Assessment of knowledge and health behaviors of adolescent's girls regarding dysmenorrhea and menstrual hygiene at secondary school in Baghdad city

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ABSTRACT

A descriptive analytical study was carried out to assess the knowledge and health behaviors of adolescent girls regarding dysmenorrhea and menstrual hygiene at secondary schools in Baghdad city. Probability sample (multi-stage)of (300) adolescents girls age (13-19) years old , and was selected from (23) secondary schools from Directorate of Education in Al-Karkh sector and Al-Russafa sector. Data were collected through the use of a questionnaire form, individual interviewing and self report technique for the period from 8th march to 30th April 2022. Descriptive and inferential statistical procedures were used to analyses the data .

The questionnaire form was designed and consist of four main part including : part one ; consist of Socio demographic data. Part two ; consist of menstrual cycle and dysmenorrhea symptoms characteristic. Part three ; consist of knowledge of adolescent girls regarding dysmenorrhea and menstrual hygiene. Part four ; consist of health behaviors of adolescent girls regarding dysmenorrhea and menstrual hygiene.

The result of the study revealed that the highest percentage of the study sample were at age (16) years, most of them in normal weight according to their body mass index and more than half of the study sample were from the middle socio-economic status. The highest percentage of adolescent girls at menarche age is (12) years and more than half of study sample had moderate level of dysmenorrhea status .The highest mean of score of adolescent girls' knowledge regarding dysmenorrhea is reported in Cramping pain in lower abdomen, Fatigue, Dizziness, Irritability and restlessness. While the highest mean of score of adolescent girls' knowledge regarding menstrual hygiene is reported in all items except in use a strong stream of water directly to washing genital area during menstrual cycle, this means adolescent girls' have good knowledge regarding dysmenorrhea and menstrual hygiene. The highest mean of score of adolescent girls health behaviors regarding dysmenorrhea were reported in increase taking vegetables and frut diet, feeling tired and lack of exercise, feeling tired and difficulties in completing home or school work, desire to sleep during the day, frequent absence from school, many excuses and leave, while the highest mean of score of adolescent girls health behaviors regarding menstrual hygiene is reported in all items except in use a strong stream of water directly to washing genital area .This means adolescent girls' have good health behaviors regarding dysmenorrhea and menstrual hygiene.

The results of the study revealed that there were statistically significant relationship between knowledge of adolescent girls regarding dysmenorrhea and body mass index. While the result of the study revealed that there were no statistically significance relationship between knowledge and health behaviors of adolescent girls regarding dysmenorrhea and menstrual hygiene and other variables of Socio-Demographic characteristic. Recommendation: According to these findings, the Study recommended to h education of adolescent girls about important to increased knowledge of adolescent girls regarding dysminorrhea and menstrual hygiene in the curricula of secondary school girls.

Keywords: Assessment , dysmenorrheal , adolescent girls.

Introduction:

Throughout the world, adolescence is considered to be a time of relative health and a wide range of adolescent health issue are being neglected. There are 1.2 billion adolescents worldwide and one of every five people in the world (1). Adolescents are young people between the age of 10 and 19 years and 85% of

adolescents live in developing countries (2). In all countries adolescents represent the future of families, communities and nations (3). More than half of female adolescent suffer from menstrual cramps (dysmenorrhea) from time to time(4). Dysmenorrhea is traditionally classified as primary dysmenorrhea and secondary dysmenorrhea.(5) Adolescent girls can have a range of problem with their menstrual period including menstrual cramping pain or discomfort, dysmenorrhea associated menstruation, which is significant clinical problem. It is characteristically a cramping lower abdominal pain, which may radiate to the lower back and legs,and may be accompanied by other symptoms, such as nausea, vomiting, headache, weakness and fatigue, dizziness, diarrhea and constipation, associated with menstrual cramps (6). According to some international reports, the prevalence of dysmenorrhea is very high, and at least 50% of women experience this problem and occurs in about 10% to 70% of young adolescents girls (7). Also (8) found that dysmenorrhea is most common among the age of 15 to 19 and 82% of women in this age group experience such pain, due to menstrual cramps which range from mild, moderate and sever, and this pain gradually increases among the age of 15and then begins to decline by the age of 20 . In addition, this pain due to dysmenorrhea is considered main causes of absence from school among young girls (9). (10) reported that dysmenorrhea not only causes discomfort for approximately one-fifth of the female adolescent population but also causes many social physical, psychologic and economic problems for adolescent girls all around the world.

Importance of the study :

More than half of female adolescent suffer from menstrual cramps (dysmenorrhea) from time to time, so menstrual cramps are one of the most common reasons for women adolescent to seek medical attention. (11),.

Dysmenorrhea is considered a major problem in the society today, it ranks high among serious health problems. (12).

Most females experience some degree of pain which can disturb their life at home or at their school, and their daily activities. (5).

Nearly 10% of females adolescent with dysmenorrhea experienced an absence of 1 to 3 days per month from work or school or they were unable to perform their regular daily tasks due to severe cramp.(13).

Measuring knowledge and health behaviors can be helpful in understanding how to enhance the sequence of events leading to behavior change in adolescent population. (3).

Statement of the study :

A*ssessment of knowledge and health behaviors of adolescents girls regarding dysmenorrhea and menstrual hygiene at secondary school in Baghdad city.*

Objectives of the study

1- To determine the level of severity of dysmenorrhea among adolescents girls.

2- To assess adolescent girl's knowledge regarding dysmenorrhea and menstrual hygiene.

3- To identify the health seeking behavior regarding dysmenorrhea and menstrual hygiene among study sample.

4- To find out the relationship between the adolescents girls (knowledge and health behaviors) regarding dysmenorrhea and menstrual hygiene and certain variables such as:Socio demographic characteristics, Menstrual Cycle characteristics

Methodology:

A descriptive analytical study was carried out to assess the knowledge and health behaviors of adolescent girls regarding dysmenorrhea and menstrual hygiene at secondary schools in Baghdad city

Probability sample (multi-stage)of (300) adolescents girls age (13-19) years old , and was selected from (23) secondary schools (12) schools from first and third Directorate of Education in Al-Karkh sector and (11) Schools from first and second Directorate of Education in Al-Russafa sector. Data were collected through the use of a questionnaire form, individual interviewing and self report technique for the period from 8th march to 30th April 2022. The questionnaire form was designed and consist of four main part including: Part one; consist of socio demographic data. Part two; consist of menstrual cycle and dysmenorrhea symptoms characteristic. Part three; consist of knowledge of adolescent girls regarding dysmenorrhea and menstrual hygiene which comprised of(42)items. Part four consist of health behaviors of adolescent girls regarding dysmenorrhea and menstrual hygiene which comprised of (61) items. Content validity and reliability of the questionnaire were determined by conducting a pilot study. Descriptive and inferential statistical procedures were used to analyses the data

Results

Table (1) : Distribution of the study sample according to the Socio- Demographic Characteristics

Variables	No.	%
1- Age group / Years		
13	4	1.3
14	13	4.3
15	16	5.3
16	81	27.0
17	80	26.7
18	63	21.0
19	43	14.3
Total	300	%100
Mean ± SD(Min – Max)	16.94 ± 1.37 (13-19)	

