Effect of Teaching Program about Menstrual Pain for Freshman Nursing Students on Their achievement

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Abstract: **Menstruation is a natural phenomenon that occurs throughout the reproductive years of every woman. Most females experience a certain degree of pain and distress during this period. Aim: was evaluate the effect of the teaching program about menstrual pain for freshman nursing students on their achievement. Methods: A purposive sample of 220 freshman nursing students. Sitting the study done at the faculty of nursing, Beni-Suef University. Quasi-experimental research design was utilized, data were collected using tools: Fifth tools were utilized (Interview questionnaire, menstruation assessment questionnaire, visual analogue scale, Pre- posttest for assessing student knowledge and practice related to menstrual pain, and Student achievement assessment questionnaire. Results: There was a significant difference found in the improvement of freshmen nursing student's achievement, and total quizzes score between before and after teaching program. Conclusion: This study concluded that the teaching program improves freshman nursing students' knowledge related to menstruation, non-pharmacological methods of menstrual pain management and reinforced their achievement.** *Recommendation:* **Health programs should be conducted for students in each college to extend nursing counseling for female students regarding menstruation, dysmenorrhea & methods of natural pain relievers.**

Keywords: **teaching program, menstrual pain, achievement.**

1. INTRODUCTION

Menstruation, or period, is normal vaginal bleeding that occurs as part of a woman's monthly cycle. It is a normal process that occurs throughout the reproductive life of each woman. Most females experience a certain degree of pain and distress during this period (*Kaur, et al, 2015)*. The menstrual cycle is a determinate of woman health and any disorders in the cycle or its irregularities are a major gynecological problem among adults' females. Menstrual complaints are often associated with physical, psychological, social, and genital problems that lead to menstrual dysfunction which have an impact on their life (*Thapa& Shrestha, 2015)*.

Menstrual pain (primary dysmenorrhea) affects around three-quarters of all women during their reproductive life, and is one of the most common and important health problems, especially among young girls. Although the significant effect that menstrual pain has on academic attendance, performance, social activities and undesirable effects on the daily activities, youngest women do not look for medical therapy but prefer to use self-care *(Armour et al, 2019).*

Menstrual pain is severe and frequent cramping during menstrual cycle. Pain occurs in the lower abdomen and can expansion to the lower back and thighs. Dysmenorrhea categorized into primary or secondary. *Primary dysmenorrhea* is cramping pain with normal pelvic anatomy. Secondary dysmenorrhea is menstrual-related pain related to underlying pathologies, such as endometriosis or uterine fibroids *(Osayande, Mehulic, 2014)*.

Menstrual pain is a common problem among female nursing undergraduate students and it's the main reason for students to be absents from college and attending classes. Therefore, students might miss attending classes and thus affect their overall achievements and grades *(Ismaile, et al, 2016)*.

Menstrual pain is the most common reproductive problem and can lead to stressful conditions. It may lead to problems in daily activities such as academic excellence, attainments in sports, and loss of self-confidence. The lifestyle pattern of any individual leads to their prone to disease and affects their physical work, and mental stress **(Negi, et al, 2018).**

The academic achievement of the nursing student is by the assessment of competence and defined by the student's ability to slice the performance of professional skills and behaviors *(Alshammarii, et al, 2018).* Nursing education is an exciting and challenging adventure that demands nursing students. The training and academic fulfillment of student nurses are the cruces for having qualified polyvalent nurses in the healthcare system and share in improving teaching and education process *(Chidiebere, et al, 2016)*.

Menstrual pain does not only affect the life and future efficiency of women but may also be indicators of underlying problems that become serious in the future. Health education on menstrual trouble targeting female students and their parents possibly will assist in the early detection of these disorders *(Karout, et al, 2012)*. Health care providers have a major role in resolving the menstrual pain and in orderly the menstruation in girls *(Saraswathi, et al, 2017)*.

Significant of study

Most freshman nursing students had ignorance about non-pharmacological pain relief measures that are natural and less costly and use pharmacological pain such as brufen and catafast tablets relief which had long term effects on their life. The prevalence of primary dysmenorrhea was found to the majority of nursing college students of Beni-Suef University especially freshman students, Egypt, moreover, limited studies about health programs or awareness sessions about menstrual pain are still not offered by Beni-Suef University.

