ASSESSMENT OF KNOWLEDGE AND PRACTICES MENSTRUAL HYGIENE MANAGEMENT AMONG ADOLESCENT SCHOOL GIRLS

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ABSTRACT

Background: Adolescent girls constitute about 1/5th of total female population worldwide. During menstruation, poor hygienic practices leads to multiple reproductive tract infections which have now become a silent epidemic. Worldwide approximately 10% of the women are exposed to genital infections including UTIs and bacterial vaginosis annually. In Pakistan, poor menstrual hygiene management (MHM) has been linked to negative consequences.

Objective: To determine the knowledge, practices, and availability of Menstrual Hygiene Management facilities in girls' schools and formulate recommendations for policy makers/reproductive health programmers.

Study Design: Cross-sectional descriptive study.

Place and Duration of Study: Armed Forces Post Graduate Medical Institute from April 2018 to December 2018

Material and Methods: Sample size was 416 adolescent school girls. Universal sampling was used to include female teachers of selected schools. Validated structured questionnaire was adapted for data collection. Chi square test was used to present the results.

Results: Only 3.8% of the respondents in public and private schools have good knowledge regarding MHM. Majority of the students knew about menstruation before attaining menarche and mother was common source of information. Good practices were reported among 33.7% in public and 48.1% in private schools. Over 50% of the girls used cloth during menstruation. Significant association was found between good practices and educational (*p*-value 0.001) and occupational (*p*-value 0.007) status of mother, educational (*p*-value 0.007) and occupational (*p*-value 0.009) status of father, regular pocket money from parents (*p*-value 0.005) and monthly income of the family (*p*-value 0.003). Educational and occupational status of mother, occupational status of father revealed association with good knowledge of MHM (*p*-value 0.001). Water for hand washing, toilets, dignity kits were available in both schools. And soap was available only in public schools. Dustbins for disposal of absorptive material was missing in both schools.

Conclusion: Inadequate knowledge and poor practices of MHM are key impediments to girl's education and personal development.

Keywords: Adolescent girls, Menstrual hygiene management, Hygiene.

INTRODUCTION

The term "hygiene" can be defined as the conditions/practices through which people maintains and promote good or positive health by keeping themselves and their surroundings clean. Good hygienic practices are instrumental in primary disease-prevention strategy[1]. Menstruation, being a normal physiological process, is a unique and peculiar phenomenon to females & has a significant influence on a girl's physical, psychological and social development. In various cultures and societies this phenomenon is perceived positively as an indication of youth and womanhood as well as negatively by linking menstruation to various illnesses and feeling of shame which lead to malpractices like setting restrictions on religious, social and daily life activities of menstruating female[2,3]. During menarche, girls face difficulties to manage menstruation due to poor knowledge and inadequate information about the physiology and hygiene of menstruation. Most commonly, the source of information is mother, sister, friend or television/radio. Hygiene related practices are of importance as poor menstrual hygiene has been

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associated with serious health issues e.g. reproductive and urinary tract infections (RTIs, UTIs) and scabies in vaginal area[4,5].

Globally, women and girls are not familiar with menstruation and its hygiene management which results in inadequate preparation and understanding for menarche, MHM and symptoms associated with menstruation[6]. Studies showed that adolescents faced multiple restrictions such as not being allowed to work in the kitchen, not being allowed to pay a visit to holy place or attend religious events and touch male family member. Many girls reported that they did not attend school during their menstrual period. In India and Pakistan some misapprehensions as mentioned by the respondents included that menstruating female must not wear new cloths, eat sour foods, pickle and avoid touching newborn and watering plants etc[7-9]. Adequate Menstrual Hygiene Management (MHM) as defined by WHO and UNICEF is: "Women and adolescent girls use a clean material to absorb or collect menstrual blood and this material can be changed in privacy as often as necessary for duration of menstruation, MHM also includes using soap and water for washing the body as required and having access to facilities to dispose of used menstrual management materials"[10]. Menstrual hygiene management is a matter of enormous importance due to its interrelationship with Sustainable Development Goals (SDGs)[10]. Attainment of Sustainable development goal (SDG) 3 which is to achieve good health and wellbeing, SDG 4 which seeks to achieve quality education; SDG 5 promoting gender equality and empower women, SDG 6 ensuring the availability and sustainable management of water and sanitation, along with reducing maternal mortality, would be more expedited if the country provide more support for women during menstruation[11].