2-parents Educational level				
Parents Educational level	Mothers		Fathers	
	No	%	No	%
Illiterate	3	1.0	0	0
Read and Write	10	3.3	4	1.3
Primary school graduate	31	10.3	21	7.0
Intermediate school graduate	65	21.7	41	13.7
Secondary school graduate	69	23.0	70	23.3
Institute	59	19.7	43	14.3
University graduate &above	63	21.0	121	40.3
3-Parents Occupation	Mothers		Fathers	
	No	%	No	%
Government &self employee	82	27.3	239	79.7
Retired	3	1.0	43	14.3
House wife (Not working)	215	71.7	18	6.0

4-Body mass index (BMI)		
BMI (kg/ m^2)	No	%
Under weight <18.5 (kg/ m^2)	17	5.7
Normal weight(18.5-24.9) (kg/ m^2)	266	88.6
Over weight & obese ≥ 25.0 (kg/ m^2)	17	5.7
Total	300	100
Mean ± SD (Min- Max)	21.37 ± 2.31(13-32)	
5-Socio-economic status	No	%
Low	85	28.3
Middle	184	61.3
High	31	10.3

Table (1) shows that the highest percentage (27.0%) of study sample of their age were (16) years while the lowest percentage (1.3%) of study sample their were (13) years and the mean and standard deviation of age was 16.94 ± 1.37

Mothers Educational Level :

The highest percentage (23.0%) of the mother's education level of the study sample were secondary school graduate, while the lowest percentage (1.0%) of them were illiterate.

Father's Educational Level:

The highest percentage (40.3%) the father's education level of the study sample were university graduate and above, while the lowest percentage (1.3%) of them were only able to read and write .

Mother's Occupation:

The highest percentage (71.7%) of the mother's occupation of the study sample were housewife, while the lowest percentage (1.0%) of them were retired.

Father's Occupation:

The highest percentage (79.7%) of the father's occupation of the study sample were governmental and self employee (Free job), while the lowest percentage (6.0%) of them were not working.

Body Mass Index (BM1):

The highest percentage (88.6%) of the study sample were normal weight according to their body mass index, while the lowest percentage (5.7%) of them were over weight and obese and the same percentage for under weight and the mean and standard deviation of (BM1) was 21.37 $\pm$ 2.31.

Level of socio-economic status:

The highest percentage (61.3%) of the study sample were from the middle level of the socio economic status, while the lowest percentage (10.3%) of them were from high level of the socio economic status.

Table(2) : Distribution of the study sample according to menstrual cycle characteristics and history of dysmenorrhea. (N-300)

Variables	NO.	%
Age at menarche / years		
10	4	1.3
11	35	11.7
12	103	34.3
13	78	26.0
14	56	18.7
15	17	5.7
16	7	2.3
The regularity menstrual cycle		
Regular cycle	143	47.7
Irregular cycle	157	52.3
Interval of menstrual cycle		
Every 21 or below	66	22.0
Every 28-30 days	174	58.0
Every 30-32 days	30	10.0
Every 33-35 days	14	4.7

Variables	NO.	%
More than 35 days	16	5.3
The duration of menstrual cycle (Flow days)		
< 4 days	25	8.3
4-5 days	122	40.7
6-7 days	136	45.3
≥ 8 days	17	5.7
Dysmenorrhea Level		
Mild	22	7.3
Moderate	170	56.7
Severe	108	36.0
Dysmenorrhea status		
Every month	211	70.3
Occasionally	76	25.3
Most of the month	13	4.3
Family history of dysmenorrhea		
Yes	190	63.3
No	110	36.7
Member of family had history of dysmenorrhea		
Mother	52	27.4
Sister	69	36.3
Aunts	28	14.7
Aunts, mother	41	21.6
Total	300	100%

Table (2) Shows that the highest percentage (34.3%) of study sample age at menarche is twelve years, while the lowest percentage (1.3%) of them their age at menarche is ten years.

Menstrual Regularity:

The highest percentage (52.3%) of the study sample had irregular menstrual cycle, while the lowest percentage (47.7%) of them had regular menstrual cycle.

Interval of menstrual cycle:

The highest percentage (58.0%) of the study sample is every (28-30) days, while the lowest of percentage (4.7%) is every 33 to 35 days.

The duration of menstrual cycle (flow days):

The highest percentage (45.3%) of the study sample is (6-7) days, while the lowest percentage (5.7%) of the menstrual flow lasts eight days and more.

Dysmenorrhea level:

The highest percentage (56.7%) of the study sample had moderate level of dysmenorrhea while the lowest percentage (7.3%) had mild level of dysmenorrhea.

Dysmenorrhea status:

The highest percentage (70.3%) of the study sample suffered from dysmenorrhea every month while the lowest percentage (4.3%) suffered from dysmenorrhea for most of the month .

Family history of dysmenorrhea:

The heights percentage (63.3%) of the study sample have family history of dysmenorrhea, while the lowest percentage (36.7%) of them do not have family history of dysmenorrhea.

Member of family had history of dysmenorrhea:

Sisters of the highest percentage (36.3%) of the study sample have dysmenorrhea symptoms while aunts of the lowest percentage (14.7%) of them have dysmenorrhea symptoms

Table (3): Distribution of the study sample according to symptoms of dysmenorrhea

No	Symptoms	Never (1)		Mild (2)		Moderat (3)		Sever (4)		Total	MS
1-	Pain	No	%	No	%	No	%	No	%		
1	Cramping lower abdominal pain	8	2.7	18	6.0	123	41.0	151	50.3	300	3.39
2	Irritability	37	12.3	46	15.3	106	35.3	111	37.0	300	2.97
3	Fatigue	48	16.0	41	13.7	113	37.7	98	32.7	300	2.87
4	Backache	49	16.3	46	15.3	118	39.3	87	29.0	300	2.81
5	Legs pain *	99	33.0	55	18.3	82	27.3	64	21.3	300	2.37
6	Headache *	121	40.3	59	19.7	68	22.7	52	17.3	300	2.17
7	Diarrhea *	202	67.3	38	12.7	38	12.7	22	7.3	300	1.6
8	Dizziness *	134	44.7	75	25.6	54	18.0	37	12.3	300	1.98
9	Abdominal bloating *	171	57.0	39	13.0	57	19.0	33	11.0	300	1.84
10	Nausea& Vomiting *	192	64.0	50	16.7	34	11.3	24	8.0	300	1.63
11	Constipation *	223	74.3	29	9.7	28	9.3	20	6.7	300	1.48
	Total	1284		496		821		699			

Table (3) shows that the highest mean score of the dysmenorrhea symptoms *(3.39) in item number (1) (cramping lower abdominal pain), while the lowest mean score (1.48) in item number (11) (Constipation).*

Table (4) : Distribution of the study sample according to the knowledge of adolescents girls regarding dysmenorrhea

