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RESEARCH ARTICLE

SELF CARE PRACTICES AMONG ADOLESCENT FEMALES DURING DYSMENORRHEA AT UMM AL QURA UNIVERSITY

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ABSTRACT

Background: Dysmenorrhea refers to the symptom of painful menstruation. It can be divided into 2 broad categories: primary (occurring in the absence of pelvic pathology) and secondary (resulting from identifiable organic diseases). About 88% of adolescents with dysmenorrhea experience their first painful menstruation within the first 2 years after menarche. The consequences of untreated primary dysmenorrhea range from school absenteeism to disruption of relationships with family and friends. The aim of this study was to assess self care practices among adolescent females during dysmenorrhea at Umm Al Qura University.

Subjects and Methods: A descriptive design was used. The present study was conducted at 2 faculties at Umm Al-Qura University (Faculty of Nursing and faculty of applied medical sciences).A convenient sample of 150-second year students enrolled in the above mentioned settings in the range of age 17-21 years was recruited. A self-administered questionnaire was developed by the researchers.

Results: most of adolescent females suffered from dysmenorrhea (88.6%). A large proportion of adolescent females either performed incomplete or wrong practices during menstrual pain (34.0%, 24.7%) respectively. In addition, father and mother's education of 56.2% and 53.0% respectively of females who have correct practices is university or above. Moreover, correct practices increased with small family size, 81.5% of females with small family size (3-5) had correct practices.

Conclusion and Recommendations: It can be concluded that a considerable proportion of adolescent females either performed incomplete or wrong practices during the pain. It is recommended to develop continuous health education programs regarding menstruation in the school that give students age- appropriate information about menstruation and its problems.

INTRODUCTION

Menstruation is the periodic discharge of blood and mucosal tissue from the uterus and vagina. It lasts from 3-7 days. The onset of menstruation in young girls is called menarche. It has been found that the first period usually appears between 11 and 13 years old. The average menstrual cycle is 28 days long from the first day of one menstrual period to the first day of the next. A normal menstrual cycle in adult women is between 21 and 35 days. Menstruation is often associated with problems such as its irregularity, excessive bleeding, and dysmenorrhea (American Congress of Obstetricians and Gynecologists 2013; Javed *et al.,* 2013). (Chandavarkar and Roy 2010; Gagua *et al.,* 2012). Primary dysmenorrhea is a common disorder characterized by painful uterine cramping, just before or during menstruation in the absence of any pelvic pathologic conditions (Polat *et al.,* 2009). The majority of dysmenorrhea in adolescents and young adults is primary or functional and associated with a normal ovulatory cycle (Avasarala and Panchangam 2008). There are some theories that smoking, obesity and alcohol consumption are related to more dysmenorrhea, but these remain controversial (Zeev 2006).

Secondary dysmenorrhea refers to pain associated with menstruation secondary to organic disease such as endometriosis, outflow tract obstruction and pelvic inflammatory disease (Cyr *et al.,* 2003). The most important distinguishing feature of primary dysmenorrhea to that of secondary dysmenorrhea is its onset. Primary dysmenorrhea typically begins within 6 months to 2 years after menarche .It is associated with severe intermittent cramping with constant pain in the lower abdomen which may radiate to the lower back or upper thighs. It is accompanied by the major symptoms such as, general malaise, fatigue, dizziness, nausea, vomiting,

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diarrhea and headache. Pain usually starts within hours of onset of menstruation and peak within the first 1 to 2 days. Secondary dysmenorrhea begins after adolescence, occurring most commonly at 30-40 years of age and it is associated with irregular menstrual bleeding. Duration of pain in secondary dysmenorrhea continues longer than in primary dysmenorrhea (Polat and Celik 2008; Leifer 2008). Adolescence is a transition period from childhood to adulthood and is characterized by a spurt in physical, endocrinal, emotional, and mental growth. Adolescent females in general have been neglected in many areas because they constitute an in between group. So, there is an urgent need to focus attention on adolescent girls to ensure safe motherhood. The period of adolescence ranges from ten to twenty one. It may be divided into three stages (early 10-14 years) middle (15-16 years) and late adolescence (17-21 years) (UNFPA 2008; Jekielek and Brown 2005). Because menarche is an important milestone in physical development and it is one of the major physiological changes that take place during the adolescence period. So, it is important to pay attention to the adolescent females because it is a critical period in women's life. The nurse plays an essential role in promoting and improving the health of adolescent females. Not only as a health care provider but also as an educator, as a researcher and as a counselor (Mohasseb 2000).

