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Practice of Menstrual Hygiene and Associated Factors among Female High School Students in Adama Town

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Abstract

Background: Good menstrual hygienic practices are essential during menstruation period. Young women especially in developing countries often lack information about good menstrual hygiene practices. The objective of this study was to assess the level of menstrual hygienic practice and the associated factors among female high school students in Adama town.

Methods: A cross-sectional, institution based study was conducted from April 11th-25th, 2016. Multistage sampling technique was used to select the participants. Data was cleaned, coded and entered in to Epi-data 3.1 and analyzed using SPSS version 20:00. Binary and multiple logistic regression analysis were done to determine the association between the menstrual hygienic practice and the predicator variables. A p-value of less than 0.05 was taken as significant association.

Result: A total of 398 female students were involved in the study giving a response rate of 94.3%. Of the total respondents about 57% had good level of menstrual hygiene practice. Mothers education status [AOR=0.608; 95% CI=0.374-0.990], source of money for sanitary materials [AOR=2.267; 95% CI=1.076, 4.772], respondents feeling on comfort ability of the school [AOR=0.557; 95% CI=0.366-0.846] were significantly associated with level of knowledge about menstrual hygienic practice.

Conclusion: The study showed that more than half of the respondents had good level of menstrual hygiene practice. Mothers' educational status, source of money for sanitary materials and respondents feeling on comfort ability of the school were found to be predictors of menstrual hygiene practice among the students. Thus, designing health information and communication programs on awareness about menstruation and menstrual hygiene practice is implicated.

Keywords: Menstruation; Hygiene practice; Adama town

Abbreviations: COR: Crude Odds Ratio; AOR: Adjusted Odds Ratio; CI: Confidence Interval; SPSS: Statistical Package for Social Sciences

Background

Good menstrual hygienic practices such as use of sanitary pads and adequate washing of the genital areas are essential during menstruation period. Having a good menstrual hygienic practice will enhance the confidence of females in many aspects. On the other hand, Poor menstrual hygienic practices will increase susceptibility to reproductive health related problems [1,2].

Menstrual hygiene practice is influenced by many factors including female's knowledge about menstruation [3,4]. In relation to cultural taboos females are often deprived of utilizing the main resources in the community. Furthermore, academic performance and involvement is highly affected by different conditions associated with menstruation [5].

Although the period of adolescence is a healthy part of life, many adolescents are often less informed, less experienced and less comfortable with accessing reproductive health information and services than adults [6,7].

Assessing the menstrual hygiene practice level of females and addressing the gap is essential to reinforce safe and hygienic practice during menstruation [8]. The practical challenges of menstrual hygiene practice are made even more difficult by socio-cultural factors and millions of girls continue to be denied their rights to have sufficient information about menstrual hygiene, water and sanitary health, education, dignity and gender equity. This may result to incorrect and unhealthy behavior during their menstrual period [9,10].

Many schools do not support adolescent girls or female teachers in managing menstrual hygiene with dignity. Inadequate water and sanitation facilities make managing menstruation very difficult, and poor sanitary protection materials can result in blood-stained clothes

causing stress and embarrassment. Even at the household level, they generally have little control over access to a private latrine or money for sanitary materials [10,11].

Females of reproductive age group need to have access to clean and soft absorbent sanitary products which in the long run protect their health from various infections [12].

Failure to provide appropriate menstrual hygiene facilities at home or at school level also decrease the level of having good menstrual hygiene practice among female students [11]. Thus, it is important to assess and address the problems related with the menstrual hygiene practice of female students; which in turn is crucial in improving female student's confidence, academic performance and sexual and reproductive health.

Therefore, this study was conducted to assess the level of menstrual hygiene practice and associated factors among female high school students found in Adama town. The finding of this study will be helpful for school related health policy makers in understanding predictors of menstrual hygiene practice among high school female students and in designing the possible interventions.

Methods

Study area and period

The study was conducted in Adama town from April 11-25, 2016. In the study area, there are a total of 9 governmental high schools. According to the data from Adama town education affairs office a total of 15,691 students were enrolled during the academic year of 2015/16 in these schools.

Study design

A cross-sectional descriptive study was conducted.

Source population

The source population was all female governmental secondary schools students in Adama town.