No.	Item	Know		Un certain		Don't Know		Total	Ms
1.	Definition /Claification of Dysmenorrhea	No	%	No	%	No	%		
1.1	Dysmenorrhea is severe cramping pain in lower abdominal radiating in lower back and legs associated menstruation	220	73.3	44	14.7	36	12.0	300	2.61
1.2	Primary dysmenorrhea is menstrual pain without pelvic pathology	129	43.0	61	20.3	110	36.7	300	2.6
1.3	Secondary dysmenorrhea is menstrual pain associated with pelvic pathology	88	29.3	61	20.3	151	50.3	300	1.79
2.	Causes of dysmenorrhea								
A.	Causes of primary dysmenorrhea								
1.	Increased of prostaglandins hormones level	25	8.3	45	15.0	220	76.7	300	1.31
2.	Anarrow cervix (cervical stenosis)	26	8.7	41	13.7	233	77.7	300	1.31
3.	Lack amount of blood to uterine muscle	22	7.3	45	15.0	233	77.7	300	1.29
4.	Increased sensitivity to pain	30	10.0	49	16.3	221	73.7	300	1.36
B.	Causes secondary dysmenorrhea								
1.	Pelvic congestion	23	7.7	56	18.7	221	73.7	300	1.34
2.	pelvic inflamatorydiseas (PID)	14	4.7	39	13.0	247	82.3	300	1.22
3.	Adenomyosis	11	3.7	35	11.7	254	84.7	300	1.19
4.	Congenital uterine or vaginal abnormalities	14	4.7	33	11.0	253	84.3	300	1.20
5.	Uterine fibroid	15	5.0	33	11.0	252	84.0	300	1.21

No.	Item	Know		Un certain		Don't Know		Total	Ms
3.	Symptoms of dysmenorrhea								
1.	Cramping pain in lower abdominal radiating in lower back and legs	267	89.0	20	6.7	13	4.3	300	2.84
2.	Irritability and restlessness	240	80.0	27	9.0	33	11.0	300	2.69
3.	Fatigue	240	80.0	33	11.0	27	9.0	300	2.71
4.	Headache	227	75.7	32	10.7	41	13.7	300	2.26
5.	Diarrhea	163	54.3	53	17.7	84	28.0	300	2.26
6.	Dizziness	215	71.7	33	11.0	52	17.3	300	2.54
7.	Abdominal bloating	187	62.3	44	14.7	69	23.0	300	2.39
8.	Nausea and vomiting	192	64.0	36	12.0	72	24.0	300	2.4
9.	Constipation	180	60.0	48	16.0	72	24.0	300	2.36
4.	Management								
1.A.	Medical management								
1.	Period inspection and referral to school health services when adolescent girls feeling severe abdominal pain due to dysmenorrhea status .	168	56.0	35	11.7	97	32.3	300	2.27
2.	Pharmacological therapy								
2-1.	Brofen	153	51.0	35	11.7	112	37.0	300	2.13
2-2.	Voltarine	154	51.3	36	12.0	110	36.7	300	2.19
2-3.	Aspirin / Paracetol	146	48.7	33	11.0	121	40.3	300	2.8

No.	Item	Know		Un certain		Don't Know		Total	Ms
1.B.	Non - Pharmacological therapy	Know		Un certain		Don't know		Total	Ms
1.	Natural herbal	No.	%	No.	%	No.	%		
1.1.	Tea Alababong	157	52.3	18	6.0	125	41.7	300	2.10
1.2.	Herb mint	127	42.3	28	9.3	145	48.3	300	2.94
1.3.	Anise herb	121	40.3	22	7.3	157	52.3	300	1.88
1.4.	Herb cinnamon	116	38.7	21	7.0	163	54.3	300	1.84
1.5.	Ginger herb	119	39.7	21	7.0	160	53.3	300	1.86
1.6.	Grass track	118	39.3	19	6.3	163	54.3	300	1.85
2.	Nutrition during menstrual cycle	165	55.0	36	12.0	99	33.0	300	2.22
3.	Exercise	194	64.7	25	8.3	81	27.0	300	2.37
3-1.	Walking	167	55.7	36	12.0	97	32.3	300	2.26
3-2.	Domestic work	176	58.7	29	9.7	95	31.7	300	2.27
3-3.	Play volley ball, basket ball and table tennis	168	56.0	32	10.7	100	33.3	300	2.22
4.	Rest and sleep during menstrual cycle	167	55.7	31	10.3	102	34.0	300	2.21

Table (4) shows that the highest mean score (2.61) related knowledge of adolescents girls regarding definition and classification of dysmenorrhea in item number (1) (Dysmenorrhea is severe cramping pain in lower abdominal radiating in lower back and legs associated menstruation), while the lowest mean score (1.79) in item number (3) (Secondary dysmenorrhea is menstrual pain associated with pelvic pathology).

Causes of primary dysmenorrhea :

The highest mean score (1.36) in item number (4) (increase sensitivity to pain), while the lowest mean score (1.29) in item number (3) (Lack amount of blood to uterine muscle).

Causes of secondary dysmenorrhea:

The highest mean score (1.34) in item number (1) (pelvic congestion), while the lowest mean score (1.19) in item number (3) (Adenomyosis).

Symptoms of dysmenorrhea:

The highest mean score (2.84) in item number (1) Dysmenorrhea is severe cramping pain in lower abdominal radiating in lower back and legs associated menstruation, while the lowest mean score (2.26) in item number (4) (headache) also the same score in item number (5) (diarrhea).

Management of dysmenorrhea :

The highest mean score (2.94) in item number (2) (herbmint) releted to non medical management, while the lowest mean score (1.84) in item number (4) (Herb cinnamon).`

Table (5) : Distribution of the study sample according to the knowledge of adolescents girls regarding Menstrual hygiene

No	Item	Know		Un certain		Don't know		Total	Ms
		No.	%	No	%	No	%		
1.	Washing genital area during menstrual cycle to prevent growth of bacteria.	262	87.3	13	4.3	25	8.3	300	2.79
2.	*Use a strong stream of water directly to washing genital area during menstrual cycle	198	66.0	32	10.7	70	23.3	300	1.57
3.	Changes genital pads every 3-4 hours &not leave them until saturation	258	86.0	20	6.7	22	7.3	300	2.78
4.	Remove perineal hair, to prevent growth of bacteria and germs.	253	84.3	20	6.7	27	9.0	300	2.75

Table (5) shows that the highest mean score (2.79) related to knowledge of adolescents girls regarding menstrual hygiene, in item number (1) (Washing genital area during menstrual cycle to prevent bad of odor and germs), while the lowest mean score (1.57) in item number (2) (use a strong stream of water directly).