It is particularly important that girls be taught to regard menstruation as a normal physiologic process. Every girl should be prepared to her first menstruation. Lack of proper preparation of adolescent females for menstruation lead to propagation of taboos, myths and fears. The most appropriate source of information is the girl's own mother. The mother's responsibility in this phase appears in explaining the direct personal menstrual hygienic care (Kolhe and Deb 2011). Young females and their parents should be educated regarding what to expect of a first period and about the range for normal cycle length of subsequent menses. The girl must also know how a menstrual flow comes about, its purposes and what special care she should give herself during this time. Girls who have been educated about early menstrual patterns will experience less anxiety and less pain as development progresses (Woodman and Pitkin 2010). Dysmenorrhea can be reduced and relieved through hygienic care. Hygiene includes practices that protect the health and well being of the individual as well as predispose to healthy attitude toward menstruation and reproductive functions. (Polat and Celik 2008) Girls should have adequate time of rest and sleep, maintain good posture, and eat a well balanced diet free from salt and other forms of sodium bicarbonate that may tend to increase distresses. Moderate exercises and all other normal activities can be performed as usual. Heat application to the abdomen, external genital organs and lumber region, and warm baths will give relief from some menstrual discomforts. Cold baths are not advisable during painful menstruation since they may increase distress. Drinking hot fluids like anise may reduce pain (Titilayo *et al.,* 2009; Pillitteri 2010).

Significance of the study

Primary dysmenorrhea is the most common gynecological problem among adolescent females. Studies conducted on female adolescents reported the prevalence range of primary dysmenorrhea from 20% to 90%. Morbidity due to dysmenorrhea represents a substantial public health burden. It is one of the leading causes of absenteeism from school and work and is responsible for significant loss of earnings and diminished quality of life. Despite its high prevalence and associated negative effects, many girls do not seek medical care for this condition (Wardle 2010). In addition, menstrual complaints are often not seem as real illnesses. School nurses, parents, health educators, physicians, and other health professionals wonder if a girl's complaint is an excuse to shirk responsibility or to gain sympathy or attention when young girls report these discomforts to them. So, providing optimal health care to females of this age group is very important and requires an in-depth understanding of the biological, cognitive, socio-cultural changes that can occur, their interrelatedness and their potential impact on an adolescent's health (Zeev 2006; Cyr *et al.,* 2003; Dorn *et al.,* 2009). For these reasons, a study of the Self care practices among adolescent females during dysmenorrhea at Umm Al Qura University was conducted in order to provide guidelines for health care providers who provide care to these females.

Aim of the study

The aim of this study was to assess self care practices among adolescent females during dysmenorrhea at Umm Al Qura University

Research question?

What are the level of self care practices of adolescent females during dysmenorrheal pain?

Subjects and methods

Research Design

A descriptive design was used.

Setting

The present study was conducted at 2 faculties at Umm Al-Qura University (Faculty of Nursing and faculty of applied medical sciences).

Subjects

A convenient sample of 150-second year students enrolled in the above mentioned settings in the range of age 17-21 years was recruited.

The sample was divided as follows

- 50 students was selected from the faculty of nursing.
- 50 students was selected from Nutrition Department (Faculty of applied medical sciences)
- 50 students was selected from Laboratory Medicine Department (Faculty of applied medical sciences)

Exclusion Criteria

- Girls with amenorrhea
- Girls have any medical disease

Tool of data collection

Self-administered questionnaire

It was developed by the researchers and includes the followings:

- Socio-demographic characteristics such (age, marital status, level of parent's education)
- Medical history of the females
- Menstrual history.
- Female's self care practices during menstruation and menstrual pain.