Study population

The study population was selected female governmental secondary schools students in Adama town.

Inclusion and exclusion criteria

All regular female students were included into the study. Female students who were sick and unable to respond were excluded from the study.

Sample size determination

Single population proportion formula was used to calculate the required sample size. Proportion of level of knowledge towards menstruation of 50% [p], margin of error of 5% [d], and 95% confidence level [1.96] and adding non-response rate of 10%, the sample size was determined to be 422.

Sampling procedure

As to the sampling technique, a multistage stratified sampling technique was used; where first, 6 schools were selected among the 9 governmental high schools by lottery method, then, the respective sample was allocated to each high schools proportionally based on the female students population in each high schools.

Finally, the study units were selected from each year of study (grade) using simple random sampling technique considering the list of female students as a sample frame.

Variables

Dependent variable: Menstrual hygiene practice

Independent variable: Socio-demographic characteristics (Age, grade level, ethnic group, religion, mothers educational level, fathers educational level, monthly income of the family) and Students experience (school comfort to keep hygiene, comfort at school time, comfort around male students, feeling unclean and missing class).

Operational Definition

Menstrual hygiene practice: To measure the respondent's menstrual hygiene practice. 10 closed ended menstrual hygiene practice related questions were presented and for each correct answer 1 point and 0 for incorrect ones given.

Respondents who scored 6 and above were considered as having good menstrual hygiene practice and a score of less than 6 was considering as having poor menstrual hygiene practice.

Data collection

Data collection instrument

Data was collected using pre-tested structured self-administered questionnaires. It is composed of 'closed-end' questions assessing different variables like the respondents socio-demographic characteristics, menstrual hygiene practice and experience. To ensure its consistency it was translated to 'Amharic' and 'Afan Oromo' language and back translated to English by language professionals.

Data collection procedure

The questionnaire was distributed to the students by three data collectors with past experience on data collection, the data was collected while students were in class rooms and the instructors cooperated with data facilitators in disseminating the questionnaire.

Finally, the filled questionnaire was checked for completeness and consistency of the data by the data collector's supervisor on daily basis.

Data quality assurance

To ensure the quality of the data; training was given for the data collectors and supervisors two days ahead of the actual data collection date, the questionnaire were translated by language professionals, pretest were conducted on 5% of the sample and relevant corrections were made.

During data collection supportive supervision were made and data were checked for the completeness.

Data entry and analysis

The collected quantitative data was cleaned, coded and entered in to Epi-data 3.1 software, and then exported to Statistical package for social sciences(SPSS) version 20:00 for analysis.

First descriptive analysis was carried out for each variable. Next, bivariate analysis was done to identify the association between the independent and the dependent variables. Those variables with a p-value<0.25 in bivariate analysis were selected for multivariate logistic regression, and then those variables with a p-value<0.05 were considered to be statistically significant in multivariate analysis.

Result

Socio-demographic characteristics

In this study a total of 398 female students were participated giving a response rate of 94.3%. Of these 200 [50.3%] were in the age group 14-16 years and 198 [49.7%] were in 17-19 age groups.

Most of the respondents 139[34.9%] were from Oromo ethnic group, concerning their religion. More than half 233[58.5%] of them are followers of Orthodox religion [Table 1].

Variables	Response category	Frequency	Percentage (%)
Age	14-16 years old	200	50.3
	17-19 years old	198	49.7
Grade	Grade 9	199	50
	Grade 10	199	50
Ethnic group	Oromo	139	34.9
	Amhara	98	24.6
	Woliata	94	23.6
	Tigre	23	5.8
	Other	44	11.1
Religion	Orthodox	233	58.5
	Muslim	81	20.4
	Protestant	76	19.1
	Other	8	2.1
Mother educational status	Below and Primary	276	69.3
	Secondary and above	122	30.7
Father educational status	Below and Primary	228	57.3
	Secondary and above	170	42.7
Parents' monthly income	700-1500 Birr	72	18.1
	1600-2400 Birr	84	21.1
	2500-3300 Birr	124	31.2
	>3300 Birr	118	29.6

Table 1: Socio-demographic characteristics of female high school students in Adama town, April 2016(n=398).

