

## Assessment of Knowledge, Attitude and Practice toward Menstruation among Adolescent Girls at Sohag City

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### Abstract

**Aim of the study:** To assess the knowledge, attitude and practice toward menstruation among adolescent girls at Sohag City **Methods:** A descriptive cross-sectional design was utilized for the study. A convenient sample of 100 adolescent girls was recruited for the study. A self-administrated questionnaire and Menstruation Attitude Questionnaire (MAQ) were used for data collection. **Results:** The level of knowledge was more significantly higher among urban girls and those with a higher level of education. Two-thirds had a satisfactory level of knowledge; more than two-thirds used sanitary pads as the ideal use during menstruation. The participants agreed that menstruation is a debilitating among 42 girls (42%), a bothersome among 15 girls (15%) and natural event among 53 girls (53%). Furthermore, they agreed that they can anticipate their menstruation among 80 girls (80%) and they denied the effect of it among 8 girls (8%). The majority of participants were informed about menstruation from their mothers as the first source of information. There was a positive correlation between participants' score of knowledge and their attitude toward menstruation. **Conclusions and Recommendations:** adolescent girls had a satisfactory level of knowledge about menstruation. Their mothers were the main source of information. The level of knowledge positively correlated with the girls attitude toward menstruation It is recommended to prepare girls for menstruation before menarche through providing them with well-planned school health program for girls and mothers about menstruation by well-trained educators.

**Keywords:** Knowledge, Attitude, Practice, Menstruation & Adolescent Girls.

### Introduction

Menstruation is a natural phenomenon experienced by almost all girls that occur throughout the reproductive years. It is influenced by physiological and pathological events occurring throughout the life time of the girl. Meanwhile, it is still poorly understood and considered a taboo that prevents individuals to speak about it (Nese, 2013).

All the current studies indicated that menstruation has little or no effect on performance (Çakmakci et al., 2005). Environment culture and religion play important roles on attitudes toward menstruation. Regarding religious restrictions during menstruation, a menstruating Muslim girl is not allowed to enter the mosque for praying, touch the Qur'an, or fast in Ramadan (Sadiq & Salih, 2013)

Different studies indicated that perceptions and severity of psychological and physical symptoms during menstruation are mostly affected by negative or positive attitudes toward menstruation (Marván et al., 2005). Menstruation-related information of people determines their response to this event. Some studies have shown that negative physical and psychological changes during menstruation period are associated with the perception of menstruation (Houston et al., 2006).

Girls may be unfamiliar with what is normal and may not inform their parents about menstrual irregularities or missed menses (Diaz et al., 2006). The onset of menstruation in adolescence is a phenomenon that signals reproductive maturity and should not be seen as an abnormal condition or disease. Adolescent girls often do not receive accurate information about menstrual health because of culturally specific practices that lead to incorrect and unhealthy behaviors (Moloud et al., 2012).

In recent years, reproductive health care has been a primary concern and a program about reproductive health care has been started. Education regarding menstrual health has changed and conducting health promotion projects focused on puberty (Nese, 2013). While menstruation has been discussed broadly, negative and positive cultural elements about menstruation are still effective on attitudes towards menstruation. Menstruation has important implications on the physical and emotional wellbeing of adolescents' reproductive health. The way girls perceive menstruation has an effect 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 (Nese, 2013).

Most girls experience some degree of pain and discomfort in their menstruation period, which could have important impacts on their daily activities, and disturb their productivity at home or at their work place. In these instances, they should consult a physician to relieve their pain and other relevant symptoms of dysmenorrhea (Wong & Khoo, 2011).

According to many reports, the prevalence of dysmenorrhea is very high, and at least 50% of girls experience this problem throughout their reproductive years (Sudenshana and Dasgupta, 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. It has been also shown that dysmenorrhea is considered as the main cause of absence from the school among young girl students (LiPing & Ming, 2011).

Menstrual hygiene is the personal hygiene during menstruation. It includes bathing daily for comfort, using clean, dry absorbent material and disposal of used pads/material in clean environmentally acceptable, safe methods and to feel fresh, keep perineal area clean from anterior to posterior (Eswi et al., 2012). Menstrual hygiene, a very important risk factor for reproductive tract infections, is a vital aspect of health education for adolescent girls.

Today millions of girls suffer from reproductive tract infections and their complications and they sometimes transmit it to their next generation. The girls who have a better understanding of this natural phenomenon and using safe healthy practices are definitely less vulnerable, so that health education by teachers, parents, and the media is important in addressing misconceptions about menstrual health (Shokry et al., 2012).