Preparatory phase

Researchers reviewed the current local and international related literature using textbooks, articles, and scientific magazines. This helped the researchers to be acquainted with the problem and guided them in the process of tools designing.

Validity & Reliability

To measure validity of the tools, the researchers assure that items of an instrument adequately represent what are supposed to measure and presented it to a jury of experts in the related field for revision and validation. Tools reliability was tested using Alpha Cronbach test. Its result was 0.72 which indicates an accepted reliability of the tool.

Administrative design

An official letter clarifying the purpose of the study and accepting the process of data collection was directed from the dean of the faculty of nursing/Umm Al Qura University to the dean of the faculty of applied medical sciences requesting his approval for data collection.

Pilot Study

The study tools was pre-tested on a random sample of 15 students who was excluded from the study subjects to assess the reliability and applicability of the tool. According the result of the pilot study some questions were omitted and other were restated.

Field work

- The researchers attended the selected faculties to meet the students during one of their free classes or between lectures.
- The researchers introduced themselves to the students and briefly explained the purpose of the study.
- Reassurance was given to the students about the confidentiality of their responses.
- Complete instructions regarding answering the questions was given to the whole class at a time.
- The researchers attended the answering of the questionnaire and ensured that all information pertaining to the sheet was complete.
- The data collection phase of the study was carried out from the beginning of September 2013 to the end of October 2013.

Ethical consideration

Obtaining the acceptance of students to participate in the study. All students was informed that their participation is voluntary and that the collected data would be only used for the purpose of the study, as well as for their benefit.

Statistical analysis

Data were collected, coded, tabulated and analyzed, using the SPSS computer application for statistical analysis. Descriptive statistics was used to calculate percentages and frequencies. Chi square (X^2) test was used to estimate the statistical significant differences. A significant P-value was considered when P- value less than 0.05 and it was considered highly significant when P- value less than or equal 0.01. The researchers developed a scoring system for adolescent practices during dysmenorrhea. Correct, incomplete and wrong practices were predetermined according to the literature. The statements of practices were 10 statements. The correct practice was given (2) score, the incomplete practice was given (1) score and the wrong practice was given (0). A total practice score ranged from 0-20 was adopted.

Scoring system

- Correct : 75 – 100 % = 15 - 20
- Incomplete : 50 – 74 % = 10 -< 15
- Wrong: 0 – 49 % = 0 -< 10

RESULTS

As shown in Table (1), the age of more than one half of females (58.7%) were between 19 – 21 years old . As regards to the educational background of their fathers, it was found that more than one half (59.3%) had high level of education while (44.7 %) of their mothers had primary to secondary educational level. In addition, 74.7% of adolescent females had a family size of 6-10 members.

Table 1. Distribution of the females according to socio demographic characteristics

Characteristics	No (no =150)	%
Age		
17-<19	62	41.3
19-21	88	58.7
Mean±S.D.	19.86 ± 0.93	
Father's level of education		
Illiterate /read &write	15	10.0
Primary / Average / Secondary	46	30.7
University and above	89	59.3
Mother's level of education		
Illiterate /read &write	15	10.0
Primary / intermediate / Secondary	67	44.7
University and above	68	45.3
Family size		
3-5	27	18.0
6-10	112	74.7
> 10	11	7.3

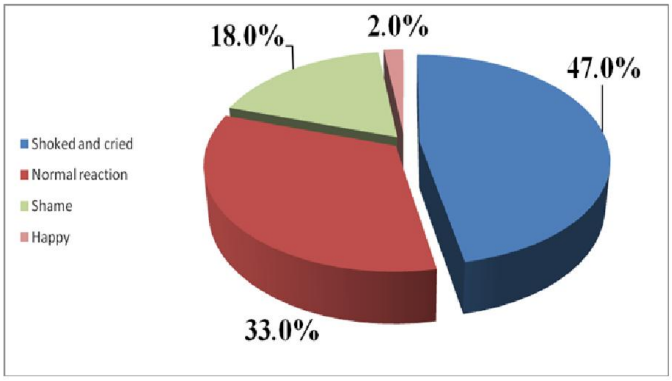

Figure 1. Reactions of adolescent females toward menarche

Figure (1) shows, that slightly less than one half of adolescent females (47.0%) were shocked and cried when they first experienced menarche while 33.0% had a normal reaction.