Worldwide approximately 10% of the women, each year, are exposed to genital infections including UTIs and bacterial vaginosis, while 75% of women have history of genital infection. Notably, the common risk factors for vaginal infections include pregnancy and poor hygiene (both perineal and menstrual hygiene)[12]. RTIs have become a major public health concern, but the percentage of the burden being imposed by such infections, assigned to inadequate hygienic management of menstruation, is not known. RTIs, which are considered to be pertinent to MHM are the endogenous infections bacterial vaginosis (BV) and vulvovaginal candidiasis (VVC)[13].

MATERIAL AND METHODS

This descriptive cross sectional study was conducted in Sub district of District Attock after taking ethical approval from institutional review board of Armed Forces Post Graduate Medical Institute from April 2018 to December 2018. The sample size calculated was 416 (208 from each public sector and private sector schools). The adolescent girls in the schools who had started menstruation were included in the study. Multistage probability sampling technique was adopted to select the adolescent girls and universal sampling for selection of teachers. A structured questionnaire was used comprising three domains i.e. socio-demographic profile, questions regarding the knowledge about menstruation and its hygienic management, questions related to practices during menstruation. The knowledge of the respondents was assessed by asking 13 knowledge specific questions and was categorized into good, satisfactory and poor. For scoring purpose the correct response was given 2 marks and 1 mark for incorrect response/don't know response. The total score of knowledge ranges from 13-26. The score 23 and above was categorized as good, in between 18-22 as satisfactory and score equal to or below 17 was taken as poor. Student's practice of menstrual hygiene score was calculated by asking 10 practice specific questions and categorized into good and poor practice. Each correct response was given two marks, while any wrong/don't know response was given one mark. The total score of practice ranges from 10-20. The score 16 and above was categorized as good, while the score equal to or below 15 was taken as poor.

The data was entered and analyzed in SPSS version 21. Mean and standard deviation was calculated for quantitative variable including age. Frequencies and percentages were calculated for qualitative variables of the study i.e. grade, educational status of father, educational status of mother, occupation of father, occupation of mother, family assets (TV/Radio in home), permanent pocket money from home and monthly income of the family. Overall difference in frequencies was compared among the students of public and private school. The Chi-square test was used to assess the statistical relation between the defined dependent and independent variables among public and private students. A *p*-value<0.05 was considered as significant.

Table-I: Sociodemographic characteristics of the respondents.

Variable	Public Sector School		Private Sector Schools	
	Frequency	Percentage	Frequency	Percentage
Monthly family Income				
Less than 25000	128	61.5%	28	13.5%
25000-45000	65	31.3%	108	51.9%
Above 45000	15	7.2%	72	34.6%
Grade				
Eighth	14	6.7%	0	0%
Ninth	65	31.3%	112	53.8%
Tenth	129	62.0%	96	46.2%
Educational Status of father				
Illiterate	20	9.6%	0	0%
Literate	11	5.3%	0	0%
primary	16	7.7%	0	0%
Middle	40	19.2%	4	1.9%
secondary	85	40.9%	77	37.0%
college diploma and above	36	17.3%	127	61.1%
Educational Status of Mother				
Illiterate	89	42.8%	20	9.6%
Literate	26	12.5%	5	2.4%
primary	26	12.5%	25	12.0%
Middle	40	19.2%	20	9.6%
secondary	22	10.6%	88	42.3%
college diploma and above	5	2.4%	50	24.0%
Occupational Status of Father				
Farmer	49	23.6%	0	0%
Government Employee	70	33.7%	162	77.9%
Merchant/Trade	8	3.8%	35	16.8%
Private Org. employee	29	13.9%	11	5.3%
Daily laborer	44	21.2%	0	0%
Others	8	3.8%	0	0%
Occupational Status of Mother				
Housewife only	200	96.2%	156	75.0%
Farmer	0	0%	6	2.9%
Government Employee	6	2.9%	38	18.3%
Daily laborer	2	1.0%	8	3.8%
Permanent Pocket Money				
Yes	197	94.7%	208	100%
No	11	5.3%	0	0%
TV/Radio in Family				
Yes	163	78.4%	200	96.2%
No	45	21.6%	8	3.8%