The nurse plays an important role in pain management through post comfort measure, reassurance, offer alternative therapies for pain relief by increase using non-pharmacological pain relief measures as an abdominal compress, abdominal massage, aerobic exercise, hot drink, hot bath, and natural herbal, so this study conducted to assess and improve the knowledge and practice of students at faculty of nursing- Beni-Suef University.

Aim

The aim of this study was to evaluate the effect of the teaching program about menstrual pain for freshman nursing students on their achievement.

Research Hypothesis:

H1. The students who will follow the teaching program about menstrual pain will have an improvement in their knowledge and practice about the management of menstrual pain than before.

H2. Freshman nursing students who receive teaching programs will experience fewer pain scores and higher achievement than before the program.

2.   METHODOLOGY

Research design:

A quasi-experimental pre-posttest and follow up design was adopted to achieve the aim of the study.

Sitting:

The study was carried out in the faculty of nursing at Beni-Suef University in Egypt. Total number of female freshman nursing students at the time of the study were average of 450 students.

Sample:

A purposive sample, a total of 220 female freshman nursing students were selected with inclusion criteria at level one or two of faculty of nursing, any age, committed to attending, virgin, have regular menstruation, suffered from primary

dysmenorrhea, did not have any gynecological problems. Exclusion criteria; use hormonal treatments, secondary dysmenorrhea and married female.

Tools:

Data collection tools included the five tolls as the following:

1. Interview questionnaires that include demographic data of the students which include 9 closed-ended items, questionnaires designed to gather data about the demographic characteristics of the study sample such as (age, place of residence, BMI, Academic year, presence of chronic diseases). (developed by the researcher after reviewing).

2. Menstruation assessment questionnaire which designed to collect data about Menstrual history. The questionnaire sheet consisted of 18 items categorized into three parts. **Part I:** Designed to gather data about menstrual characteristics such as age of menarche, duration of menstruation, interval, duration, signs and symptoms It consisted of 6 questions. **Part 2:** Designed to collect data about characteristics of menstrual pain. It consists of 4 questions such as time of stating menstrual pain, site of pain, and pain level. **Part 3** designed for assessed pharmacological and non-pharmacological methods for relieve menstrual pain such as needs for analgesia, a personal habit for relieving pain it consisted of 8 questions. (developed by the researcher after reviewing research literatures).

3. Visual analogue scale (VAS). In this tool, the student should be able to identify pain (Jorgensen, 1999). The visual analogue scale is adapted from Gift (1989) that consists of the empty line anchored at each end of the line by adjectives that describe the degrees of pain. For easily of measurement, a 10 cm line was used. The anchoring adjective commonly used is "no pain" and "severe pain" the student is asked to mark on the line that best indicates her pain. Measuring from the end of the line to mark made by students gives a numeric rating of the intensity of the pain. Scoring: The zero score indicates no pain and (10) is the top scale score, which indicated the worst possible pain. The visual analogue scale was divided into three levels: the first level grated from 1-3 cm that reflects mild pain, the second level grated from 4-7 cm for moderated pain while the third level grated from 8-10 cm for severe pain.

4. Pre-posttest. This test was done to assess knowledge and practice of freshman nursing students before and after teaching programs related to menstrual pain such as menstruation definition, normal cycle of menstruation, signs, symptoms, pharmacological and non-pharmacological pain-relieving methods. It consisted of 6 open ended questions (developed by the researcher after reviewing of research literatures).

Score system for Pre-posttest was 2 degrees for right and complete answer, 1 degree for right answer but not complete and zero degree for wrong answer. Total degree was 12. ≥ 9 was good knowledge, 5-8 was fair knowledge and less than 5 was poor knowledge.

