EVALUATION OF FIRST AND FOURTH GRADE FEMALE UNIVERSITY STUDENTS' KNOWLEDGE, ATTITUDES, AND BEHAVIORS ON MENSTRUATION

Elif ARIK[1], Sultan ALAN[2]

[1]Çankırı Karatekin University, [2]Çukurova University, TURKEY.

[1]elifarik90@gmail.com, [2]tasalan@cu.edu.tr

ABSTRACT

This study was conducted to investigate the knowledge, attitudes, behaviors of university students towards menstruation and the factors affecting them. This study was planned as a descriptive study. The population of this study was composed of first and fourth grade female students at Çukurova University's Faculty of Engineering and Architecture, Faculty of Theology, and Faculty of Fine Arts, Adana, Turkey. The participants of this study were randomly selected. The total number of the sample was 200. The data were collected by means of a 55-item survey form which was developed in line with the literature. The data obtained in this study were analyzed using Chi-square test in SPSS. The mean age of the students was 21.2 ± 2.4. The average menarche age was 13.2 ± 1.3. It was found out that 75% of the students were informed about menstruation while 25% of them were not. When they were asked whether the information was sufficient for them, 68% of them answered positively. 16% of the students were able to define menstruation. It was found out that 31% of the students were having shower less frequently during menstruation period, while 4% of them never had shower in this period, 25% of them cleaned their perineum both from behind and front in the menstruation period, 2% of them did not clean, and 9% of the students did not know how to do perineum care during menstruation period. Based on these results it can be claimed that the students' information on menstruation and practices regarding menstruation hygiene were insufficient and this situation poses a risk of infection. As a result, the students have a lack of information regarding menstruation, and education should be provided in both school and family regarding this issue.

Keywords: Menarche, menstruation, menstruation hygiene.

INTRODUCTION

Adolescence period which is known as a transition period between childhood and adulthood is a period in which an individual, experiences biological and psychological changes. In Turkey, this period starts around the ages of 10-12 in females while it starts around the ages of 12-14 in males. The most important change observed in females during adolescence is menstruation cycle following menarche. Menarche is the start of the first menstruation and it is an important milestone in the life of women, and it is an indicator of maturity in the evaluation of pubertal development. The reproduction period of a woman starts with the adolescence and ends with menopause. In order for reproduction functions to continue in the normal way, a series of regular monthly changes in the whole organism especially in the reproductive organs are expected. All of these changes are named as menstruation cycle (Burroughs and Leifer, 2001; Öncel and others, 2003; Kobya H., Yazıcı, 1999; Taşkın, 2016; Uskul, 2004; Pillitteri, 2003).

Many beliefs regarding menstruation with no scientific background have existed throughout the history. The behaviors and ideas connected with this aspect of women physiology have

ISSN: 2223-9944, e ISSN: 2223-9553

changed slowly in time. The coordination of the hormonal changes system, which correlates with the morphological and autocrine/paracrine events in the ovary, is one of the most important events in physiology. The healthier the women who live in a society the healthier the society's future generations will be. The basis of women's health is shaped in the adolescence period, which is the transition stage from childhood to adulthood. This issue is important since wrong habits that women have throughout their lives can be transferred to the younger generations that they will educate. When the problems experienced by girls in the adolescence period were examined, it was determined that most of the problems experienced by them were related to menstruation.

Dysmenorrhoea, premenstrual syndrome, amenorrhea, and abnormal uterus bleeding were among the most frequently experienced menstrual disorders. Almost half of the women's lives go through the menstruation process and problems with physical, behavioral and emotional changes towards this process. The perception towards menstruation depends on cultures. In some societies there are false beliefs such as the fact that women are considered to be dirty and pushed out of the society during the menstruation, they are regarded as sick, the practices such as showering, dental treatment, and sports are considered as harmful and women are believed to lose too much blood by changing sanitary napkins frequently. This leads to further growth of the problems. Such false beliefs can be changed by means of health education. In addition, if young girls have not been trained in this subject before, they may experience fear and anxiety, acquire misinformation from the environment, and may experience feelings of tension, shame, fear and uneasiness that can last throughout their lives (Öncel and others, 2003; Çıtak and Terzioğlu, 2002; Karadağ and others, 1999; Klossner and Hatfield, 2006; Speroff and Fritz, 2005).