Adinma (2008), reported that faulty perceptions or misconception on menstruation and menstrual cycle will lead to faulty menstrual practices. In addition, Anjum et al., (2010), reported that attitudes toward menstruation may adversely affect women's body image, the perception of disease causation, diet, willingness to take medication, contraceptive use, and the ability to plan pregnancies.

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

Adolescent females in schools may have their own attitude toward menstrual cycle. This attitude may be affected by cultural perspective, lack of knowledge, and embarrassment to speak about this normal phenomenon with their mothers at home or others. Also, there is scattered research that examines female

attitude and knowledge and practice among adolescent girls in Egypt. Therefore, the current study may contribute to a better understanding of the Egyptian adolescent girls' attitude and knowledge and practice related to menstruation.

Before planning for health education programs about menstruation, a study of adolescents' knowledge of menstruation, and their beliefs and practices will help the health educator, maternity nurse, school nurse, community nurse discovers deficiencies in their knowledge and troubling misconception-related issues (Fetohy, 2007).

#### **Significance of the study**

In adolescents who experienced menstruation for the first time, menstrual hygiene management is constrained 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 puberty unprepared and the information they receive is often selective and surrounded by taboos. In many curricula, there is an emphasis on the reproductive process but not on the practical issues.

The majority of girls usually have a lack of scientific knowledge and hygienic practice during menstruation and puberty. Also, girls often are reluctant to discuss this embracing topic with their care providers and often hesitate to seek help regarding the menstrual problem from external sources. So, girls should be educated about "menstruation and healthy menstrual cycle. UNICEF estimates that 1 in 10 school-age African 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.

Addressing menstrual hygiene management directly contributes to improving maternal health. Due to its indirect effect on school absenteeism and gender discrepancy, poor menstrual hygiene and management may seriously hamper the realization of universal education and gender equality and women empowerment. However, menstrual hygiene management is an issue that is insufficiently acknowledged. Thus, the objective of the study is to assess the knowledge, attitudes and practice of adolescent girls. .

#### **Aim of the study**

Aim of the study is to assess knowledge, attitude and practice toward menstruation among adolescent girls at Sohag City

### Research questions

- 1-What is the knowledge about menstruation among adolescent girls?
- 2-What is the attitude of the adolescent girls toward menstruation?
- 3-What is the practice of the adolescent girls during menstruation?
- 4-Is there is a relationship between the menstrual knowledge and attitude among adolescent girls?
- 5-Is there is a relationship between the menstrual knowledge and practice among adolescent girls?

### Subjects and methods

**Research design:** -A descriptive cross-sectional design was used.

#### Subjects and settings

The target population of this study consisted of all adolescent girls (12-18 years) from students enrolled in the preparatory and secondary schools at Sohag City. Two educational districts were selected that have combined preparatory and secondary schools where two of them were selected according to the selection of the authorities of Ministry of Education. A convenient sample of 100 adolescent girls were included who accepted to participate in this study (47 from one Omelmoemenen school and 53 from the Naser school).

#### Tools of data collection

- **A self-administrated questionnaire** was used as a tool for data collection; it included personal data related to age, residence, educational level, menstrual history and the student's knowledge about menstruation. The questionnaire included also 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,
- **Questionnaire sheet:** Menstrual Attitude Questionnaire (MAQ) was used as a data collection device in this study. MAQ is developed by (Firat et al., 2009) is the gold standard measurement of menstruation. The 33-item MAQ consisting 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 the questionnaire were tested by Kulakaç in Turkey.
- The scale was translated into Turkish and re-translated into English by specialists and re-translated into Arabic by the researchers of the current study because of the student's native language is originally Arabic. The test-retest reliability coefficients were found to be statistically

significant ( $p=.000$ ). The 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 about menstruation. Questions were scored as followed 1 mark for the correct answer and 0 marks for wrong or no answer. A total score of each aspect of 60% or more is considered satisfactory knowledge while less than 60% is unsatisfactory knowledge.

#### Ethical considerations

An approval was obtained from authorities of Ministry of Education and schools Objective of the study and its implication were explained to both schools administrators and the students. An oral consent was obtained from students who were willing to participate in the study and attained menarche. All information are confidential. Students were informed that their participation will be the involuntary basis and it will not affect their grades and evaluation.

#### Field work

A cross-sectional study was conducted from March to May 2015. Multistage sampling technique was used. Each school was first clustered into grades & sections and then participants were selected by random method. The school authorities were contacted and informed about the nature and objective of the study. After obtaining the permission from the school authorities, the investigators visited the school as the pre-planned schedule for interviewing the adolescent girls. The purposes of the study were explained for adolescent girls and they were elective for participation and were assured regarding confidentiality.

