational status?	1. Farmer 2. Merchant 3. Governmental employee 4. private organization employee 5. Daily laborer 6. Driver 7. Others (specify) -----	
112	Do your parents provide permanent pocket money regularly?	1. Yes 2. No	If your answer is No go to Q- 114
113	If your answer to question No 112 is "Yes", what is your monthly income?	1. </= 200 2. (200-400) 3. >/= 400	
114	Do your parents have a private shower?	1=yes 0 =No	

Part 2: -Menstrual hygiene management knowledge related questions			
201	What is menstruation?	1. Is a physiological process 2. Is a pathological process 3. I curse from god 4. I don't know 5. Other (specify)	
202	What is the cause of menstruation?	1. Hormone. 2. Is caused by sin. 3. It is a curse of God. 4. Is caused by a disease. 5. I don't know. 6. Other (specify)	
203	From which organ does the menstrual blood come?	1. Uterus 2. Vagina 3. Urinary bladder 4. Abdomen 5. I don't know 6. Other (specify)	
204	How long is the normal menstrual bleeding duration?	1. <2 Days. 2. 2-7 Days 3. >7 Days 4. Don't know	
205	What is the normal duration of the menstrual cycle?	1. <20 Days 2. 20-35 Days 3. >35 Days 4. Don't know	
206	Do you Know that Menstruation is a lifelong process?	1. Yes 2. No	
207	Do you know that menstrual blood is unhygienic?	1. Yes 2. No	

208	Do you know that it is foul-smelling during menstruation?	1. Yes 2. No	
209	Ever missed school because of menstruation?	1. Yes 2. No	If your answer is No go to Q- 211
210	If your answer is 'Yes' for question No 209 main reasons for missing school (Multiple answers)	1. Afraid of odor/being teased/ staining clothes 2. Pain 3. Lack of water/place a convenient place to wash 4. Unclean/no latrine to change pad 5. No access to pads or cloths in school	
211	Have you heard about menstruation before menarche?	1.Yes 2. No	If your answer is No go to Q- 213
212	If your answer is 'Yes' for question No 211, what is the source of information?	1. Mother. 2. Teacher. 3. Health personnel. 4. Mass media (radio/ TV). 5. others; specify-----	
213	Do you know about RTIs/ STIs?	1. Yes 2. No	

214	Do you know sanitary pads in the market?	1. Yes 2. No	
215	Do you freely discuss menstruation issues with your parents, friends?	1. Yes 2. No	If your answer is No go to Q- 217
216	If your answer to question No 215 is "Yes", in what topics/issues why?	1. About menstrual hygiene management. 2. About methods on how to use sanitary pads. 3. both 4. other, specify------	
217	If your answer to question No 115 is "No", why?	1.Because of shamefulness 2. Not habitual. 3. Privacy. 4.other specify--------	
Part 3: -Menstrual hygiene practice related questions			
301	Do you use sanitary material(s) during menstruation?	1. Yes 2. No	
302	If your answer is Yes for Q no 301, what sanitary material do you use during menstruation?	1. Disposable sanitary pads. 2. Disposable piece of rags. 3. Reusable sanitary pads 4. Paper/toilet paper. 5. Underwear. 6. Others; specify-----	
303	What is your reason for not using a disposable sanitary pad?	1. Lack of knowledge 2. High cost 3. Unavailability 4. Shyness 5. Others; specify-----	

304	Do you wash your genitalia during menstruation?	1 Yes 2 No	If your answer is No go to Q- 307
305	If your answer for question no 304 is yes what medium do you use for your genital cleaning purpose?	1. Only Water. 2. Soap and water. 3. Others; specify--------	
306	If your answer to question no 304 is yes how often do you wash your genitalia per day?	1. Once 2. Twice 3. Thrice 4. >=Four times.	
307	Do you take bath during menstruation (exceptional from the usual)?	1. Yes 2. No	If your answer is No go to Q- 309
308	If your answer to question No 307 is yes how often do you take bath during menstruation per day?	1. <= Two times in a day. 2. > Two times in a day	
309	Do you change your sanitary material(s) during menstruation?	1. Yes 2. No	If your answer is No go to Q- 311
310	How often do you change absorbent material per day?	1. Once 2. Twice 3. Three times 4. More than three times	
311	How do you dispose of menstrual materials after use?	1. Open field 2. Latrine 3. Put in the bin 4. Others; specify -------	