Table (6): Distribution of the study sample according to health behaviors of adolescents girls regarding dysmenorrhea

No.	Item	Yes		Some times		No		Total	Ms
1.	Nutrition								
1.1	Balanced diet that contains calcium , magnesium and vitamin B 6 and iron, (milk products, eggs and fish)	140	46.7	107	35.7	53	17.7	300	2.29
1.2	Prevent taking fatty food	126	42.0	85	28.3	89	29.7	300	2.12
1.3	*Taking sweets and sugars	190	63.3	60	20.0	50	16.7	300	1.53
1.4	*Taking salt and pickles diet	147	49.0	80	26.7	73	24.3	300	1.75
1.5	frequent drinking hot liquids and reduce carbonated intake	158	52.7	71	23.7	71	23.7	300	2.29
1.6	*Drinking coffee and tea	140	46.7	65	21.7	95	31.7	300	2.15
1.7	Increase taking vegetables and fruit diet	178	59.3	66	22.0	56	18.7	300	2.40
1.8	Drinking warm liquids, (warm milk)	110	36.7	55	18.3	135	45.0	300	1.91
1.9	Feeling less desire to eat	146	48.7	91	30.3	63	21.0	300	2.27
1,10	Feeling desire to eat more than usually	70	23.3	54	18.0	176	58.7	300	1.64
2.	Exercise								
2.1	Walking	160	53.3	43	14.4	97	32.3	300	2.21
2.2	Played Table Tennis	76	25.3	17	5.7	207	69.0	300	1.56
2.3	Play basketball	73	24.3	15	5.0	212	70.7	300	1.53
2.4	Playing volleyball	80	26.7	16	5.3	204	68.0	300	1.58
2.5	Domestic work	156	52.0	56	18.7	88	29.3	300	2.22
2.6	Feeling tired and lack of exercise	211	70.3	55	18.3	34	11.3	300	2.59

No.	Item	Yes		Some times		No		Total	Ms
3.	Rest and sleep								
3.1	Raise the legs a bit and put them above a pillow during sleep	77	25.7	50	16.7	173	57.7	300	1.68
3.2	Breathing slowly and deeply to try to relax	109	36.3	60	20.0	131	43.7	300	1.92
3.3	Put of warm compresses on the abdomen	116	38.7	51	17.0	133	44.3	300	1.94
3.4	Massage of the abdomen and back muscles	144	48.0	74	24.7	82	27.3	300	2.20
3.5	sleeping on one side and reflex knee to decrease the menstrual Paine	171	57.0	47	15.7	82	27.3	300	2.29
3.6	To take a warm bath before bedtime to decrease the pain	131	43.7	65	21.7	104	34.7	300	2.09
3.7	Feeling tired and difficulties in completing home or school work	222	74.0	51	17.0	27	9.0	300	2.65
3.8	want to sleep during the day	218	72.7	53	17.7	29	9.7	300	2.63
3.9	Need to rest more than normal days	234	78.7	37	12.3	29	9.7	300	2.35
3.10	average rate hours of your sleep at night from 7 to 8 hours	188	62.7	72	24.0	40	13.3	300	2.49
3.11	average rate hours of the sleep during the day rate of 2 to 3 hours	146	48.7	66	22.0	88	29.3	300	2.28

No.	Item	Yes		Some times		No		Total	Ms
4.	Management and health care								
4.A.	Medical management pharmacology therapy								
1.	Always adolescent girls going to school health to take medical management	53	17.7	36	10.0	217	72.3	300	1.43
2.	pharmacology therapy								
2.1.	Ibrovin	124	41.3	25	8.3	151	50.3	300	1.57
2.2.	Voltarine	104	34.7	29	9.7	167	55.7	300	1.79
2.3.	Aspirin	103	34.3	27	9.0	170	56.7	300	1.77
2.4.	Ante Spazmin	103	34.3	25	8.3	172	57.3	300	1.77
4.B.	non pharmacology therapy / Natural herbal drink: warm liquids								
1.	Tea Alabbabong	65	21.7	22	7.3	213	71.0	300	1.50
2.	Herb mint	62	20.7	22	7.3	216	72.0	300	1.48
3.	Anise herb	146	48.7	74	24.7	80	26.7	300	1.78
5.	social activities								
5.1	Lack participate in familial occasion	148	49.3	81	27.0	71	23.7	300	2.25
5.2	feeling upset to visit relatives and friends	195	65.0	59	19.7	46	15.3	300	2.49
5.3	Feeling irritability and limited activities	184	61.3	55	18.3	61	20.3	300	2.41
5.4	feeling of disorder and lack of movement	119	39.7	44	14.7	137	45.7	300	1.94
5.5	Neglect of the external appearance	143	47.7	83	27.7	74	24.7	300	2.23

No.	Item	Yes		Some times		No		Total	Ms
6.	School activities during the menstrual cycle								
6.1	Lack of concentration in the classroom	95	31.7	87	29.0	118	39.3	300	1.92
6.2	Lack of preparation of the school task	74	247	51	17.0	175	58.3	300	1.66
6.3	Little or no attention to the explanation of the teacher in the classroom	71	23.7	27	9.0	202	67.3	300	1.56
6.4	Examinations postponed	65	21.7	25	8.3	210	70.0	300	1.51
6.5	Frequent absences from school	281	93.7	15	6.0	1	3	300	2.83
6.6	Many excuses and leave	276	92.0	21	7.0	3	1.0	300	2.91

Table (6) shows that the highest mean score (2.40) in item number (7) (Eat more vegetables and fruit) related to help behavior of adolescent girls regarding nutrition, while the lowest mean score (1.53) in item number (3) (taking sweets and sugars).

Exercise:

The highest mean score in item number (6) (Feeling tired and lack of exercise) is (2.59) while the lowest mean score in item number (3) (play basketball) is (1.53).

Rest and sleep:

The highest mean score in item number (7) (Feeling tired and difficulties in completing home or school work) is (2.65), while the lowest mean score (1.68) in item number (1) (Raise the legs a bit and put them above a pillow during sleep).

Management of dysmenorrhea :

The highest mean score in item number (2) (Voltarine) related to medical management is (1.79) while the lowest mean score in item number (1) (Always adolescent girls going to the school health to take medical management) is (1.43).

Social activities:

The highest mean score in item number (2) (feeling upset to visit relatives and friends) is (2.49) while the lowest mean score in item number (4) (feeling of disorder and lack of movement) is (1.94).

School activities during the menstrual cycle:

The highest mean score in item number (6) (many excuses and leave) is (2.91) while the lowest mean score in item number (4) (Examinations postponed) is (1.51).

Table (7) : Distribution of the study sample according to health behaviors of adolescents girls regarding menstrual hygiene

No.	Item	Yes		Some times		No		Total	Ms
2.1	Taking bath daily in summer	275	91.7	14	4.7	11	3.7	300	2.88
2.2	Taking bath twice a week in winter	266	88.7	19	6.3	15	5.0	300	2.83
2.3	Changing the clothes every day during the menstrual cycl	263	87.7	26	8.7	11	3.7	300	2.84
2.4	Using cotton clothes underwear	261	87.0	20	6.7	19	6.3	300	2.80
2.5	Changing genital pad every 3-4 hours	248	82.7	19	6.3	33	11.0	300	2.71
2.6	Washing genital area, with soap and water from the top to the bottom	247	82.3	23	7.7	30	10.0	300	2.70
2.7	Drying the genital area from the top to the bottom and not vice	261	87.0	13	4.3	26	8.7	300	2.78
2.8	*Using strong current of water (Douche) when washing the genital area	208	69.3	13	4.3	79	26.3	300	1.57
2.9	Using appropriate-sized genital pads during menstrual cycle	284	94.7	8	2.7	8	2.7	300	2.29
2.10	*Leaving bad until saturation without changes	291	97.0	5	1.7	4	1.3	300	2.95