5) Student achievement assessment questionnaire. This questionnaire adapted by the researcher to assess the effect of menstrual pain on freshman nursing students' achievement, this questionnaire sheet consisted of 12 items categorized into two parts. **Part I:** Designed to gather data about freshmen nursing student's achievement which contains a level of concentration during the lecture, attendance, sleep pattern and hours of sleep/day. Part 2: Designed to gather data about practice of menstrual pain relieve improvement. Which contain sex practice (heat massage, exercise, abdominal massage, herbal methods,

Validity:

The validity of tool content was established by a panel of three expertise's (two maternal and newborn health nursing and one community health nursing) who revised the tool for clarity, relevance, applicability, comprehensiveness, understanding, and ease for implementation and according to their opinion little modifications were done

Ethical considerations:

The researchers obtained solemn approval from the dean of the Nursing faculty at Beni-Suef University, head departments for levels 1 and 2 and from the eligible students who agreeable to participate in the study. Written informed consent was obtained from the students after explaining the aim of the study. The students were reassured about anonymity, particularity and confidentiality of the collected data and were informed about their rights to pull out from the study at any time.

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Pilot study:

A pilot study was conducted on 10% of the sample that was not used for the final study, to ensure clarity of questions and then adjustment was done and to test the research feasibility, clarity and objectivity of the tools as well to evaluate the time needed for data collection.

Procedure

The study was carried out through three-phase;

Assessment

The researcher collected data from the Faculty of Nursing, Beni-Suef University. The researcher knew the lectures' schedule and practical agenda for students. The researcher started by clarifying the aim of the study to gain their co-operation, then use pretest to assess students' knowledge and practice related to menstruation and management of menstrual pain. The researcher clarifies all tools used to collect data, and explain how to fill it, then ask each student to self-administrated her questionnaires and the researcher presented all-time for any illustration needed. Each student took about 30 to 45 minutes to fill the questionnaires during their break time between lectures.

Implementation

a. After finished collected of data from students, the researcher started the teaching program the researcher was divided all study sample (220) into small groups, 8 groups, each group ranged from 28-30 students. The total number of teaching program sessions was 16 sessions, two sessions (theoretical and practical session) for each group (2 days/week), each session was conducted for one hour in the time they are free by the faculty with the students and with the staff members for each department.

b. Teaching program sessions were given to the students in the form of lectures and group discussions by using audio-visual aids (videos, it emphasized on improving student's knowledge and practices. A further 15 minutes were given at the end of the lecture for an open debate with the students about this topic and feedback from the students was obtained to ensure that the students got the extreme benefits.

c. Booklets and brochures containing information about menstruation and non-pharmacological management for menstrual pain were distributed to students at the beginning of the first session, which contained definition of menstruation, anatomy and physiological of female reproductive system, menstrual cycle, duration of menstruation, interval, signs and symptoms, detail discussion with using images and videos for methods of accurate management for menstrual pain (natural herbs fluid, practical methods such as exercise, hot compress and massage).

Evaluation phase

a. Three evaluations were done for each student. The first one was at the beginning of the study as a baseline data (pre-test). The second evaluation was conducted after one month from the teaching program (1st follow up). The third evaluation was conducted after two months (2nd follow up) from the second evaluation (end of term) in order to detect the effect of teaching program on knowledge and practices of students regarding to management of menstrual pain and its effect on their academic achievement and social performance. (follow up post-test).

b. The effect of the teaching program was done through comparing the pretest and posttest that were conducted after one month and three months of intervention to assess their knowledge and their practices regarding menstrual pain and its effect on their achievement and social performance.

Statistical analysis:

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

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3. RESULTS

The result will be discussed in the following two sections.

Section 1: Description of the Sample

Table (1) Socio-Demographic characteristics of the study sample N= 220

Socio-demographic and Obstetric Characteristics		frequency N=220	Percentage 100(%)
Age	18-19	149	67.7
	20-22	71	32.3
Mean age		19.17 ±4.6	
Residence	Urban	78	44.5
	Rural	142	35.5
Academic year	1st year	113	64.5
	2nd year	107	48.6
BMI		198	90
		22	10
The presence of chronic disease	No	101	45.9
	Hypertension	0	0
	Diabetes	1	0.5
	Cardiac disease	0	0
	Chronic Anemia	118	53.6

This table showed that the mean age of students was (19±4.6) years, in addition (64.5%) were from rural area, also more than half of them (51.4%) were in 1st year of nursing faculty, and 45.9% haven't chronic diseases, while 53.6 had chronic anemia.