312	Where do you store your new and/or reusable absorbent(s)?	1. Drawers 2. Dress cabinet 3. Bathrooms 4. Store with routine cloth 5. Don't store 6. Others; specify--	
313	What materials do you use for Washing of the reusable cloth?	1. With soap and water 2. With water, only 3. Others (specify) ----------	
314	Where do you put/ keep your reusable sanitary pads after washing for drying?	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 Other; specify----------	
Part 4; School facility or Environmental related Questions			
401	Have you ever learned about menstrual hygiene management in the school?	1. Yes 2. No	
402	Does the school have a water source?	1. Yes 2. No	If your answer is No go to Q- 404
403	If your answer is 'Yes' for question No "402" what is the source of water?	1= piped into a dwelling or borehole with a pump or protected dug well 2= pond or unprotected well	

404	Does the school have a toilet facility?	1. Yes 2. No	If your answer is No go to Q- 406
405	If your answer is 'Yes' for question No "404'' what type of toilet facility is there?	1= flush or ventilated improved latrine 2= open pit or none (bush field)	
406	Does the school have females and males' toilets in opposite directions?	1. Yes 2. No	
407	Does the school have females' toilets kept locked inside?	1. Yes 2. No	
408	Does the school have private space to manage period at school?	1. Yes 2. No	
409	Does the school have a separate bathroom for girls?	1. Yes 2. No	

Thank you very much for your patience

Data collector's name----------signature---------- Date ----------

Annex V የአማርኛ መጠይቅ ስምምነት ቅጽ

ክፍል አንድ ፡ ስለጥናቱ ዝርዝር መረጃን በተመለከተ

የጥናቱ ተሳታፊ የሚሆኑ ሴት ተማሪዎች ወደ ጥናቱ ተሳታፊ ከመሆናቸው በፊት ስለጥናቱ ጥቅም ማግኘት ያለባቸው መረጃን በተመለከተ

አንደምን አደርሽ / እንደምን ዋልሽ፡፡ ስሜ ----------ይባላል፡፡ የምሰራዉ በአዲስ አበባ ዩኒቨርሲቲ የእናቶች እና ስነ ተዋልዶ ትምህርት ክፍል የሁለተኛ ዲግሪ ማሟያ ጥናታዊ ጽሁፍ በማድረግ ላይ ከሚገኙት ዘሩ ሽኩር ከተባለ ጥናት አድራጊ ስር ነዉ፡፡ እኔ አሁን ከ20-30 ደቂቃ የማይበልጥ ጊዜ የሚወስዱ ስለ "ሴት ተማሪወች ስለወር አበባ ያላቸውን እውቀት እና በወር አበባ ጊዜ የሚያደርጉትን የንፅህና አጠባበቅ እና ተያያዥ ችግሮች በተመለከተ የሚጠይቁ ጥያቄወችን እጠይቅሻለሁ፡፡ አንች የምትመልሽልን መልስ በወር አበባ ጊዜ የንፅህና አጠባበቅ ጋር ተዛማጅ የሆኑ ችግሮን ለመለየት በጣም አስፈላጊ ነዉ ፡ ፡ እርሰዎ የተመረጡት እዚህ ጥናት ላይ ከሚሳተፉ ሰወች ዉስጥ በእድል ሲሆን ከዚህ በታች የተገለጹትን መረጃወች ከተረዱ በኋላ የስምምነት ዉል ይሰጡኛል ፡፡

