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Original Article

Prevalence of Dysmenorrhea and Its Effect on Academic Achievement among Teenagers

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1. ABSTRACT

Background: Dysmenorrhea is a prevalent issue that affects a significant portion of teenagers, it impacts their academic achievement, and it's the main cause of school absenteeism. **Aim:** This study aimed to assess the prevalence of dysmenorrhea and its effect on academic achievement among teenagers. **Method:** A descriptive cross-sectional design was used. **Setting:** The study was carried out at Technical Institute of Nursing-Mansoura University, Egypt. **Study subjects:** A purposive sample of 309 teenage girls was utilized. **Tools:** Three tools were used: A structured interview questionnaire, a simple descriptive pain intensity scale, and a dysmenorrhea effects on academic achievement questionnaire. **Results:** Most of the studied girls had dysmenorrhea, more than half of them didn't go to the institute during menstrual days, nearly three quarters of them couldn't concentrate and understand during lectures. In addition, less than two-thirds of the studied girls reported inability to participate effectively in classroom activities. More than two-thirds of them reported that dysmenorrhea affected their participation in institute activities, and more than half of them reported that menstruation affected their result of the exam. **Conclusion:** Dysmenorrhea was prevalent among the studied girls, which most of them had dysmenorrhea and more than one-third of them had bad academic achievement. **Recommendations:** Developing student support systems to provide academic support for teenagers facing difficulties due to dysmenorrhea, further research should focus on the adaptive techniques used by the students to mitigate the negative impacts of dysmenorrhea on academic achievement.

Keywords: *Academic Achievement, Dysmenorrhea, Prevalence, Teenagers*

2. Introduction

Teenage is a unique stage in the girl's life cycle that needs specific attention. It is defined as the time between puberty and adulthood independence, it transforms the girl from a young child into an adult sexual woman, moving from complete dependence to a certain level of autonomy **(Mohammed, Gagnon, & Cummings, 2023). The National Institute of Public Cooperation and Child Development (2014)** reports that, globally, teenagers make up 20% of the world's population, with the majority of them (85%) residing in developing nations. About 52% of girls (26% of all adults) are in the reproductive period of life **(Ghai, Magis-Weinberg, Stoilova, Livingstone, & Orben, 2022).**

Menstrual cycle is an important indication of puberty for teenagers and menarche an important phase in girls' lives **(Dar, Maqbool, Gani, & Ara, 2023).** The age at menarche influences menstrual discomfort, the higher the incidence of dysmenorrhea in adolescent girls, the younger they are **(Fadliyah, Hendarto, Mardhika, & Agustin, 2022).** Dysmenorrhea is defined as when a woman experiences significant lower abdomen discomfort or pelvic pain throughout the menstrual cycle. This pain is usually crampy in nature and might radiate to the thighs or lower spine, may be accompanied by nausea, diarrhea, headaches, backaches, exhaustion, etc. **(Barcikowska, Rajkowska-Labon, Grzybowska, Hansdorfer-Korzon & Zorena, 2020).**

The prevalence of dysmenorrhea is higher in young women, ages 17 to 24. It often happens two to three years following menarche **(Ertiana & Pratami, 2021).** The pathophysiology of dysmenorrhea is mainly attributed to an excess production of uterine prostaglandins. Specifically, prostaglandin F2 alpha **(Karout et al., 2021).** Dysmenorrhea can be classified as mild, moderate, or severe depending on how painful it is. Numerous factors, such as medical conditions and socioeconomic factors influencing health, have an impact on pain severity. Age and dysmenorrhea severity are inversely correlated, with teenagers usually reporting more severe symptomatology **(Barbosa-Silva, 2024).**

