

Effect of Menstruation on School Absenteeism among Adolescent Girls

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Abstract: Non-facilitating school environment can increase girls' absenteeism from school. Poor sanitation in schools and inadequate menstrual hygiene can potentially have health consequences such as increased risk of reproductive and urinary tract infections. The study aimed to effect of menstruation on school absenteeism among adolescent girls at El Fayoum city and Sohag city. **Design:** A descriptive cross sectional design was used for the study. **Sample:-** included 530 adolescent girls which selected randomly from three preparatory schools three public schools at El Fayoum city and Sohag city. **Tools:** A self administered questionnaire was used for data collection, menstruation attitude questionnaire (MAQ) was utilized as a valid and reliable tool for collecting the data. **Results:** There was statistical significance difference between residence and educational level of the participants and their knowledge. As regards to participants' knowledge about two thirds had satisfactory level of knowledge, as regard practice, it was observed that more than two thirds were using sanitary pads as the ideal use during menstruation, regarding participants' attitude toward menstruation, the participants agree that menstruation is a debilitating (41.64 ± 6.62), a bothersome (20.22 ± 4.79) and natural event (15.59 ± 2.37). "Furthermore," they agree that they can anticipate their menstruation (13.78 ± 2.89) and they denial the effect of it (22.90 ± 5.97). The majority of participants were informed about menstruation from their mothers as the first source of information. There was statistical significance difference between knowledge, practice, and attitude toward menstruation and school absenteeism. **Conclusion:** It was found that menstrual attitude and knowledge were positively correlated and certain practices were restricted during menstruation such as bathing and physical activity and absenteeism from school was considerable and lack of access to good quality sanitary products can be associated with lowed enrolment in schools, absenteeism, and dropout. **Recommendations:** the importance prepares girls for menstruation before a menarche through providing them with well planned school health program for girls and mothers about menstruation by well trained teachers.

Keywords: knowledge, attitude, practice, menstruation, school absenteeism, schoolgirls.

1. INTRODUCTION

Although menstruation is a universal phenomenon experienced by almost all girls, and is a natural biological phenomenon for females indicating her capability for procreation (Verma et al., 2013), throughout the reproductive years of every girl, and influenced by physiological and pathological events which is controlled by the hormones produced by the hypothalamus and pituitary glands located in the brain (AMEade and Garti, 2016), that still poorly understood and considered a taboo that preventing individuals to speak about it (Neş, 2013).

Large number of girls affected by per menstrual symptoms and the possibly devastating impact of these symptoms on the girl's quality of life, economic, and social performance, so that premenstrual symptoms are become the focus of many research studies (Kahyaoglu and Mestogullari, 2016 & Ghiasi et al., 2017).

Cultural surrounding and religion play necessary roles on attitudes toward menstruation. Regarding religious restrictions during menstruation, a menstruating Muslim girl is not allowed to enter the mosque for prayer, touch the Qur'an, or fast in Ramadan (Sadiq and Salih, 2013)

Some studies have shown that, negative physical and psychological changes during menstruation period are associated with the perception of menstruation that influences a significant proportion of girls (Hashemzadeh et al., 2017).

Menstruation has important effect on the physical and emotional health of adolescents' reproductive health because menstruation has an impact on their own body image, gender identity, self-acceptance, sexual and health behavior (Çevirme et al., 2010).

Most of the girls believe that menstruation affects their performance negatively and recently many girls and women refuse to join physical activities during menstruation. Most girls who are professional or non professional probably form their attitudes toward menstruation and sport in their school classes and absent from school (Neşe, 2013).

Menstrual hygiene is the personal hygiene during menstruation which includes bathing daily, and using dry absorbent material and disposal them in clean environmentally acceptable and safe methods in order to feel fresh, keep perineal area clean from anterior to posterior (Eswi et al., 2012). Menstrual hygiene, a very scared risk factor for reproductive tract infections, is a vital aspect of health education for adolescent girls. Hygiene relates practices of school girls during menstruation are of considerable importance, as it has a health impact in terms for increased vulnerability to reproductive tract infections (Shokry et al., 2012).

In addition, Adinma 2008 stated that misconception about menstruation and menstrual cycle will lead to wrong menstrual practices.

Menstrual education is playing an important role of health education. It is known that attitudes to menstruation and menstrual practices developed at menarche may persist throughout life (Jarrah and Kamel, 2012).

This problem not only causes fear in approximately one-fifth of the female population, but also causes many social, physical, psychological, and economic problems for them around the world. The results some studies showed that many females with dysmenorrhea experienced an absence rate of 1 to 3 days per month from work or were unable to do their regular/daily tasks due to their severe pain. It has been also shown that dysmenorrhea is considered as the main cause of absence from school among young girl students (LiPing and Ming, 2011).

A previous study among menarcheal female students showed a significant positive correlation between menstrual knowledge, practice, attitude, and school Absenteeism (Muthusamy et al., 2015). Hence, the present study was conducted to assess relation between the knowledge, practice, and attitude toward menstruation and school Absenteeism among schoolgirls at El Fayoum city.

Significance of the study:

adolescents who have menstruation for the first time, menstrual hygiene management is determined by practical, social, economic and cultural factors such as the expense of commercial sanitary pads, lack of water and latrine facilities, lack of private rooms for changing sanitary pads, and limited education about the facts of menstrual hygiene. Adolescents enter the period of puberty and they not prepared and their information about menstruation that they receive was often selective and surrounded by taboos. In many curricula, there is emphasis on the reproductive process but not on the practical issues.

During menstruation, girls are faced with challenges related to the management of menstrual hygiene in public places as schools so that a lot of girls do not attend school during menstruation. Similarly, World Bank statistics indicated that students have been absent from school 4 days every 4 weeks because of menstruation.

Aim of the study:

The aim of this study is to assess effect of menstruation on school Absenteeism among adolescent girls at El Fayoum city and Sohag city.

Research questions:

1. What is the knowledge about menstruation among preparatory school girls?
2. What is the attitude of the preparatory school girls toward menstruation?