Experience during menstruation

From the respondents, more than two-third 278(69.80%) of them reported that they are not feeling comfortable on classroom (school time), about 188(47.20%) of them reported that their school is uncomfortable to keep their hygiene during menstruation and 186(46.70%) of them missed class during menstruation time [Figure 1].

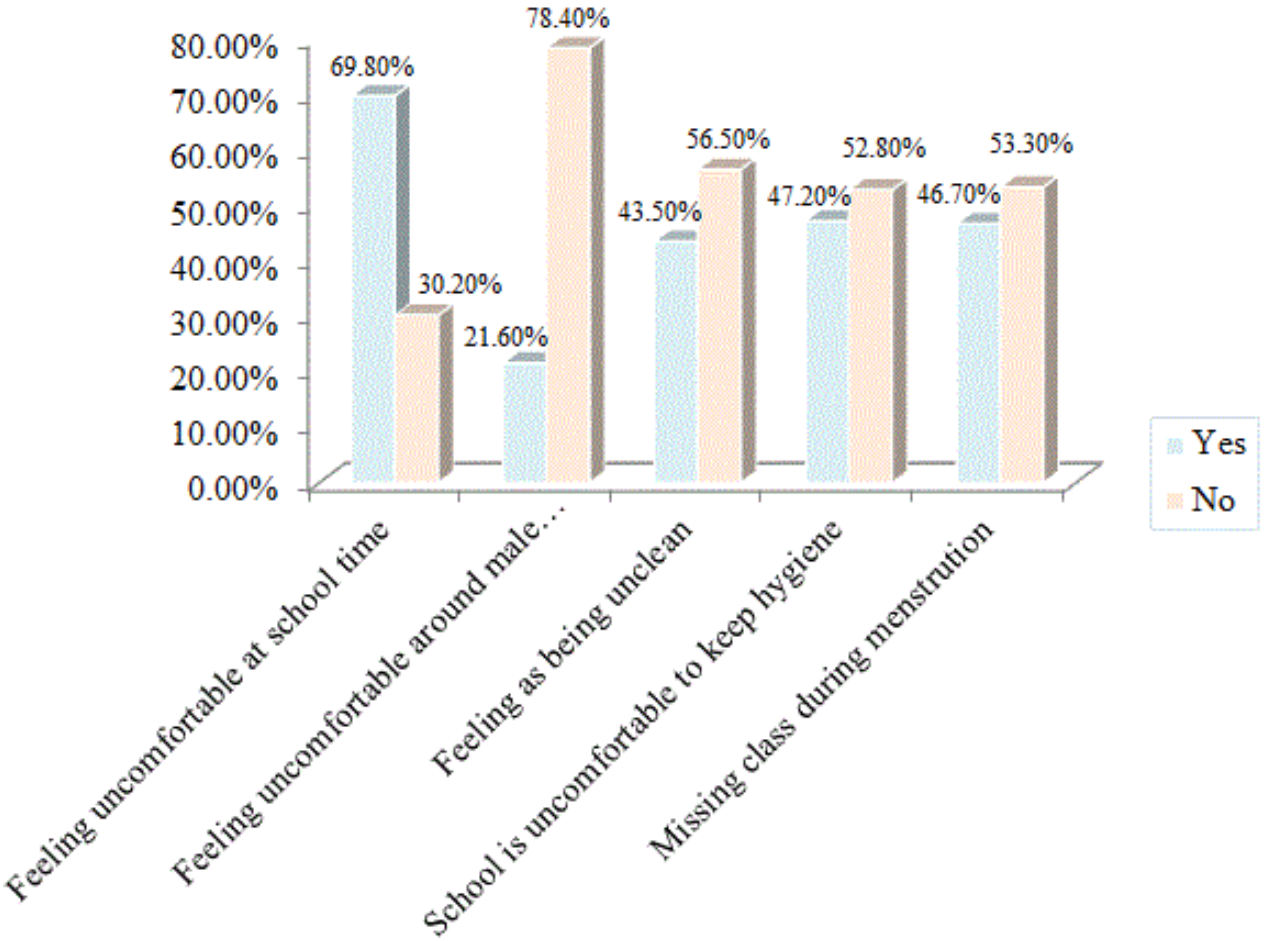

Figure 1: Experience during menstruation of female high school students in Adama town, April 2016(n=398).