Pathophysiology categorizes dysmenorrhea into two types, primary dysmenorrhea, which is the most prevalent, and secondary dysmenorrhea. Periodic menstruation pain without pelvic abnormalities is known as primary dysmenorrhea. While some pathological disorders such as endometriosis, fibroids, adenomyosis, pelvic inflammatory disease, endometrial polyps, pelvic adhesions, or the use of an intrauterine contraceptive device can induce secondary dysmenorrhea **(Hong, Zhang, & Chai, 2022).**

Non-steroidal anti-inflammatory drugs (NSAIDs) are the first line of treatment for primary dysmenorrhea **(Zali, Erabi, Akhtari, & Bagheriani, 2022).** NSAIDs are available in many different forms, and they function by preventing the synthesis of prostaglandins. NSAIDs are the most extensively used medicines for treating dysmenorrhea and are readily available as over-the-counter analgesics (OTCAs), or nonprescription pain medications, in pharmacies across several countries **(Nie et al., 2020).**

Experiencing dysmenorrhea throughout the school term lowers academic achievement, disrupts relations with peers, and increases skipping activities **(Unver, Guney, Ucar, & Derya, 2021).** Academic achievement is the degree to which students have advanced in their expertise, skills, affect, and attitude through guided learning activities under the supervision of teachers, building on their past experiences **(Assem, Nartey, Appiah, & Aidoo, 2023).** It is a crucial indicator of cognitive growth and adolescent educational success **(Ghandour et al., 2024).**

Students who have dysmenorrhea, their learning activities are disrupted, they concentrate less in class, and it makes them uncomfortable, which lowers their desire to learn **(Ali Salem, Ibrahim, Al-Banna, & Salama Abdel Fattah, 2023).** In adolescent girls, dysmenorrhea is the reason for frequent, short-term absences from school as well as restrictions on their participation in sports **(Karmakar, Panduragan, Said, & Poddar, 2023).** Girls with mild pain missed one and half day of school on average each month. There was a range of half a day to three days in total for missing work. A notable correlation was discovered between the intensity of dysmenorrhea and the restrictions on female students' ability to work **(Iwuoha, 2021).**

2.1 Significance of the study

With 90% global prevalence, dysmenorrhea is one of the most frequent causes of gynecological referrals **(Nyirenda et al., 2023).** Adolescent girls frequently complain of dysmenorrhea, a condition that impacts females across the lifespan and has a major detrimental impact on both work productivity and living quality. 10% to 15% of women report having severe monthly pain, which prevents them from doing everyday lives as usual at work, home, or school **(Yuliani, Rahmat, Oktavia, & Papila, 2023).** According to a study conducted in the Mansoura Governorate of Egypt revealed that 75% of the students had dysmenorrhea, mild cases accounting for 55.3%, moderate cases for 30.0%, and severe cases for 14.8%, and the majority of them decided not to seek medical assistance **(Agwa, Naeem, & Negm, 2023).**

The most common menstruation problem among teenagers and the leading reason for absenteeism from school is dysmenorrhea **(Donayeva et al., 2023).** Teenagers who are menstruating frequently miss school, at least one day every cycle **(Mohammed et al., 2023).** Girls who are absent from school frequently due to dysmenorrhea lose between 10% and 20% of the school year. According to an Ethiopian study, 90% of females said that the academic performance decreased following menarche, suggesting that missing school could have an impact on students' academic performance **(Khalil, Alsaleem, Siddiqui, Alshaikh, & Althabet, 2020).**

2.2 Aim of the study

This study aimed to assess the prevalence of dysmenorrhea and its effect on academic achievement among teenagers.

2.3 Research Questions

Q1: What is the prevalence of dysmenorrhea among teenagers?

Q2: What are the effects of dysmenorrhea on academic achievement among teenagers?

3. Subjects and Method

3.1 Study Design

A descriptive cross-sectional design was utilized in this study. It’s observational research in which a defined population’s condition and potentially connected factors are monitored at a specific point in time.