3. What is the practice of the preparatory school girls during menstruation?
4. Is there is a relationship between the menstrual knowledge , practice, and school Absenteeism among preparatory school girls

2. SUBJECTS AND METHODS

Research design:-

A descriptive cross-sectional design was used in the current study.

Setting

This study was conducted in three preparatory schools (El-Nasereia and El Mohamedeia preparatory schools in El Fayoum city and El- Eadadeia Banat in Sohag city in Egypt.

Subjects:

Multi stages sample were be used in this study, the study sample included 530 adolescent girls who selected randomly were attending preparatory schools during the time of data collection. El Fayoum city contains 15 governmental girls' preparatory schools. We selected 20% from the total number of schools by stratified random sample which was about three schools. The total number of students in all preparatory schools was about 530 to 600 students, we taken 10% of students from the three schools by simple random sample (530 girls). The students were from grade one, two and three. The inclusion criteria were: Adolescent girls' students, at the preparatory, aged from 12 up to 15 years.

Tools and techniques of data collection:-

It was developed by the researcher after reviewing related literatures. There were two tools used in the current study as the following:

Tool (1):- A structure interview questionnaire: It was composed of four parts:

Part (1): it includes personal data related to age, residence, educational level, menstrual history

Part (2): Includes the student's knowledge about menstruation, It contains 8 questions.

Part (3): It included (13) questions regarding practice and included variables on menstrual hygiene materials and knowledge about menstrual hygiene management such as the use of sanitary materials, ideal adsorbents, frequency at which sanitary pads should be changed,

Part (4): it includes number of day absenteeism during menstruation

Tool (2):- Menstrual Attitude Questionnaire (MAQ) was used as a data collection device in this study. The original MAQ developed by (Brooks and Ruble, 1980) is the gold standard measurement of menstruation. The 33-item MAQ consist of five subscales and items are scored on a Likert scale of strongly disagree to strongly agree. The original scale is scored per subscale, and reported Cronbach's alpha coefficient of 0.95 to 0.972. The validity and reliability of questionnaire was tested by Kulakaç in Turkey.

Scale was translated into Turkish and re-translated into English by specialists and re-translated into Arabic by the research of the current study because of the student's native language is originally Arabic. Test-retest reliability coefficients were found to be statistically significant ($p=.000$). Internal consistency reliability coefficient was 0.79 for the total MAQ. The questionnaire consists of 33 items and 5 factors, which consider menstruation as a debilitating event of 12 items, menstruation as a bothersome event of 6 items, menstruation as a natural event of 4 items, Anticipation and prediction of the onset of menstruation of 4 items and denial of any effects of menstruation of 7 items. The converted MAQ is a Likert type scale and has five rating scales of 1 strongly disagree to 5 strongly agree.

Scoring system:

Scores were used to evaluate participant's knowledge and practice about menstruation. Questions were scored as followed 1 marks for correct answer and 0 marks for wrong or no answer. The total score of each aspect equal 50% or more than satisfactory knowledge, the total of each aspect less than 50% unsatisfactory knowledge.

Tool validity:

Content validity of the tools was determined through an extensive review of literature about the relation between knowledge, practice and attitude toward menstruation and school absenteeism. The content of the data collection tools was submitted to a panel of five experts in Pediatric health nursing and the Obstetric health nursing field with more than ten years of experience in the field. Modifications of the tools was done according to the panel judgment on clarity of sentences, appropriateness of the content, sequence of items, and accuracy of scoring and recording of the items.

Tool Reliability

The tools reliability was estimated through using the Pearson correlation coefficient test to compare between variables. The Pearson correlation coefficient for the variables ranged between ($P < 0.5$) and ($P < 0.001$), which indicated a highly significant positive correlation between variables of the subjects. The findings from the validity and reliability suggested that, the tools of the study could be used as valid and reliable data collection tools for the current study.

Procedure for Data Collection:

- **Approval:-** Before starting this study, an official approval was obtained from authorities of the study setting to carry out the study. An official permission from the managers of the three preparatory schools was obtained. A clear explanation was given about the nature, importance and expected outcomes of the study to administrators.
- **Ethical consideration:-** All adolescent students were informed about the aim of the study, its benefits, and data collection tools in order to obtain their acceptance and cooperation. The researcher informed them that the participation in the study is voluntary; they have the right to withdraw from the study at any time, without giving any reason and that their responses would be held confidentially.
- **Review of current and past** local and international literature related to the research task was made so as to be oriented with relevant research articles and magazines. It was done in three preparatory schools (El-Nasereia and El Mohamedeia preparatory schools in El Fayoum city and El- Eadadeia Banat in Sohag city in Egypt; hence this review was helpful in developing the data collection tools used.
- **Pilot study:** It was carried out on 10 % of the adolescent students, for the purpose of modification and clarification and estimation of the time needed for data collection. The designed tool was tested on adolescent students. To fill in the sheets unclear items were clarified, unnecessary items were omitted and new items were added. Those who shared in the pilot study will be excluded from the study sample.
- **Study period:** Data was collected on March 2017 after obtaining the permission from the authorities.
- **Field work:** The researchers visited the school as per pre-planned schedule for interviewing the adolescent girls. The adolescent girls were informed about the purpose of the study, and confidentiality of data.
- The researchers visited each school three to four times to collect the data. It was done during the day of their school.
- The researcher with the help of one of the teachers was introduced herself to the students and the purpose of the visit and the way of the interview was explained to them. A direct interview was done by the researcher herself with each student separately and privately using a questionnaire composing of questions regarding knowledge attitude and practice during menstrual cycle, which and the average time spent for adolescent students for completion took around 20 -25 minutes.
- All of the questionnaires were distributed and collected on the same day trying to maintain the confidentiality of the collected data.
- To develop the main questionnaire, the questionnaires items included the onset of menstruation (menarche), source of information about menstruation and role of nutrition, exercise and physical activity, personal hygiene, use of medication, absenteeism from school and schoolgirls' attitude toward menstruation. The responses of the question were set in such a manner to be answered in the form of yes/no/true/false response.
- The researchers were available for more clarification whenever needed. Once the participants completed the questionnaires, the researchers collected it from the participants by themselves in the same visit.

