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Menstrual disorders: incidence and its effect on students' academic performance

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Abstract: Aim of the study: The present study aimed to assess incidence of menstrual disorders and its effect on students' academic performance. ***Study design****:* A descriptive study was utilized. ***Type of sample:*** A convenient sample**.** ***Study subject:*** The study was conducted among 986 undergraduate females students enrolled on 1st, 2nd, 3rd and 4th grade. **Study setting**: This study was conducted at the Faculty of Nursing, Mansoura University. ***Tools of data collections****:* Fifth tools were utilized such as(structured interviewing questionnaire schedule, pictorial blood assessment shart, simple descriptive pain intensity scale, premenstrual and premenstrual dysphoric disorder questionnaire and assessment tool to determine the effect of menstrual disorders on academic performance)***Results:*** The current study results revealed that the majority of nursing students complained from dysmenorrhea followed by menorrhagia in more than one third of them , less than quarter of them had secondary amenorrhea and more than tenth of them had premenstrual syndrome. There was a significance relation between different types of menstrual disorders and academic performance. ***Conclusion****:* This study concluded that menstrual disorders were common among students in the Faculty of Nursing which affect their academic performance in forms of lectures absence, loss of concentration and understanding, sleeping desire during lectures in addition to affecting the practical performance of the students. ***Recommendation****:* Health programs should be conducted for young women about menstrual disorders and its proper interventions to alleviate it.

Key words*:* Incidence, Menstrual disorders, Academic performance.

INTRODUCTION

Women typically have menstrual cycles for approximately 40 years .Once the predictable pattern of monthly bleeding is established, women may worry about any deviation from that pattern or what they have been told is normal for all menstruating women. A sign such as excessive menstrual bleeding or amenorrhea is often a source of sever distress and concern for a woman as it causes her to wonder what is wrong***(Lowdermilk et al., 2014)*****.**

Menstrual disorders are the greatest common gynecologic illnesses. The highest percentage is among20 to 24years old age group then it reduces increasingly afterword. They touch not only females; they affect also public and general economy ***(Shiferaw et al., 2014)*****.** In general, menstrual disorders are assumed to be negligible concerns particularly within the developed countries where the women suffer from dangerous problems therefore they are inappropriate to the community health plan***(Esimai and Esan, 2010)***.

Menstrual disorders ranges from disorder of menstrual cycle length to disorder of flow. These include: absence of menstruation (amenorrhea), oligomenorrhea, excessive or prolonged flow (menorrhagia), Pre-menstrual Syndrome (PMS)and painful menstruation (dysmenorrhea)***(Ekpenyong et al., 2014)***.

Dysmenorrhea is considered the most common problem of all menstrual disorder and poses a greater burden than the other gynecologic complaint in developing countries***(Ju et al., 2013)*****.** Its prevalence is estimated at 25% of women and up to 90% of adolescents***(Ali et al., 2011)***.

Premenstrual syndrome is characterized by one orvariety of a group of physical and psychological symptoms that occur frequently and in acyclic pattern within the luteal phase and the woman is a symptom free between two luteal phases ***(Pinar et al., 2011)*****.**

Abnormal uterine bleeding is defined as excessively heavy, prolonged, or frequent bleeding of uterine origin that is undue to pregnancy or any detectable pelvic or systemic cause. The pathophysiology of AUB is not completely understood and it is complex***(Kariappa et al., 2016)*****.** The prevalence of abnormal uterine bleeding (AUB) is 11%–15% among non-gravid women of reproductive age***(Bandi et al., 2016)***.

Menorrhagia is a common problem. At least5-10% of females in reproductive age look for medical care for it. The world health Organization estimates that eighteen million women worldwide are affected. Menorrhagia may be a common reason for iron deficiency and may have effect on a woman's study or work, social interactions and quality of life***(Knol et al., 2013)***.

Students are the key assets of universities. The students' performance plays a vital role in generating highest quality graduates who will become great leaders and force for their country so they are responsible for the country's social improvement and economic***(Alos et al., 2015)***.

Menstrual disorders not only have health problems, but also have a consequence like restrictions on educational performance and attending work that hinder practical

achievements and employment prospects. Early identification and management of those disorders won't improve young adult woman's current health, sense of well-being and overall quality of life however may additionally lower her risks for future illness***(Kadir et al., 2010)*.**

Throughout the life the young woman is likely to have some concerns related to her menstrual and gynecological health and will experience bleeding, pain, or discharge associated with the reproductive organs or functions. Many women will seek out nurses as advisors, counselors, and health care providers for this concern. Nurses must have accurate, up to date information to meet these women's need***(Lowdermilk et al., 2014)*.**

SIGNIFICANCE OF THE STUDY

Menstrual disorders are considered the most common gynecologic complaints. The incidence is highest within twenty to twenty four years old and then reduces progressively ***(Shiferaw et al., 2014)*.** Menstrual disorders frequently affect the quality and standard of life of adolescents and young woman's, especially those who suffer from menstrual pain and menorrhagia. These disorders even have economic consequences in terms of health care because of the consumption of laboratory tests and expensive hormonal drugs***(Aref et al., 2015)*.** Furthermore as health issues there may be consequences like limitations on attendance work and college that hinder educational performance and employment prospects***(Kadir et al., 2010)*.**

Its observed that the prevalence of dysmenorrhea was found to be more than three quarter among technical secondary schools girls in Mansoura, Egypt***(Mohamed and Neaem, 2013)*.** And the prevalence of premenstrual symptoms was found to be (89.6%) among medical college students of Ain Shams University, Egypt***(Bakr and Ez-Elarab, 2010)***and80.2% amongst El-Minia University students, Egypt***(Seedhom et al., 2013)***.Limited studies have been conducted in Egypt on menstrual disorders and the academic performances of nursing students until know. So this study conducted to assess effects of menstrual disorders on academic performance among students in faculty of nursing at Mansoura University.

Aim of the study:

The present study aimed to assess incidence of menstrual disorders and its effect on students' academic performance.

The study Questions:

1. What are the incidence and types of menstrual disorders among nursing students?
2. What is the effect of menstrual disorders on the academic performance of nursing students?

SUBJECTS AND METHODS

Study Design:

A descriptive study design was utilized to carry out this study.

Study setting:

The current study was conducted at Faculty of Nursing, Mansoura University.

Study subjects:

The study was conducted on 986 undergraduate females students enrolled on 1st, 2nd, 3rd and 4th grade in the Faculty of Nursing at Mansoura University in academic year (2014-2015).