3.2 Study Setting

The study was carried out at Technical Institute of Nursing Mansoura University, which affiliated with the Ministry of Higher Education. It was established in 1994 and has two buildings, one of them only one floor consists of three lecture halls and the other consist of five floors contain two lecture halls in the first floor and the scientific laboratories and staff offices in other floors. Students enrolled in this program will study for two academic years plus an additional six months for internship training. The total number of enrolled nursing students for the first academic year is 1300 students and the second academic year is 1120 nursing students in last academic year 2021-2022.

3.3 Study sample

A purposive sample of 309 teenage girls were chosen from predetermined setting according to the following criteria.

Inclusion Criteria

- Teenage girls aged from 17-19 years.
- Teenage girls who were available in the time of data collecting from the first and the second academic year.

Exclusion Criteria

- Teenage girls who have amenorrhea.
- Teenage girls who are pregnant.

3.4 Sample Size Calculation

Based on data from literature **(Unsal, Ayranci, Tozun, Arslan, & Calik, 2010)**, the following formula can be used to determine the sample size based on data from the literature, a 5% level of significance, and an 80% power of study: Sample size = [(Z1-α/2) 2.SD2]/d2. Where Z1-α/2 = is the standard normal variate, at 5% type 1 error it is 1.96. SD = standard deviation of variable and d = absolute error or precision. So, Sample size = [1.96)2. (16.13)2]/ (1.8)2 =308.5. The formula above indicates that 309 is the necessary sample size for the study.

3.5 Data collection tools:

Three tools were used to collect data.

Tool I: Structured Interview Questionnaire:

The researcher created an interview questionnaire following a review of relevant literature **(Le Roux, McCall, Pudwell, Pyper& Bougie, 2021).** It consists of two parts: **Part I**. Socio-demographic and health profile data as: age, residence, family income, presence of chronic diseases, surgical history, family history …. etc. **Part II**. Menstrual history includes details like: Age of menarche, regularity of the cycle, length of menstruation, interval between cycles, and intensity and duration of pain.

Tool II: Simple Descriptive Pain Intensity Scale:

Simple descriptive pain intensity scale was utilized by the researcher. It was adopted from **(Pharm et al., 2020; Ayan et al., 2012)** to assess dysmenorrhea, which is a score system that is displayed as a horizontal row of equally spaced numbers between 0 and 10, with 0 representing "no pain" and 10 representing "the most severe pain." The girls were instructed to mark the line to indicate how much discomfort they were experiencing. The scale's scores were categorized as mild (1-3), moderate (4-6), or severe (7–10).

Tool III: Effects of Dysmenorrhea on Academic Achievement Among Teenage Girls Questionnaire:

Questionnaire to evaluate the impact of dysmenorrhea on teenage academic performance. It was developed by researchers after literature review **(Sahin, Kasap, Kirli, Yeniceri& Topal, 2018; Hassan, 2017).** Such as: loss of concentration, absent from classroom, …. etc.

The scoring system:

Based on the researcher's cut off point, the academic achievement score is divided into two categories: (70% or higher of the total score) is considered good academic achievement and (any score less than 70% of the total score) is considered bad academic achievement **(Purba, Azhar& Roflin, 2019).**

3.6 Validity of the tools

Three experts in the fields of midwifery and women's health nursing evaluated and judged the content validity of the data collection tools. The tools' comprehensiveness, relevance, applicability, and clarity were evaluated. Modifications were made in response to their feedback as some sentences being reworded to make them easier for girls to understand.

3.8 Reliability of the tools

The Cronbach's alpha value of the academic achievement questionnaire is 0.902, and of the pain sensitivity is 0.897, which indicates the high reliability of the tools.

3.7 Ethical considerations

The study was granted ethical approval by the Research Ethics Committee at Mansoura University's Faculty of Nursing. Additionally, official permission to perform the study was received by the Director of the Technical Institute of Nursing. Before the study started, the girl who was going to be a participant gave her informed

written consent after the purpose and nature of the study were explained. During the entire study, confidentiality, privacy, safety, and anonymity were all fully assured. It was explained to participants that they might withdraw from the study at any time and that participation was completely optional. Instead of using the girls' names for identification, code numbers were utilized. The findings were used in the required research for a master's degree as well as for publications and educational purposes.