የጥናቱ ርእስ፡- "በመቅደላ ሁለተኛ እና መሰናዶ ትምህርት የሚማሩ ሴት ተማሪወች ስለወር አበባ ያላቸውን እውቀት እና በወር አበባ ጊዜ የሚያደርጉትን የንፅህና አጠባበቅ እና ተያያዥ ችግሮችን በተመለከተ ለማወቅ እና ለማጤን የሚካሄድ ጥናት ነዉ፡፡

የጥናቱ አላማ፡- "ሴት ተማሪወች ስለወር አበባ ያላቸውን እውቀት እና በወር አበባ ጊዜ የሚያደርጉትን የንፅህና አጠባበቅ እና ተያያዥ ችግሮችን ለማወቅ እና ከዚህ ጋር ተያያዥነት ያላቸዉን ዋናዋና ጉዳዮች በመለየት የሴቶችን የንጽህና አጠባበቅን እና ጤናን ይበልጥ ለማሻሸል ነዉ፡፡ ሌላዉ የዚህ ጥናት ጥቅም በእናቶች እና ስነ ተዋልዶ ጤና የሁለተኛ ዲግሪ ማሟያ ጽሁፍ ለማቅረብ ነዉ፡፡ ከዚህ በተጨማሪ የጥናቱ ዉጤት በሴቶች ንጽህና አጠባበቅ እቅድ ዙሪያ ለሚሰሩ አካላት ወይም ሀላፊዎች እቅድ ዝግጅትና ትግበራ ላይ ማሻሻያ ለማድረግ አስፈላጊነቱ የላቀ ነዉ፡፡

የጥናቱ ጥቅምና ጉዳት፡- እርሰዎ በዚህ ጥናት ተሳታፊ በመሆነወ በቀጥታ ሊያገኙት የሚችሉት ጥቅም ላይኖር ይችላል፤ ነገር ግን የርሰዎ ተሳትፎ በጥናቱ አላማ ዙሪያ ያለዉን ክፍተት ለማሳየትና ትክክለኛ የመፍትሄ አቅጣጫ ለመጠቆም በጣም አስፈላጊ ነዉ፡፡በዚህ ጥናት በመሳተፈዎ በእርሰወም ሆነ በቤተሰብዎ ላይ የሚደርስ ምንም አይነት ጉዳት የለም፡፡ በመጠይቁ ዉስጥ ለመመለስ የማይፈልጉት ጉዳይ ካለም ምላሽ እንዲሰጡ አይገደዱም ፡፡

ሚስጥራዊነት፡- ለዚህ ጥናት የሚሰበሰብ ማንኛዉም አይነት መረጃ ሚስጥራዊነቱ የተጠበቀ ሲሆን የእርሰዎም ስም ሳይጻፍበት ሚስጥራዊ ቁጥር ብቻ ተሰጥቶት በፋይል ዉስጥ የሚቀመጥ ይሆናል፡፡ እንዲሁም መረጃዉን ጥናቱን ከሚያካሂደዉ ሰዉ በስተቀር ለማንም ግልጽ አይሆንም፡፡

ተሳትፎ፡- በዚህ ጥናት ላይ መሳተፍም አለመሳተፍም ሙሉበሙሉ በእርሰዎ ፍቃደኝነት ላይ የተመሰረተ ነዉ፡፡ ለጥቄወቹም በሙሉም ይሁን በከፊል መልስ ያለመስጠት መብት አለዎት፡፡ ይህ ደግሞ ማንኛዉንም አይነት አገልግሎት ከማግኘት አያግደወትም፡፡ እነዲሁም በፈለጉት ሰዓት መጠይቁን የማቋረጥ ሙሉ መብት አለወት፡፡ የበለጠ መረጃ ካስፈለገወ የሚከተሉትን አድራሻወች መጠቀም ይችላሉ፡፡