Statistical analysis:

Data collected and analyzed by computer program SPSS" ver. 21" Chicago. USA. Data expressed as mean, standard deviation and number, percentage. Person's correlation used to determine significance between variables in same group. N.s $P > 0.05$ no significant, * $P < 0.05$ significant, ** $P < 0.001$ moderate significance and *** $p < 0.000$ highly significance.

3. RESULTS

Table (1) showed the percentage distribution of adolescent girls according to their socio demographic characteristics, where (47%) of them was their age was from 13 to 14 years. As regards residence, most of them (80.0%) of students were from urban. As regards birth order, (38.0 %) of schoolgirls were the first girl in the family, and (6.0%) was ranked as the Fifth.

Figure (1): concerning the adolescent student's knowledge about menstruation, It was noted that more than two thirds (68%) of girls had satisfactory level knowledge and less than one third (32%) had unsatisfactory level.

Table (2): illustrated that, there was highly statistical significant difference between adolescent student's knowledge about menstruation and residence ($P=0.001$), and clarified that no relation between girls' age and birth order with their knowledge about menstruation ($P=0.680, 0.210$) respectively.

As regards sources of information about menstruation, **figure (2)** display that, the main resource was the mothers (82%) followed by friends (49%) while school or class represented by (21.0%), nurse (1.0%), physician (2%), health education in society (15%) and TV (3%).

Table (3): indicates that, the mean age of menarche of girls was found to be 12.80 ± 2.61 years. Eighty two percent of the school girls mentioned that they have a regular menstruation, and the duration of menstruation was <5 days in (65.0%) girls, 5-7 days in (33.0%) girls and > 7 days in (2.0%) girl and showed that (42%) of the girls had been informed about menarche before its onset, the participant reported that abdominal pain (100%) was commonest associated signs and symptoms during menstruation. Among all participants, majority of girls were (92.0%) suffered from various types of menstrual problems.

Concerning practices of adolescent girls during menstruation **Table (4)** showed that (90%) of them use of sanitary pad followed by (6%) Piece of new clothes and (4%) Piece of old clothes. More than of the girls (60%) dried their washed absorbent (cloths) by exposing it to the sun. regard methods of disposal of absorbents after use among girls, they reported that 29 per cent of the girls washed clothes and burn pad followed by 28 per cent burned clothes or pad, 21 percent washed clothes and dry it in sun and 22 percent threw with other wastes. As number of absorbent Pad is changed per day, more than half of the girls (55%) changed their pads two times a day. (89%) of the participants reported that they practiced the personal health taking behavior, such as taking a bath in all days of menstruation. Regarding health care to premenstrual signs and symptoms, (75 %) said that they used analgesic, in addition (36%) by warm bath and (23%) by Warm fluid. Also it indicated that (75 %) of the girls taking over the counter drugs or self-medication and (13 %) from them were consulting a physician to subside dysmenorrhea.

Regarding to school girls' total score attitude toward menstruation as presented **in table (5)**, the participants agree that menstruation is a debilitating (41.64 ± 6.62), a bothersome (20.22 ± 4.79) and natural event (15.59 ± 2.37). Furthermore, they agree that they can anticipate their menstruation (13.78 ± 2.89) and they denial the effect of it (22.90 ± 5.97).

Table (6) this table presented that, Out of 530 girls 445 (84.0%) absent from school during menstruation while (16.0%) did not.

Concering number of day's absenteeism from school during menstruation **table (7)** displayed that, of the 445 girls, 267 (60.0%) absent in the first day, (24%) absent in the second day, and (16%) absent in the third day.

Table (8) reflected that there was highly significant difference between day's absenteeism from school during menstruation and socio-demographic characteristics of adolescent girls as regard age, residence and birth order ($P= 0.000, 0.001$ and 0.01) respectively.

Table (9) revealed that there was highly statistically significant (P=0.001) positive relation between total knowledge levels and their days absenteeism from school during menstruation.

Table (10) this table illustrated that, reasons for being absent from school during menstruation and showed that the main cause of absenteeism due to pain it presented (93.0%).

Table (11) revealed that there was highly statistically significant positive relation between practices of adolescent girls during menstruation and their days absenteeism from school during menstruation as regard type of pads used, methods of drying clothes, methods of disposal of absorbents after use among respondents, number of absorbent pad is changed per day, taking bath in all days of menstruation, health care to premenstrual signs and symptoms and health care to dysmenorrhea (0.001, 0.001, 0.001, 0.03,0.000, 0.03 and 0.02) respectively.

Table (1): Percentage distribution of adolescent girls according to their socio demographic characteristics

	No. (n= 530)	%
Age(in years):		
12-13	175	33.0
13-14	249	47.0
14-15	106	20.0
Mean ± SD (Range)	(12.55 ± 1.53)	
Residence:		
Rural	106	20.0
Urban	424	80.0
Birth order:		
First	201	38.0
Second	175	33.0
Third	53	10.0
Fourth	69	13.0
Fifth	32	6.0

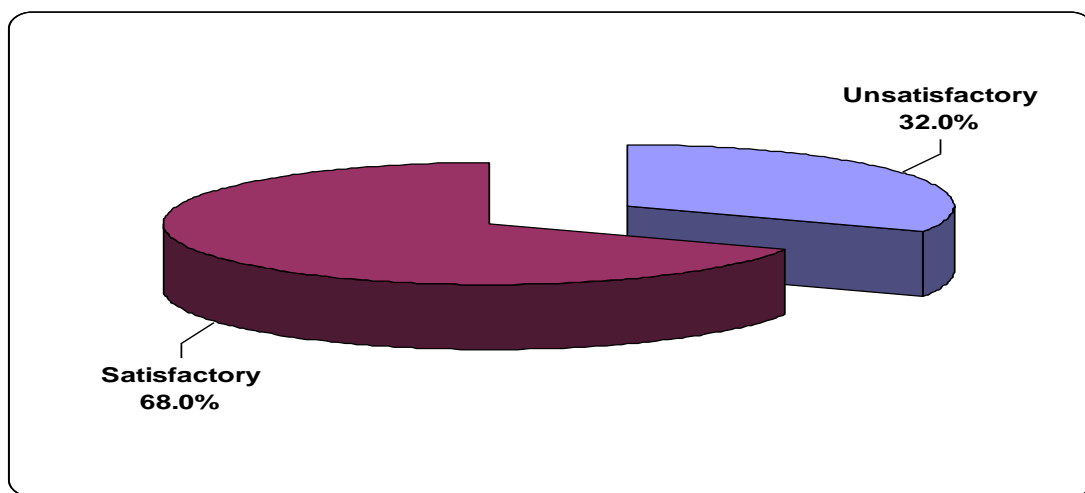


Figure (1): Percentage distribution of adolescent girls as regarding to their level of knowledge about menstruation