PURPOSE OF THE STUDY

The purpose of this study is to determine knowledge, attitudes, and behaviors of the 1st and 4th grade students studying at Çukurova University regarding menstruation and its hygiene, menstruation problems, the sources of information towards menstruation, and their feelings and the reasons for these feelings towards menarche, questioning the adequacy of information and organizing the necessary education programs in the light of the findings.

Menstruation is a normal physiological event in women's life but affects health negatively when complications develop. The philosophy of preventive health care has gained priority in the approach towards health care. It is necessary to approach menstruation education which is a part of health education in this perspective. In order to prevent future problems in the early stage, training on the issue of menstruation based on human reproduction and menstruation which consists the basis of it should be reinforced starting at home by the mother, by the teacher and school nurse in the school and by the Maternal and Infant Health Center Nurse and Public Health Nurse.

In our country, the number of school nurses is very small. The feeling of being embarrassed about the problems of the women regarding the genital organs in our society suggests that it will be more effective to give the health education on this issue by the women educators such as midwives and nurses. Midwives and nurses should educate young girls about menstruation and hygiene as part of their care, and inform them about new developments and considerations. Educational programs should be extended to families and teachers in order to develop healthy practices regarding hygiene[11]. In the education on this issue defining the situation at first stage will be a guide for the preparation of the training plan.

ISSN: 2223-9944, e ISSN: 2223-9553

METHODOLOGY

This study was conducted with the participation of the 1st and 4th grade female students in Çukurova University's Faculty of Engineering and Architecture, Faculty of Theology, and Faculty of Fine Arts, Adana, Turkey. In order not to affect the education of the students the study was conducted forming small groups out of the class hours. Under the scope of the study the total number of female students at the 1st and 4th grades of Çukurova University's Faculty of Engineering and Architecture (347), Faculty of Theology (114), and Faculty of Fine Arts (73) is 534. Therefore the sample of the study was composed of 200 students who were studying at the 1st and 4th grades of Çukurova University's Faculty of Engineering and Architecture (100), Faculty of Theology (50), and Faculty of Fine Arts (50).

In this study, 100 students from the 1st grade and 100 students from the 4th grade were selected, and half of the students were selected from Faculty of Engineering and Architecture, while the rest were selected from Faculty of Theology, and Faculty of Fine Arts equally. The students studying in the health sciences were thought to have a higher rate of information, therefore they were not considered for this study instead the students from sciences and social sciences departments were selected. It was expected that students' knowledge, attitudes, and behaviors about menstruation will be improved as their class levels in the university, and their ages increase because of the experience and interaction. Therefore the 1st and 4th grade students were selected for the sample of this study. Certain criteria for the selection of sample were determined and the students with these characteristics were included in the study. The criteria to participate in this study were determined as having menstruation, being voluntary, and being under the age of 30.

The data of this study were collected with the implementation of a survey form to the students. The survey form which was developed by the researcher in the light of the related literature was composed of 55 items in total being 15 items towards the demographic information of students, and 40 items towards the students' knowledge, attitudes, and behaviors about menstruation.

The survey form's clarity and usability were tested with a pilot implementation with the participation of 15 female students studying at the 1st and 4th grades of the Faculty of Economics and Administrative Sciences. These students were not taken into the sampling. The implementation of each survey form took an average of 10 minutes. After the necessary changes were made at the end of piloting, the survey took its final form.

The data of the study was collected on November 9-22, 2009 after obtaining written permission from the dean's office of the faculties where the data would be collected. Before the implementation of the data collection form, the researcher informed the participants about the purpose of the study and how to fill in the form, also verbal permission was obtained from the students. The survey form was filled in by the students individually under the supervision of the researcher. The students who participated in the study were taken to an appropriate empty classroom, the survey forms were handed in and collected after they completed. In order to prevent the students intervening each other's answers, the survey was implemented in small groups where the researcher was present.

In the study, the data obtained from the implementation of the survey form was coded in a form and transferred to a PC within the framework of the code key. The data obtained at the end of the study were analyzed through SPSS (Statistical Package for the Social Sciences) using percentage and Chi-square tests.