Table (2) Menstrual characteristics of the study sample N= 220

Item	frequency No=220	Percentage 100(%)
Age at menarche		
11 – ≤ 13 years	144	65.5
14 – ≤ 16 years	68	30.9
≥16 years	8	3.6
Mean ±SD	12.39 ±59	
Menstrual regularity		
Yes	189	85.9
No	31	14.1
The interval between menstrual cycle		
<21days	14	6.4
21-32days	181	82.3
>32 days	25	11.3
Duration of the menstrual cycle		
2 – 4 days	98	44.5
5 – 7 days	115	52.3
> 7 days	7	3.2

This table showed that 65.5 of nursing students had menarche in the age group of 11-13 years old. (85.9%) of freshman nursing, students had a regular menstrual cycle. In addition, (82.3%) of them had a cycle length between 21-32 days. The duration of menstruation ranged from 5-7days among (52.3%) of nursing students.
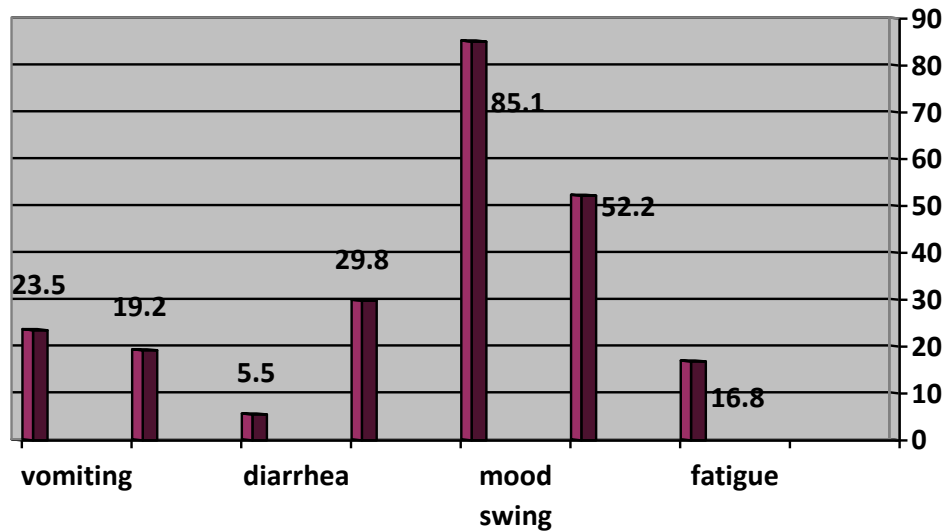
Figure (1): Symptoms of menstruation among the study sample: N= 220

Table (3) Characteristics of menstrual pain among the study sample. N= 220

Item	frequency No=220	Percentage 100(%)
Started time of dysmenorrhea		
at menarche	165	75
less or equal 6 months after menarche	35	15.9
less or equal one year after menarche	11	5
less or equal two years after menarche	9	4.1
Time of menstruation pain		
before menstruation	59	26.9
Start with menstruation and still for 24 hrs.	125	56.8
Start with menstruation and still for 48 hrs.	31	14
5 days before menstruation and lasts for 4 days	5	2.3
Pain site		
lower back	40	18.2
Lower abdominal	172	78.1
Lower limb	5	2.3
Thigh	3	1.4
Level of pain		
Mild	26	11.8
Moderate	58	26.4
Sever	116	52.7
very severe pain	12	5.5
unbearable pain	8	3.6