Table (2): level of knowledge of adolescent girls in relation to their socio-demographic characteristics

	Level of knowledge				P-value
	Unsatisfactory (n= 170)		Satisfactory (n= 360)		
	No.	%	No.	%	
Age: (years)					0.671
12-13	160	30.2	370	69.8	
13-14	180	34.0	350	66.0	
14-15	37	7.0	393	93.0	

Residence:					
Rural	301	56.7	229	43.3	0.001*
Urban	113	21.4	417	78.6	
Birth order:					
1 – 2	209	39.5	321	60.5	0.210
3 or more	145	27.4	385	72.6	

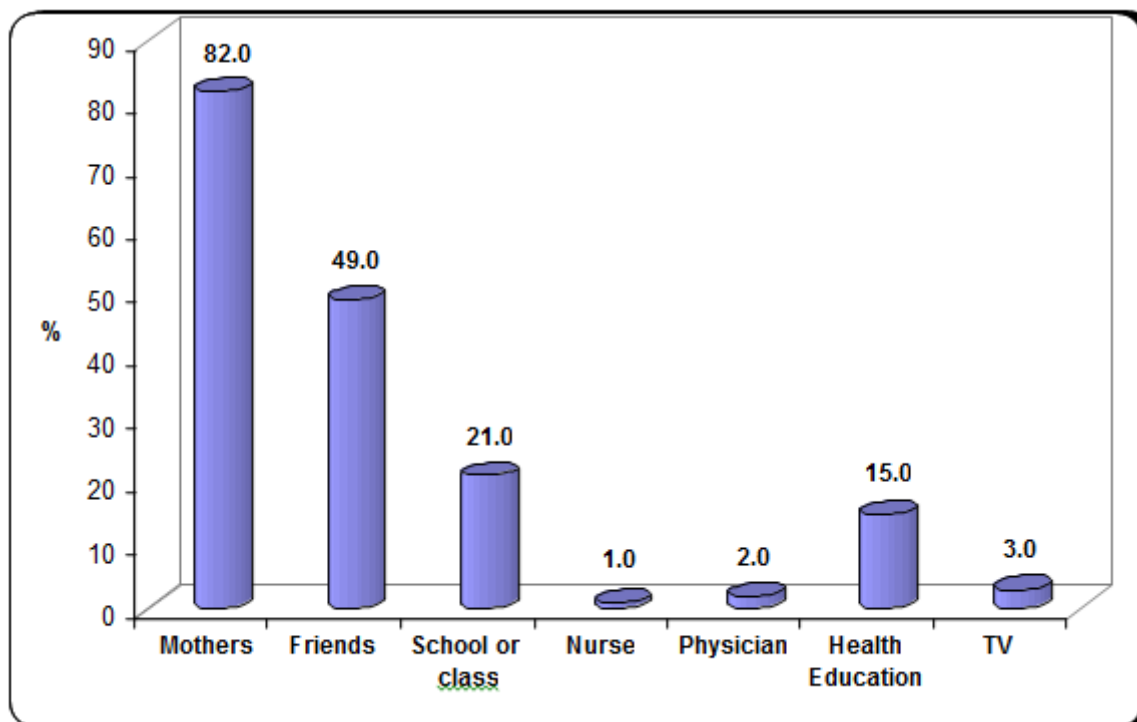


Figure (2): Percentage distribution of adolescent girls regarding source of information of about menstruation

Table (3) Percentage distribution of adolescent girls according to their menstrual history

Items	No. (n= 530)	%
Age at menarche:		
9 – 11	69	13.0
12 – 14	408	77.0
15 – 16	53	10.0
Mean ± SD	12.80 ± 2.61	
Menstrual regularity:		
Regular	435	82.0
Irregular	95	18.0
Days of menstruation:		
< 5	344	65.0
5 – 7	175	33.0
> 7	11	2.0
Previous information about menarche:		
Yes	223	42.0
No	307	58.0
Associated signs and symptoms with menstruation		
Abdominal pain	530	100.0
Breast tenderness	161	17.4
Tension	348	65.7

Increase weight	137	25.9
Withdrawn and depression	103	19.5
Having menstrual problem:		
Yes	488	92.0
No	42	8.0

- More than one answer were selected

Table (4) Percentage distribution practices of adolescent girls during menstruation

	No. (n= 530)	%
Type of pads used:-		
Piece of old clothes	21	4.0
Piece of new clothes	32	6.0
Sanitary pad	477	90.0
Methods of drying clothes:-		
Expose to the sun	318	60.0
Artificial dry	212	40.0
Methods of disposal of absorbents after use among respondents		
Throw it routine waste	117	22.0
Wash clothes and dry it in sun	111	21.0
Burn clothes or pad	148	28.0
Wash clothes and burn pad	154	29.0
Number of absorbent Pad is changed per day:		
1	27	5.0
2	291	55.0
3	159	30.0
More than 3	53	10.0
Taking bath in all days of menstruation:		
Yes	472	89.0
No	58	11.0
Health care to premenstrual signs and symptoms: •		
Physical rest	37	7.0
Analgesic	397	75.0
Warm bath	191	36.0
Exercise	101	19.0
Warm fluid	122	23.0
Health care to dysmenorrhea: •		
Consulting a physician	69	13.0
Taking over the counter drugs or self-medication	397	75.0
Warm bath	185	35.0
Analgesic	170	32.0
Physical rest	27	5.0