No.	Item	Yes		Some times		No		Total	Ms
2.11	Put genital pads in a bag to throw in the trash outside the house	289	96.3	5	1.7	6	2.0	300	2.94
2.12	Washing under were clothes and exposing them to sun light	300	100	-	-	=	=	300	3
2.13	Washing external clothes and exposed to sunlight or ironing	300	100	-	-	-	-	300	3
2.14	Washing your hands before and after the use of toilet	289	96.3	5	1.7	6	2.0	300	2.94
2.15	Clean toilet with antiseptic solution	208	69.3	13	4.3	79	26.3	300	2.43

Table (7) shows the highest mean score(3)related to health behaviors of Adolescents girl's regarding menstrual hygiene in item number (12) washing under were clothes and exposing them to sun light) also the same mean score in item number (13) washing external clothes and exposed to sunlight or ironing), while the lowest mean score (1.57) in item number (8) Using strong current of water (Douche) when washing the genital area

Table (8) Association between Adolescents girl's knowledge regarding Dysmenorrhea and Menstrual hygiene and Socio- demographic characteristics

Variables	Knowledge Score regarding Dysmenorrhea Poor Acceptable& good <76 ≥76					X²	df	p-value	sig	Knowledge Score regarding Menstrual hygiene Poor Acceptable & good <8 ≥8					X²	df	p-value	sig
Age group / Years	No	%	No	%	Total					No	%	No	%	Total				
13-14	10	58.8	7	41.2	17	4.810	2	0.135	NS	3	17.6	14	82.4	17	0.707	2	0.675	NS
15-16	38	39.2	59	60.8	97					12	12.4	85	87.6	97				
>17	93	50.0	93	50.0	186					20	10.8	166	89.2	186				
Mothers educational level																		
Primary school graduated & less	25	56.8	19	43.2	44	7.716	3	0.052	NS	7	15.9	37	84.1	44	1.995	3	0.574	NS
Intermediate & secondary school graduated	69	51.5	65	48.5	134					12	9.0	122	91.0	134				
Institute graduated	26	44.1	33	55.9	59					8	13.6	51	86.4	59				
University graduated & above	21	33.3	42	66.7	63					8	12.7	55	87.3	63				
Fathers educational level																		
Primary school graduated & less	12	48.0	13	52.0	25	0.642	3	0.887	NS	3	12.0	22	88.0	25	0.616	3	0.893	NS
Intermediate & secondary school graduated	50	45.0	61	55.0	111					11	9.9	100	90.1	111				
Institute graduated	19	44.2	24	55.8	43					6	14.0	37	86.0	43				
University graduated & above	60	49.6	61	50.4	121					15	12.4	106	87.6	121				

Variables	Knowledge Score regarding Dysmenorrhea Poor Acceptable& good <76 ≥76					X²	df	p-value	sig	Knowledge Score regarding Menstrual hygiene Poor Acceptable & good <8 ≥8					X²	df	p-value	sig
Mothers occupation	No	%	No	%	Total					No	%	No	%	Total				
Government &self employee	39	47.6	43	52.4	82	2.688	2	0.261	NS	11	13.4	71	86.6	82	0.692	2	0.707	NS
House wife	102	47.4	113	52.6	215					24	11.2	191	88.8	215				
Retired	-	-	3	100	3					-	-	3	100	3				
Fathers occupation																		
Government & self employee	105	43.9	134	56.1	239	4.561	2	0.102	NS	21	8.8	218	91.2	239	10.439	2	0.005	S
Retired	26	60.5	17	39.5	43					11	25.6	32	74.4	43				
Not working	10	55.6	8	44.4	18					3	16.7	15	83.3	18				
Body mass index (BMI)																		
BMI (kg/ m)																		
Under weight <18.5 (kg/ m²)	7	41.2	10	58.8	17	9.141	2	0.010	S	1	5.9	16	94.1	17	1.142	2	0.565	NS
Normal weight (18.5-24.9)	120	45.1	146	54.9	266					31	11.7	235	88.3	266				
Over weight & obese ≥25	14	82.4	3	17.6	17					3	17.6	14	82.4	17				

Variables	Knowledge Score regarding Dysmenorrhea Poor Acceptable & good <75 ≥75					X²	df	p. value	sig	Knowledge Score regarding Menstrual hygiene Poor Acceptable & good <8 ≥8					X²	df	p. value	sig
Socio-economic status	No	%	No	%	Total					No	%	No	%	Total				
Low	43	50.6	42	49.4	85	0.728	2	0.695	NS	8	9.4	77	90.6	85	2.209	2	0.331	NS
Middle	83	45.1	101	54.9	184					21	11.4	163	88.6	184				
High	15	48.4	16	51.6	31					6	19.4	25	80.6	31				

Table (8) shows that there were statistical significant association between knowledge of adolescents girls regarding dysmenorrhea and body mass index while there were no statistical significant association between knowledge of adolescents students girls regarding dysmenorrhea and socio - demographic characteristic of the study sample (Age, parents educational level, parent occupation and socio economic status) among the study sample.
The same table (8) shows that there were statistical significant association between knowledge of adolescents students girls regarding menstrual hygiene and fathers occupation level, while there were no statistical significant association between knowledge of adolescents girls regarding menstrual hygiene and socio - demographic characteristic of the study sample (Age, parents educational level, mother's occupation, body mass index and socio-economic status)..

Table (9) Association between Adolescents girl's Health behaviors regarding Dysmenorrhea and Menstrual hygiene and Socio-demographic characteristics

Variables	Health behavior Score regarding Dysmenorrhea Poor Acceptable & good <92 ≥92					X²	df	p. value	sig	Health behavior Score regarding Menstrual hygiene Poor Acceptable & good <30 ≥30					X²	df	p. value	sig
Age group / Years	No	%	No	%	Total					No	%	No	%	Total				
13-14	9	52.9	8	47.1	17	0.33	2	0.806	NS	-	-	17	100	17	0.401	2	0.816	NS
15-16	43	44.3	54	55.7	97					1	1.0	96	99.0	97				
>17	85	45.7	101	54.3	109					3	1.6	183	98.4	109				
Mothers educational level																		
Primary school graduate& less	22	50.0	22	50.0	44	4.940	3	0.176	NS	1	2.3	43	97.9	44	3.667	3	0.301	NS
Intermediate & secondary school graduate	52	38.8	82	61.2	134					1	7	133	99.3	134				
Institute graduate	32	54.2	27	45.8	59					-	–	59	100	59				
University graduate & above	31	49.2	32	508	63					2	3.2	61	96.8	63				
Fathers educational level																		
Primary school graduate& less	10	40.0	15	60.0	25	0.358	3	0.949	NS	1	4.0	24	96.0	25	6.686	3	0.083	NS
Intermediate & secondary school graduate	51	45.9	60	54.1	111					-	-	111	100	111				
Institute graduate	20	46.5	23	53.5	43					2	4.7	41	95.3	43				
University graduate & above	56	46.3	65	53.7	121					1	8	120	99.2	121				