ጥናቱን የሚያካሂደዉ ሰዉ ስም፡-ዘሩ ሽኩር

ስልክ ቁጥር ፡-+251943-888399 / 967-654614፣ ኢሜል፡- zerushikur@gmail.com

በአዲስ አበባ ዩኒቨርሲቲ የእናቶችና ስነ ተዋልዶ ትምህርት ክፍል የጥናትና ስነምግባር ኮሚቴ ስልክ +251-11-5538734

Annex VI የሚስጥር አጠባበቅ ስምምነት

እኔ ጥናቱን በተመለከተ ተገቢውን የሆነ መረጃ በተገቢው ሁኔታ ተነግሮኝ በአግባቡ ተረድቻለሁ፡፡ ጥናቱ ምንም አይነት ጉዳት በህይወቴ ላይ እንደማያደርስ ተረድቻለሁ ስለዚህም ምንም ዓይነት ካሳ አያስፈልገኝም፡፡ እኔ የዚህ ጥናት ተሳታፊ ለመሆን ተስማምቻለሁ፤ በተጨማሪም ለመረጃ ሰብሳቢዎችም ለጥናቱ አስፈላጊ የሆነ ተገቢውን መረጃ እንዲሰበስቡ ተስማምቻለሁ ::

ተስማምቻለሁ ☐ አልተስማማሁም ☐

ፈቃደኛነትን ያረጋገጠው መረጃ ሰብሳቢ ስም ----------ፊርማ---------ቀን------/-----/----

የመረጃ ተቆጣጣሪው/ዋ ስዉ ስም---------- ፊርማ---------- ቀን------/-----/----

Annex VII የቤተሰብ የስምምነት ዉል

አንደምን አደሩ፡፡ ስሜ ----------ይባላል፡፡ የምሰራዉ በአዲስ አበባ ዩኒቨርሲቲ የእናቶች እና ስነ ተዋልዶ ትምህርት ክፍል “በመቅደላ ሁለተኛ እና መሰናዶ ትምህርት ቤት በሚማሩ ሴት ተማሪወች ስለወር አበባ ያላቸውን እውቀት እና በወር አበባ ጊዜ የሚያደርጉትን የንፅህና አጠባበቅ እና ተያያዥ ችግሮች በተመለከተ የሁለተኛ ዲግሪ ማሟያ ጥናታዊ ጽሁፍ በማድረግ ላይ ከሚገኙት ዘሩ ሽኩር ከተባለ ጥናት አድራጊ ስር ነዉ፡፡ የእርሰዎ ልጅ ጥናቱ ውስጥ እንድትሳተፍ ከፈቀዱ የተመረጠችው በእድል ነው።

የቤተሰብ ምላሽ: - እኔ ስለ ጥናቱ አስፈላጊነት ተረድቻለሁ ከእኔም ምን እንደሚጠበቅ ተገንዝቢያለሁ እንድሁም ልጀ ስለ ጥናቱ የምትሰጠው መረጃ ለሌላ ግለሰብ አሳልፋችሁ እንደማትሰጡ እና እንዳጋጣሚ በጥናቱ መሳተፍ ባትፈልግ ከመምህሮቿም ሆነ ከትምህርት ቤቱ አስተዳደር ምንም አይነት ችግር እንደማይገጥማት ተረድቻለሁ። በመጨረሻም የዚህ ጥናት ዋና አላማ በደንብ ተገልጾልኛል፤ በዚህም መረጃ መሰረት ልጀ በጥናቱ መሳተፍ እንደምትችል መስማማቴን ከዚህ በታች ባለዉ ፊርማየ አረጋግጣለሁ፡፡