This table represented that 75% of freshman nursing students started from dysmenorrhea at menarche, the pain started with menstruation and still for 24 hours among 56.8% of them. Also, 78.1% of them had lower abdominal pain followed by lower back pain (18.2%). Moreover, 52.7% of them had severe pain.
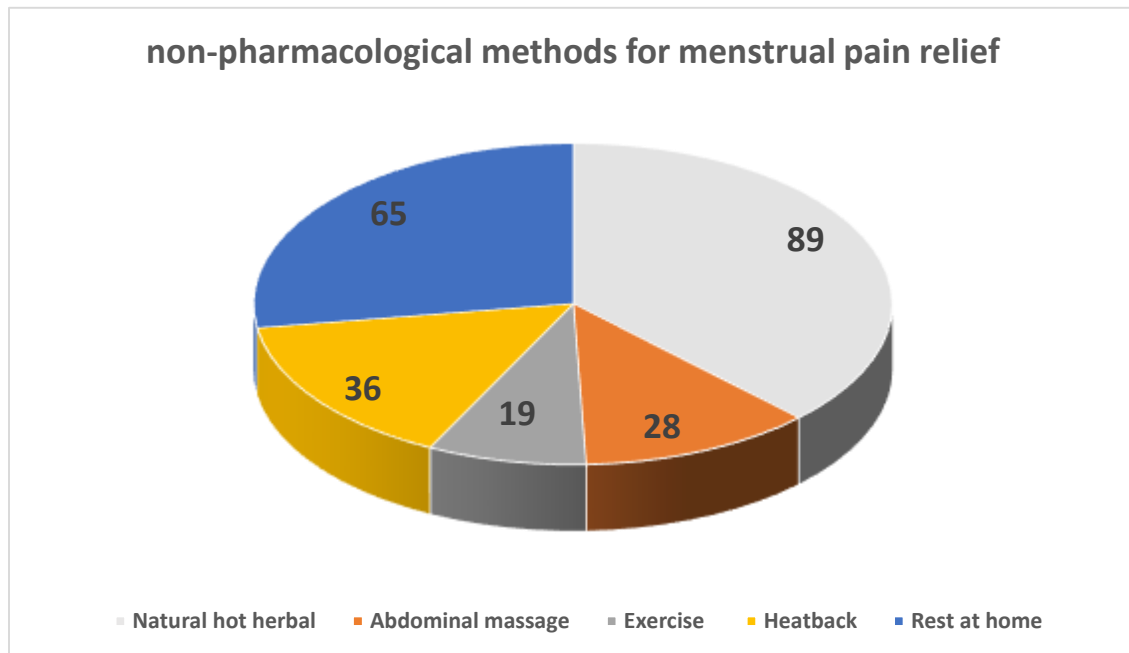
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Figure (2): Apply non-pharmacological methods for menstrual pain relief among the study sample. N= 220

Table (4): Apply pharmacological methods for menstrual pain relief among the study sample. N= 220

Item	frequency No =220	Percentage 100 (%)
Pharmacological methods for menstrual pain relief		
Take drugs for menstrual pain		
Yes	195	88.6
No	25	11.4
If yes		
Paracetamol tablet	12	6.2
Brufen tablet	87	44.6
Catafast effervescent	79	40.5
Cataflam tablet	17	8.7

This table revealed that 88.6% of the study sample were taken pharmacological pain relief, classified as the following; 44.6% of them were taken Profane tablet flowed by Catafast effervescent 40.5% while 6.2% used paracetamol tablet to relieve menstrual pain.

Section 2: Description the effect of teaching program on the freshman nursing student's knowledge and practice to improve their achievement and social performance

Table (5) Improvement of the freshman nursing student's knowledge about menstrual pain after attending the teaching program. N= 220.

Freshman nursing student's knowledge about menstrual pain	Before teaching program No = 220		After teaching program No = 220				P-value
	Good knowledge		First follow up		Second follow up		
	No	%	No	%	No	%	
1. Definition of menstruation	28	12.7	204	92.7	192	87.3	0.000

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2. Normal cycle of menstruation	18	8.2	122	55.5	202	91.8	0.005
3. Time of menarche	22	10	200	90.9	198	90	0.005
4. Signs and symptoms of menstruation	26	11.8	202	91.8	194	88.2	0.001
5. Methods of menstrual pain Management	17	7.7	201	91.4	203	92.3	0.001
6. Non-pharmacological pain relief methods for menstrual pain.	28	12.7	198	90	192	87.3	0.002
Total knowledge	22	10	200	90.9	198	90	0.001

*=Significant difference, **= highly significance, difference P value<0.05.