The oral consent was taken from each participant. The data was collected by applying a 33 item questionnaire. The researcher with the help of one of the teachers has 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 the menstrual cycle, which took around 20 -25 minutes.

All questionnaires were distributed and collected on the same day trying to maintain the confidentiality of the collected data. A questionnaire with 33 items was designed by the authors and was initially tested on 10 adolescent girls with the similar characteristics of the main study subjects for construct and content validity. To develop the main questionnaire, the questionnaires items included the onset of menstruation (menarche), the 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.

#### Pilot study

Before the actual data collection, the questionnaire was pre-tested on 10% of the study subjects, with

similar characteristics of the main study subjects. Based on the findings of the pretest, the required modifications were done. Those girls participating in the pilot study were excluded from the study.

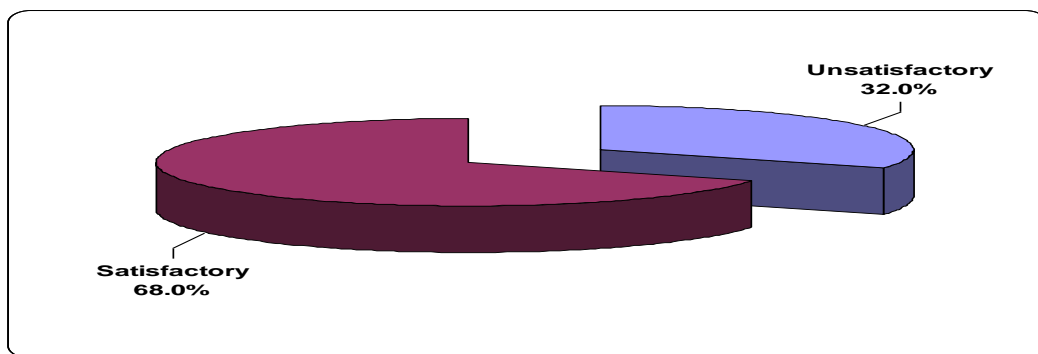
#### Statistical analysis

Data entry was done using a compatible personal computer. The statistical analysis was done using SPSS-16 statistical software package and Excel for figures. The content of each tool was analyzed, categorized and then coded. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables. Qualitative studied variables were compared using Chi-square test. Statistical significance was used at P.value <0.05. Pearson's Product Moment correlation coefficients were calculated to assess the relationship among the study variables.

## Results

**Table (1): Distribution of adolescent girls according to their personal characteristics**

	No. (n= 100)	%
<b>Age</b>		
< 15 years	53	53.0
≥ 15 years	47	47.0
Mean ± SD (Range)	14.25 ± 1.53 (12.0 – 17.0)	
<b>Residence</b>		
Rural	30	30.0
Urban	70	70.0
<b>Level of education</b>		
Primary	28	28.0
Preparatory	72	72.0
<b>Birth order</b>		
First	38	38.0
Second	24	24.0
Third	19	19.0
Fourth	13	13.0
Fifth	6	6.0