- More than one answer were selected

Table (5): Distribution of the adolescent girls according to their scores attitude toward menstruation

Items	No. %	Score	Mean ± SD	Range
It is debilitating	212(40%)	60	41.64 ± 6.62	29.0 - 58.0
It is bothersome	53(10%)	30	20.22 ± 4.79	14.0 - 30.0
It is natural	318 (60%)	20	15.59 ± 2.37	5.0 - 20.0
They can anticipation it	424 (80%)	20	13.78 ± 2.89	6.0 - 20.0
They denied any effect of	37(7%)	35	22.90 ± 5.97	13.0 - 35.0
Total attitude		165	114.13 ± 17.40	81.0 - 157.0

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Table (6): Percentage distribution of adolescent girls according to their absenteeism from school during menstruation

Absenteeism from school:	No (530)	%
• No	85	16.0
• Yes	445	84.0

Table (7): Percentage distribution of adolescent girls according to their number of day's absenteeism from school during menstruation

Absenteeism from school:	No (445)	%
Absent in the first day	267	60.0
Absent in the second day	107	24.0
Absent in the third day	71	16.0

Table (8): Relation between day's absenteeism from school during menstruation and socio-demographic characteristics of adolescent girls

Items	Days absenteeism from school during menstruation				P-value
	No.	%	No.	%	
Age: (years)					< 0.000
12-13	160	30.2	370	69.8	
13-14	180	34.0	350	66.0	
14-15	37	7.0	393	93.0	
Residence:					0.001
Rural	301	56.7	229	43.3	
Urban	113	21.4	417	78.6	
Birth order:					0.01
1 – 2	209	39.5	321	60.5	
3 or more	145	27.4	385	72.6	

Table (9): Relation between day's absenteeism from school during menstruation and total knowledge of adolescent girls

Days absenteeism from school during menstruation	Total knowledge level				P. value
	Unsatisfactory(n =170)		Satisfactory (n=360)		
	No.	%	No.	%	
Absent in the first day	107	63.0	306	85.0	0.001
Absent in the second day	37	22.0	54	15.0	
Absent in the third day	26	15.0	0	0.0	

Table (10) Reasons of absenteeism from school adolescent girl's during menstruation

Items	No. (n= 530)	%
• Pain	393	93.0
• Shame	69	13.0
• Bleeding	408	77.0
• Not prefer to go to school during menstruation	53	10.0
• Fear of leakage	370	69.8
• Leak of water supply	435	82.0
• No private bathroom	95	18.0
• No private place to mange menstruation	321	60.5

Table (11) Relation between day's absenteeism from school and practices of adolescent girls during menstruation

practices of adolescent girls during menstruation	Days absenteeism from school during menstruation		P. value
	(n= 530)	%	
Type of pads used:-			0.001
Piece of old clothes	21	4.0	
Piece of new clothes	32	6.0	
Sanitary pad	477	90.0	
Methods of drying clothes:-			0.001
Expose to the sun	318	60.0	
Artificial dry	212	40.0	
Methods of disposal of absorbents after use among respondents			0.001
Throw it routine waste	117	22.0	
Wash clothes and dry it in sun	111	21.0	
Burn clothes or pad	148	28.0	
Wash clothes and burn pad	154	29.0	
Number of absorbent Pad is changed per day:			0.03
1	27	5.0	
2	291	55.0	
3	159	30.0	
More than 3	53	10.0	
Taking bath in all days of menstruation:			0.000
Yes	472	89.0	
No	58	11.0	
Health care to premenstrual signs and symptoms: •			0.03
Physical rest	37	7.0	
Analgesic	397	75.0	
Warm bath	191	36.0	
Exercise	101	19.0	
Warm fluid	122	23.0	
Health care to dysmenorrhea: •			0.02
Consulting a physician	69	13.0	
Taking over the counter drugs or self-medication	397	75.0	
Warm bath	185	35.0	
Analgesic	170	32.0	
Physical rest	27	5.0	

4. DISCUSSION

Menstruation is clouded by various misconceptions in our society. Although it is considered a normal physiological phenomenon, this topic is not discussed openly. The adolescent girls get debarred due to various social misconceptions, low socioeconomic conditions, and lack of proper health education either at home or at school. Moreover, inadequate and inappropriate Water, sanitation and hygiene facilities in schools, especially in rural areas also comes in the way of managing their menstruation healthily, safely, and with dignity. These affect their health and educational absenteeism.. Adolescent girls are often become difficult to discuss the topic regarding menstruation with their parents and often hesitate to seek medical help regarding menstrual problems (Jailkhani, 2014).

The present study revealed that less than half of girl was their age was from 13 to 14 years. These results were supported by the study conducted by Aditi, et al., (2018) who studied school absenteeism during menstruation amongst adolescent girls in Delhi, India and found that more than three quarters of girls their age were between 12 and 14 years.

As regards residence, in the present study most of them of students were from urban, these results were in the same line with results conducted by Abed et al., (2015) who studied assessment of knowledge, attitude, and practice toward menstruation among adolescent girls at Sohag city and reported that majority of adolescent girls were from urban.

In the present study more than two thirds of girls had satisfactory level knowledge. These results were in accordance with the results conducted by Aditi, et al., (2018) who found in his study that majority of girls had information about menstruation. Also, Yasmin et al., (2013) who studied menstrual hygiene among adolescent school students: An in-depth cross-sectional study in an urban community of West Bengal, India and found that about three quarters of girls knew about menstruation, Abed et al., (2015) his study indicated the same results.

In addition Lawan, 2010 who was on the same line and mentioned that the majority of adolescent's school girls in Nigerian had fair knowledge about menstruation, and Dudeja et al (2016) who assessed awareness about menstruation in adolescent girls of an urban slum in western Maharashtra and reported that more than half of girls were aware of the process of menstruation before menarche

The current study reported that, there was highly statistical significant difference between adolescent student's knowledge about menstruation and residence ($P=0.001$), this is explained by that urban girls residents were more likely to be knowledgeable about than those adolescents living in the rural setting, and that the proportion of urban girls residents might have accessible reproductive health care service, and can better decision making autonomy than rural girls.