Regarding to this table, after the teaching program, the knowledge of the freshman nursing students improved highly significantly from 10 % to 90.1 % with good knowledge (p<0.001) distributed as following; (92.7%) definition of menstruation, (90.9%) time of menarche, (91.8%) signs and symptoms of menstruation, (91.4%) methods of pain management, (90%) for non-pharmacological pain relieve.

Table (6) Distribution of nursing students' pre and post first and 2nd follow up regarding their totally practice about menstrual pain relieve pre and post-teaching program (N= 220)

Total practice of menstrual pain relieve	Before teaching program		After teaching program				P value
			First follow up		Second follow up		
	No	%	No	%	No	%	
Unsatisfactory	99	45	45	43	19.5	40	18.2	
Satisfactory	121		55	177	80.5	180	81.8	0.000**
Mean SD	25.4±5.8			29.6±4.8		29.8±5.3		0.000**

*=Significant difference, **= highly significance, difference P value<0.05.

This table illustrated that there was a highly statistically significant (*p*<0.0001) improvement in total freshman students about menstrual pain relief practice before and after the teaching program application.

Table (7) Verbal multi-dimensional Score (VMS) for the study group (N=220)

VMS grade	Before teaching program N=220		First follow up N=220		Second follow up N=220		p. value
	No	%	No	%	No	%	
0	17	7.7	32	14.6	63	28.6	0.020
1	21	9.5	96	43.6	118	53.6	
2	112	50.9	64	29.1	23	10.5	
3	70	31.8	28	12.7	16	7.3	
Mean	2.07±0.85		1.40± 0.89		1.85± 0.57		0.001

This table clarified that mean menstrual pain score in first and second follow up after teaching program decreased by visual analog scale. mean score with highly statically significant deference found before teaching program was 2.07±0.85 compared to 1.85±0.57 after 2 follow up after teaching program (P.= 0.001)

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Table (8) Effect of teaching program on freshman nursing student's achievement. N=220

Freshmen nursing student's achievement	Before teaching program n=220		After teaching program n= 220				P-value
			First follow up		Second follow up		
	No	%	No	%	No	%	
1. Effect on lecture attendance							
Yes	130	59.1	25	11.4	22	10	0.002
No	90	40.9	195	88.6	198	90	
2. Effect on concentration and understanding during the lecture							
Yes	198	92.7	60	27.3	53	24.1	0.001
No	22	7.3	160	72.7	167	75.9	
3. Effect on practical activities							
Yes	191	86.8	55	13.6	49	22.3	0.007
No	29	13.2	165	86.4	171	77.7	
4. Effect on sleeping hours							
Yes	79	35.9	23	10.5	19	13.2	0.002
No	141	64.1	197	89.5	191	86.8	
5. Effect on daily activities							
Yes	119	54.1	31	14.1	27	12.3	0.001
No	101	45.9	189	85.9	193	87.7	
6. Effect on social relation							
Yes	79	35.9	45	21.4	12	5.5	0.002
No	141	64.1	175	78.6	208	94.5	

as evidence by table (8) there was highly a significant difference found in the improvement of freshmen nursing student's achievement between before and after both first and second follow up of teaching program which clearly identifies in all the following, lectures attendances, concentration, and understanding, practical performance and participation in activities, and social relation P value<0.05

Table (9) Distribution of freshman nursing students regarding their total quizzes degree before and after of teaching program. (N= 220)

A total main score of freshman nursing student's Quizzes degree	Before teaching program n=220		After teaching program n=220				P-value
			First follow up		Second follow up		
	No	**%**	**No**	**%**	**No**	**%**	
Poor (< 50%)	135	61.4	14	6.4	12	5.4	0.001**
Moderate (50-75%)	75	34.1	72	32.7	71	32.3	
Good (>75%)	10	4.5	134	60.9	137	62.3	
Mean SD	15.2±4.6		23.0±4		24.4±4.9		0.030**

*=Significant difference, **= highly significance, difference P value<0.05.