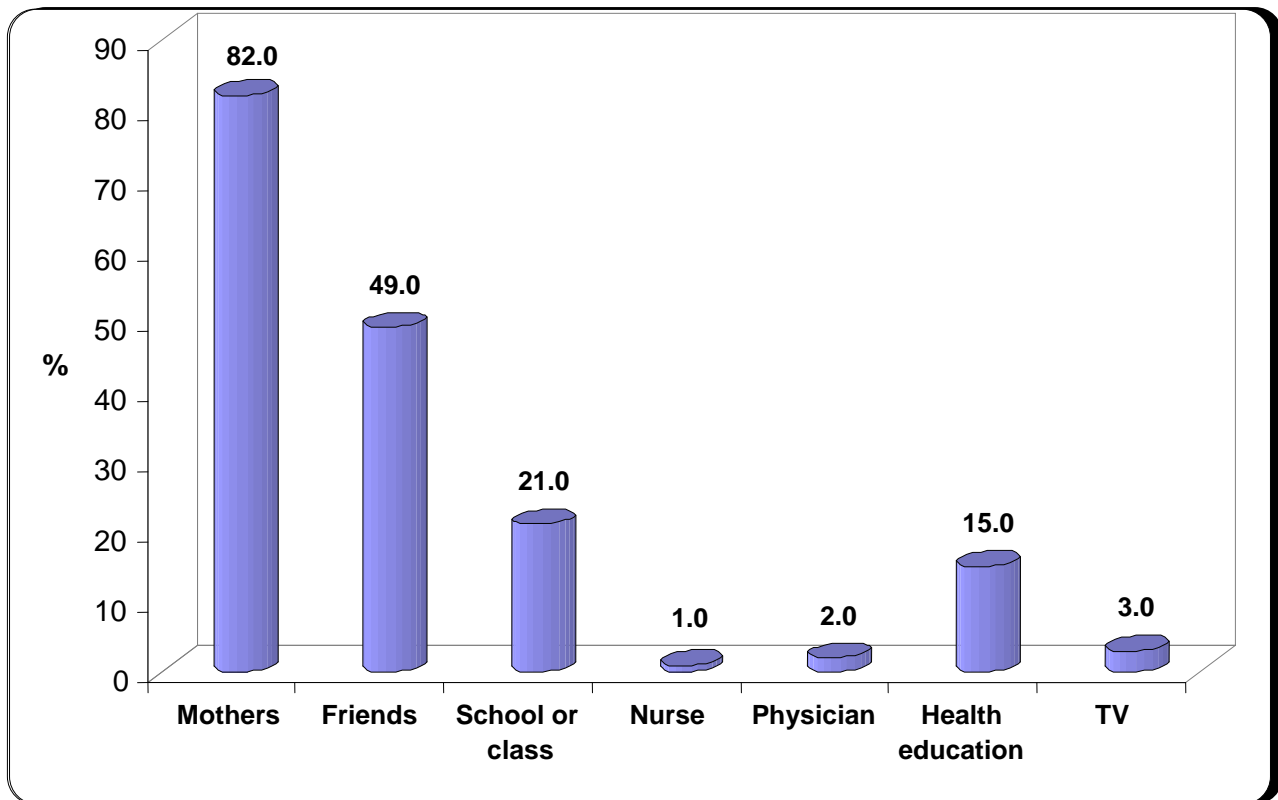


**Figure (1): Distribution of participants according to their level of knowledge about menstruation**

**Table (2): Relations between level of knowledge and personal characteristics of adolescent girls**

	Level of knowledge				P-value
	Unsatisfactory (n= 32)		Satisfactory (n= 68)		
	No.	%	No.	%	
<b>Age</b>					0.680
< 15 years	16	30.2	37	69.8	
≥ 15 years	16	34.0	31	66.0	
<b>Residence</b>					0.001*
Rural	17	56.7	13	43.3	
Urban	15	21.4	55	78.6	
<b>Educational level</b>					0.000*
Primary	18	64.3	10	35.7	
Preparatory	14	19.4	58	80.6	
<b>Birth order</b>					0.210
1 – 2	15	39.5	23	60.5	
3 or more	17	27.4	45	72.6	

\* $p < 0.05$  (Significant)



**Figure (2): Distribution of adolescent girls regarding source of information about menstruation**

More than one answer was found related to participants' sources of information about menstruation.

Table (3): Distribution of the participants according to their menstrual history

	No. (n= 100)	%
<b>Age at menarche</b>		
9 - <12 years	12	12.0
12 - <15 years	74	74.0
15 -16 years	14	14.0
<b>Mean ± SD</b>	13.86 ± 4.71	
<b>Menstrual regularity</b>		
Regular	82	82.0
Irregular	18	18.0
<b>Days of menstruation</b>		
< 5 days	65	65.0
5 – 7days	33	33.0
> 7 days	2	2.0
<b>informed about menarche before its onset</b>		
Yes	44	44.0
No	56	56.0
<b>Associated symptoms and signs: ( No=92)</b>		
Abdominal pain	92	100.0
Breast tenderness	16	17.4
Tension	54	58.7
Increase weight	22	23.9
Withdrawn and depression	17	18.5
<b>Having menstrual problem</b>		
Yes	92	92.0
No	8	8.0
<b>Menstrual problem</b>		
None	3	3.0
Severe bleeding	17	17.0
Dysmenorrhea	80	80
Tolerable pain	43	43.0
Severe pain	37	37.0