RESULTS

A total of 416 adolescent girl students and all the female teachers of selected public and private higher secondary schools, were enrolled in the study with the response rate of 100%. The mean age of study participants from public school was 15.04 ± 1.37 with age range of 12 to 21 years. While in private school the mean age of study participants was 14.62 ± 0.85 with age range of 13 to 17 years (table-I).

The data showed that school absenteeism rate is prevalent among respondents during menstruation. As 43.8% respondents from public school miss school at least once a month as compared to 83.2% respondents from private school. While 11.5% (public) and 1.9% (private) girls were absent from school during their last menstrual period up to two days. Three girls (1.4%) of public school were absent up to three days during menstrual period. Seventy one (34.1%) respondents from public schools and thirty one (14.9%) respondents from private school mentioned that menstrual period did not interfere with their school attendance (others) (figure).

The knowledge of adolescent school girls regarding menstruation and its hygienic management is significantly associated with educational status of mother, occupational status of the mother and occupational status of father while is not associated with educational status of father and having TV/Radio at home (table-II).

The adolescent school girls whose fathers educational status was above primary, and mother educational status was above primary were likely to have good hygienic practices during menstruation. The hygienic practices during menstruation are significantly associated with occupation of father, occupation of mother, monthly income of the family and getting permanent pocket money from parents (table-III).

Table-II: Sociodemographic characteristics of the respondents and knowledge about menstrual hygiene management.

Sociodemographic characteristics	Knowledge of the respondent						Chi-Square	*p*-value
	Public School			Private School				
	Good	Satisfactory	Poor	Good	Satisfactory	Poor		
Educational Status of Father							17.16	0.70
Below and primary	0	36	11	0	0	0		
Above primary	8	119	34	8	175	25		
Educational status of Mother							34.430	0.001
Below and primary	2	109	30	0	39	11		
Above primary	6	46	15	8	136	14		
Occupational status of Father							34.18	0.001
Government employee	4	58	8	8	129	25		
Daily laborer	0	32	12	0	0	0		
Other	4	65	25	0	46	0		
Occupational Status of Mother							33.61	0.001
House wife only	8	147	45	0	134	22		
Government employee	0	6	0	8	27	3		
other	0	2	0	0	14	0		
Having TV/Radio							3.23	0.198
Yes	8	117	38	8	167	25		
no	0	38	7	0	8	0		

Water for hand washing, toilets, dignity kits were available in both schools. And soap was available only in public schools. Dustbins for disposal of absorptive material was missing in both schools. For MHM support, the means of fund was school fund in public schools while private contribution by girls in private school.

DISCUSSION

It is prudent that every girl should be educated about the facts, physiology and significance of menstruation as well as proper hygienic management and selection of adequate disposable sanitary absorbent material as basic part of hygienic practices. In this study, significant proportion i.e. 54.3% and 55.8% of the respondents of public and private school, respectively, knew about the menstruation before attaining menarche, which is higher than the study conducted in Karachi in which the proportion was 47% and 34% in public and private school respectively and the studies conducted in District Nagpur where only 36.95% study participants were aware about menstruation before menarche[2,14].

Commonest source of information for girls regarding menstruation was mother (80.8% and 95.7% in public and private school respectively) followed by friends (11.5% in public, 3.4% in private) and (3.8% in public, 1.0% in private). This could be evocative of the involvement of the mother for hygienic practice of adolescent girls during menarche. These findings are consistent with results of the studies conducted in Karachi, and Rural Kheda District where leading source of information was mother[2,15].