Sample Size:

The size of all undergraduate females' students in Faculty of Nursing from first to fourth year who accepted to participate in the study was (986).

Sample Type:

A convenient sample.

Tools of Data Collection:

Five tools were used for data collection as follow:

Tool 1: Structured interviewing questionnaire schedule. It consisted of two parts

Part I:It was designed to assess general characteristic. This part consisted of 7 items such as name, age, marital status etc.

Part II: Menstrual characteristic

This part consisted of 8 items. It was self-report questionnaires, which used to assess the menstrual cycle characteristics of student such as: age of menarche, duration of menstruation, length of menstruation etc.

Tool 11: Pictorial Blood Assessment Chart

It was adopted from***Higham et al. (1990)*.** The researcher used the Pictorial Blood Assessment Chart(PBAC) which is a semi-objective manner of quantifying the amount of blood loss per menstrual cycle by way of recording the number and saturation of sanitary pads.

Every row of the pictorial blood assessment chart denotes a day of the month, start using the chart on the 1st day of menstruation, count the number of sanitary padsover 24 hours, indicating the amount of saturation and calculate a score for each day using score system as following 1point for each lightly stained pad, 5 point for each moderately stained pad, 20 point for each saturated pad, 1 point for each small clot, 5point for each large clot 5 point for each episode of flooding.

Menorrhagia is considered if the score is >80 ml.

Tool 111: Simple Descriptive Pain Intensity Scale***(Wong and Baker, 1988)***.

The researcher used a Simple Descriptive Pain Intensity Scale to assess dysmenorrhea. It's a self-reported line that represents the pain intensity, the two opposite ends representing no pain to worst possible pain.

Tool 1V: premenstrual and premenstrual dysphoric disorder questionnaire

According to Diagnostic criteria adopted by the ACOG***(ACOG, 2000)***and using the research criteria identified by DSM.IV. TR

(**The Fourth Edition of The Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association2000**)***(APA, 2000)*** to assess severity of premenstrual syndrome (PMDD).ACOG published the diagnostic 10 criteria for PMS. It was considered if at least 1

of the six affective symptoms and 1 of the four somatic symptoms was reported five days before the onset of the menstruation in the three prior menstrual cycles and ceased within four days of menstruation.

Tool V: Assessment tool to determine the effect of menstrual disorders on Academic Performance

It consisted of 6 items such as lecture attendance, concentration and understanding etc.

Validity of tool:

Tools were reviewed by three experts in maternity nursing field. According to their suggestions the tools were modified.

Reliability of tool:

We have assessed the internal consistency of the set of the questionnaire items that measure the academic performance in our study. The result of the Cronbach's alpha test was 0.749 suggesting that the items are relatively highly correlated**.**

Pilot study:

Pilot study was conducted to test the applicability of the tools, feasibility of the study and estimate the time needed for data collection. It was conducted on 10%of total number. Modification, omission and addition were followed as needed according to the results of pilot study.

Ethical considerations:

Ethical approval was obtained from the research ethics committee of the Faculty of Nursing, Mansoura University. An official permission was obtained from the responsible administration of the faculty of nursing. Written informed consent was obtained from the students after explaining the aim of the study. The students were reassured about anonymity, privacy and confidentiality of the collected data and were informed about their rights to withdraw from the study at any time.

Field work:

- The researcher collected data from the Faculty of Nursing, Mansoura University after taking permission from the administration.
- The researcher knew lectures schedule and practical agenda for college students.
- The researcher attended the Faculty of Nursing 3 day/week for 3month according to lectures schedule and practical agenda of each academic year.
- A clear explanation of the aim of the study to student's before take their informed consent to participate in the study.
- The researcher clarify the menstrual questionnaire items and explain how to fill in this questionnaire with small groups of students and then ask each student to fill it by herself and presented all time for any clarification needed.
- Each student took about 10 to 15 minute to fill the questionnaire.

Statistical analysis:

All statistical analyses were performed using SPSS for windows version 20.0 (SPSS, Chicago, IL). All data were categorical and were expressed in number and percentage. The comparisons for variables containing categorical data were done using the chi-square test. Statistical significance was set at $p<0.05$.

RESULTS

Table(1): Frequency distribution of nursing students according to general characteristics

Items	NO. (n= 986)	%
Academic year		
First	346	35.1%
Second	266	27.0%
Third	274	27.8%
Fourth	100	10.1%
Age (years)		
18 – 20	596	60.4%
21 – 22	383	38.8%
23 – 24	7	0.7%
Mean ±SD	20.1 ±1.2	
Marital status		
Married	82	8.3%
Single	904	91.7%
Drug intake		
For anemia	8	0.8%
For diabetes	2	0.2%
Diet regime	7	0.7%

Table (1) shows that the nursing students' age ranged from 18 to 24years old with average 20.1 ±1.2 years and more than half of them at the age group of 18-20years (60.4%). The higher percentage of the students was at first academic year (35.1%). The majority of them were single (91.7%). The minority of them took drugs for anemia and diabetes, and did diet regime which constituted (0.8%, 0.2%and 0.7%respectively).

Table (2): Frequency distribution of nursing students according to menstrual characteristics

Items	No. (n=986)	%
Age at menarche		
11 – ≥13 years	672	68.2%
14 – >16 years	307	31.5%
≥16 years	7	0.3%
Range	11 – 19	
Mean ±SD	12.9 ±1.2	
Menstrual regularity		
Yes	863	87.5%
No	123	12.5%
Length of menstrual cycle		
<21days	122	12.4%
21-35days	798	80.9%
>35days	66	6.7%
Duration of menstrual cycle		
< 2 days	2	0.2%
2 – 4 days	320	32.5%
5 – 7 days	643	65.2%
> 7 days	21	2.1%

It's obvious from **Table 2** that more than two third of nursing students had menarche in the age group of 11-13 years old (68.2%). The majority of students had regular menstrual cycle (87.5%) whereas (12.5%) of them had irregular menstruation .In addition, the higher percentage of nursing students had cycle length between 21-35 days (80.9%).The duration of menstruation ranged from 5-7days among (65.2%) of nursing students.