የቤተሰብ ፊርማ ----------ቀን----------

ለትብብረዎ እናመሰግናለን፡፡

Annex VIII የአማርኛ ቃለመጠይቅ

ክፍል አንድ፤ የተጠያቂዉ አጠቃላይ የማህበራዊ፣ ኢኮኖሚያዊና ቤተሰባዊ መረጃን በተመለከተ			
ተ.ቁ	**ጥያቄ**	**መልስ**	**ዝለል**
101	አሁን እድሜዎ ስንት ነው?	እኔ---------አመቴ ነው	
102	የትምህርት ደርጃ	1.=9ኛ 2. =10ኛ 3.=11ኛ 4. =12ኛ	
103	የመጀመሪያ የወር አበባ ሲያዩ ዕድሜዎ ስንተ ነበር?	እኔ ------ ዓመት ነበርኩ	
104	መኖሪያ ቦታ	1. ከተማ 2. ገጠር	
105	ሃይማኖት	1. ኦርቶዶክስ 2. ሙስሊም 3. ፕሮቴስታንት 4. ካቶሊክ 5. ሌላ (ይግለጹ) -----	
106	የጋብቻ ሁኔታ	1 ያላገባች 2 የፈታች 3 ባል የሞተባት 4 ያገባች 5 የማይተገበር	
107	የአኗኗር ሁኔታ	1.ከሁለቱም ወላጆች 2. ከእናቴ ብቻ 3. ከዘመዶች 4. ከአባቴ ብቻ 5. ሌላ ካለ ይግለጹ) ---	
108	የእናት የትምህርት ደረጃ	1. መደበኛ ትምህርት ያልተማረች 2. የመጀመሪያ ደረጃ 3. ሁለተኛ ደረጃ 4. ኮሌጅ እና በላይ	

109	የአባት የትምህርት ደረጃ	1. መደበኛ ትምህርት ያልተማረ 2. የመጀመሪያ ደረጃ 3. ሁለተኛ ደረጃ 4. ኮሌጅ እና በላይ	
110	የእናት የሥራ ሁኔታ	1. የቤት እመቤት 2. ተማሪ 3. ነጋዴ 4. የግል ድርጅት ሠራተኛ 5. የመንግሥት ሠራተኛ 6. የቀን ሰራተኛ 7. ሌላ (ይግለጹ) ------	
111	የአባት የሥራ ሁኔታ	1. ገበሬ 2. ነጋዴ 3. የመንግሥት ሠራተኛ 4. የግል ድርጅት ሠራተኛ 5. የቀን ሰራተኛ 6. ሹፌር 7. ሌላ (ይግለጹ) ---	
112	ወላጅዎ የኪስ ገንዘብ በቋሚነት ይሰጥዎታል?	1. አዎ 2. የለም	ለ ጥያቄ ቁጥር 112 መልስዎ የለም ከሆነ ወደ 114 ይሂዱ
113	ለጥያቄ ቁጥር 112 መልስዎ "አዎ" ከሆነ የወር ገቢዎ ስንት ነው?	1. </= 200 2. 200-400 3. >/= 400	
114	ወላጅዎ ቤት ውስጥ የግል ገላ መታጠቢያ አለ?	1. አዎ 2. የለም	
ክፍል 2 - ስለወር አበባ ንጽህና አጠባበቅ እውቀት መለኪያ ጋር የተያያዙ ጥያቄዎች			
201	የወር አበባ ምንድነዉ?	1. የተፈጥሮ ዑደት 2. በበሽታ የሚመጣ	

		3. የፈጣሪ እርግማን 4. አላዉቅም 5. ሌላ ካለ (ይገለፅ)----	
202	የወር አበባ መንስኤ ምንድን ነዉ?	1. ሆርሞን 2. በኃጢያት የሚመጣ 3. የፈጣሪ እርግማን 4. በበሽታ የሚመጣ 5. አላዉቅም 6. ሌላ ካለ (ይገለፅ)----	
203	የወር አበባ የሚመጣው ከየትኛው የሰውነት ክፍል ነው?	1. ከማኅፀን 2. ከረቤዛ 3. የሽንት ፊኛ 4. ሆድ 5. አላዉቅም 6. ሌላ ካለ (ይገለፅ)---̈	
204	መደበኛ እና ጤነኛ የወር አበባ አንዴ ከመጣ ለምን ያክል ግዜ (ለስንት ግዜ) ይቆያል?	1. ከሁለት ቀናት ያነሰ 2. ከሁለት እስከ ሰባት ቀናት 3. ከሰባት ቀናት በላይ 4. አላውቅም	
205	አንድት ጤነኛ ልጃገረድ መደበኛ የወር አበባ በየ ስንት ቀኑ ታያለች?	1. ከ 20 ቀናት ያነሰ 2. ከ 20 እስክ 35 ቀናት 3. ከ35 ቀናት በላይ 4. አላውቅም	
206	የወር አበባ ኡደት እድሜ ልክ ይኖራል ብለሽ ታስቢያለሽ?	1. አዎ 2. አይደለም	
207	የወር አበባ ንጹህ ያልሆነ እንደሆነ ታዉቂያለሽ?	1. አዎ 2. አይደለም	
208	የወር አበባ መጥፎ ጠረን እንዳለዉ ታዉቂያለሽ?	1. አዎ 2. አይደለም	