Table 2. characteristics of dysmenorrhea among the adolescent females

Items	No (no =150)	%
Occurrence of pain		
Yes	133	88.6
No	17	11.4
Beginning of pain	no=133	
With the beginning of the menstruation and continues until the end of first day.	126	94.7
At the end of menstruation and continues several days after.	7	5.3
Occurrence of premenstrual symptoms	no=133	
Yes	116	87.2
No	17	12.8
Nature of these symptoms*	no=116	
Physical symptoms as abdominal cramps, backache, fatigue, headache…etc)	65	56.0
Psychological symptoms (anxiety, depression, mood swings…etc)	55	47.4
Behavioral symptoms (Isolation, school absenteeism …etc)	38	32.8

*Multiple response question

As illustrated in Table (2), most of adolescent females (88.6%) suffered from dysmenorrhea. The pain starts with the beginning of the menstruation and continues until the end of first day among 94.7% of the adolescent females. Most of females (87.2%) had premenstrual symptoms, more than one half (56.0%) were physical symptoms.

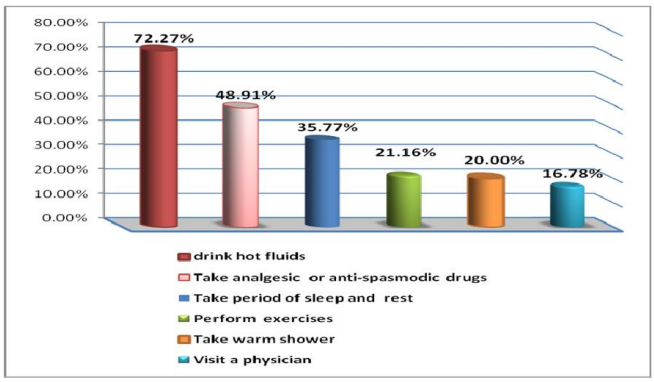

Figure 2. Self care practices of adolescent females during dysmenorrhea

Figure (2) represents the self care practices of adolescent females during dysmenorrhea, it can be observed that about three quarters (72.27%) of them drink hot fluids during the pain. In addition, less than one half (48.91%) of adolescent females take analgesic or antispasmodic drugs to relieve the pain. Moreover, more than one third of them (35.77%) take period of rest and sleep during dysmenorrhea. Slightly more than one fifth (21.16%) of adolescent females perform exercise during menstruation and 20.0% of them take warm shower .A minority of females (16.78%) visit the physician for pain relief.