This table showed that there was a statistically significant difference (p<0.0001) found before the teaching program was 15.2±4.6 compared to 24.4±4.9 of second follow up. results after the teaching program found there was highly significant differences (P = 0.000) in the improvement of total quizzes degree of freshman nursing students before and after of teaching program.

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Table (10): The relation between menstrual pain and academic performance

Freshmen nursing student's achievement	Menstrual pain				X 2	P-value
	Before teaching program n=220		After teaching program no =220			
	No	%	No	%		
1. Lecture attendance						
Yes	130	59.1	22	10	5.333	0.004
No	90	40.9	198	90		
2. Concentration and understanding during the lecture						
Yes	198	92.7	53	24.1	11.589	0.001
No	22	7.3	167	75.9		
3. Performance of practical activities						
Yes	191	86.8	49	22.3	7.452	0.007
No	29	13.2	171	77.7		
4. Sleeping hours						
Yes	79	35.9	19	13.2	1.987	0.215
No	141	64.1	191	86.8		
5. participation in daily activities						
Yes	119	54.1	27	12.3	7.224	0.008
No	101	45.9	193	87.7		
6. Social relation with others						
Yes	79	35.9	12	5.5	10.259	0.003
No	141	64.1	208	94.5		

Table (10) presented that there was highly statistical significant relation between menstrual pain and students achievement before and after the teaching program which clarify in the following points lectures attendances, concentration and understanding during lecture, performance of practical activities and participation in daily activities and social relation with others. While there was no statistical significant relation between menstrual pain and sleeping hours.

4. DISCUSSION

Painful menstruation affects around three-quarters of all women during their reproductive life. It is the most common gynecological problems and indicators of implicated problems that become dangerous in the future. The current studies aimed to evaluate the effect of the teaching program for freshman nursing students about menstrual pain on their achievement using a quasi-experimental design within 220 freshman nursing students.

Regarding the demographic characteristics of the students, the current study revealed that most of the students aged between 18-22 years old. Also, the majority of the students were single. **Elnagar, et al, (2017)** supported in his study that more than half of the students were between 18-20 years old, and the majority of the students were single.

Concerning the mean age of menarche among students was 12.3 ±5.9 years, which was in the same line with y with the finding of **Al Harbi et al. (2018),** reported that more than half of girls had experienced menarche with a mean age of **12.46 ± 1.57**. The age of menarche is determined by hereditary factors, social factors, and environmental factors like development in nutrition and living conditions.

Concerning the menstrual cycle regularity, the present study showed that the majority of students had regular menstrual cycle which was in accordance with **Adebimpe et al, 2016;** Menstrual Pattern and Disorders and Impact on Quality of Life among University Students in South-Western Nigeria and has been mentioned that the majority of the studied subjects had a regular monthly menstrual pattern.

The present study reported that most of the freshman nursing student's duration of menstrual flow more than 5-7 days and menstrual cycle length from 21 to 35 days. this finding was supported by the study carried out by **Beevi et al. (2017), who** studied Menstrual problems among adolescent girls reported that the majority of female students have a normal period of duration of menstruation.

Regarding the incidence of dysmenorrhea (menstrual pain), the study findings showed that 75% of the students had dysmenorrhea. The study findings were inconsistent with **Derseh, et al, (2017),** who showed that two-thirds of students were suffering from dysmenorrhea. In the same line with **Ameada, et al, (2018),** revealed that the prevalence rate of dysmenorrhea was 83.6% among students. Also, **Alsaleem, (2018),** postulated that the prevalence of dysmenorrhea was more than two-thirds of students. The differences of occurrence rates of dysmenorrhea across the world may be due to the different cultural factors, shortage of use of pain relief measures, and lack of knowledge about it.

The current study showed that 56.8 %of the studied sample have pain during menstruation and still for 24 hours, also 78.1% of them had lower abdominal pain. This result was similar with **Kamel, et al, (2017),** who mentioned that dysmenorrhea is the painful cramps that women feel before or during the menstrual period, and it's the most mutual gynecologic grievance affecting adolescent and young women as 61.95% reported pain in every menstrual cycle and 86 (38.05%) reported pain only in some cycles. For there more, same **as Vlachou, et al, (2019)** reported that 52.5% of students had severe pain. This may be due to a shortage of knowledge about pain management among students.