• More than one answer was selected

Table (4) Self-care practices of participants during menstruation

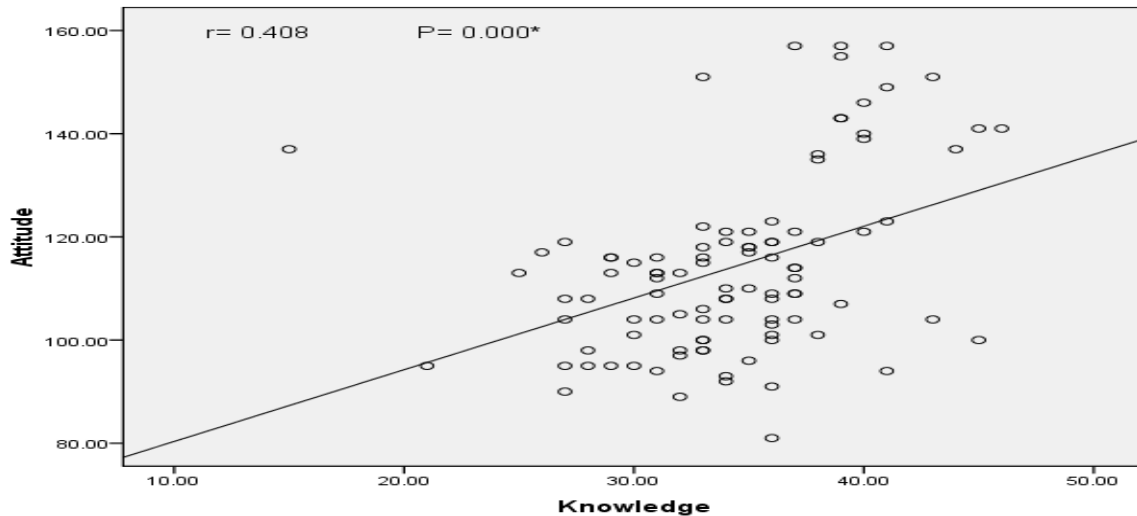
	No. (n= 100)	%
<b>Type of pads used</b>		
Piece of old clothes	5	5.0
Piece of new clothes	10	10.0
Sanitary pad	85	85.0
<b>Methods of drying of pieces of clothes</b>		
Expose to the sun	57	57.0
Artificial dry	43	43.0
<b>Wash clothes of menses</b>		
With another of clothes	44	44.0
Wash clothes alone	56	56.0
<b>Methods of disposal of absorbents after use among respondents</b>		
Throw it with routine waste	21	21.0
Wash clothes and dry it in the sun	23	23.0
Burn clothes or pad	27	27.0
Wash clothes and burn pad	29	29.0

	No. (n= 100)	%
<b>Number of absorbent Pad is changed per day</b>		
One	11	11.0
Two	45	45.0
Three	30	30.0
More than Three	14	14.0
<b>Ideal Thing to Use During Menstruation</b>		
Sanitary Pad	57	57.0
Cloth	19	19.0
Both	24	24.0
<b>Absorbents in Practice among the Respondents</b>		
Sanitary Pad	55	55.0
Cloth	21	21.0
Both	24	24.0
<b>Taking bath in all days of menstruation</b>		
Yes	89	89.0
No	11	11.0
<b>Healthcare to subside premenstrual signs and symptoms</b>		
Physical rest	7	7.0
Analgesic	75	75.0
Warm bath	36	36.0
Exercise	19	19.0
Warm fluids	23	23.0
<b>Health care to subside dysmenorrhea</b>		
Consulting a physician	12	12.0
Taking over the counter drugs or self-medication	65	65.0
Warm bath	35	35.0
Analgesic	32	32.0
Physical rest	10	10.0
<b>Exercise during menstruation</b>		
Yes	69	69.0
No	31	31.0
<b>The dietary or nutritional influence on menstruation</b>		
Yes	50	50.0
No	50	50.0
<b>Absenteeism from school in the first day</b>		
Yes	15	15.0
No	85	85.0

• More than one answer was selected

**Table (5): Distribution of the participants according to their scores of attitudes toward menstruation**

Response toward menstruation	No. (%)	Score	Mean $\pm$ SD	Range
<b>It is debilitating</b>	42 (42)	60	40.64 $\pm$ 6.62	29.0 - 58.0
<b>Is bothersome</b>	15 (15)	30	21.22 $\pm$ 3.79	14.0 - 30.0
<b>It is natural</b>	53 (53)	20	14.59 $\pm$ 3.37	5.0 - 20.0
<b>They can anticipate it</b>	80 (80)	20	13.78 $\pm$ 2.89	6.0 - 20.0
<b>They denied any effect of it</b>	8 (8)	35	23.90 $\pm$ 4.97	13.0 - 35.0
<b>Total attitude</b>		<b>165</b>	<b>114.13 <math>\pm</math> 17.40</b>	<b>81.0 - 157.0</b>



**Figure (3): Correlation between knowledge and attitudes among participants**

**Table (1):** Showed personal characteristics of the participating girls. More than half of girls were <15 years (53%), where the mean age of them was  $14.25 \pm 1.53$  years and the majority of them were urban (70%) and in the preparatory level. As regards birth order, 38% of adolescent girls were the 1<sup>st</sup> girl in the family, 6% of them were the 5<sup>th</sup>.