It is sad to observe in the present study that respondents who knew that during menstruation, source of blood was uterus were only 19.2% (Public) and 13.0% (private), which is due to minimum information regarding menstruation provided by teachers and parents. These findings are comparable to results of study conducted in

Table-III: Sociodemographic characteristics of the respondents and hygienic practices regarding menstruation.

Sociodemographic characteristics	Practices of the respondent				Chi-square	*p*-value
	Public School		Private School			
	Good	Bad	Good	Bad		
Educational Status of Father						
Below and primary	22	25	0	0	15.99	0.007
Above primary	48	113	100	108		
Educational status of Mother						
Below and primary	41	100	25	25	26.49	0.001
Above primary	29	38	75	83		
Occupational status of Father						
Government employee	30	40	79	83	15.37	0.009
Daily laborer	12	32	0	0		
others	28	66	21	25		
Occupational Status of Mother						
House wife only	62	138	86	70	12.04	0.007
Government employee	6	0	8	30		
others	2	0	6	8		
Monthly Income						
<25000	36	92	12	16	11.77	0.003
25000-45000	25	40	52	56		
>45000	9	6	36	36		
Earn pocket money from parents / relatives						
Yes	61	136	100	108	7.84	0.005
No	9	2	0	0		

Kheda District[15]. However, the study disagrees with the findings obtained from the study conducted in Western Ethiopia where 60.9% girls knew that origin of the menstrual blood was from uterus[16], and possibly it is due to the information provided by schools.

Similar to a study conducted in Western Ethiopia[16], this study showed that there is strong association between mother's educational status and knowledge of the girls, the reason might be that mothers who are educated openly discuss about menstruation with their daughters and give information relevant to MHM. However,

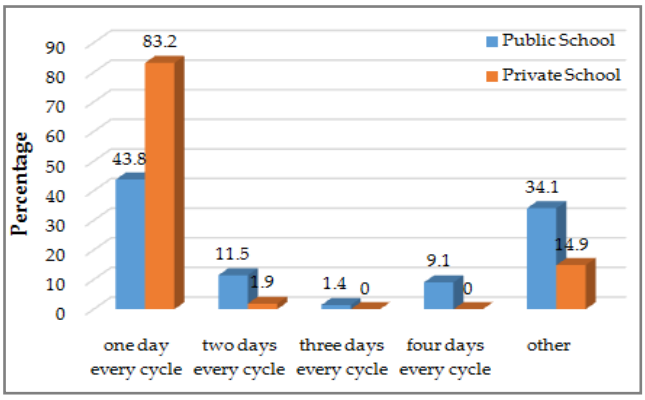

Figure: Menstrual problem interference with school attendance.

unlike this study, present study showed no association of knowledge with having TV/Radio in family. In this study, only 33.7% (public) and 48.1% (private) had good practice on menstrual hygiene. This concur with findings of a study conducted in western Ethiopia where only 39.9% of the study participants had good practice regarding menstruation[16] but lower than the study conducted in Adama town where 57.0% respondents had good practice of menstrual hygiene[17]. The reason for these differences could be due to inadequate and ineffective communication and low awareness related to menstrual hygiene among high school girls affecting their hygienic practices.

Regarding the availability of facilities related to menstrual hygiene management in girl's schools, the data collected from female teachers of both public and private schools shows that separate toilet facility is available in both schools with 72 students per toilet in public school and 100 students per toilet in private school which is inadequate as per literature and UNICEF's school WASH guidelines which use a ratio of 1 toilet for 20-40 students[18].

CONCLUSION

Most of the participants had satisfactory level of knowledge but poor practice of menstrual hygiene, the respondents from private school had comparatively better practice level and knowledge regarding menstrual hygiene than public school respondents. Most of the girls are unable to manage menstruation at school leading to high dropout rate from school thus affecting girl's education.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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