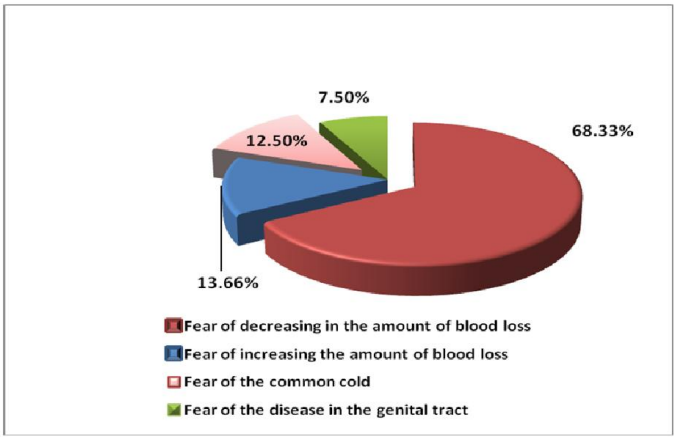

Figure 3. Reasons for not taking a shower

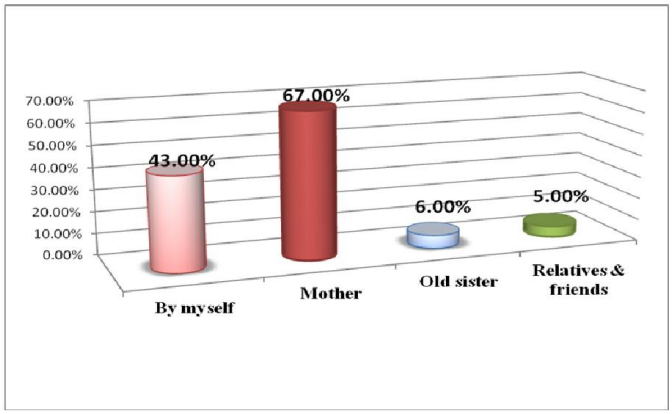

Figure 4. Source of adolescents' information about menstrual hygiene

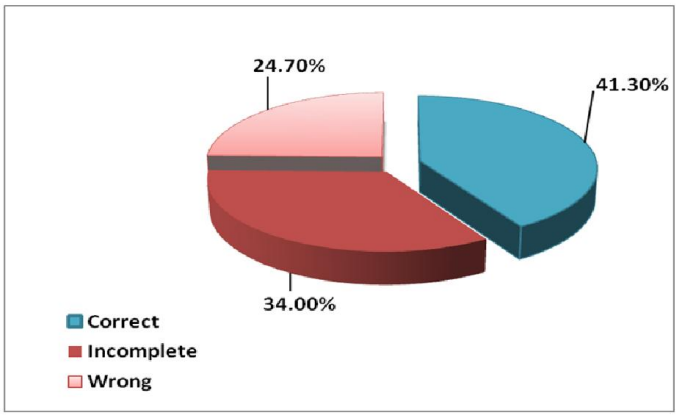

Figure 5. General score of practices of adolescent females during dysmenorrhea

The most common reason for not taking a shower during menstruation was fear of the decrease in the amount of blood lost (68.33%) followed by fear of the increase in the amount of blood lost (13.66%) and fear of common cold (12.5%). (Figure 3)

Figure (4) explains that the primary source of female's information was their mothers (67.0%) and 43.0% learned about hygiene by their experiences.

As illustrated in Figure (5), more than one third of adolescent females (34.0%) performed incomplete practices during menstrual pain and 24.7% performed wrong practices.

Table (3) illustrates relation between the general score of practices during menstruation and socio-demographic characteristics of the females, it can be observed that there is a positive relation between father and mother's education with the general score of adolescent females' practices during menstruation, father and mother's education of 56.2% and 53.0% respectively of females who have correct practices is university or above. In addition, correct practices increased with small family size, 81.5% of females with small family size (3-5) have correct practices. However the difference observed is statistically significant.

As shown in Table (4), there is a statistically significant difference between dysmenorrhea and menstrual characteristics. Dysmenorrhea was prevalent among females with early age of menarche 41.4% and 57.1% among 10-<12 and 12-<15 years old females respectively. Moreover, it was also prevalent among 90.2% of females with menstrual duration of 5-7 days and 59.4% of adolescent females who had regular menstruation and among 70.7% of females who had excessive menstrual bleeding.

DISCUSSION

Dysmenorrhea is the most common gynecologic complaint among adolescent and young adult females. Dysmenorrhea in adolescents and young adults is usually primary (functional), and is associated with normal ovulatory cycles and with no pelvic pathology.It occurs in up to 50% of menstruating females and causes significant disruption in quality of their life. (Chandavarkar and Roy 2010) The aim of this study was to assess self care practices among adolescent females during dysmenorrhea at Umm Al Qura University. The transition from childhood into adulthood occurs gradually over a number of years. However, one dramatic event for girls is the onset of menstruation. How girls react to such an important event and how they manage it thereafter may be indicative of how they will respond to the other reproductive events they will be