3.9 Pilot study

The Pilot study was carried out before data collection on (10% of the sample) 31 of the studied girls. The purpose of the pilot study is to assess the study tool's usability and clarity and to determine how long it will take to complete the form. The pilot study results were not included in the sample size, and the examination of the pilot results revealed that the tools were modified by paraphrasing a few lines.

3.10 Filed work

There were three stages involved in conducting the current study.

1-Preparatory Phase

Reviewing literature: The researcher assessed relevant national and international literature in addition to theoretical knowledge with reference to the study's various elements.

Developing tools: In order to create data collection tools, the researcher wrote books, journals, and articles. The original language of the questionnaire was English. Arabic translation followed. The pilot study was completed before the actual sample collection.

2-Data collection phase

- After receiving formal approval from the Institute's directors, this study was carried out at the Technical Institute of Nursing at Mansoura University.
- The study's actual fieldwork took place over the course of for 4 months from the beginning of October 2022 to the end of January 2023.
- Three days a week, the researcher worked at the Institute. until the determined sample size of girls was acquired.
- After introducing herself to the girls and providing a brief description of the study's purpose and confirming data confidentiality, the researcher asked for their permission to participate in the study.
- The researcher provided girls with individual questionnaires, explaining how to complete them and asking them to complete them on their own.

3-Data Analysis

Version 21.0 of SPSS for Windows was used for all statistical analyses (SPSS, Chicago, IL). The continuous data had a normal distribution and was shown as mean ± standard deviation (SD). Categorical data were expressed as numbers and percentages. Using categorical data, variables were compared using the chi-square test (or, the Fisher's exact test). The study determined statistical significance by computing the internal consistency test, also known as the reliability test, for the questionnaires used at $p<0.05$.

4. Results

Table 1 shows that the mean age and standard deviation of the studied girls was 18.5 ±0.5, (62.8%) of them were in the second academic year. (71.8%) of the studied girls from rural areas, (64.7%) of them were living with family at home, and (33.0%) of them were married. Regarding girl's mother's education (39.8%) had university education, and (65.0%) of the mothers were housewives. Regarding the girl's father's education, (40.1%) had secondary education, and (57.9%) worked in private work.

Table 2 shows that the mean age at menarche of the studies girls was 13.0 ±1.4, (59.2%) of them with interval of menstruation between 21 and 35days, and nearly (20%) of them reported irregular menstrual cycle. Regarding medication use during menstruation (23.0%) of the studied girls reported used medication, and (80.6) of them reported (2-7 days) duration of menstrual cycle. Regarding the number of used perineal pads (57.3%) used 2 – 3 perineal pads daily, (20.7%) reported severe amount of blood loss, and the majority of them (81.6%) used sanitary pads during menstruation.

Table 3 reveals that (91.9%) of the samples studied reported dysmenorrhea, (57.7%) reported the pain in the first day of the menstruation, and (41.4%) of them forgetting how long the pain as the first experience of dysmenorrhea.

Table 4 reveals that for physical symptoms nearly (60%) of the studied girls experience severe abdominal colic, and the majority (84.5%) suffer from back pain. Followed by headache and loss of appetite (50.8% and 57.9% respectively). Regarding the psychological symptoms nearly (50%) of girls were not able to concentrate. And (nearly 60%, 61.5%, 66.0% and 66.7%)

experienced anxiety, stress, mood swings and sadness respectively.

Table 5 shows that (52.1%) of the studied girls reported didn't go to university during menstrual pain days, and (38.5%) of them participated effectively in classroom lectures. Among 309 of studied girls (27.2%) of them concentrated and understanding in lectures, on the other hand, (69.9%) of them reported dysmenorrhea negatively affecting clinical training performance. (68.6%) and (68.0%) of the studied girls reported the menstrual pain affected their participation in college activities and academic achievement in the exam and quiz, respectively.