As regards sources of information about menstruation the current study displayed that, the main sources of information was the mothers, this could be due to proper communication between mother and daughter, this brings out an important of involving mothers in educating their girls about reproductive health problems as young girls usually propound her emotional and psychological problems with her mother. This result was in agreement with the study conducted by Ishita et al., (2017) who mentioned in his study about determinants of menstrual hygiene among school going adolescent girls in a rural area of West Bengal and said that primary source of information about menstruation was the mother. Another studies done by Damor and Kantharia (2015) in urban settings in Meeraj and Guntur and found that the main source of information about menstruation was mother.

This result was different from those of Yasmin et al., (2013) who demonstrated that, among most cases their first informant was their friend. In addition, also was not in agreement with the study conducted by Juyal and Negi, (2012) who reported in his study about "Practices of Menstrual Hygiene among Adolescent Girls in a District of Uttarakhand. Indian Journal Community Health" and found that friends were the first informant, this may owing to traditional taboos, they feel awkward and embarrassed to discuss on this subject with other persons and easily discussed with friends.

In the current study, the mean age of menarche of girls was found to be 12.80 ± 2.61 years. This result was similar with the study conducted by Aditi, et al., (2018) who noted in his study that the mean age at menarche of the girls was 13 years. Also Kholoud, et al., (2018) who stated that the mean menarche age of the studied sample was (13.1 ± 1.7) and Tanvi et al., (2018) who studied menstrual hygiene among adolescent girls – A study from urban slum area and found the same.

The current study revealed that majority of the school girls mentioned that they have a regular menstruation; this result was in agreement with the study conducted by Tanvi et al., (2018) who reported that majority of girls had regular menses.

In the present study, the duration of menstruation was <5 days in about two thirds of girls. These results were consistent with Tanvi et al., (2018) who found in their study that, the duration of blood flow was found to be about 4 days in majority of the girls.

In the present study, less than half of the girls had been informed about menarche before its onset, these results were supported by the study conducted by Abeer et al., (2012) who studied "Menstrual Attitude and Knowledge among Egyptian Female Adolescents", and reported that girls had been informed about menarche before its onset. Also the result was similar with the study done by Myoung and Young, (2013) who studied "Knowledge of Menstruation, Emotional reaction to menarche, Attitude toward menstruation and coping behavior among Korean" primary school students Korean and mentioned that same. And also, Ameade and Garti, (2016) who studied Relationship between female university students' knowledge on menstruation and their menstrual hygiene practices in a cross-sectional study were done in Tamale, Ghana on female university students, who stated that the majority of girls were aware of menstruation before menarche.

In the present study most of girls' use of sanitary pad. More than half of the girls dried their washed absorbent (cloths) by exposing it to the sun. regard methods of disposal of absorbents after use among girls, they reported that twenty nine per

cent of the girls washed clothes and burn pad followed by twenty eight per cent burned clothes or pad, twenty one percent washed clothes and dry it in sun and twenty two percent threw with other wastes. As number of absorbent Pad is changed per day, more than half of the girls changed their pads two times a day.

The current study revealed that analgesic was used by majority of girls to care of premenstrual signs and symptoms; this result was matched with Abed et al., (2015) who found that majority of the girls taking over the counter drugs or self-medication to relief dysmenorrhea. From the researcher point of view these result indicate that girls did not pay attention to the side effects of drugs and consider alarm about using medication without prescription and endangering adolescent girls for overuse and side effects. And educating young girls about consulting a doctor for menstrual problems, will not only cause the effective pain relief, but also prevent them from the possibility of adverse drug reactions.

This result was similar with Gultie, (2014) who studied age of menarche and knowledge about menstrual hygiene management among adolescent school girls in amhara province, Ethiopia and reported that many of the girls preferred cloth pieces and were washing the cloth pieces and then drying them in the sun in a private area and nobody can see them. And also found that more than half of the girls used proper disposal technique of wrapping the sanitary pad with paper and then throwing it into a dustbin.

Also, matched with Damor and Kantharia (2015) who studied "gaps in the knowledge and practices" and found that more than half of adolescent girls in an urban setting used only sanitary pads as menstrual absorbent. This finding is consistent with the a study was done by Singh et al., (2013) who studied "Knowledge, attitude and practices about menstruation among adolescent female in Uttarakhand" at the villages of Khirsu block of Gharwal and stated that only more than one third girls used sanitary pads during menstruation and more than two thirds of girls dried their clothes in the corner of the house.

Also similar to study In India by Santra, (2017), who studied "Assessment of knowledge regarding menstruation and practices related to maintenance of menstrual hygiene among the women of reproductive age group in a slum of Kolkata" and found in a cross-sectional study was done on 160 participants and about two thirds of girls used only sanitary pad. And similar with Patavegar et al, (2014) who studied menstrual hygiene among adolescent school girls: An in-depth cross-sectional study in an urban community reported the most of girls used sanitary pads.

The present study revealed that, majority of girls absent from school during menstruation, this result was matched with the result by Abed et al., (2015) who studied assessment of knowledge, attitude, and practice toward menstruation among adolescent girls at Sohag city and found that, out of 600, less than half of girls remained absent from school during their menstruation. This finding was in the same line with other studies conducted by Tegegne and Sisay (2014) who studied menstrual hygiene management and school absenteeism among female adolescent students in Northeast Ethiopia and reported that over half of the girls had been absent from school during their last menstrual period. Bodat et al., (2013) who studied School absenteeism during menstruation among rural adolescent girls in Pune also found that less than half girls who attained menarche absent from school during menstruation, from the researcher point of view, these results may be attributed to stress and fear from leakage of blood during menstruation.

In the present study, of the 445 girls, near two thirds absent in the first day, about one quarter absent in the second day, and less than one fifth absent in the third day. These results were matched with Tanvi et al., (2018) who found that, of the 245 students, more than two thirds absent in the first day off, less than one quarter took 3–4 days off, and less than ten percent took 5-7 days off. Also Muthusamy et al., (2015) who evaluate effect of menstruation on girls and their schooling, and facilitators of menstrual hygiene management in schools and reported that the majority of girls absent for 1 day during menstruation.