209	በወር አበባ ምክናየት ከትምህርት ቤት ቀርተሽ ታውቂያለሽ?	1 አወ 2 አላውቅም	ለ ጥያቄ ቁጥር 209 መልስዎ አላውቅም ከሆነ ወደ 211 ይሂዱ
210	ለ ጥያቄ ቁጥር 209 መልስዎ አዎ ከሆነ, በወር አበባ ወቅት ከትምህርት ቤት የምትቀሪበት ዋናው ምክናየትሽ ምንድን ነው (ከአንድ በላይ መልስ ይቻላል)?	1 ሽታው ስለ ሚያሳፍረኝ፣ ስለሚያናድደኝ እና ልብሴን ስለሚነካብኝ 2 ስለሚያመኝ 3 ለመጸዳጃ የሚሆን ዉሃ/ ምቹ ቦታ ስለለ 4 ለንጽህና የተጠቀምንበትን ቁስ መቀየሪያ ንጹህ ሽንት ቤት ስለለ 5 ትምህርት ቤት ውስጥ ንጽህና መጠበቂያ ልብስ ስለለ	
211	የመጀመሪያ የወር አበባ ከማየትሽ በፊት ስለ የወር አበባ ሰምተሽ ታውቂያለሽ?	1 አወ 2 አላውቅም	ለ ጥያቄ ቁጥር 211 መልስዎ አላውቅም ከሆነ ወደ 213 ይሂዱ
212	ለ ጥያቄ ቁጥር 211 መልስዎ አዎ ከሆነ, የመረጃ ምንጭወት ምን ነበረ?	1. ከናቴ 2. ከመምህራን 3. ከጤና ባለሙያ 4. ከመገናኛ ብዙሃን (ሬድዮ/ ቴሌ ቪዥን) 5. ሌላ ካለ (ይገለፅ)----	
213	ስለ የሰወች የመራቢያ የሰውነት ክፍል ኢንፌክሽን ወይም ስለ አባላዘር በሽታ ያውቃሉ?	1. አወ 2. አላውቅም	
214	ገበያ ላይ ያሉ የወር አበባ የንፅህና መጠበቂያዎችን ያውቃሉ?	1. አወ 2. አላውቅም	
215	ስለ ወር አበባ ጉዳይ ከወላጆችዎ ወይም ከጓደኛዎ ጋር በግለጽ ይወያያሉ?	1. አዎ 2. አንወያይም	ለ ጥያቄ ቁጥር 215 መልስዎ