**Table (2):** Showed the relation between the level of knowledge and personal characteristics of adolescent girls. The level of knowledge was more significantly higher among urban girls and those with a higher level of education ( $P=0.001$ ,  $0.000$  respectively). Otherwise, no relation either between the level of knowledge and age or birth order of adolescent girls.

**Figure (1):** As regard to participants' knowledge about menstruation, this study indicated that 68% of participants had satisfactory while 32% had unsatisfactory levels knowledge.

**Figure (2):** Clarifies the source of information about menstruation for participant adolescent girls. The majority of girls (82%) said that, their mothers were the main source of information followed by friends (49%), school or class (21%), health education in society (15%), TV (3%), physician (2%), and nurse (1.0%).

**Table (3):** As regard menstrual history, the mean age of menarche of the respondents was  $13.86 \pm 4.71$  years. Eighty-two percent of the adolescent girls stated that they have a regular menstrual cycle. The duration of menstruation was <5 days among 65%, 5-7 days among 33% and >7 days among 2% of an adolescent girl. In addition, 44% of participant adolescent girls had been informed about menarche before its onset. The majority of participants, (92.0%) suffered from various types of menstrual problems.

Dysmenorrhea represented 80% including tolerable pain (43%) and severe pain (37%) followed by severe bleeding (17%).

**Table (4):** As regard self-care practice during menstruation, 85% of adolescent girls are using a sanitary pad, 10% of them using pieces of new clothes and 5% of them using pieces of old clothes. It was found that 57% of the girls dried their washed reusable absorbent materials (cloths) by exposing it to the sun; while 56% of them are washing their clothes of menstruation alone. For final disposal of the menstrual pad, 29% of the girls are washing clothes and burning pad followed by 27% are burning clothes or pad, 23% are washing clothes and drying them in the sun and 21% are throwing them with other wastes. In addition 45% of girls are changing their pads two times a day. More than two-thirds (67%) of participants reported that sanitary pad is the ideal thing to use during menstruation while 24% of them are using both sanitary pads and cloths. The majority of participants (89%) reported that they are practicing the personal health taking behavior, such as taking a bath in all days of menstruation. The majority of participants (75 %) reported that the subsidence of premenstrual symptoms and signs by analgesic, 36% by a warm bath and 23% by warm fluids. Also, 65 %, of participants, are using the counter drugs or self-medication and 12% of them are consulting a physician. Sixty-nine percent of the adolescent girls reported that they don't practice any kind of exercise during menstruation. Also, half of adolescent girls believe that some diets or nutritional interventions can influence the menstruation. In this study, 15% participants stated that they are absent from school during menstruation.



**Table (5):** illustrated distribution of the participants according to their scores of attitudes toward menstruation. The participants agreed that, menstruation is a debilitating (42%) ( $40.64 \pm 6.62$ ), a bothersome (15%) ( $21.22 \pm 3.79$ ) and natural event (53%) ( $14.59 \pm 3.37$ ). Furthermore, they agreed that they can anticipate their menstruation (80%) ( $13.78 \pm 2.89$ ) and they denied the effect of it (8%) ( $23.90 \pm 4.97$ ).

## Discussion

The onset of menstruation is one of the most important changes occurring among girls during the adolescent years (Dhingra, et al., 2009 & Diaz et al, 2006). Handling menstruation is considered a major challenge for every adolescent girl which is a normal body function in females (Begum et al., 2009). The aim of the current study was to assess the knowledge, attitude and practice toward menstruation among adolescent girls. The current study showed that urban adolescent girls had a more satisfactory level of knowledge than girls living in the rural setting. As shown in the table (1). These findings are similar to a study of George, (2012) and those conducted by Jarrah & Kamel(2012).This could be explained by the fact that, a high proportion of urban residents could have accessible reproductive health care service and better decision-making autonomy than rural female students. In addition, this difference might also be attributable to the difference in implementation of relevant health intervention programs (Joshi, 2006).