Variables	Health behavior Score regarding Dysmenorrhea Poor Acceptable& good <92		≥92			X^2	df	p. value	sig	Health behavior Score regarding Menstrual hygiene Poor Acceptable & good <30		≥30			X^2	df	p. value	sig
Mothers occupation	No	%	No	%	Total					No	%	No	%	Total				
Government &self employee	38	46.3	44	53.7	82	3.674	2	0.159	NS	2	2.4	80	97.6	82	1.068	2	0.586	NS
House wife	96	44.7	119	55.3	215					2	9	213	99.1	215				
Retired	3	100	-	-	3					-	-	3	100	3				
Fathers occupation																		
Government &self employee	107	44.8	132	55.2	239	2.965	2	0.227	NS	4	1.7	235	98.3	239	1.035	2	0.596	NS
Retired	24	55.8	19	44.2	43					-	-	43	100	43				
Not working	6	33.3	12	66.7	18					-	-	18	100	18				
Body mass index (BMI)																		
BMI (kg/m^2)																		
Under weight (18.5)	6	35.3	11	64.7	17	0.972	2	0.615	NS	-	-	17	100	17	0.518	2	0.772	NS
Normal weight(18.5-24.9)	124	46.6	142	53.4	266					4	1.5	262	98.5	266				
Over weight & obese (>25.0)	7	41.2	10	58.8	17					-	-	17	100	17				

Variables	Health behavior Score regarding Dysmenorrhea Poor Acceptable& good <92		≥92			X^2	df	p-value	sig	Health behavior Score regarding Menstrual hygiene Poor Acceptable & good <30		≥30			X^2	df	p-value	sig
Socio-economic status	No	%	No	%	Total					No	%	No	%	Total				
Low	42	49.4	43	50.6	85	4.023	2	0.134	NS	1	1.2	84	98.8	85	0.558	2	0.756	NS
Middle	86	46.7	98	53.3	184					3	1.6	181	98.4	184				
High	9	29.0	22	17.0	31					-	-	31	100	31				

Table (9) shows that there were no statistical significant association between health behaviors of adolescents girls regarding dysmenorrhea and menstrual hygiene and socio - demographic characteristics of the study sample (Age, parent education level, parents occupation, body mass index and socio-economic status) .

Table (10) Association between Adolescents girl's knowledge regarding *Dysmenorrhea and Menstrual hygiene and Menstrual cycle and history of dysmenorrhea*

Variables	Knowledge Score regarding Dysmenorrhea					X	df	P. value	sig	Knowledge Score regarding Menstrual hygiene					x	df	P. value	sig
	Poor <76		Acceptable& good ≥76							Poor <8		Acceptable& good ≥8						
Age at menarche / years	No	%	No	%	Total					No	%	No	%	Total				
10 years	3	75.0	1	25.0	4	3.800	6	0.704	NS	-	-	4	100	4	12.620	6	0.049	S
11 years	17	48.6	18	51.4	35					8	22.9	27	77.1	35				
12 years	46	44.7	57	55.3	103					8	7.8	95	92.2	103				
13 years	41	52.6	37	47.4	78					8	10.3	70	89.7	78				
14 years	23	41.1	33	58.9	56					6	10.7	50	89.3	56				
15 years	7	41.2	10	58.8	17					5	29.4	12	70.6	17				
16 years	4	57.1	3	42.9	7					-	-	7	100	7				
Regularity cycle																		
Regular	70	49.0	73	51.0	143	0.418	1	0.518	NS	18	12.6	125	87.4	143	0.225	1	0.635	NS
Irregular	71	45.2	86	54.8	157					17	10.8	140	89.2	157				

Variables	Knowledge Score regarding Dysmenorrhea					X^2	df	P. value	sig	Knowledge Score regarding Menstrual hygiene					X^2	df	P. value	sig
	Poor <76		Acceptable& good ≥76							Poor <8		Acceptable& good ≥8						
The duration of menstrual cycle(Flow days)	No	%	No	%	Total					No	%	No	%	Total				
<4 days	13	52.0	12	48.0	25	4.693	3	0.196	NS	2	8.0	23	92.0	25	3.560	3	0.313	NS
4-5 days	53	43.4	69	56.6	122					10	8.3	112	91.8	122				
6-7 days	63	46.3	73	53.7	136					20	14.7	116	85.3	136				
≥8 days	12	70.6	5	29.4	17					3	17.6	14	82.4	17				
Dysmenorrhea Level																		
Low	10	45.5	12	54.5	22					2	9.1	20	90.9	22				
Moderate	71	41.8	99	58.2	170	5.065	2	0.079	NS	21	12.4	149	87.6	170	0.252	2	0.882	NS
High	60	55.6	48	44.4	108					12	11.1	96	88.9	108				

Variables	Knowledge Score regarding Dysmenorrhea					X^2	df	P. value	sig	Knowledge Score regarding Menstrual hygiene					X^2	df	P. value	sig
	Poor <76		Acceptable& good ≥76							Poor <8		Acceptable& good ≥8						
The duration of menstrual cycle(Flow days)	No	%	No	%	Total					No	%	No	%	Total				
<4 days	13	52.0	12	48.0	25	4.693	3	0.196	NS	2	8.0	23	92.0	25	3.560	3	0.313	NS
4-5 days	53	43.4	69	56.6	122					10	8.3	112	91.8	122				
6-7 days	63	46.3	73	53.7	136					20	14.7	116	85.3	136				
≥8 days	12	70.6	5	29.4	17					3	17.6	14	82.4	17				
Dysmenorrhea Level																		
Low	10	45.5	12	54.5	22					2	9.1	20	90.9	22				
Moderate	71	41.8	99	58.2	170	5.065	2	0.079	NS	21	12.4	149	87.6	170	0.252	2	0.882	NS
High	60	55.6	48	44.4	108					12	11.1	96	88.9	108				

Variables	Knowledge Score regarding Dysmenorrhea Poor <76		Acceptable& good ≥76			X^2	df	P. value	sig	Knowledge Score regarding Menstrual hygiene Poor <8		Acceptable& good ≥8			X^2	df	P. value	sig
Interval of menstrual cycle	No	%	No	%	Total					No	%	No	%	Total				
Every 21 or below	32	48.5	34	51.5	66	0.801	4	0.938	NS	6	9.1	60	90.9	66	11.701	4	0.020	S
Every 28-30 days	83	74.7	91	52.3	174					19	10.9	155	89.1	174				
Every 30-32 days	12	40.0	18	60.0	30					2	6.7	28	93.3	30				
Every 33-35 days	7	50.0	7	50.0	14					2	14.3	12	85.7	14				
More than 35 days	7	43.8	9	56.3	16					6	37.5	10	62.5	16				

Variables	Knowledge Score regarding Dysmenorrhea Poor <76		Acceptable& good ≥76			X^2	df	P. value	sig	Knowledge Score regarding Menstrual hygiene Poor <8		Acceptable& good ≥8			X^2	df	P. value	sig
The duration of menstrual cycle(Flow days)	No	%	No	%	Total					No	%	No	%	Total				
<4 days	13	52.0	12	48.0	25	4.693	3	0.196	NS	2	8.0	23	92.0	25	3.560	3	0.313	NS
4-5 days	53	43.4	69	56.6	122					10	8.3	112	91.8	122				
6-7 days	63	46.3	73	53.7	136					20	14.7	116	85.3	136				
≥8 days	12	70.6	5	29.4	17					3	17.6	14	82.4	17				
Dysmenorrhea Level																		
Low	10	45.5	12	54.5	22	5.065	2	0.079	NS	2	9.1	20	90.9	22	0.252	2	0.882	NS
Moderate	71	41.8	99	58.2	170					21	12.4	149	87.6	170				
High	60	55.6	48	44.4	108					12	11.1	96	88.9	108				