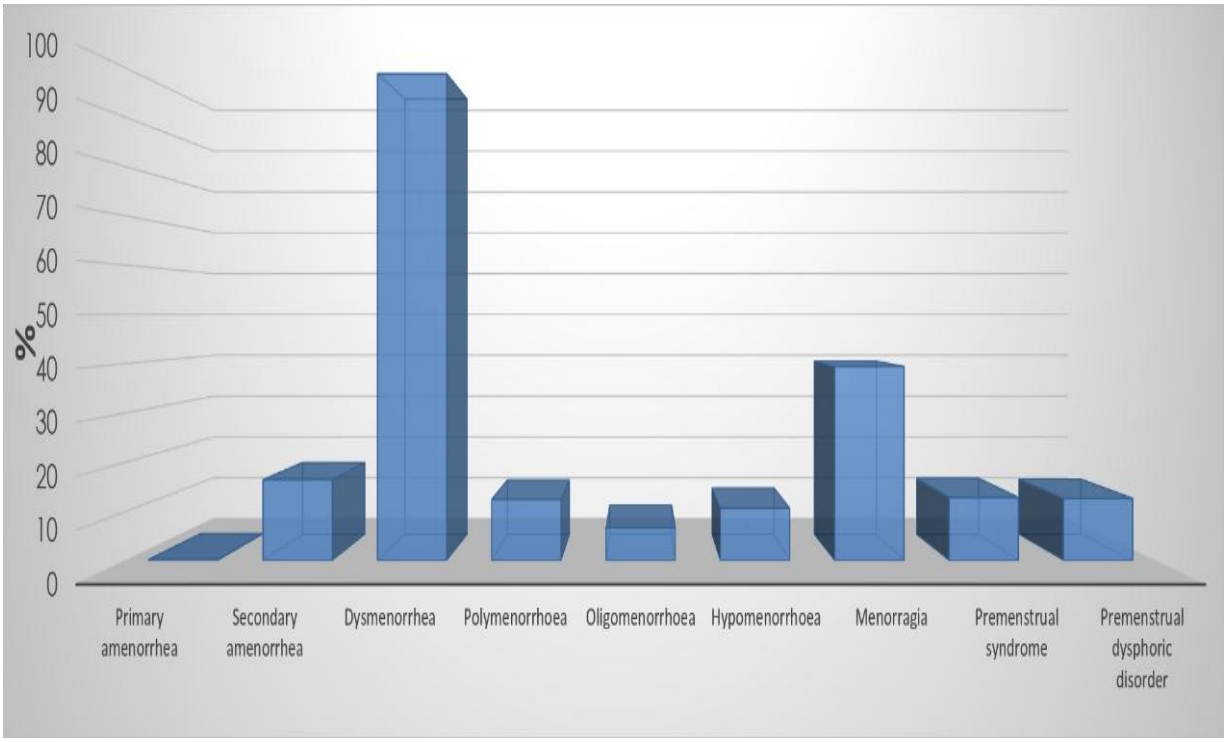

Figure (1): Frequency distribution of menstrual disorders among nursing students

Table (3): Frequency distribution of dysmenorrhea and its characteristics among nursing students

Items	No. (no =986)	%
1st time of dysmenorrheal		
At menarche	575	59%
>6 months after menarche	196	20.1%
>1 year after menarche	87	8.9%
>2 years after menarche	117	12%
Onset and duration of pain		
Before menstruation	266	27.3%
Start with menstruation and last 24h	404	41.4%
Start with menstruation and last 48h	170	17.4%
5day before menstruation and last for 4day	135	13.8%
Site of pain		
Lower back	695	71.3%
Lower abdomen	895	91.8%
Lower limbs	486	49.8%
Level of menstrual pain		
Mild pain	40	4.1%
Moderate pain	301	30.5%
Severe pain	435	44.1%
Very severe pain	134	13.6%
Unbearable pain	65	6.6%
Symptoms associated with menstruation		
Vomiting	180	18.3%
Headache	410	41.6%
Diarrhea	280	28.4%
Nausea	346	35.1%

Table (3) represents that more than half of nursing students suffer from dysmenorrhea at menarche (59%).Besides, the pain started with menstruation and last 24 hour among 41.4% of them. In addition, the higher percentage of them had lower abdominal pain (91.8%) followed by lower back pain (71.3%). Moreover, 44.1% of them had severe pain. Regarding to the associated symptoms with menstruation, headache and nausea were the most prominent symptoms, which constituted (41.6% and 35.1% respectively).

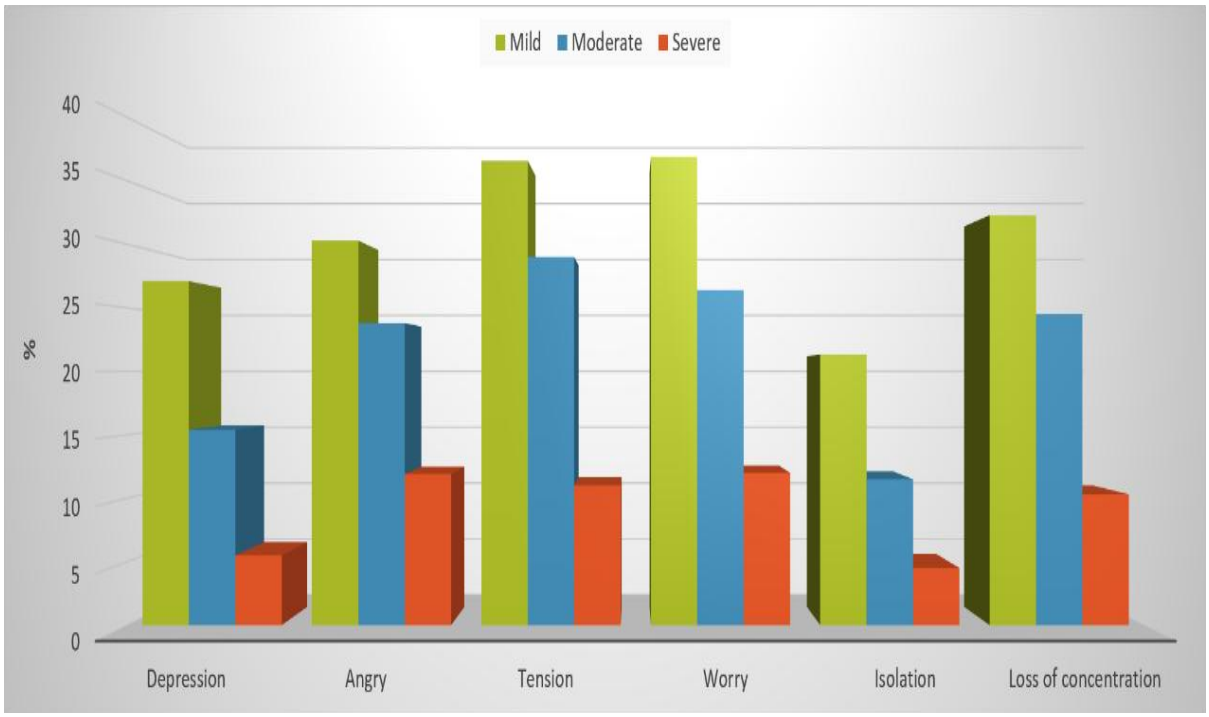

Figure (2): Frequency distribution of affective symptoms of premenstrual syndrome