The current study reflected that there was highly statistically significant ($P=0.001$) positive relation between total knowledge levels and their days absenteeism from school during menstruation. From the researcher point of view, these results may be indicated that when girls are aware of all the options available to deal with menstruation, that may help in good practice during menstruation and lead to decrease day's absenteeism from school during menstruation which has no impact on their achievement and affected the quality of school time, which girls complaining of an inability to concentrate at school.

The current study revealed that, the main cause of absenteeism due to pain. this results was similar to results conducted by Tegegne and, Sisay, (2014) who reported that in his study about "Menstrual hygiene management and school absenteeism among female adolescent students in Northeast Ethiopia" that most of girls not come to their school because of pain. Similar reasons were reported by Muthusamy et al., (2015) who studied and mentioned that the main reason of absence from school was pain.

The present study revealed that there was highly statistically significant positive relation between practices of adolescent girls during menstruation and their days absenteeism from school during menstruation as regard type of pads used, methods of drying clothes, methods of disposal of absorbents after use among respondents, number of absorbent pad is changed per day, taking bath in all days of menstruation, health care to premenstrual signs and symptoms and health care to dysmenorrhea (0.001, 0.001, 0.001, 0.03,0.000, 0.03 and 0.02) respectively. These results may be indicated that, lack of adequate toilet facilities emerges as one of the main reasons for girls' absenteeism which has been demonstrated by others and cause absenteeism from school during menstruation (Am etal. 2016).

This finding was in congruence with the study carried out by Aditi et al., (2018) who aimed to investigate school absenteeism during menstruation amongst adolescent girls in Delhi, India and stated that girls still absent from school during menstruation. School absenteeism was significantly associated with the type of absorbent used and lack of privacy at school.

These results were in accordance with Oster and Thornton, (2011), Phillips et al., (2016), Grant et al., (2013), Tegegne and Sisay, (2014), there were also reports of an association of menstruation and school absenteeism in the cross-sectional survey and girls said that they didn't attend school during menstruation, and about one fifth of girls absent at least 1 day from school during their menstruation.

5. CONCLUSION

Students had experienced satisfactory level of knowledge about menstruation. Schoolgirls were influenced by their mothers as they were the main source of information and this may consequently affected their knowledge, attitude, and practice toward menstruation. Certain practices were restricted during menstruation such as bathing and physical activity and absenteeism from school was considerable. There was significant relation between menstruation and absenteeism from school this is due to pain and no private bath room was found.

6. RECOMMENDATION

- Prepare girls for menstruation before a menarche through providing them with well planned school health program for girls and mothers about menstruation by well trained teachers.
- Parents should be made to acknowledge the need to support their children at school with sanitary menstrual absorbents in addition to other basic hygienic products.
- The government and/or schools administrations should on the other compliment these provisions as part of the school health programmers.
- It necessity to educate young females about various aspects of menstruation like taking sufficient and correct nutrition, appropriate diet, observing personal hygienic practices, doing mild physical activity, taking medication doctors' prescription and ask help for any psychological problems during their menstruation.
- Health education nurses have to provide adolescent 'students with appropriate knowledge and practices about menstruation through verbal and written instructions.
- Provide private bath room for girls that help them to care healthy during menstruation in their schools.

REFERENCES

- [1] Abeer E., Houaida H., Wafaa E. (2012): Menstrual Attitude and Knowledge among Egyptian Female Adolescents, Journal of American Science. 8(6):555-565.
- [2] Adinma E., (2008): Perceptions and practices on menstruation amongst Nigerian secondary school girls. Afr. Repro. Health, 12 (1):74-83.

International Journal of Novel Research in Healthcare and Nursing

 Vol. 6, Issue 1, pp: (346-360), Month: January - April 2019, Available at: www.noveltyjournals.com

- [3] Aditi V., Rambha P., Rashmi A., Bilkish N , Meely P. (2018): School absenteeism during menstruation amongst adolescent girls in Delhi, India
- [4] AM E., Sivakami M., Thakkar M., Bauman A., Laserson K., and Coates S. (2016): Menstrual hygiene management among adolescent girls in India: a systematic review and meta-analysis. *BMJ Open.*; 6: e010290 DOI: 10.1136/bmjopen--010290.
- [5] Ameade E., Garti H. (2016): Relationship between female university students' knowledge on menstruation and their menstrual hygiene practices: A study in Tamale, Ghana. *Adv Prev Med* 2016;:1056235.
- [6] Bodat S., Ghate M., Majumdar J. (2013): School absenteeism during menstruation among rural adolescent girls in Pune. *Natl J Community Med*; 4:212-6.
- [7] Brooks J., Ruble D. (1980): The Menstrual Attitude Questionnaire, *Psychosomatic Medicine*, 42(45); 503-512.
- [8] Çevirme A., Çevirme H., Karaoğlu L., Uğurlu N., korkmaz Y. (2010): The Perception of Menarche and Menstruation Among Turkish Married Women: Attitudes, Experiences and Behaviours, *Social Behavior and Personality.*; 38(3),381-394.*Commun Health.*; 25(3):265–71.
- [9] Damor R., Kantharia S. Original article menstrual hygiene: Gaps in the knowledge and practices. *J Evidence Based Medicine and Healthcare* 2015;2:2290-5
- [10] Dudeja P., A, Shankar P., Gadekar T. (2016): A cross-sectional study to assess awareness about menstruation in adolescent girls of an urban slum in western Maharashtra. *International J Adolescent Medicine Health.*
- [11] Eswi A.; Helal A., Hand W. (2012): Menstrual Attitude and Knowledge among Egyptian Female Adolescents *Journal of American Science*, 8(6).
- [12] Ghiasi A., Keramat A., Mollaahmadi L., Hashemzadeh M., Bagheri L. (2017): The effect of acupuncture at the Sanyinjiao (SP6) point on relief of primary dysmenorrhea: a systematic review of clinical trials. *Iran J Obstetr Gynecol Infertil.*; 19(40):55–68. doi: 10.22038/ijogi.2017.8447.
- [13] Grant M., Lloyd C., Mensch B. (2013): Menstruation and school absenteeism: evidence from rural Malawi. *Comp Educ Rev.*; 57(2):260–284. doi: 10.1086/669121.
- [14] Gultie T., Hailu D., Workineh Y. (2014): Age of menarche and knowledge about menstrual hygiene management among adolescent school girls in Amhara province, Ethiopia: Implication to health care workers & school teachers. *PLoS One*; 9:e108644.
- [15] Hashemzadeh M., Keramat A., Mollaahmadi L., Ghiasi A., Mottaghi Z. (2017): Prevalence of dysmenorrhea and its related factors in young girls in Iran: A systematic review and meta-analysis. *Payesh Health Mon.*; 16(3):325–34.
- [16] Ishita S., Madhumita D., Aparajita D., Rivu B., Bhaskar S. (2017): Determinants of menstrual hygiene among school going adolescent girls in a rural area of West Bengal
- [17] Jaiikhani S. (2014): Patterns and problems of menstruation among the adolescent girls residing in A the Urban Slum. *Sch J Appl Med Sci*; 2:529-34.
- [18] Jarrah S., Kamel A. (2012): Attitudes and practices of school-aged girls towards menstruation in Nursing College Kufa *Journal for Nursing*. 3 (1): 57-62.
- [19] Juyal R., Negi K. (2012): Practices of Menstrual Hygiene among Adolescent Girls in a District of Uttarakhand. *Indan. Journal Community Health*. 24(2):124–8.
- [20] Kahyaoglu H., Mestogullari E. (2016): Effect of Premenstrual Syndrome on Work-Related Quality of Life in Turkish Nurses. *Saf Health Work.* ; 7(1):78–82. doi: 10.1016/j.shaw.2015.09.001.
- [21] Kholoud K., Alharbi, A., Doha A., Maryam A., Wareef A. (2018): Knowledge, readiness, and myths about menstruation among students at the Princess Noura University