ISSN: 2223-9944, e ISSN: 2223-9553

FINDINGS

Findings towards the Students' Demographic Information

The distribution of the findings belonging to the demographic and socio-economical information of the students who participated in this study is categorized according to their grades as follows:

Table 1. The distribution of the students' demographic information by their grades

Demographic Information	*1st Grade (n:100)*		*4th Grade n:100)*		*Total*	
	n	*%*	*n*	*%*	*n*	*%*
Faculties						
Faculty of Engineering and Architecture	50	50.0	50	50.0	100	50.0
Faculty of Theology	25	25.0	25	25.0	50	25.0
Faculty of Fine Arts	25	25.0	25	25.0	50	25.0
Age						
16-20	81	81.0	2	2.0	83	41.5
21-25	16	16.0	90	90.0	106	53.0
26 and ↑	3	3.0	8	8.0	11	5.5
The Longest Place of Residence						
City	23	23.0	40	40.0	63	31.5
District	62	62.0	43	43.0	105	52.5
Village	15	15.0	17	17.0	32	16.0
Residence Condition						
With family	49	49.0	31	31.0	80	40.0
At a dormitory	29	29.0	30	30.0	59	29.5
In an apartment with roommates	22	22.0	39	39.0	61	30.5
Mother's Educational Level						
Lower than secondary school	50	50.0	37	37.0	87	43.5
Secondary school or higher	50	50.0	63	63.0	113	56.5
Father's Level of Education						
Lower than secondary school	33	33.0	20	20.0	53	26.5
Secondary school or higher	67	67.0	80	80.0	147	73.5
Level of Family Income						
Lower than the expenditures	50	50.0	19	19.0	69	34.5
Equal to the expenditures	47	47.0	62	62.0	109	54.5
Higher than the expenditures	3	3.0	19	19.0	22	11.0

41,5% of the students who participated in the study were between the ages of 16-20, 53,0% of them were between the ages of 21-25, and 5,55 of the students were at 26 years of age or more. The mean for the students' age was found as 21,2 ± 2,4. 52,5% of the students lived in a district for a long time and 40% of them indicated that they were living with their families.

When the level of parents' education was considered, it was found out that 56,5% of mothers and 73,5% of fathers had a secondary school or higher level of education. When the level of family income was investigated 54,5% of the families had an income which was equal to expenditures (Table 1).

ISSN: 2223-9944, e ISSN: 2223-9553

Findings towards the Students' Menstrual Characteristics

The distribution of the students' menstrual characteristics according to their grade levels is given below:

Table 2. The distribution of students' menstrual characteristics by their grades

Menstrual Characteristics	1st Grade (n:100)		4th Grade (n:100)		Total	
	n	%	n	%	n	%
Age of Menarche						
10 – 12 years	25	25.0	43	43.0	68	34.0
13 – 15 years	72	72.0	50	50.0	122	61.0
16 and ↑ years	1	1.0	4	4.0	5	2.5
Can't remember	2	2.0	3	3.0	5	2.5
The Status of Tracking the Last Menstrual Date						
By month	23	23.0	21	21.0	44	22.0
By month and day	56	56.0	62	62.0	118	59.0
Doesn't track	21	21.0	17	17.0	38	19.0
The Status of Getting Informed before Menstruation						
Informed	75	75.0	75	75.0	150	75.0
Not informed	25	25.0	25	25.0	50	25.0
*The Person who Gave Information about Menstruation **						
Mother	68	68.0	83	83.0	151	75.5
Father	3	3.0	3	3.0	6	3.0
Elder Sister	17	17.0	16	16.0	33	16.5
Friend	9	9.0	8	8.0	17	8.5
Relative	4	4.0	3	3.0	7	3.5
Teacher	2	2.0	3	3.0	5	2.5
Healthcare Personnel	11	11.0	6	6.0	17	8.5
Books, Printed Publications, TV	11	11.0	3	3.0	14	7.0
*The Preference about the Person who Should Give Information about Menstruation**						
Mother	68	68.0	73	73.0	141	70.5
Father	3	3.0	2	2.0	5	2.5
Elder Sister	23	23.0	13	13.0	36	18.0
Friend	3	3.0	1	1.0	4	2.0
Relative	1	1.0	1	1.0	2	1.0
Teacher	13	13.0	12	12.0	25	12.5
Healthcare Personnel	74	74.0	70	70.0	144	72.0
Books, Printed Publications, TV	28	28.0	19	19.0	47	23.5
Sufficiency of the Menstruation Information Given						
Sufficient	65	65.0	71	71.0	136	68.0
Insufficient	35	35.0	29	29.0	64	32.0
Feelings During the First Menstruation						
Positive	52	52.0	49	49.0	101	50.5
Negative	48	48.0	51	51.0	99	49.5
The status of sharing the feelings during the first menstruation						
Shared	53	53.0	56	56.0	109	54.5
Didn't share	47	47.0	44	44.0	91	45.5
The regularity of menstruation						
Regular	73	73.0	78	78.0	151	75.5
Irregular	27	27.0	22	22.0	49	24.5