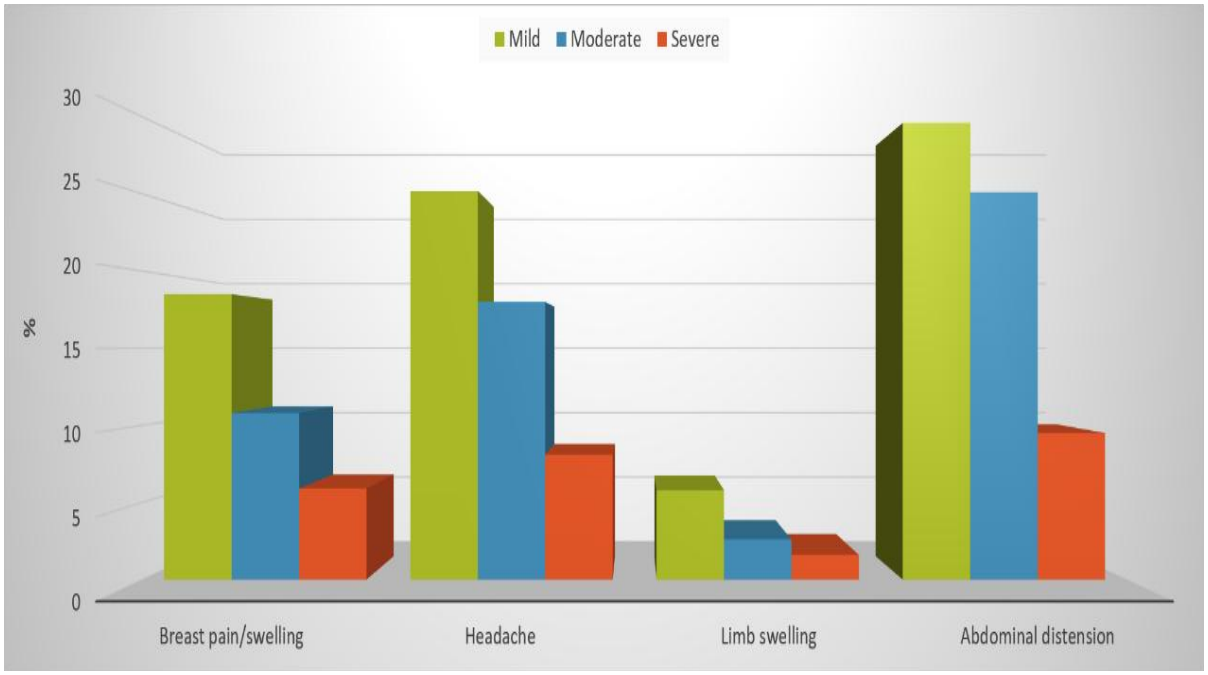

Figure (3): Frequency distribution of somatic symptoms of premenstrual syndrome

Table(4): Effects of menstruation on academic performance

Items	No. (n=986)	%
Lectures attendance	539	54.7
Concentration and understanding	764	77.5
Participation in discussion	740	75.1
Sleeping desire during lectures	784	79.5
Practical performance	776	78.7
Participation in activities	671	68.1

Table (4) presents that more than two third of nursing students had sleeping desire during lectures, experienced restrictions in practical performance, difficult concentration and understanding and difficult participation in discussion which constituted (79.5%,78.7%,77.5% and 75.1% respectively).

Table(5): The relation between premenstrual syndrome and academic performance

Items	Students without PMS		Students with PMS		Chi square test	
	No.	%	No.	%	X2	P
Lectures attendance						
Yes	457	53.1%	82	65.1%	6.322	0.012*
No	403	46.9%	44	34.9%		
Concentration and understanding						
Yes	656	76.3%	108	85.7%	5.608	0.018*
No	204	23.7%	18	14.3%		
Participation in discussion						
Yes	630	73.3%	110	87.3%	11.579	<0.001*
No	230	26.7%	16	12.7%		
Sleeping desire during lectures						
Yes	679	79.0%	105	83.3%	1.294	0.255
No	181	21.0%	21	16.7%		
Practical performance						
Yes	667	77.6%	109	86.5%	5.252	0.022*
No	193	22.4%	17	13.5%		
Participation in activities						
Yes	572	66.5%	99	78.6%	7.352	0.007*
No	288	33.5%	27	21.4%		

Table (5) presents that there was statistical significant relation between premenstrual syndrome and lectures attendances, concentration and understanding, participation in discussion, practical performance and participation in activities. While there was no statistical significant relation between premenstrual syndrome and sleeping desire during lectures.

Table (6): The relation between dysmenorrhea and academic performance

Items	Students with dysmenorrhea		Students withoutdysmenorrhea		Chi square test	
	No.	%	No.	%	X^2	P
Lectures attendance						
Yes	537	55.1%	2	18.2%	5.975	0.015*
No	438	44.9%	9	81.8%		
Concentration and understanding						
Yes	758	77.7%	6	54.5%	3.355	0.067
No	217	22.3%	5	45.5%		
Participation in discussion						
Yes	734	75.3%	6	54.5%	2.498	0.114
No	241	24.7%	5	45.5%		
Sleeping desire during lectures						
Yes	776	79.6%	8	72.7%	0.314	0.575
No	199	20.4%	3	27.3%		
Practical performance						
Yes	769	78.9%	7	63.6%	1.506	0.220
No	206	21.1%	4	36.4%		
Participation in activities						
Yes	663	68%	8	72.7%	0.112	0.738
No	312	32%	3	27.3%		

Table (6) shows that there was a statistical significance relation between dysmenorrhea and lectures attendance.While there was no statistical significance relation between dysmenorrhea and concentration, participation in discussion, sleeping desire during lectures, practical performance and participation in activities.