International Journal of Novel Research in Healthcare and Nursing

 Vol. 6, Issue 1, pp: (346-360), Month: January - April 2019, Available at: www.noveltyjournals.com

- [22] Lawan M., Yusuf W., Musa B., (2010): Menstruation and menstrual hygiene amongst adolescent school girls in Kano, Northwestern Nigeria. *African Journal of Reproductive Health*. 14(3): 201- 207.
- [23] LiPing W., MingK E., (2011): Menstrual- related attitudes and symptoms among multi- racial asian adolescent females. *International Journal of Behavioral Medicine*. 18(3): 246-253.
- [24] Manal A., Yousseria Y., Nemea M. (2015): assessment of knowledge, attitude, and practice toward menstruation among adolescent girls at Sohag city, Vol, (3) No, (6) December.
- [25] Muthusamy S., Harshad T., Narendra K., Chetan P., Sharayu S., Nikita S., Ashley B., Garazi Z., Yusuf K., Arun D., Prathiba S., Bharathy T., Linda M., Kelly T., Mamita T., Kayla F., and Penelope A. (2015): Effect of menstruation on girls and their schooling, and facilitators of menstrual hygiene management in schools: surveys in government schools in three states in India.
- [26] Myoung K., Young Y. (2013): Knowledge of Menstruation, Emotional reaction to menarche, Attitude toward menstruation and coping behavior among Korean primary school students *Korean J Women Health Nurs*.15 (1): 64-72.
- [27] Nese Z. (2013): Evaluation of Menstrual Attitude of Collegiate Athletes, *Life Science Journal*; 10(6s):295-300.
- [28] Oster E., Thornton R. (2011): Menstruation, sanitary products, and school attendance: evidence from a randomized evaluation. *Am Econ J*; 3(1):91–100.
- [29] Patavegar B., Kapilashrami M., Rasheed N., Pathak R. (2014): Menstrual hygiene among adolescent school girls: An in-depth cross-sectional study in an urban community. *Int J Health Sci Res*; 4:15-21.
- [30] Phillips-H., Nyothach E., Ter K., Omoto J., Wang D., Zeh C., Onyango C., Mason L., Alexander K., Odhiambo, et al. (2016): Menstrual cups and sanitary pads to reduce school attrition, and sexually transmitted and reproductive tract infections: a cluster randomised controlled feasibility study in rural western Kenya. *BMJ Open*.; 6(11):e013229. doi: 10.1136/bmjopen--013229.
- [31] Sadiq M., Salih A., (2013): Knowledge and Practice of Adolescent Females about Menstruation in Baghdad. *J Gen Pract* 2: 138.
- [32] Santra S. (2017): Assessment of knowledge regarding menstruation and practices related to maintenance of menstrual hygiene among the women of reproductive age group in a slum of Kolkata, West Bengal, India. *Int J Community Med Public Health*; 4:708-12.
- [33] Shokry E., Allah A., Elsayed E., Elsabagh M., (2012): Impact of Health Education Intervention on Knowledge and practice about Menstruation among Female Secondary School Students in Zagazig City. *J Am Sci*. 7(9):737–47.
- [34] Singh A., Bhandani A., Mallik N. (2013): Knowledge, attitude and practices about menstruation among adolescent female in Uttarakhand. *Panacea J Medical Sciences*; 3:19-22.
- [35] Tanvi N., Supriya S., Supriti B., Patil, P., Durgawale.(2018): Menstrual hygiene among adolescent girls – A study from urban slum area
- [36] Tegegne T., Sisay M. (2014): Menstrual hygiene management and school absenteeism among female adolescent students in Northeast Ethiopia. *BMC Public Health*; 14:1118.
- [37] Verma P, Ahmad S, Srivastava RK. (2013): Knowledge and Practices about menstrual hygiene among higher secondary school girls. *Indian J*
- [38] Yasmin S, Manna N, Mallik S. Menstrual hygiene among adolescent school students: An in- depth cross-sectional study in an urban community of West Bengal, India. *IOSR J Dental and Medical Sciences*; 5:22-6.