Variables	Knowledge Score regarding Dysmenorrhea Poor <76		Acceptable& good ≥76			X^2	df	P. value	sig	Knowledge Score regarding Menstrual hygiene Poor <8		Acceptable& good ≥8			X^2	df	P. value	sig
Dysmenorrhea status	No	%	No	%	Total					No	%	No	%	Total				
Every month	101	47.9	110	52.1	211	0.472	2	0.790	NS	21	10.0	190	90.0	211	2.825	2	0.244	NS
Occasionally	35	46.1	41	53.9	76					11	14.5	65	85.5	76				
Most of the months	5	38.5	8	61.5	13					3	23.1	10	76.9	13				
Family history of dysmenorrhea																		
Yes	94	49.5	96	50.5	190	1.273	1	0.259	NS	24	12.6	166	87.4	190	0.468	1	0.494	NS
No	47	42.7	63	57.3	110					11	10.0	99	90.0	110				

Variables	Knowledge Score regarding Dysmenorrhea Poor <76		Acceptable& good ≥76			X^2	df	P. value	sig	Knowledge Score regarding Menstrual hygiene Poor <8		Acceptable& good ≥8			X^2	df	P. value	sig
Member of family had history of dysmenorrhea	No	%	No	%	Total					No	%	No	%	Total				
Mother	29	55.8	23	44.2	52	3.929	3	0.269	NS	10	19.2	42	80.8	52	4.452	3	0.217	NS
Sister	32	46.4	37	53.6	69					9	13.0	60	87.0	69				
Aunts	10	35.7	18	64.3	28					1	3.6	27	96.4	28				
Aunts, mother	23	56.1	18	43.9	41					4	9.8	37	90.2	41				

Table (10) shows that there were no statistical significant association between knowledge of adolescents girls regarding dysmenorrhea and (age at menarche, regularity of menstrual cycle, interval of menstrual cycle, the duration of menstrual cycle (flow days), dysmenorrhea level, dysmenorrhea status, family history of dysmenorrhea and members of family had history dysmenorrhea). The same Table (10) shows that there were statistical significant association between knowledge of adolescents girls regarding menstrual hygiene and (age at menarche, interval of menstrual cycle) while there were no statistical significant association between knowledge of adolescents girls regarding menstrual hygiene and (regularity of menstrual cycle, the duration of menstrual cycle (flow days), dysmenorrhea level, dysmenorrhea status, family history of dysmenorrheal and members of family had history of dysmenorrhea).

Table (11) Association between (300) Adolescents girl's Health behaviors regarding Dysmenorrhea & Menstrual hygiene and Menstrual cycle & history of dysmenorrhea

Variables	Health behavior Score regarding Dysmenorrhea Poor Acceptable & good <92		≥92			X^2	df	P. value	sig	Health behavior Score regarding Menstrual hygiene Poor Acceptable & good <30		≥30			X^2	df	P. value	sig
Age at menarche / years	No	%	No	%	Total					No	%	No	%	Total				
10	1	25.0	3	75.0	4	1.258	6	0.974	NS	-	-	4	100	4	3.487	6	0.746	NS
11	16	45.7	19	54.3	35					-	-	35	100	35				
12	48	46.6	55	53.4	103					1	1.0	102	99.0	103				
13	34	43.6	44	56.4	78					1	1.3	77	98.7	78				
14	26	46.4	30	53.6	56					1	1.8	55	98.2	56				
15	9	52.9	8	47.1	17					1	5.9	16	94.1	17				
16	3	42.9	4	57.1	7					-	-	7	100	7				
Regularity cycle																		
Regular	65	45.5	78	54.5	143	0.005	1	0.944	NS	1	7	142	99.3	143	0.835	1	0.361	NS
Irregular	72	45.9	85	54.1	157					3	1.9	154	98.1	157				

Variables	Health behavior Score regarding Dysmenorrhea Poor Acceptable & good <92		≥92			X^2	df	P. value	sig	Health behavior Score regarding Menstrual hygiene Poor Acceptable & good <30		≥30			X^2	df	P. value	sig
Interval of menstrual cycle	No	%	No	%	Total					No	%	No	%	Total				
Every 21 or below	35	53.0	31	47.0	66	2.039	4	0.729	NS	1	1.5	65	98.5	66	4.275	4	0.370	NS
Every 28-30 days	77	44.3	97	55.7	174					2	1.1	172	98.9	174				
Every 30-32 days	12	40.0	18	60.0	30					-	-	30	100	30				
Every 33-35 days	6	42.9	8	57.1	14					1	7.1	13	92.9	14				
More than 35 days	7	43.8	9	56.3	16					-	-	16	100	16				
The duration of menstrual cycle (Flow days)																		
<4 days	13	52.0	12	48.0	25	1.945	3	0.584	NS	-	-	25	100	25	5.915	3	0.116	NS
4-5 days	50	41.0	72	59.0	122					4	3.3	118	96.7	122				
6-7 days	66	48.5	70	51.5	136					-	-	136	100	136				
>8 days	8	47.1	9	52.9	17					-	-	17	100	17				

Variables	Health behavior Score regarding Dysmenorrhea Poor Acceptable & good <92		≥92			X^2	df	P. value	sig	Health behavior Score regarding Menstrual hygiene Poor Acceptable & good <30		≥30			X^2	df	P. value	sig
Dysmenorrhea Level	No	%	No	%	Total					No	%	No	%	Total				
Low	12	54.5	10	45.5	22	1.957	2	0.376	NS	-	-	22	100	22	0.674	2	0.714	NS
Moderate	72	42.4	98	57.6	170					3	1.8	167	98.2	170				
High	53	49.1	55	50.9	108					1	9	107	99.1	108				
Dysmenorrhea status																		
Every month	99	46.9	112	53.1	211	2.628	2	0.269	NS	2	9	209	99.1	211	1.388	2	0.500	NS
Occasionally	30	39.5	46	60.5	76					2	2.6	74	97.4	76				
Most of the months	8	61.5	5	38.5	13					-	-	13	100	13				
Family history of dysmenorrhea																		
Yes	87	45.8	103	54.2	190	0.003	1	0.955	NS	3	1.6	187	98.4	190	0.238	1	0.626	NS
No	50	45.5	60	54.5	110					1	9	109	99.1	110				

Variables	Health behavior Score regarding Dysmenorrhea Poor Acceptable & good <92		≥92			X^2	df	P. value	sig	Health behavior Score regarding Menstrual hygiene Poor Acceptable & good <30		≥30			X^2	df	P. value	ig
Member of family had history of dysmenorrhea Symptoms	No	%	No	%	Total					No	%	No	%	Total				
Mother	20	38.5	32	61.5	52	5.855	3	0.119	NS	2	3.8	50	96.2	52	2.834	3	0.418	NS
Sister	33	47.8	36	52.2	69					1	1.4	68	98.6	69				
Aunts	18	64.3	10	35.7	28					-	-	28	100	28				
Aunts, mother	16	39.0	25	61.0	41					-	-	41	100	41				

Table (11) shows that there were no statistical significant association between health behaviors of adolescent girls regarding dysmenorrhea and menstrual hygiene and menstrual cycle (Age at menarche regularity of menstrual cycle, the duration of menstrual cycle (flow day), dysmenorrhea level, dysmenorrhea status and member of family had history of dysmenorrhea).