Table(7): The relation between menorrhagia and academic performance

Items	Students with menorrhagia		Students without menorrhagia		Chi square test	
	No.	%	No.	%	X2	P
lectures attendance						
Yes	216	57.9%	323	52.7%	2.547	0.111
No	157	42.1%	290	47.3%		
concentration and understanding						
Yes	306	82.0%	458	74.7%	7.128	0.008*
No	67	18.0%	155	25.3%		
participation in discussion						
Yes	291	78.0%	449	73.2%	2.818	0.093
No	82	22.0%	164	26.8%		
Sleeping desire during lectures						
Yes	311	83.4%	473	77.2%	5.501	0.019*
No	62	16.6%	140	22.8%		

practical performance						
Yes	298	79.9%	478	78.0%	0.508	0.476
No	75	20.1%	135	22.0%		
participation in activities						
Yes	269	72.1%	402	65.6%	4.561	0.033*
No	104	27.9%	211	34.4%		

Table (7) presents that there was statistical significance relation between menorrhagia and concentration &understanding, sleeping desire during lectures and participation in activities. While there were no statistical significant relation between menorrhagia and lectures attendance, participation in discussion and practical performance.

DISCUSSION

The current study was a descriptive study, which aimed to assess incidence of menstrual disorders and its effect on students' academic performance. The results of this study answered the study questions and revealed that the majority of nursing students had dysmenorrhea followed by menorrhagia among more than one third of them, less than quarter of them had secondary amenorrhea and more than tenth of them had premenstrual syndrome. There was statistical significance relation between different types of menstrual disorders and academic performance in forms of lectures attendance, loss of concentration and understanding, sleeping desire during lectures in addition to affecting practical performance of the students.

Regarding to the general characteristics of the students, the current study demonstrated that more than half of the students 'aged between 18-20years old and this was consistent with ***Karout (2015)***study results about prevalence and pattern of menstrual problems among Saudi nursing students who revealed that more than half of the students were between 18-20 years old. Also, the majority of the students in the present study were single, this came in the same line with the result of ***Shiferaw et al. (2014)*** who postulated in their study about menstrual problems and associated factors among students of Bahir Dar University, that (92.3%) were single.

Concerning the mean age of menarche among students in the present study, it was 12.9±1.2years, which was in harmony with the finding of***Lakkawar et al. (2014)*** who studied menstrual disorders in medical students and it's correlation with biological variables in Pondicherry, India and reported that student's menarche age was 12.6±1.The age of menarche is determined by genetic factors, general health, nutritional and socioeconomic status.

Concerning the menstrual cycle regularity, the present study findings presented that more than three quarter of students had regular menstrual cycle, whereas more than tenth had irregular cycles. These findings were in agreement with ***Begum et al. (2009)***study results among the female students at medical school, Dinajpur, Bangladesh who reported that percentage of regular cycle among female was (87.4%) and irregular cycle was (12.7%).

Also, in the current study the menstrual cycle length ranged from 21-35 days among more than three quarter of the students and duration of menstruation lasted for 2-7 days among the majority of them. This similar to ***Jailkhani et al. (2014)***study results as he reported that the menstrual cycle length for 78.7%of the girls ranged from 21 to 35 days .The present study findings were in disagreement with ***Nooh (2015)***who revealed that menses lasted between 3-7days among more than three quarter of his study group in study conducted about menstrual disorders among Zagazig University students, Zagazig, Egypt.

Regarding to the incidence of dysmenorrhea, the study findings showed that the majority of the students had dysmenorrhea. The study findings in consistent with ***Abdelmoty et al. (2015)***who postulated that the prevalence of dysmenorrhea was (93%) among Egyptian adolescent attending secondary schools in Giza, Egypt. Also, in the same line ***Al-Kindi and Al-Bulushi (2011)***study about prevalence and impact of dysmenorrhea among omani high school students revealed that majority of female had dysmenorrheal (94%).

Findings were in contrast with the study results of ***El Gilany et al. (2005)***in Mansoura, Egypt who reported that the prevalence of dysmenorrhea was three quarter among female secondary-school students enrolled in government schools. Moreover,***Makhlouf and Hameed (2010)*** study finding showed that more than two third of female employees had primary dysmenorrhea in University City at Assiut Governorate, Egypt. This difference may be due to age group difference.

The prevalence of dysmenorrhea varies widely between different population and between different age groups within the same population such variation may be due to different an etiologies', cultural differences in pain perception and variability in pain threshold.

In term of duration of pain, near half of the students reported that menstrual pain lasted 24 hours and less than quarter of them reported that menstrual pain lasted 48hours. This near to ***Kural et al. (2015)*** who pointed out in their study about menstrual characteristics and prevalence of dysmenorrhea among college girls that pain duration, lasted for one day only among more than quarter and 2 days among 39.8% of college girls.

Regarding to the site of pain, the present study clarified that the majority of students had lower abdomen pain and two third of them had lower back pain. In disagreement with***Seven et al. (2014)*** study results as less than one third of their study group had lower abdomen pain and 58.4%had lower back pain in study about evaluating dysmenorrhea in a Sample of Turkish nursing students.

In relation to the level of menstrual pain. More than one third of the students had severe pain and one third of them had moderate pain .This results was near to ***Emmanuel et al. (2013)*** study results who stated in their study about

Dysmenorrhea: Pain relief strategies among a cohort of undergraduates in Nigeria that 31.9% of his study group had severe pain and 39.2% had moderate pain. In disagreement with***Al-Al-sadi Jn (2013)*** who mentioned that more than half of 350 participants aged 15-20 year shad moderate dysmenorrhea in study about dysmenorrhea and its impact on daily activities among secondary school students in Basra, Iraq.

In the current study the most common symptoms associated with dysmenorrhea were headache which found in near half of the students, followed by nausea in one third of them, also diarrhea was observed in more than quarter of the students, less common symptom was vomiting which present in more than tenth of the students . This result disagreed with***Shah et al. (2013)*** who found the Prevalence of headache was 5% in his study about prevalence of primary dysmenorrhea in young students.

Moreover, the result of the current study is disagreement with***Sugumar et al. (2013)*** who reported that the most commonly associated symptoms were nausea/vomiting (76%) followed by headache (63%), sweating (39%), diarrhea (38%), dizziness (36%), loss of appetite (35%) and fainting (28%) in study about comparison of the pattern, efficacy and tolerability of self-medicated drugs in primary dysmenorrhea: A questionnaire based survey. Indian.

The incidence of premenstrual syndrome in the present study was estimated to be more than tenth. The present study was consistent with ***Kanotra et al. (2013)***study results who reported that the prevalence of PMS was low (3%)among 323 girl students in the age group of 15-19 years at secondary schools situated in rural area in Maharashtra.

The present study results were in disagreement with study results of ***Nageeb et al. (2015)*** who mentioned that, the prevalence of premenstrual syndrome was found (73.4%) among 1120 secondary technical nursing school in Dakahlia governorate, Egypt. In addition, a study by ***Seedhom et al. (2013)***found that, the prevalence of premenstrual syndrome was more than three quarter among 253 un married female students El-Minia University. Moreover, the result of the current study in disagreement with ***Mohamed and Neaem (2013)***study as the prevalence of premenstrual syndrome among females in child bearing period in Alganaen village, Suez Canal, Egypt was (80.8%).