Table 3. Relation between the general score of practices during menstruation and socio- demographic characteristics of the females

	Correct		Incomplete		Wrong		X^2
	No.	%	No.	%	No.	%	p
Father education	0	0.0	2	13.3	13	86.7	4.65
Illiterate / read and write	12	26.1	14	30.4	20	43.5	0.025*
Primary/Average/ Secondary	50	56.2	35	39.3	4	4.5	
University and above							
Mother education	0	0.0	1	6.7	14	93.3	5.68
Illiterate / read and write	26	38.8	30	44.8	11	16.4	0.017*
Primary/Average/ Secondary	36	53.0	20	29.4	12	17.6	
University and above							
Family size							0.036*
3-5	22	81.5	2	7.4	3	11.1	
6-10	36	32.1	44	39.3	32	28.6	
> 10	4	36.4	5	45.4	2	18.2	

Table 4. Relation between dysmenorrhea and menstrual characteristics

Menstrual History	Dysmenorrhea				Statistical analysis
	Yes "n=133"		No "n=17"		X^2 P value
	No	%	No	%	
Age of menarche	55	41.4	2	11.8	15.79
10-<12	76	57.1	9	52.9	0.0161*
12-<15	2	1.5	6	35.3	
15-17					
Menstrual duration	1	0.8	7	41.2	48.7
1-4	120	90.2	9	52.9	0.0001*
5-7	12	9.0	1	5.9	
>7					
Regularity of menstruation	79	59.4	17	100.0	10.78
Yes	54	40.6	0	0.0	0.002*
No					
No. of changed pads/ day	2	1.5	3	17.6	6.85
One	24	18.0	10	58.8	0.0222*
Two	107	80.5	4	23.5	
Three or more					
Saturation of changed pads with blood	94	70.7	5	29.4	18.98
Yes	39	29.3	12	70.6	0.001*
No					

experiencing throughout their reproductive life. (Nwankwo *et al.,* 2010) The results of the present study revealed that a large proportion of the girls who have started menstruation described their initial reaction to menarche quite negatively. Slightly less than one half of them reported that they felt shock or crying while others had a sense of shame. These results are in line with the results of the National Survey of Egyptian Adolescents 1999 which presented nearly similar ratios. (El Tawila *et al.,* 1999) Some authors support these findings, they stated that the unprepared girls before menarche were more likely to experience confusion, ambivalence and inconvenience and they may also develop problems related to adjustment to menarche. (Panay 2011)

In the present study there is a high prevalence of primary dysmenorrhea among the adolescent females. This result is in line with the result of a study carried out by Harlow *et al.* (1996), Sharma *et al.* (2008) and Kumbhar *et al.* (2011). Furthermore, majority of the adolescent females in the present study had the pain with the beginning of the menstruation and continues through the first day which may reflect that this dysmenorrhea is primary in nature. Most females during their menstrual cycle are subjected to many changes, these changes are characterized by a broad range of symptoms that precede the menstrual flow (Mario 2010; Adika 2013). The findings of the present study revealed that most of the adolescent females suffered from premenstrual syndrome with its most common physical symptoms. These results are congruent with the results of a study carried out among Mexican university students by Mario (2010).

Dysmenorrhea is the leading cause of short-term school absenteeism. It is associated with a negative impact on social, academic, and sports activities of many female adolescents. Non-pharmacologic measures are usually simple, safe and inexpensive to use to decrease the negative impacts resulting from dysmenorrhea. Many of these measures should be taught through the school nurse, health care provider and mothers (Adika *et al.,* 2011). According to the results of the present study, less than one half of adolescent females took medication for dysmenorrhea and a minority of them visited a physician during dysmenorrhea. In addition, less than three quarters of them drank hot fluids to relieve the pain. Moreover, a small percent of them performed exercises to relieve the pain and about one third of them sometimes took period of rest and sleep during dysmenorrhea. However, the previous results are congruent with the results of a cross-sectional study carried by Al-Kindi and Al-Bulushi (2011), Agrawal and Venkat (2009) and Banikarim (2000). They reported that most adolescents with dysmenorrhea do not consult a health care provider and 21% (n = 80) of the participants self-medicated by drugs while some of them used non pharmacological remedies such as sleeping and heat application., more than quarter take heating pad, less than quarter drink tea, less than quarter do exercise and less than quarter take herbs. The low rates of self-treatment and physician consultation rates may be due to the sensitive nature of dysmenorrhea among adolescent girls, conservative social values and cultural beliefs, and the reluctance of young unmarried girls to consult a physician, particularly a male physician. In addition, many girls accept dysmenorrhea as a normal aspect of the menstrual cycle and believe that it cannot be treated (Al-Kindi and Al-Bulushi 2011; Agrawal and Venkat 2009; Banikarim *et al.,* 2000).