ISSN: 2223-9944, e ISSN: 2223-9553

The frequency of menstruation						
20 days or ↓	3	3.0	3	3.0	6	3.0
21 days – 35 days	74	74.0	85	85.0	159	79.5
36 days and ↑	20	20.0	12	12.0	32	16.0
Quite irregular	3	3.0	0	0.0	3	1.5
The average duration of menstruation						
2 days or ↓	3	3.0	6	6.0	9	4.5
3 days – 7 days	90	90.0	88	88.0	178	89.0
8 days or ↑	7	7.0	6	6.0	13	6.5
The number of sanitary napkins used during menstruation						
10 pieces or ↓	33	33.0	26	26.0	59	29.5
11 pieces – 20 pieces	61	61.0	59	59.0	120	60.0
21 pieces or ↑	6	6.0	15	15.0	21	10.5
The number of sanitary napkins during the peak days in menstruation period (For 1 day)						
4 pieces or ↓	79	79.0	72	72.0	151	75.5
5 pieces – 9 pieces	20	20.0	25	25.0	45	22.5
10 pieces or ↑	1	1.0	3	3.0	4	2.0
Replacement habits of the sanitary napkin based on the proportion of the dirty place						
The whole sanitary napkin	14	14.0	20	20.0	34	17.0
One third of the sanitary napkin	28	28.0	41	41.0	69	34.5
Half of the sanitary napkin	44	44.0	30	30.0	74	37.0
When it is dirty	10	10.0	6	6.0	16	8.0
When feeling uncomfortable	4	4.0	3	3.0	7	3.5
*The type of sanitary napkin used by the students**						
Disposable sanitary napkin	98	98.0	100	100.0	198	99.0
Washable piece of cloth	2	2.0	2	2.0	4	2.0
Cotton	1	1.0	1	1.0	2	1.0
Tampon	4	4.0	11	11.0	15	7.5

*More than one option was chosen.

The mean score for students' menarche age was calculated as 13.2 ± 1.3.2.5% of the students stated that they didn't remember their menarche age, and 19% of the students reported that they didn't track the date of the last menstruation date. It was found out that 75% of the students were informed before menstruation. 75.5% of the students were informed by their mothers, while 72% of them stated that they preferred to be informed by the healthcare personnel. 65% of the 1st grade students thought that the information given to them was sufficient, similarly, 71% of the 4th grade students found it sufficient (Table 2).

When they were asked about their feelings during their first menstruation 50.5% of them reported as having positive feelings. 54.5% of them shared their positive or negative feelings with someone. 75.5% of the students reported that their menstruation was regular, 79.5% of the students were had normal frequency (21 days-35 days) in their menstruation periods, 89% of them had normal menstruation duration (3 days-7 days). 75.5% of the students were found as using 4 or less sanitary napkins in their peak days (for 1 day). 17% of the students replaced their sanitary napkins when the whole of it is dirty, 34.5% of them when one-third of the sanitary napkin is dirty, 37% of them when half of the sanitary napkin is dirty, 11.5% of them when it is dirty and when they feel uncomfortable. During their menstruation period, 99% of the students who participated in the study, used disposable sanitary napkins, 2% of them used washable cloth, 1% of them used cotton, and 7.5% of them used tampon (Table 2).

ISSN: 2223-9944, e ISSN: 2223-9553

Findings towards the Students' Level of Information Regarding Menstruation

The information level of 1st and 4th grade students regarding menstruation is given in this section.

Table 3. The distribution of findings towards students' level of information regarding menstruation by their grades

	Faculty of engineering and architecture				*Faculty of theology*				*Faculty of fine arts*				*Total*			
	1st grade		*4th grade*		*1st grade*		*4th grade*		*1st grade*		*4th grade*		*1st grad*		*4th grade*	
Information level knowledge of the definition of menstruation (n:200)	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Knows	15	30	14	28	1	4	0	0	1	4	1	4	17	17	15	15
Doesn't know	35	70	36	72	24	96	25	100	24	96	24	96	83	83	85	85
Knowledge of the organ responsible for menstruation organ (n:200)																
Knows	18	36	23	46	5	20	15	60	9	36	15	60	32	32	53	53
Doesn't know	32	64	27	54	20	80	10	40	16	64	10	40	68	68	47	47
Knowledge of the time when information about menstruation should be given (n:200)																
Knows	39	78	48	96	22	88	21	84	23	92	20	80	84	84	89	89
Doesn't know	11	22	2	4	3	12	4	16	2	8	5	20	16	16	11	11

83% of the 1st grade students and 85% of the 4th grade students were found as not knowing the definition of menstruation. It was revealed that the students at the Faculty of Engineering and Architecture had higher rates compared to other departments in terms of knowing the definition of menstruation (30% of the 1st grade students and 285 of the 4th grade students) (Table 3).