Concerning to the affective and somatic symptoms of premenstrual syndrome in the present study, it was found that near one third of the students had mild depression, one third of them had mild tension and quarter of them had mild headache .in same line***Elnagar and Awed (2015)*** results reported that 29% of his study group had mild depression,27.1% had mild tension and mild headache was found in more than one third of the study group in study about self –care measures regarding premenstrual syndrome among female Nursing Students. Menofia University, Egypt.

Difference between the prevalence and various symptoms of this syndrome in different studies may be due to different in age group, culture difference between delta Egypt and Upper Egypt, assessment tools, reported symptoms, type of study and method of selecting population.

The present study showed that the incidence of premenstrual dysphoric disorder was found among more than tenth .This agree with ***Hamaideh et al. (2013)***who revealed that the prevalence of Premenstrual dysphoric disorder was found (10.2%) among their study sample in Jordanian.

In relation to the incidence of menorrhagia in the present study, it was found to be more than one third .The present study was in consistence with***Santos et al. (2011)*** who reported that, the prevalence of menorrhagia was found in more than quarter among 865 women aged 18-45 years. Moreover, ***Abdul Ghani (2010)*** mentioned that the prevalence of menorrhagia was found (33.6%) among 184 young women and parent attending a hospital –based gynecological clinic in Melbourne, Australia.

This result disagreed with***Dars et al. (2014)*** who reported that the prevalence of menorrhagia was found (17.1%) among 400 adolescent girls aged 12-18 in study about relationship of menstrual irregularities to BMI and nutritional status in adolescent girls Hyderabad, Pakistan

In the current study less than tenth of the study sample had oligomenorrhea. This was similar to ***Yassin (2012)***who postulated that the prevalence of oligomenorrheawas less than tenth and in agreement with ***De Sanctis et al. (2014)***who stated that the prevalence of oligomenorrhea was (3.7%)study about the onset of menstrual cycle and menses features among secondary school girls in Italy: A questionnaire study on 3,783 students .This result disagreed with ***Nur Azurah et al. (2013)***study results as the prevalence of oligomenorrhea was(19.6%)in his study about the quality of life of adolescent with menstrual problems. Malaysia.

The incidence of polymenorrhea was found among more than tenth of study sample. Similar to***Agarwal and Venkat (2009)*** study about menstrual disorders in adolescent girls in Singapore, revealed that the prevalence of polymenorrhea was 20%. In disagreement with study results of ***Karout et al. (2012)*** who reported that the prevalence of polymenorrhea was found (51.4%) among Lebanese nursing students who attended the Islamic university of Lebanon in Beirut.

In the present study, the incidence of hypomenorrhea was found among only tenth of the study sample. In same line***Yassin (2012)*** results reported that the prevalence of hypomenorrhea was (12.4%) among preparatory and secondary schools in rural village in Elbehira governorate, Egypt.

Regarding to the effect of menstrual disorders on a cadmic performance in the present study, more than two third of the study sample mentioned that menstruation affected their participation in discussion during lectures, two third affected participation in activities and more than half affected lectures attendance . In the same line ***Ahmed and Piro (2014)*** study about impact of menstruation on school performance revealed that menstruation affected school exams, participation in class activities and school attendance among (62.7%, 57.1%,23.2% respectively) of the students.

In addition,***Khamdan (2014)*** study among Gulf University medical students Manama, Kingdom of Bahrain reported that academic performance was affected by menstruation in several ways mainly study time (76%), concentration (65.8%), participation in group activities (58.1%), and examination performance (51.8%) and class attendance (40.8%).

The current study represented that, there was a significance relation between dysmenorrhea and lectures attendance. This agree with ***Pitangui et al. (2013)***study results about menstruation disturbance and effects on the activity of daily living among girls from Brazil who found a significance relation between dysmenorrhea and school absenteeism. In addition,***Al-Jefout et al. (2015)*** reported that there was strong association between severity of dysmenorrhea and poor university attendance, poor social activities, poor relationships with family and friends and poor sport activities.

Moreover**,** ***Dambhare et al. (2012)***revealed that dysmenorrhea resulted in school absenteeism among 24% of school adolescent girls in study about age at menarche and menstrual cycle pattern among school adolescent Girls in Central India in district Wardha, India. According to***Amu and Bamidele (2014)*** dysmenorrhea interfered with school girls' daily activities in Osogbo, South western, Nigeria.

In the present study there was a significance relation between premenstrual syndrome and lectures attendance, concentration, understanding, participation in discussion, practical performance and participation in activities. This agreement with***Tolossa and Bekele (2014)*** study who reported that academic performance impairment due to premenstrual syndrome, (28.3%) reported frequent class missing, (9.8%) exam missing, (8.1%) low grade scoring associated with their Premenstrual syndrome and (1.7%) of them reported withdrawal from their learning in study done in Mekelle University, Nor thenethiopia. Also another study done in Saudi Arabia ***Balaha et al. (2010)***about phenomenology of premenstrual syndrome in female medical students, reported that performance impairment like poor concentration in class (48.3%), low college attendance (46%), going out of the home (43.8%) daily home chores (41.6%) and homework tasks (36%)was due to premenstrual syndrome.

CONCLUSION

Menstrual disorders were common among students in the Faculty of Nursing which affect their academic performance in forms of lectures absence, loss of concentration and understanding, sleeping desire during lectures in addition to affecting the practical performance of the students. The majority of them had dysmenorrhea, Menorrhagia was found among more than one third of nursing students and premenstrual syndrome was found among more than tenth of them.

RECOMMENDATION

According to the findings of the present study, the following suggestions are recommended.

- Health programs should be conducted for young women about menstrual disorders and its proper interventions to alleviate it.
- Integrate self-care management of menstrual disorders into curriculum of women's health department.

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REFERENCES

[1]. **Abdelmoty, H. I., Youssef, M. A., abdallah, S., Abdel-Malak, K., Hashish, N. M., Samir, D., *et al.* 2015.** Menstrual patterns and disorders among secondary school adolescents in Egypt. A cross-sectional survey. *BMC Women's Health,* 15: (1).