Discussion:

The result of the study showed that there were no statistical significant association between adolescents girls knowledge and health behaviors regarding dysmenorrhea and menstrual hygiene and different age groups

This result agrees with the study of (14). reported that age was weak negative correlation between age and menstrual pain

result of the study showed that there were no statistical significant association between adolescents girls knowledge and health behaviors regarding dysmenorrhea and menstrual hygiene and parents education level

This result was in line with (15). who stated that the level of education has a positive effect on the quality and quantity of knowledge.
The result of the study revealed that there were statistically significant associations between adolescent's knowledge regarding dysmenorrhea and menstrual hygiene and father occupation
This result was disagrees with (16) reported that there is no significant relationship between the adolescents students knowledge and some demographic characteristics such as the parent's occupation , and residential areas .
The result of the study showed that there were no statistical significant association between adolescents girls knowledge and health behaviors regarding dysmenorrhea and menstrual hygiene and Body Mass Index.
The result of present study was supported by (17) . Sedighah,2006 who reported that the onset of puberty and menarche typically occur at a later age in females from less well-developed nations, and that a higher gain in body mass index (BMI) during childhood is related to an earlier onset of puberty.
The result indicated that there was no statistical significant association between adolescent's knowledge and health behaviors and socio – economic status .
The finding of the present study is consistent with (18) conducted study which revealed that adolescent girls who belong to a lower Socio-economic status reported more severe symptoms of dysmenorrhea than the adolescent girls of high Socio-economic status.

Conclusions :

The conclusions below have been drown in the light of the objectives of the study and in accordance with the results of this study the following can be concluded:
1- The highest percentage (27.0%) of the study sample are at age group (16) years while the lowest percentage (1.3%) of them are at age group (13) years with mean and SD. (16.94 ± 1.37) . Most of the study sample were of normal weight according to their body mass index. More than half of them were in moderate socio-economic status.
2- The highest percentage (34.3%) of the study sample at menarche are 12 years, (52.3%) of them have irregular menstrual cycle, (58.0%) have menstrual cycles every 28-30 days, (40.7%) of them have menstrual flow for 6-7 days, (56.7%) of them experience moderate level of dysmenorrhea, nearly two - third of them have regular monthly cycle, more than half of them had family history of dysmenorrhea .
3- Regarding dysmenorrhea symptoms : There are four items above cut off point (2.5) which included (cramping lower abdominal pain , irritability , backache and fatigue while seven items was less than the cut off point which included (Legs pain , Headache , Diarrhea , Dizziness , Abdominal bloating, Nausea and Vomiting, Constipation) .
4- Knowledge of adolescents girls regarding dysmenorrhea : There are six items above cut off point (2.0) (dysmenorrhea is severe cramping pain in lower abdominal radiating in lower back and legs associated with menstruation, Fatigue, Dizziness, Irritability and restlessness, cramping lower abdominal pain, Herb mint) this means that adolescent girls have good knowledge about these items and rest of items are less than cut of point this means that adolescent girls do not have knowledge and information regarding these items .
5- All the items are above the cut off point (2.0) related to (washing genital area during menstrual cycle to prevent bad odor and germs, changes genital pads every 3-4 hours &not leave them until saturation, remove perineal hair, to prevent growth of bacteria) except item number (2) which indicates the

(use a strong stream of water directly to washing genital area during menstrual cycle) is less than cut off point (2.0) this means that adolescent girls have good knowledge about these items except the item number (2) adolescent girls do not have sufficient information related to this item as show in the table (4-5) .

6- Health behaviors of adolescent girls regarding dysmenorrhea : Five items above the cut off point (2.0) which included (feeling tired and lack of exercise, feeling tired and difficulties in completing home or school work, want to sleep during the day, frequent absence from school, many excuses and leave) this means that adolescent girls have good health behaviors about these items while rest of items were less than cut off point this means that adolescent girls do not have good health behaviors.

7- Health behaviors of adolescent girls regarding menstrual hygiene: There were 12 items above the cut off point (2.0) while (3) items were less than the cut off point (2.0) (Using strong current of water (Douche) when washing the genital area, using appropriate - sized genital pads during menstrual cycle (Clean toilet with antiseptic solution) this means that healthy practices and good health behaviors of adolescent girls regarding menstrual hygiene are being used .

8- There were statistical significant association between knowledge of adolescents girls regarding dysmenorrhea and body mass index. There were statistical significant association between knowledge of adolescents students girls regarding menstrual hygiene and fathers occupation level. There were statistical significant association between knowledge of adolescents girls regarding menstrual hygiene and(age at menarche , interval of menstrual cycle)

While there were no statistical significant association between knowledge of adolescents students girls regarding dysmenorrhea and socio - demographic characteristic of the study sample (Age, parents educational level, parent occupation and socio economic status) among the study sample. There were no statistical significant association between knowledge of adolescents girls regarding menstrual hygiene and socio - demographic characteristic of the study sample (Age, parents educational level, mother's occupation, body mass index and socio-economic status).

There were no statistical significant association between health behaviors of adolescents girls regarding dysmenorrhea and menstrual hygiene and socio - demographic characteristics of the study sample (Age, parent education level, parents occupation, body mass index and socio-economic status) .

There were no statistical significant association between knowledge of adolescents girls regarding dysmenorrhea and(age at menarche, regularity of menstrual cycle , interval of menstrual cycle, the duration of menstrual cycle (flow days) , dysmenorrhea level , dysmenorrhea status , family history of dysmenorrhea and members of family had history dysmenorrhea).

There were no statistical significant association between knowledge of adolescents girls regarding menstrual hygiene and (regularity of menstrual cycle, the duration of menstrual cycle (flow days) , dysmenorrhea level , dysmenorrhea status , family history of dysmenorrheal and members of family had history of dysmenorrhea) .

There were no statistical significant association between health behaviors of adolescent girls regarding dysmenorrhea and menstrual hygiene and menstrual cycle (Age at menarche regularity of menstrual cycle , the duration of menstrual cycle (flow day), dysmenorrhea level, dysmenorrhea status and member of family had history of dysmenorrhea).

Recommendations:-

Certain recommendations seem to result from the study, the researcher recommends the following points:-

1- Establishment of a comprehensive school health education programs are needed for adolescent girls and their mother's to correct inappropriate information concerning the dysmenorrhea symptoms, menstrual hygiene health practices and behaviors of adolescent girls during menstrual cycle. This program might include a diet with low salt,

sugar, fat and caffeine, exercises, rest and sleep during menstrual cycle.
2- Integrating detailed information of dysmenorrhea symptoms in the curricula of secondary school girls of adolescent girls .
3- Reactivating referral system to school health services to take medical management for adolescent girls who had dysmenorrhea.
4- Health education providers would be able to come up with appropriate methods and strategies to empire and educate young adolescent girls to adopt necessary life skill that have a positive influence on their life style.
5- Establishment of special clinic (adolescent health clinics) or centers of school health and provide them with expertise related to menstrual cycle and its disorder.

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