The rate of knowing the organ responsible for the menstrual bleeding was found as 32.4% in 1st grade students and 53% in 4th grade students. It was found out that 46% of the 4th grade students in the Faculty of Engineering and Architecture, 60% of the 4th grade students at the Faculty of Theology, and 60% of the students at the Faculty of Fine Arts knew the organ responsible for menstrual bleeding. Among the 1st grade students who participated in the study, 84% of them knew the time when information about menstruation should be given, while this rate is 89% in 4th grade students who participated in this study. 96% of the 4th grade students at the Faculty of Engineering and Architecture, 84% of the 4th grade students

ISSN: 2223-9944, e ISSN: 2223-9553

at the Faculty of Theology, 80% of the 4th grade students at the Faculty of Fine Arts knew the time when the information about menstruation should be given (Table 3).

Findings towards the Students' Attitudes and Behaviors Regarding Menstruation

Table 4. The distribution of the findings towards the students' attitudes and behaviors regarding menstruation by their grades

	Faculty of engineering and architecture				*Faculty of theology*				*Faculty of fine arts*				*Total*			
	1st grade		*4th grade*		*1st grade*		*4th grade*		*1st grade*		*4th grade*		*1st grade*		*4th grade*	
Attitudes and behaviors using menstruation control products (n:200)	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Uses	13	26	12	24	2	8	1	4.0	7	28	11	44	22	22	24	24
Doesn't use	37	74	38	76	23	92	24	96.0	18	72	14	56	78	78	76	76
Consulting a doctor because of menstruation problems (n:200)																
Doesn't consult	38	76	31	62	18	72	16	64	15	60	21	84	71	71	68	68
Only once	10	20	14	28	3	12	5	20	7	28	3	12	20	20	22	22
More than once	2	4	5	10	4	16	4	16	3	12	1	4	9	9	10	10
The cleaning procedure in bathroom during menstruation period (n:200)																
Front to back	36	72	30	60	13	52	11	44	19	76	17	68	68	68	58	58
Back to front	8	16	17	34	5	20	10	40	4	16	6	24	17	17	33	33
I don't know	6	12	3	6	7	28	4	16	2	8	2	8	15	15	9	9
Showering during menstruation period (n:200)																
More frequently	14	28	16	32	5	20	9	36	13	52	15	60	32	32	40	40
Less frequently	19	38	17	34	10	40	12	48	2	8	2	8	31	31	31	31
Never	4	8	0	0	1	4	3	12	1	4	3	12	6	6	6	6
No change	13	26	17	34	9	36	1	4	9	36	5	20	31	31	23	23

ISSN: 2223-9944, e ISSN: 2223-9553

Table 4. The distribution of the findings towards the students' attitudes and behaviors regarding menstruation by their grades

	Faculty of engineering and architecture				*Faculty of theology*				*Faculty of fine arts*				*Total*			
	1st grade		*4th grade*		*1st grade*		*4th grade*		*1st grade*		*4th grade*		*1st grade*		*4th grade*	
Attitudes and behaviors using menstruation control products (n:200)	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Uses	13	26	12	24	2	8	1	4.0	7	28	11	44	22	22	24	24
Doesn't use	37	74	38	76	23	92	24	96.0	18	72	14	56	78	78	76	76
Consulting a doctor because of menstruation problems (n:200)																
Doesn't consult	38	76	31	62	18	72	16	64	15	60	21	84	71	71	68	68
Only once	10	20	14	28	3	12	5	20	7	28	3	12	20	20	22	22
More than once	2	4	5	10	4	16	4	16	3	12	1	4	9	9	10	10
The cleaning procedure in bathroom during menstruation period (n:200)																
Front to back	36	72	30	60	13	52	11	44	19	76	17	68	68	68	58	58
Back to front	8	16	17	34	5	20	10	40	4	16	6	24	17	17	33	33
I don't know	6	12	3	6	7	28	4	16	2	8	2	8	15	15	9	9
Showering during menstruation period (n:200)																
More frequently	14	28	16	32	5	20	9	36	13	52	15	60	32	32	40	40
Less frequently	19	38	17	34	10	40	12	48	2	8	2	8	31	31	31	31
Never	4	8	0	0	1	4	3	12	1	4	3	12	6	6	6	6
No change	13	26	17	34	9	36	1	4	9	36	5	20	31	31	23	23