- **Figure (1)** illustrates that (68.0%) of the studied girls had menstruation during exams this year.
- **Figure (2)** illustrates that (54.3%) of the girls studied reported menstruation affected their result of the exam.
- **Figure (3)** shows that (38.8%) of the studied girls had bad academic achievements.

Table 1. Number and Distribution of the Demographic Characteristics Among the Studied Teenagers (n = 309)

	n	**%**
Age (Years)		
17	2	0.6
18	167	54.0
19	140	45.3
Mean ±SD	18.5 ±0.5	
Academic Year		
First	115	37.2
Second	194	62.8
Residence		
Rural	222	71.8
Urban	87	28.2
Living Place		
With family at home	200	64.7
Student housing	109	35.3
Marital status		
Single	207	67.0
Married	102	33.0
Girl's mother's Education		
Basic education	81	26.2
Secondary education	105	34.0
University education	123	39.8
Girl's mother's Occupation		
Working	108	35.0
House wife	201	65.0
Girl's father's Education		
Basic education	99	32.0
Secondary education	124	40.1
University education	86	27.8
Girl's father's Occupation		
Government employee	130	42.1
Private work	179	57.9

Table 2. Menstrual History Characteristics Among the Studied Teenagers (n= 309)

	n	%
Age at menarche (years) (Mean ±SD)	13.0 ±1.4	
Interval of menstruation (days)		
< 21	95	30.7
21 – 35	183	59.2
> 35	31	10.0
Mean ±SD	13.0 ±1.4	
The regularity of your menstrual cycles		
Regular	248	80.3
Irregular	61	19.7
Medication used during menstrual cycle (n=61)		
No	47	77.0
Yes	14	23.0
Duration of menstrual cycle (days)		
< 2 days	15	4.9
2 – 7 days	249	80.6
> 7 days	45	14.6
Number of used perineal pads (day)		
2 – 3	177	57.3
> 3	132	42.7
Blood loss amount		
Mild	10	3.2
Moderate	235	76.1
Severe	64	20.7
Pads used during menstrual period		
Sanitary pad	252	81.6
Clothes	4	1.3
Medical cotton	53	17.2

Table 3. Pain Intensity Among the Studied Teenagers (n= 309)

	n	%
The presence of menstrual pain (dysmenorrhea)		
Yes	284	91.9
No	25	8.1
IF yes, the pain time (n=297)		
Before menstrual period	113	39.8
First day	164	57.7
Second day	7	2.5
The time of first experience of dysmenorrhea		
In the beginning of menarche	87	30.6
6 months to a year after menarche	39	13.1
More than one year after menarche	35	11.8
Forgotten for how long	123	41.4

Table 4. Number and Distribution of the Symptoms Combined with Menstruation Among Studied Teenagers (n= 309)

	No		**Yes**	
	n	%	n	%
Physical Symptoms				
Severe abdominal colic	124	40.1	185	59.9
Back pain	48	15.5	261	84.5
Breasts tenderness	208	67.3	101	32.7
Nausea	189	61.2	120	38.8
Vomiting	242	78.3	67	21.7
Diarrhea	194	62.8	115	37.2
Constipation	262	84.8	47	15.2
Increase weight	187	60.5	122	39.5
Headache	152	49.2	157	50.8
Loss of appetite	130	42.1	179	57.9
Profuse sweating	242	78.3	67	21.7
Shortness of breathing	234	75.7	75	24.3
Fainting	237	76.7	72	23.3
Bloated abdominal feeling	178	57.6	131	42.4
Hot flashing	264	85.4	45	14.6
Tiredness	165	53.4	144	46.6
Insomnia	182	58.9	127	41.1
Psychological Symptoms				
Anxiety	134	43.4	175	56.6
Stress	119	38.5	190	61.5
Mood swings	105	34.0	204	66.0
Inability to concentrate	159	51.5	150	48.5
Sadness	103	33.3	206	66.7