Optimal care of menstrual hygiene are synonymous to good hygienic practices and inevitably to a healthy living in an adolescent girl`s life. The practice of healthier behavior like menstrual hygiene and self care practices during normal menstruation, menorrhea (heavy bleeding) and dysmenorrhea (painful bleeding) are important indicators of health and determinant of health especially during the reproductive age of a woman . Unfortunately, one of the more noteworthy findings in the present study is that most of the adolescent females didn't take a shower during menstruation because of their fear of the decrease in the amount of blood lost as mentioned by more than two thirds of them. These misbeliefs regarding the hygienic care during menstruation may be due to the low educational level of large proportion of the student's mothers as a large proportion of them reported that they have learned about hygiene either from their mothers or by themselves. However, These results are in accordance with the results of a study carried out by (by Adika, 2013) who noted that more than one half of the females didn't take shower during their period for the same reason (Adika *et al.,* 2011). Anticipatory guidance is very important during this period of adolescence with health education to prepare girls before menarche and educate them about the healthy habits during menstruation.

As shown from the results of the present study, father and mother's education of most of adolescent females who have wrong practices is illiterate or read and write It seems that, there is little dialogue between parents and their daughters on these issues. It may be due to lack of parental knowledge and cultural taboos. It may be also for the purpose of protecting their daughter's innocence. In addition, this period of adolescence is a time when peers begin to exert influences on each others. Adolescents during this period spend long times with friends and their relationship with peers are generally more intimate. Moreover, right practices of adolescent females increased with small family size. This may reflect that small size families tend to strengthen communication and to spend long periods of time between each member of them than large size families. In the present study, dysmenorrhea was prevalent among females with early age of menarche and those who had regular menstruation and excessive menstrual bleeding. This may be due to the fact that the majority of dysmenorrhea in adolescents and young adults is associated with a normal ovulatory and regular cycle (Alexiou *et al.,* 2009). In addition, menstrual bleeding duration of 7 days and over was an important risk factor for dysmenorrhea. The finding of the present study that dysmenorrhea is prevalent among females with 5-7 days menstrual duration is compatible with the results of another study which showing that the risk of dysmenorrhea is higher in women with long menstrual flows (Unsal *et al.,* 2010).

Conclusion

Based on the findings of the present study, it can be concluded that most of adolescent females suffered from dysmenorrhea. They have misconception and misbeliefs which may negatively affect their hygienic practices during menstruation and dysmenorrheal pain. In addition, the major source of their

information was the mother. A large proportion of adolescent females either performed incomplete or wrong practices during menstrual pain. It can also concluded that correct practices of adolescent females increased with father's and mother's higher educational levels and with the small family size.

Recommendations

1. Using all available mass media to provide accurate information and health guidance about menstruation and its associated problems like dysmenorrhea to mothers and adolescents. It can be supplemented by face to face communication channels such as workshops and counseling.
2. Develop continuous health education programs regarding menstruation in the school that give students age-appropriate information about menstruation and its problems and train and support teachers so that they can teach accurately about this issue.
3. Adolescent friendly clinic should be established in the university to enable the females to seek help easily regarding menstrual pain.
4. Research is needed for assessment of whether the existing health care systems respond to identified adolescent's reproductive health needs and to which extent.

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