This study indicated that more than two-thirds (68%) of participants had a satisfactory level of knowledge related to menstruation as shown in figure (1). This finding is agreed with that of Lawan et al., (2010) who stated that girls had a fair knowledge about menstruation. Similarly, Singh, (2006); Ali and Rizvi, (2010), & Prateek & Saurabh, 2011)reported that the girls had good knowledge about menstruation. In addition, Shanbhag et al, (2012) demonstrated that knowledge of menstruation among female high school students was high. This might be attributed to the time gap that accessibility, availability and ability to optimally utilize reproductive health information may be improved as time increases. However, in India Thakre et al., (2010) said that among the adolescent girls in both urban and rural areas, the knowledge on menstruation is poor and the practices are often not optimal for proper hygiene.

In this study, 44% of participants had been informed about menarche before its onset as shown in the table (3). This finding is supported by the study conducted by Eswi et al., (2012) who reported that 74% of the

participants had been informed about menarche before its onset. Similarly, Myoung & Young, (2013) mentioned that 67% girls were well prepared and had knowledge about menstruation.

In the current study, 82% of adolescent girls mentioned that, their mothers were the main source of information as shown in figure 2, This could be due to lack of proper communication between mother and daughter owing to traditional taboos, they feel awkward and embarrassed to discuss on this subject. These results are in agreement with the results of Shanbhag et al., (2012), Sapkota et al.,(2013), Khudair, (2013) & Sherestha et al., (2013) studies who found that majority of girls were informed by mothers. Similar results were reported by United Nations, educational, scientific & cultural organization, (2014).This brings out an important issue of the feasibility of involving parents in educating their children regarding reproductive health problems especially mother as young girls usually propound her emotional and psychological problems with her mother. This does not augur well for the future mothers who are expected to have a good practice of menstruation and are expected to carry the message to their young ones. In contrast, with this study Interagency youth working group, (2007) found that the primary sources of information about menstruation for girls were school teachers. Thus, it is important to ensure that school teachers who deliver information and education on sexuality receive adequate training and ongoing support and supervision. Evidence showed that when teachers receive training and support in their role as sexuality educators they feel more comfortable and equipped to provide effective, objective and nonjudgmental sexuality education. In addition, it should be ensured that a variety of context-specific teaching methods is used in providing sexuality education to young people.

On the other hand, Juyal et al.,(2012) reported that friends were the first source of information about menstruation for 31.8% of adolescent girls in India. Also, Bayray, (2012) reported that friends were considered the main contributors for getting the knowledge (50%) followed by mothers (36%) and aunts/relatives (19%) (Nagar andAimol, 2010). A study was conducted In Mansoura -Egypt, by El-Gilany et al., (2005), they found that 92.2% of the girls reported mass media as their main source of information about menstruation followed by mothers (45%).

As regard menstrual history, the mean age of menarche of the respondents was found to be  $13.86 \pm 4.71$  years as shown in table 3, this result is similar to finding that of Abdel-Hameed et al., (2011) and Yassin, (2012) in Egypt. Different ranges of age of

menarche by different studies in different countries as **El -Gilany et al, (2005)** among Egyptian female adolescents found Mean  $\pm$ SD was (12.87 $\pm$ 1.29 years) and **Nemade et al., (2009)** stated that mean age of menarche among Jordanian girls was (13.8 years). This difference could be attributed to the influence of both heredity and socioeconomic conditions, mainly nutrition. Girls from upper socio-economic class have reached menarche at an earlier age than those from the lower socio-economic class as they attain a certain critical weight at an early age due to improved nutrition and better health (**Ali et al., 2011**).

Regarding menstrual problems, in the current study, the participants reported that dysmenorrhea (80%) including tolerable pain (43%) and severe pain (37%) was the major problem followed by severe bleeding (17%). as shown in table 3 These results are agreeing with the results of several studies in different parts of the world that, dysmenorrhea was the most common medical problem among the girls during menstruation (**Dasgupta, & Sarkar, 2008, Omidvar & Begum, 2010, Sapkota et al., 2013 & Reda et al., 2014**).

As regard self-care practice during menstruation among adolescent girls in this study, more than half 57% of the girls reported that they are drying their washed reusable absorbent materials (cloths) by exposing it to the sun, 56% of them reported that they are washing their clothes of menstruation alone while 29% of them washing and burning the used cloth. Despite the majority of the participants reported that sanitary pad was the ideal thing to use during menstruation, only 55% of participants actually used it. As shown in table 4. These findings are supported by **El-Lassy and Madian, (2013)** who observed a poor perception and behavior towards the use of sanitary pads during menstruation among adolescents girls. They noted that lack of money was responsible for non-usage of sanitary pads and hence the use of another absorbent such as clothes. Similar results were reported by other studies carried out among the same population in developing countries (**Palep & Singh, 2007**). Therefore undoubtedly poverty and poor financial resource play a major role on the choices of absorbents leading to the use of unsanitary materials.