ISSN: 2223-9944, e ISSN: 2223-9553

Among the 1st grade students who participated in the study 22% of them used menstruation control pills while 24% of the 4th grade students who participated in the study used menstruation control pills. When the rate of consulting a doctor because of menstrual complaints the findings revealed that although the students had problems with menstruation 76% of the 1st grade students and 62% of the 4th grade students at the Faculty of Engineering and Architecture, 72% of the 1st grade students and 64% of the 4th grade students at the Faculty of Theology, and 60% of the 1st grade students and 84% of the 4th grade students at the Faculty of Fine Arts did not consult a doctor. When the students are asked about cleaning in the bathroom during menstruation period 72% of the 1st grade students and 60% of the 4th grade students at the Faculty of Engineering and Architecture, 52% of the 1st grade and 44% of the 4th grade students at the Faculty of Theology, and 76% of the 1st grade and 68% of the 4th grade students at the Faculty of Fine Arts reported that they cleaned from front to back. When the students are asked about their habit of having shower during the menstruation period 32% of the 1st grade students and 40% of the 4th grade students reported that they had shower more frequently (Table 4).

The Distribution of Students' Regarding Their Mothers' Level of Education and Their Knowledge of The Definition of Menstruation by Their Grades

Table 5. The distribution of students' regarding their mothers' level of education and their knowledge of the definition of menstruation by their grades

Mothers' level of education	*1st Grade (n:100)*				*4th Grade (n:100)*			
	Knows		*Doesn't know*		*Knows*		*Doesn't know*	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Lower than secondary school	11	64.7	54	65.0	5	33.3	49	57.6
Secondary school or higher	6	35.3	29	35.0	10	66.7	36	43.4
Total	17	17.0	83	83.0	15	15.0	85	85.0

1st Grade:X^2 =0.001, p=0.592 4th Grade:X^2 =3.034, p=0.072

In the sample which consists the mothers of 1st grade students who knew the definition of menstruation the education levels 64.7% of the 1st grade students mothers were lower than secondary school while 35.3% of their mothers' education level were secondary school or higher. 33.3% of the 4th grade students' mothers who knew the definition of menstruation had a level of education lower than secondary school while 66.7% of them had secondary school or higher level of education. No significant difference was found between the knowledge about the definition of menstruation of the sample students in both grade levels and their mothers' level of education (1st grade:X^2 =0.001, p=0.592, 4th grade:X^2 =3.034, p=0.072) (Table 5).

In the sample which consists the mothers of 1st grade students who knew the organ responsible for menstrual bleeding, the education levels 56.2% of the 1st grade students mothers were lower than secondary school while 43.8% of their mothers' education level were secondary school or higher. No significant difference was found between the 1st grade students' knowledge of the organ responsible for menstrual bleeding and their mothers' level of education (1st grade:X^2 =1.584, p=0.151). 67.9% of the mothers of the 4th grade students who knew the organ responsible for menstrual bleeding, had a level of education lower than secondary school while 32.1% of them had secondary school or higher level of education. A statistically significant difference was found between the 4th grade students' knowledge of the organ responsible for menstrual bleeding and their mothers' level of education (4th grade: X^2 =8.802, p=0.003) (Table 6).

ISSN: 2223-9944, e ISSN: 2223-9553

The Distribution of Students' Regarding Their Mothers' Level of Education and Their Knowledge of the Organ Responsible for Menstruation by Their Grades

Table 6. The distribution of students' regarding their mothers' level of education and their knowledge of the organ responsible for menstruation by their grades

Mothers' level of education	*1st grade (n:100)*				*4th grade (n:100)*			
	Knows		*Doesn't know*		*Knows*		*Doesn't know*	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Lower than secondary school	18	56.2	47	69.1	36	67.9	18	38.3
Secondary school or higher	14	43.8	21	30.9	17	32.1	29	61.7
Total	32	32.0	68	68.0	53	53.0	47	47.0

1st grade:X2 =1.584, p=0.151 4th grade: X2 =8.802, p=0.003

DISCUSSION AND CONCLUSION

The reason why students at the Faculty of Engineering and Architecture had a higher rate of knowledge of menstruation's definition compared to other departments can be considered as the biology classes they had in high school.