			አንወያይም ከሆነ ወደ 217 ይሂዱ
216	ለጥያቄ ቁጥር 215 መልስዎ "አዎ" ከሆነ በየትኞቹ ርእሶች / ጉዳዮች ላይ?	1.ስለ የወር አበባ የንጽህና አጠባበቅ. 2. ስለ የወር አበባ የንጽህና መጠበቂያ ዘዴዎች አጠቃቀም 3. ሁለቱም 4. ሌላ ካለ (ይገለፅ)----	
217	ለጥያቄ ቁጥር 215 መልስዎ "አይደለም" ከሆነ, ለምን?	1. አሳፋሪ ስለሆነ 2. የተለመደ ስላልሆነ. 3. ምስጢራዊ ስለሆነ. 4.ሌላ ካለ (ይገለጽ)-----	
ክፍል 3 - በወር አበባ ጊዜ ንጽህና አጠባበቅ ትግበራ ጋር የተያያዙ ጥያቄዎች			
301	በወር አበባ ጊዜ የንጽህና መጠበቂያ ቁሳቁስ ይጠቀማሉ?	1. አዎ 2. አልጠቀምም	ለ ጥያቄ ቁጥር 301 መልስዎ አልጥቀምም ከሆነ ወደ 303 ይሂዱ
302	ለ ጥያቄ ቁጥር 301 መልስዎ አዎ ከሆነ በወር አበባቸው ወቅት ምን አይነት የንጽህና መጠበቂያ ቁሳቁስ ይጠቀማሉ?	1. ለአንድ ጊዜ ብቻ የሚያገለግሉ የወር አበባ መጠበቂያ(ሞዴስ). 2. ለአንድ ጊዜ ብቻ የሚያገለግል ቁርጥራጭ ልብስ 3.ለብዙ ጊዜ የሚያገለግሉ የወር አበባ መጠበቂያ (ሞዴስ). 4.የመጸዳጃ ወረቀት 5. የውስጥ ልብስ. 6. ሌላ ፡ ይገለጽ--------	
303	ለአንድ ጊዜ ብቻ የሚያገለግሉ የወር አበባ መጠበቂያ(ሞዴስ)	1. ስለማላውቅ 2. መግዛት ስለማልችል 3. በቅርብ ስለማይገኝ	

	የማይጠቀሙበት ምክንያት ምንድን ነው?	4. ስለማፍር 5.ሌላ ካለ ይገለጽ ----	
304	በወር አበባ ጊዜ አባላዘርዎን (ብልትዎን) ይታጠባሉ?	1. አዎ 2. አልታጠብም	ለ ጥያቄ ቁጥር 304 መልስዎ አልታጠብም ከሆነ ወደ 307 ይሂዱ
305	ለጥያቄ ቁጥር 304 መልስዎ አዎ ከሆነ ለማጽዳት ምን ይጠቁማል?	1. ውሃ ብቻ. 2. ሳሙና ውሃ. 3. ሌላ ፡ ይገለጽ --------	
306	ለጥያቄ ቁጥር 304 መልስዎ አዎ ከሆነ በየቀኑ ለምንያክል ጊዜ ብልትዎን ይታጠባሉ?	1. አንድ ጊዜ 2. ሁለት ጊዜ 3. ሶስት ጊዜ 4. አራት ጊዜ እና ከዚያ በላይ	
307	በወር አበባ ጊዜ ገላውን ከሁልጊዜው በተለየ ይታጠባሉ?	1 አዎ 2.የለም	ለ ጥያቄ ቁጥር 307 መልስዎ የለም ከሆነ ወደ 309 ይሂዱ
308	ለጥያቄ ቁጥር 307 መልስዎ አዎ ከሆነ በቀን ለስንት ጊዜ ይታጠቡ?	1. በቀን ሁለት ጊዜ እና በታች 2. በቀን ከሁለት ጊዜ በላይ	
309	የወር አበባ ንጽህና መተበቂያ ቁሳቁስዎን ይቀይራሉ?	1. አዎ 2. አልቀይርም	ለ ጥያቄ ቁጥር 309 መልስዎ አልቀይርም ከሆነ ወደ 311 ይሂዱ
310	በየቀኑ የሚጠቀሙትን ቁሳቁስ ለምን ያህል ጊዜ ይቀይራሉ?	1. አንድ ጊዜ 2. ሁለት ጊዜ 3. ሦስት ጊዜ 4. ከሦስት ጊዜ በላይ	