Menstrual hygiene practice

Based on the finding of this study, 387(97.2%) of the respondents used absorbent during menstruation and from those 21(5.3%) used sanitary pads. The source of money for 360(90.5%) of the students were their parents.

For 204(51.3%) of the students the source of information were their mothers. About 327(82.2%) disposed the used material as protection into latrine. Of the total respondents 211(53.0%) took daily bath during menstruation [Table 2].

Variables		Frequency	Percentage (%)
Uses absorbent	Yes	387	97.2
	No	11	2.8
Material used	Rag made	12	3
	Sanitary pad	21	5.3
	Tampon	339	85.2
	Other	26	6.5
Money source to buy materials	Parents	360	90.5
	Earn it	38	9.5

Source of information on menstrual hygiene	Mother	204	51.3
	Friends	67	16.8
	Mass media	62	15.6
	Teachers	52	13.1
	Other	13	3.3
Disposal place	Open field	17	4.3
	Latrine	327	82.2
	In waste bins	41	10.3
	Other	13	3.3
Clean clothes with soap and water	Yes	210	52.8
	No	188	47.2
Clean external genitalia	Yes	385	96.7
	No	13	3.3
Cleaning material used	Water	156	39.2
	Water and soap	229	57.5
	Not washing	13	3.3
Daily bath	Yes	211	53
	No	187	47
Drying place for cloth	Outside the house	249	62.6
	Inside the house	149	37.4
Use paper to dispose Sanitary materials by wrapping	Yes	219	55
	No	179	45
Changing absorbents	<3 times	51	12.8
	≥ 3 times	347	87.2

Table 2: Menstrual hygiene practice of female high school students in Adama town, April 2016(n=398).

Level of menstrual hygiene practice

Concerning the respondents level of menstrual hygiene practice about 171(43.0%) of them had poor level of menstrual hygiene practice, while 227(57.0%) of them had good menstrual hygiene practice [Figure 2].

Factors associated with practice of menstrual hygiene practice

As shown in the Table 3 below those factors found associated on bivariate analysis with p-value ≤ 0.25 were entered to multivariable analysis. Accordingly, mothers education status, money source to buy sanitary materials, feeling the school as being uncomfortable were found significant predictors of good menstrual hygiene practice.

Accordingly, students who doesn't felt the school was comfortable 43.3% less likely to had good menstrual hygiene practice than students who felt school was comfortable (AOR=0.557; 95%CI=0.366-0.846).

Furthermore, students whose source of money was their parents were 2.3 times more likely to had a good menstrual hygiene practice as compared to those students who earn the money by themselves (AOR=2.267; 95% CI=1.076, 4.772).

Regarding mothers educational status, students whose mother attended secondary and above level of education were 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) [Table 3].

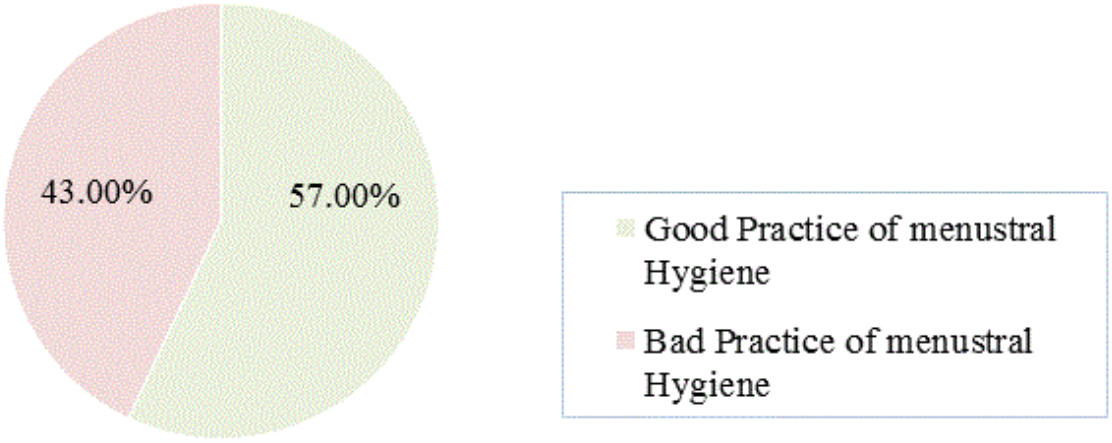

Figure 2: Level of menstrual hygiene practice of female high school students in Adama town, April 2016(n=398).