It was found out that 32.4% of the 1st grade students and 53% of the 4th grade students knew the organ responsible for menstrual bleeding. As it is obvious, the 4th grade students were found as having a higher percentage of knowing the organ responsible for menstrual bleeding. The reason behind this can be considered as the university education and social environment at the university. 84% of the 1st grade students who participated in the study and 89% of the 4th grade students found as knowing the time when information about menstruation should be given. It was found out that among the 4th grade students, 96% of the Faculty of Engineering and Architecture students, 76% of the Faculty of Theology students, and 80% of the Faculty of Fine Arts students were found as knowing the time when the information about menstruation should be given. The teenage girls who did not have correct and qualified information on this issue can develop negative feelings, and their self-respect levels may decrease upon sudden occurrence of menarche. The teenager girls' knowledge towards the physiology of menstruation is quite important. Because the lack of knowledge on the process of menstruation cycle will negatively affect the teenager girls' reproduction health and their sexual life. Therefore, a separate curriculum regarding education towards menstruation physiology shouldn't be designed but it should be considered under the framework of a health education which is based on lifelong developmental principles. Additionally, it is considered that taking into account the teenager girls' physical, emotional, and social developmental processes and planning the education regarding menstruation physiology in accordance with this processes provides the basis for determining the contents of a sufficient health education curriculum (Özsürekçigil, 1989; Demirel and Terzioğlu, 2003). In a study by Demirel and Terzioğlu (2003) the students who were informed about menstruation at school were found to have higher mean scores of knowledge compared to the ones who were not. The present study revealed the importance of school health nurses. In line with the consultancy, training and change roles of nurses the number of school health nurses should be enhanced (Demirel and Terzioğlu, 2003).

ISSN: 2223-9944, e ISSN: 2223-9553

When the rate of consulting a doctor for menstrual complaints are considered, although they experience problems, 71% of the 1st grade students and 68% of the 4th grade students were found not to be consulting to a doctor. The reason behind this may be the young girls at the university-age experiences fear, and a feeling of shame because of gynecological examination, and they may think that the society would approach them with prejudice.

In a study by Softa (1999) 70.2% of the women who had urinary tract infections were found as doing perineum cleaning in an inappropriate way from back to front. It was stated that this finding was supported by the fact that in most of the women who experienced urinary tract infection the cause was E.coli bacteria. Yağmur (2007) stated that 73.8% of the women in her study did genitourinary cleaning correctly from front to back. Özerdoğan et al. (2004) determined in their study that 67.2% of the women cleaned their perineum from front to back. This study revealed similar findings with Yağmur and Özerdoğan with 63% of the women cleaning their perineum from front to back. Perineum care has an important place in the reproduction health. Midwives and nurses should help to enlighten the society in terms of perineum care (Yağmur, 2007; Softa, 1999; Özerdoğan and others 2007).

When the students were asked about their habits of having shower during menstruation period 32% of the 1st grade students, and 40% of the 4th grade students reported that they were having shower more frequently (Table 4). Living with their family or not didn't change their frequency of having shower. The belief that having a shower is wrong during menstruation period was still maintained. However, since menstruation period is the most vulnerable period for genital infections, increasing the frequency of showers in this period is quite important in terms of preventing genital infections. Since the menstruation blood is in the alkaline form it weakens the lines of defense by destroying the acidic structure of vagina, microorganisms may move upwards from the cervical opening to cause infection. The infections developed may cause infertility. Therefore, if perineum hygiene is not considered during menstruation, the risk of infection increases. In this period having a warm bath, everyday constitutes no harm. But while having a shower instead of sitting the standing position should be preferred otherwise the entrance of microorganisms may be increased. The knowledge of students in this respect should be developed and highlighted. It is clear that the midwives and nurses can have a key role on this issue (Öncel and others 2003; Ardahan and Bay, 2009).

It is expected that the students' attitudes and behaviors regarding menstruation will change as their grade levels and ages increase as a result of experience and interaction. However, in this study, no statistically significant difference was found between 1st and 4th grade students in terms of menstruation ($p>0.05$).