[2]. **Abdul Ghani, N. A. 2010.** *The quality of life of young women with a menstrual problem and families attending a hospital-based gynaecological clinic in Melbourne, Australia.*

[3]. **ACOG 2000.** ACOG practice bulletin: premenstrual syndrome. *American College of Obstetricians and Gynecologists, Washington, DC: ACOG. Compendium of Selected Publications,* 15: 1-9.

[4]. **Agarwal, A. & Venkat, A. 2009.** Questionnaire Study on Menstrual Disorders in Adolescent Girls in Singapore. *Journal of Pediatric and Adolescent Gynecology,* 22: (6), 365-371.

[5]. **Ahmed, H. M. & Piro, M. S. S. 2014.** Impact of menstruation on school performance in Sarwaran and Shahid Khajabawa high school in Erbil city. *Kufa Journal for Nursing Sciences,* 2: (3), 1-8.

[6]. **Al-Asadi Jn, A. 2013.** Dysmenorrhoea and its impact on daily routine activities among secondary school students in Basra, Iraq. *J Fac Med Baghdad,* 55: 339-344.

[7]. **Al-Jefout, M., Seham, A.-F., Jameel, H., Randa, A.-Q., Ola, A.-M. a., Oday, A.-M. a., *et al.* 2015.** Dysmenorrhea: Prevalence and Impact on Quality of Life among Young Adult Jordanian Females. *Journal of Pediatric and Adolescent Gynecology,* 28: (3), 173-185.

[8]. **Al-Kindi, R. & Al-Bulushi, A. 2011.** Prevalence and impact of dysmenorrhoea among Omani high school students. *Sultan Qaboos University Medical Journal,* 11: (4), 485.

[9]. **Ali, A. A. A., Rayis, D. A., Mamoun, M. & Adam, I. 2011.** Age at menarche and menstrual cycle pattern among schoolgirls in Kassala in eastern Sudan. *Journal of Public Health and Epidemiology,* 3: (3), 111-114.

[10]. **Alos, S. B., Caranto, L. C. & David, J. J. T. 2015.** Factors affecting the academic performance of the student nurses of BSU. *International Journal of Nursing Science,* 5: (2), 60-65.

[11]. **Amu, E. O. & Bamidele, J. O. 2014.** Prevalence of menstrual disorders among adolescent girls in Osogbo, South Western Nigeria. *International Journal of Adolescent Medicine and Health,* 26: (1).

[12]. **APA 2000.** Diagnostic and statistical manual ofmental disorders (DSM-IV-TR)(4 111 ed. rev.). *AmricanPsychiatric Association, Washington DC: Author*.

[13]. **Aref, N., Rizwan, F. & Abbas, M. 2015.** Frequency of Different Menstrual Disorders among Female Medical Students at Taif Medical College. *World Journal of Medical Sciences,* 12: (2), 109-114.

[14]. **Bakr, I. & Ez-Elarab, H. S. 2010.** Prevalence of premenstrual syndrome and the effect of its severity on the quality of life among medical students. *The Egyptian Journal of Community Medicine,* 28: (2), 19-30.

[15]. **Balaha, M., Amr, M., Moghannum, M. & Muhaida, N. 2010.** The phenomenology of premenstrual syndrome in female medical students: a cross sectional study. *Pan African Medical Journal,* 5: (1).

[16]. **Bandi, N. D., Arumugam, C. P., Venkata, M. & Nannam, L. 2016.** Utility of the PALM- COEIN classification of abnormal uterine bleeding for Indian gynecologists. *International Journal of Gynecology & Obstetrics,* 133: (2), 196-198.

[17]. **Begum, J., Hossain, A. & Nazneen, S. 2009.** Menstrual pattern and common menstrual disorders among students in Dinajpur Medical College. *Dinajpur Med Col J,* 2: (2), 37-43.

[18]. **Dambhare, D. G., Wagh, S. V. & Dudhe, J. Y. 2012.** Age at menarche and menstrual cycle pattern among school adolescent girls in Central India. *Global Journal of Health Science,* 4: (1), 105.

[19]. **Dars, S., Sayed, K. & Yousufzai, Z. 2014.** Relationship of menstrual irregularities to BMI and nutritional status in adolescent girls. *Pakistan Journal of Medical Sciences,* 30: (1), 141.

[20]. **De Sanctis, V., Bernasconi, S., Bianchin, L., Bona, G., Bozzola, M., Buzi, F., *et al.* 2014.** Onset of menstrual cycle and menses features among secondary school girls in Italy: A questionnaire study on 3,783 students. *Indian Journal of Endocrinology and Metabolism,* 18: (Suppl 1), S84.

[21]. **Ekpenyong, C., Davis, K., Akpan, U. & Daniel, N. 2014.** Academic stress and menstrual disorders among female undergraduates in Uyo, South Eastern Nigeria–the need for health education. *Nigerian Journal of Physiological Sciences,* 26: 193-198.

[22]. **El Gilany, A., Badawi, K. & El Fedawy, S. 2005.** Epidemiology of dysmenorrhoea among adolescent students in Mansoura, Egypt.

[23]. **Elnagar, M. A. E.-R. & Awed, H. A. E. M. 2015.** Self–Care Measures Regarding Premenstrual Syndrome among Female Nursing Students. *INTERNATIONAL JOURNAL OF NURSING,* 5: (2).

[24]. **Emmanuel, A., Achema, G., Gimba, S. M., Mafuyai, M. J., Afoi, B. B. & Ifere, I. O. 2013.** Dysmenorrhoea: Pain relief strategies among a cohort of undergraduates in Nigeria. *International Journal of Medicine and Biomedical Research,* 2: (2), 142-146.

[25]. **Esimai, O. A. & Esan, G. 2010.** Awareness of menstrual abnormality amongst college students in urban area of Ile-Ife, Osun State, Nigeria. *Indian Journal of Community Medicine,* 35: (1), 63.

[26]. **Hamaideh, S. H., Al-Ashram, S. A. & Al-Modallal, H. 2013.** Premenstrual syndrome and premenstrual dysphoric disorder among Jordanian women. *Journal of Psychiatric and Mental Health Nursing,* 21: (1), 60-68.

[27]. **Higham, J. M., O'brien, P. & Shaw, R. 1990.** Assessment of menstrual blood loss using a pictorial chart. *BJOG: An International Journal of Obstetrics & Gynaecology,* 97: (8), 734-739.

[28]. **Jailkhani, S., Naik, J. & Thakur, M. 2014.** Patterns & Problems of menstruation amongst the adolescent girls residing in the urban slum. *Sch. J. App. Med. Sci,* 2: 529-34.

[29]. **Ju, H., Jones, M. & Mishra, G. 2013.** The prevalence and risk factors of dysmenorrhea. *Epidemiologic Reviews,* 36: (1), 104-113.