In the current study the Majority of girls 89% reported that they are practicing the personal health taking behavior, such as taking a bath in all days of menstruation as shown in table 4, this finding is consistent with those of **Thakre et al., (2010) & Gaudineau, et al., (2010)** who reported that, 11% of participants reported not taking a daily bath during menstruation.

Regarding the use of analgesia, 75% of participants reported subsidence of premenstrual symptoms by

analgesic, 36% are using warm bath while 23% of them are drinking warm fluids to subside the premenstrual signs and symptoms, as shown in table 4. These findings are similar to that of **Al-Asadi & Abdul-Qadir (2013)** who found that 56.4% of the girls used analgesia without prescription to relieve menstrual cycle pain in Iraq. Such a high percentage is of major concern, endangering adolescent girls for overuse and side effects. On the other hand, only 22.4% of adolescent girls in Haryana, India used analgesics without prescription during menstruation (**Dasgupta & Sarkar, 2008**)

In the present study nearly two-thirds (65%,) of the participants reported that they are taking over the counter drugs or self-medication while 12% of them are consulting a physician to subside dysmenorrhea As shown in table 4. This finding is similar to the result of **Jasrotia et al., (2009)** study who reported that 67% of students with dysmenorrhea self-medicated with over-the-counter drug preparations and only 18% consulted a physician for these problems. Also, **Al-Asadi & Abdul-Qadir (2013)**, reported that 13.7% of adolescent girls consulted a physician to subside dysmenorrhea and added that, this suboptimal use of the health care system or low consultation rate by adolescents has been reported in Egypt by **Mohamed (2012)**. This may be attributed to socio-cultural factors. Cultural background and the fact that most women regard menstruation as a normal part of their female constitution and a private and embarrassing issue to be discussed publicly may explain such behavior. Therefore, educating young females to consult a doctor for their menstrual problems, will not only cause the more effective pain relief but also prevent them from the possibility of adverse drug reactions.

The current study revealed that 69% of the adolescent girls reported that, they didn't practice any kind of exercise during the menstrual cycle as shown in table 4 which is in agreement with the results of **Jasrotia et al., (2009)** who stated that, majority of participants (89%) didn't practice any kind of exercise during the menstrual cycle. They explained this behavior by the fear that participation in strenuous exercise might harm their reproductive organs, and she cannot compete successfully in sports because their menstrual blood might "stain" the playing fields.

In the current study, half of adolescent girls believe that some diets or nutritional interventions can influence the menstruation. This result was not in agreement with **Jasrotia et al., (2009)** who reported that only 8% of subjects believe that, some diets or nutritional interventions can influence such as fruits, vegetables, and corns, along with avoiding too much salt and sugar. This could be attributed to changing

trends in lifestyle, dietary habit or some medical reasons.

In this study, 15% of adolescent girls reported an absence from school during menstruation, this results is supported by the study of **Esimai & Esan, (2010)** who observed that menstruation was the leading cause of absenteeism of women from work, school, and other activities. This may be related to fears about bleeding in front of her colleagues in the class or work.

In the present study, there was a positive correlation between participants' score of knowledge and their attitude toward menstruation as shown in figure 3. This finding is in agreement with the results **Reda et al., (2014)** who noted that, participants' score of knowledge positively correlated with their attitude toward menstruation.

The effect of obtaining proper knowledge about menstruation on the girls' attitude was proved by several researchers (**Hassanen et al., 2004**) where they found that girls who were adequately prepared have more positive experiences with menstruation. The result of the present study highlighted the same idea as it was found that participants' score of knowledge was positively correlated with their attitude toward menstruation. Good preparation for menstruation coupled with positive menarche experience would be related to more positive adult menstrual attitudes, experiences, and behaviors.

This highlights that our society is still bounded by social, cultural taboos which lead to the negative attitude of adolescents towards menstruation. This demonstrates the urgency of the situation that needs effective interventions to address the restrictions which are imposed or practiced by adolescent girls.

### Conclusions and Recommendations

According to the study findings and its discussion, the present study can conclude that adolescent girls had a satisfactory level of knowledge about menstruation. Their mothers were the main source of information. The level of knowledge positively correlated with the girls' attitude toward menstruation. It is recommended to prepare girls for menstruation before menarche through providing them with well-planned school health program for girls and mothers about menstruation by well-trained educators. 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.

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