311	የወር አበባ ንጽህና መጠበቂያዎን ከተጠቀሙ በኋላ የተጠቀሙትን ቁሳቁስ እንዴት ያስወግዳሉ?	1. ባገኘሁበት ቦታ 2. መፀዳጃ ቤት 3. የቆሻሻ ማጠራቀሚያ 4. ሌላ ይግለጹ---------	
312	አዲሶቹን እና/ ወይም መልሰው የሚጠቀሙትን የንጽህና መጠበቂያ ቁሳቁስዎን የት ነው የሚያስቀምጡት?	1.መሳቢያ ውስጥ 2. ቁም ሣጥን 3. መታጠቢያ ክፍል 4. ከዘወትር ልብሶች ጋር 5. አላስቀምጥም 6. ሌላ ይግለጹ---- ---	
313	መልሰው የሚጠቀሙበትን የንጽህና መጠበቂያ ቁሳቁስዎን ለማጽዳት ምን ይጠቀማሉ?	1. በሳሙና እና በውሃ 2. በውኃ ብቻ 3. ሌላ ይግለጹ---- ---	
314	መልሰው የሚጠቀሙባቸውን የንፅህና መጠበቂያዎች ካጠቡ በኋላ ለማድረቅ የት ያሰጣሉ?	1. ከቤት ውጭ ጥላ ውስጥ 2. ከቤት ውስጥ ጥላ ውስጠ 3. ቤት ውስጥ ፀሐይ ላይ 4. ውጭ ላይ በፀሐይ ብርሃን 5. ውጭ ላይ በሌሎች ልብሶች ተጋርዶ 6. ሌላ ስወር ቦታ 7. ሌላ ይግለጹ----	
ክፍል 4: ከትምህርት ቤት ቁሳቁሶች እና ከአካባቢው ጋር የተያያዙ ጥያቄዎች			
401	ት/ቤት ውስጥ ስለወር አበባ ንጽህና አጠባበቅ ተምረው ያውቃሉ?	1. አወ 2. አልተማርኩም	
402	ትምህርት ቤቱ የውኃ አቅርቦት አለው?	1. አወ 2. የለውም	ለጥያቄ ቁጥር 402 መልስዎ የለውም ከሆነ ወደ 404 ይሂዱ
403	ለጥያቄ ቁጥር 402 መልስዎ አዎ ከሆነ የውኃ አቅርቦት የሚያገኙት ከየት ነው	1= ከቧንቧ ወይም ጥልቅ ጉድጓድ በፓምፕ ወይም በደንብ የተቆፈረ ጉድጓድ	

		2=ከወንዝ ወይም ንጽህናውን ያልተጠበቀ ጉድጓድ	
404	ትምህርት ቤቱ የመጸዳጃ ቤት አለው?	1. አወ 2. የለውም	ለጥያቄ ቁጥር 404 መልስዎ የለውም ከሆነ ወደ 408 ይሂዱ
405	ለጥያቄ ቁጥር 404 መልስዎ አዎ ከሆነ ምን አይነት የመፀዳጃ ቤት ነው ያለወ?	1= በውሃ ግፊት የሚሰራ የተሻሻለ መፀዳጃ ቤት 2= ከፍት ጉድጓድ ወይም ምንም (ሜዳ ላይ)	
406	ለጥያቄ ቁጥር 404 መልስዎ አዎ ከሆነ የሴቶች እና የወንዶች መፀዳጃ ቤቶች በተቃራኒ አቅጣጫዎች ናቸው?	1. አወ 2. አይደሉም	
407	ለጥያቄ ቁጥር 404 መልስዎ አዎ ከሆነ የሴት መጸዳጃ ቤት ክፍሎች ከውስጥ የሚቆለፉ ናቸው?	1.አወ 2. አይደሉም	
408	ትምህርት ቤት ውስጥ የወር አበባ ንፅህና መጠበቂያዎን የሚቀይሩበት ሚስጥራዊ ቦታ አለ?	1. አወ 2. የለም	
409	ትምህርት ቤት ውስጥ የሴቶች የገላ መታጠቢያ የተለየ ነው?	1.አወ 2. አይደለም	

ለትዕግስትዎ በጣም እናመሰግናለን፡:

የመረጃ ሰብሳቢው ስም ---------- ፊርማ --------ቀን ---------