Variables		Menstrual Hygiene Practice		COR(95% CI)	AOR(95% CI)
		Good	Poor		
Age	14-16 years old†	121	79	1	1
	17-19 years old	106	92	0.752(0.505,1.120)	0.784(0.520,1.183)
Mother educational level	Primary and below†	170	106	1	1
	Secondary and above	57	65	0.547(0.356,0.841)*	0.608(0.374,0.990)*
Father educational level	Primary and below†	138	90	1	1
	Secondary and above	89	81	0.717(0.480,1.070)	0.829(0.524,1.311)
School uncomfortable to keep hygiene	Yes†	120	68	1	1
	No	107	103	0.589(0.394,0.880)*	0.557(0.366,0.846)*
Source of money to buy sanitary materials	Parents†	201	159	1	1
	Earn it	26	12	1.714(0.838,3.503)	2.267(1.076,4.772)*

Table 3: Factors associated with menstrual hygiene practice of female high school students in Adama town, April 2016(n=398) [†: Reference category, *: Significant association].

Discussion

This study assessed the menstrual hygiene practice of high school students and associated factors. Concerning the menstrual hygiene practice, more than 40% of the respondents had good menstrual hygiene practice. Presence of gap in educating female students about techniques of keeping sexual health might be the possible explanation for this. Therefore, provision of special education at high school level is required for female students including safe menstrual hygiene practice [13,14].

In this study 57% of the respondents had good practice of menstrual hygiene. This is higher than a finding from a study conducted in western Ethiopia [15] and India in which only 39.9% and 1.82%. This might be due to the difference in the study area in which most of the study participants of participants in this study from urban area. This in its turn will increase the access of getting health information and communication related to menstrual hygiene practice from several medias.

The difference in the study period could also be another possible explanation. Similarly, a research done in Nepal [16] and Lebanon [17] showed that about 46.7% and 50.6% of the students had good menstrual hygiene practices respectively.

Students who don't felt comfortable in their school environment were found to be 43.3% less likely to had good menstrual hygiene practice than their counterparts. Consequently, their lower level of practice could be related to their felling about the school environment [18].

In this study for about 51.3% of the respondents, mothers were the main source of information about menstrual hygiene. This is in contrast with the study finding from Amhara regional state of Ethiopia [19], in which mothers were the second source of information which accounts about 22.96%. This might be related due to cultural differences in the study areas.

Conclusion

In this study majority of the respondents had good menstrual hygiene practice. According to the findings of this study, source of information about menstrual hygiene practice was their mothers. Majority of the respondents felt uncomfortable during school time while experiencing menstruation. As finding showed that mothers education status, source of money for buying sanitary materials, feeling the school as being uncomfortable were significant predictors of good menstrual hygiene practice.

Therefore, it is recommended that strategy and policy makers should develop appropriate evidence-based strategies and curricula in high schools concerning female's reproductive health and specifically about menstruation and menstrual hygiene practice. Thus, designing strategies towards awareness creation and attitude changing activities about menstruation and menstrual hygiene practice through provision of different regular health information and communication programs is implicated.

Declarations

Ethics approval and consent to participate

The study was conducted after obtaining ethical clearance from Adama General Hospital and Medical College. An official letter was obtained from each school. Verbal informed consent was obtained from the participants age 18 and above and for study participants whose age were less than 18 years parental informed consent was obtained.

Personal identification data like respondents name were not included in the questionnaires. Students were informed they have full right either not to participate or terminate their participation at any stage from the study. All the data obtained in due course were confidentially kept.

Competing interest

The authors declared no conflict of interest.

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Adama Hospital and Medical College has covered the required fund for the research project.

Authors' contributions

Haile T conceptualized and designed the study. Haile T, Zeleke B, Olana R and Garoma S analyzed and interpreted the data, drafted the manuscript and critically reviewed the manuscript. All the authors read and approved the manuscript.

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