[30]. **Kadir, R. A., Edlund, M. & Von Mackensen, S. 2010.** The impact of menstrual disorders on quality of life in women with inherited bleeding disorders. *Haemophilia,* 16: (5), 832-839.

[31]. **Kanotra, S. K., Bangal, V. B. & Bhavthankar, D. P. 2013.** Menstrual Pattern And Problems Among Rural Adolescent Girls. *International Journal of Biomedical and Advance Research,* 4: (8), 551.

[32]. **Kariappa, T., Sathish, T. & Saha, A. 2016.** Histopathological study of endometrium in dysfunctional uterine bleeding. *The Pharma Innovation Journal,* 5: (1), 29-32.

[33]. **Karout, N. 2015.** Prevalence and pattern of menstrual problems and relationship with some factors among Saudi nursing students. *Journal of Nursing Education and Practice,* 5: (12).

[34]. **Karout, N., Hawai, S. & Altuwaijri, S. 2012.** Prevalence and pattern of menstrual disorders among Lebanese nursing students. *Eastern Mediterranean Health Journal,* 18: (4), 346-352.

[35]. **Khamdan, Y. H. 2014.** The Impact of Menstrual Period on Physical Condition, Academic Performance and Habits of Medical Students. *Journal of Women's Health Care,* 03: (05).

[36]. **Knol, H. M., Mulder, A. B., Bogchelman, D. H., Kluin-Nelemans, H. C., van der Zee, A. G. J. & Meijer, K. 2013.** The prevalence of underlying bleeding disorders in patients with heavy menstrual bleeding with and without gynecologic abnormalities. *American Journal of Obstetrics and Gynecology,* 209: (3), 202.e1-202.e7.

[37]. **Kural, M., Noor, N. N., Pandit, D., Joshi, T. & Patil, A. 2015.** Menstrual characteristics and prevalence of dysmenorrhea in college going girls. *Journal of Family Medicine and Primary Care,* 4: (3), 426.

[38]. **Lakkawar, N. J., Jayavani, R., Nivedhana, A., Alaganandam, P. & Vanajakshi, N. 2014.** A Study of Menstrual Disorders in Medical Students and its Correlation with Biological Variables. *Sch J App Med Sci,* 2: 3165-3175.

[39]. **Lowdermilk, D. L., Perry, S. E. & Cashion, M. C. 2014.** *Common concerns: Maternity Nursing, Chapter 3*, Elsevier Health Sciences. 60-95.

[40]. **Makhlouf, E. M. & Hameed, S. M. A. 2010.** Impact of psychosocial aspects of primary dysmenorrhea among employee female in university city Assiut governorate. *AAMJ,* 8: (3).

[41]. **Mohamed, H. & Neaem, S. 2013.** The Effect of Dysmenorrhea on Quality of Life of Technical Secondary Schools Girls. *Medical Journal of Cairo University,* 81: (2), 83-89.

[42]. **Nageeb, H., Ali, R. M. & Amasha, H. 2015.** Prevalence of Premenstrual Syndrome: Complementary & Alternative Therapy among Nursing Students. *IOSR Journal of Nursing and Health Science,* 4: (2), 7-15.

[43]. **Nooh, A. M. 2015.** Menstrual disorders among Zagazig University Students, Zagazig, Egypt. *Middle East Fertility Society Journal,* 20: (3), 198-203.

[44]. **Nur Azurah, A. G., Sanci, L., Moore, E. & Grover, S. 2013.** The Quality of Life of Adolescents with Menstrual Problems. *Journal of Pediatric and Adolescent Gynecology,* 26: (2), 102-108.

[45]. **Pinar, G., Colak, M. & Oksuz, E. 2011.** Premenstrual Syndrome in Turkish college students and its effects on life quality. *Sexual & Reproductive Healthcare,* 2: (1), 21-27.

[46]. **Pitangui, A. C. R., Gomes, M. R. d. A., Lima, A. S., Schwingel, P. A., Albuquerque, A. P. d. S. & de Araújo, R. C. 2013.** Menstruation Disturbances: Prevalence, Characteristics, and Effects on the Activities of Daily Living among Adolescent Girls from Brazil. *Journal of Pediatric and Adolescent Gynecology,* 26: (3), 148-152.

[47]. **Santos, I. S., Minten, G. C., Valle, N. C. J., Tuerlinckx, G. C., Silva, A. B., Pereira, G. A. R., *et al.* 2011.** Menstrual bleeding patterns: A community-based cross-sectional study among women aged 18-45 years in Southern Brazil. *BMC Women's Health,* 11: (1).

[48]. **Seedhom, A. E., Mohammed, E. S. & Mahfouz, E. M. 2013.** Life Style Factors Associated with Premenstrual Syndrome among El-Minia University Students, Egypt. *ISRN Public Health,* 2013: 1-6.

[49]. **Seven, M., Güvenç, G., Akyüz, A. & Eski, F. 2014.** Evaluating dysmenorrhea in a sample of Turkish nursing students. *Pain Management Nursing,* 15: (3), 664-671.

[50]. **Shah, M., Monga, A., Patel, S., Shah, M. & Bakshi, H. 2013.** A study of prevalence of primary dysmenorrhea in young students-a cross-sectional study. *Healthline, Journal of Indian Association of Preventive and Social Medicine,* 4: (2), 30-34.

[51]. **Shiferaw, M. T., Wubshet, M. & Tegabu, D. 2014.** Menstrual problems and associated factors among students of Bahir Dar University, Amhara National Regional State, Ethiopia: a cross-sectional survey. *Pan African Medical Journal,* 17.

[52]. **Sugumar, R., Krishnaiah, V., Channaveera, G. & Mruthyunjaya, S. 2013.** Comparison of the pattern, efficacy, and tolerability of self-medicated drugs in primary dysmenorrhea: A questionnaire based survey. *Indian Journal of Pharmacology,* 45: (2), 180.

[53]. **Tolossa, F. W. & Bekele, M. L. 2014.** Prevalence, impacts and medical managements of premenstrual syndrome among female students: cross-sectional study in college of health sciences, Mekelle University, Mekelle, Northern Ethiopia. *BMC Women's Health,* 14: (1).

[54]. **Wong, D. L. & Baker, C. M. 1988.** Pain in children: comparison of assessment scales. *Pediatr Nurs,* 14: (1), 9-17.

[55]. **Yassin, S. A. 2012.** Herbal remedy used by rural adolescent girls with menstrual disorders. *J Am Sci,* 8: (1), 467-73.