No significant difference was found between the both groups of students' knowing the definition of menstruation and their mothers' level of education (1st grade:X^2 =0.001, p= 0.592 and 4th grade: X^2 =3.034, p= 0.072) (Table 3). As the level of education increases in the society it is expected that mothers can be more active in training and mentoring teenage girls. However, in this study, no statistically significant difference was found on this issue. It is thought that the general education should be given with health education. Additionally, it should be considered that teenage girls mostly communicate with their mothers and the mothers should also be considered as the target audience for this issue and they should be trained, as well.

No significant difference was found between 1st grade students' knowledge of the organ responsible for menstrual bleeding and their mothers' level of education (1st grade: X2=1.584, p=0.151). On the other hand, a statistically significant difference was found between 4th grade students knowledge of the organ responsible for the menstrual bleeding and

ISSN: 2223-9944, e ISSN: 2223-9553

their mothers' level of education (4^{th} grade: X2 =8.802, p=0.003). As mothers' level of education increases the number of students who know the organ responsible for menstruation decreases (Table 6). In a study with 5^{th} and 6^{th} grade students by Demirel and Terzioğlu, the difference between the education level of their mothers and the effect of the mean knowledge scores of students on the menstrual physiology of the students was found to be statistically insignificant. In our study the reason why students whose mothers' level of education is lower performed better in terms of knowledge may be because they turned to outer sources (books, media, internet, etc.) for information by being aware of the level of their mothers' education (Demirel and Terzioğlu, 2003).

ISSN: 2223-9944, e ISSN: 2223-9553
www.journals.savap.org.pk

REFERENCES

[1] Ardahan, M. & Bay, L. (2009). Knowledge levels of vaginal discharge and individual hygiene of 1st and 4th grade nursing high school students. *Ege Medical Journal*, *48*(1), 33-43.

[2] Burroughs A. & Leifer G. (2001). Reproductive anatomy and physiology. *Maternity Nursing*, *8*, 12-22.

[3] Çıtak, N. & Terzioğlu, F. (2002). Knowledge and applications of primary dysmenorrhea among female students attending Abant Izzet Baysal University. *Health and Society Magazine*, *12*(3), 69-79.

[4] Demirel, S. & Terzioğlu, F. (2003). Determination of information about menstruation physiology of 5th and 6th grade girls who are studying primary schools in Şahinbey county of Gaziantep. *Journal of Research and Development in Nursing*, *5*(2), 47-60.

[5] Dinç, G. & et al. (1999) Determination of information, attitudes and behavior levels of a group of university students about menstruation hygiene. *Nurse Magazine*: 49:1-2-3, 37-40.

[6] Klossner, N.J. & Hatfield, N. (2006). Special ıssues of reproduction and women's health care. *Introductory Maternity & Pediatric Nursing,* 64-98.

[7] Kobya, H. & Yazıcı, S. (1999). Perceptions of menstruation and attitudes related to menstrual hygiene of female students staying center student dormitories of Karadeniz Technical University. Atatürk University Nursing High School VII. *National Nursing Congress Book*.

[8] Öncel, A. (2003). Information and behaviors of girl students about menstruation. *Nursing Forum*, *6*(2), 24-31.

[9] Özerdoğan N. & et al. (2007). Genital hygiene practices of women aged 15-49 years. Ankara: *Reproductive Health and Family Planning Congress Book, 371.*

[10] Pillitteri, A. (2003). Care of the childbearing & childrearing family. *Maternal & Child Health Nursing*,*4*, 65-101.

[11] Softa, K. H. (1999). Determination of the risk factors that can lead to urinary tract infections with some applications for perineal hygiene and sexual life of women, *Unpublished master thesis,* Ankara, Hacettepe University.

[12] Speroff, L. & Fritz, M.A. (2005). The uterus, "regulation of the menstrual cycle". *Clinical Gynecologic Endocrinology and Infertility, 7*, 113-144.[13] Taşkın, L. (2016). *Birth and women's health nursing book.* Ankara: System Ofset Printing.

[14] Uskul A.K. (2004). Women's menarche atories from a multicultural sample. *Soc Sci Med*, *59*, 667-679.

[15] Yağmur, Y. (2007). Genital hygiene behavior of women aged 15-49 living in region of the Fırat health center in Malatya. *Malatya Turkish Armed Forces Preventive Medicine Bulletin, 6* (5).

ISSN: 2223-9944, e ISSN: 2223-9553