Concerning personal habits toward menstrual pain, the current study illustrated that, most of the freshman nursing students group take rest (manifested by lectures absenteeism). This result similar to the results of **Al-Matouq, et al, (2019),** pointed out that dysmenorrhea can be a major cause for school absenteeism and missing exams. In Saudi Arabia, of the university students with dysmenorrhea, 58.2% of students with dysmenorrhea missed at least one school day, and students drink tea or herbs, followed by used self-medication.

As regards to non-pharmacological pain relief taken during menstrual pain, the current study was found that 40% in studied group students taken hot drinks (Natural herbs as peppermints or cinnamon) during menstruation. This agreement with **Jaafarpour, et al (2015),** pointed that cinnamon has a significant effect on the reduction of pain, menstrual bleeding, and GIT disturbance due to primary dysmenorrhea, and with respect to no reported side effects, safe and effective treatment for primary dysmenorrhea.

The present study revealed that more than half of students used heating pad this agreement with the study done in Turkey by **Karabulut, et al, (2016)**, found that students frequently use non-pharmacological treatment as hot packs to relieve GIT symptoms. This may be due to most of the nursing student had severe abdominal muscle pain, and abdominal distention, so students used non-pharmacological methods to relieve it. In relation to relieving menstrual pain, this study reported that using pharmacological drugs as Brofen was effective for control/ decreasing pain during menstrual flow. As the majority of Egyptian girls prefer to take analgesics and did not seek medical advice

Results revealed that the majority of students mentioned that menstruation affected on their academic performance before teaching program as lecture attendance, desire on sleep on a lecture, practical activity, concentration, sleep hours, and home activity (59.1%, 77.3%, 92.7%, 86.8%, 76.4%, and 85.9%) respectively. This results agreed with **Khamdan, et al, (2014),** who reported that academic performance was affected by menstruation in several ways mainly study time (76%), concentration (65.8%), participation in group activities (58.1%), examination performance (51.8%) and class attendance (40.8%). sleep duration and quality 73.3%. Also, the results of the present study were agreed with **Raju & Syguma, (2017),** who revealed that he (67%) absent from college, 71% had a lack of concentration during the study, and 58% had difficulties in remembering studies contents. Education may have had a negative impact on academic educational outcomes.

The current study showed a significant increase in freshman nursing student's level of knowledge, practice, and attainment after teaching program as (increased concentration and understanding, participation in discussion and activities, practical performance, and quizzes degree. This may be due to consciousness and education should be considered effective for pain management, enhancement, and achievement of freshman nursing students. Moreover, nursing plays an important role as sources of information about menstruation was primarily obtained from mothers, other female family members, and friends who are not necessarily well equipped to fill gaps in girls' knowledge because of shame, misconceptions, and

unhygienic practices during menstruation. Furthermore, Continuous education is important for the students, as well as the health care provider, to take the time to answer the questions and even encourage questions. After program students not only acquired knowledge and practices related to menstruation, natural menstrual pain management but also improve self-confidence and personal development.

5. CONCLUSION

Based on the findings of the present study it was concluded that; primary dysmenorrhea (menstrual pain) is the most common complaint of freshman nursing students and also is a common gynecological problem worldwide. Female with severe pain during menstruation is experienced with mood swings, loss of appetite GIT disturbance, diarrhea, fatigue, and headache and also absent from school as well as, could have a negative influence on academic achievement, social and daily activities of girls. It was observed that educational programs improve students' knowledge related to primary dysmenorrhea, personal habits, and academic achievement.

6. RECOMMENDATION

According to the results of the present study, the following recommendations are suggested.

• Health programs should be conducted for students in each college to provide nursing counseling for female student's regarding menstruation, dysmenorrhea & methods of natural pain relievers

• Integrate self-care management of menstrual disorders into the curriculum of women's health department.

• Replication of the study on the large sample selected from different environmental areas in Egypt is recommended to obtain more generalizability of the benefits.

• Counseling facilities and further conveniences to reduce the influence of menstrual disorders on academic accomplishment.

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