Table 5. Number and Distribution of Academic Achievement Among the Studied Teenagers (n= 309)

Extent of the dysmenorrhea affects during menstruation on	**n**	**%**
Can't go to institute during menstrual pain days	161	52.1
The participation effectively in classroom lectures	119	38.5
Concentration and understanding in the lectures	84	27.2
Did you ever feel sleep during the lecture	212	68.6
Dysmenorrhea negatively affecting clinical training performance	216	69.9
Did menstruation affect your participation in institute activities	212	68.6

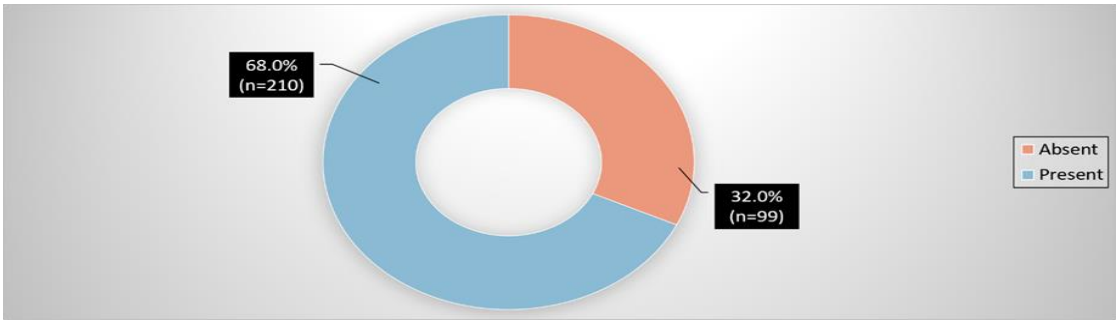

Figure 1. Presence of Menstruation During Exams or Quiz This Year

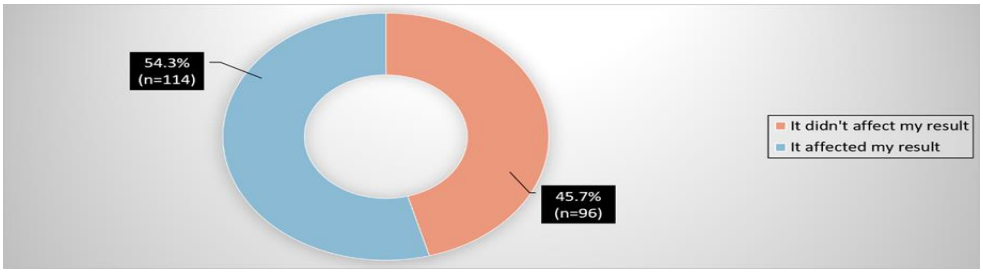

Figure 2. Effect of Menstruation on the Result of that Exam (n=210)

Figure (3). Total Academic Achievement Among the Studied Teenagers

5. Discussion

The purpose of this study was to find out how common dysmenorrhea is among teenagers and how it affects academic achievement. The current study findings, which showed that the majority of the studied girls reported having dysmenorrhea, fulfilled the study's goal.

Regarding the prevalence of dysmenorrhea among teenagers, the current study revealed that most of the studied girls had dysmenorrhea. These findings were in the same line with French study by **Hadjou et al., (2022).** Who assessed the frequency of dysmenorrhea in teenagers. The researchers found that majority of the studied sample reported the presence of dysmenorrhea. This similarity can be attributed to the fact that dysmenorrhea is a serious public health and gynecological problem that is becoming more prevalent among teenagers.

Regarding pain intensity the current study revealed that more than half of the studied girls reported the pain in the first day of the menstrual period, these findings were in the same line with a Chinese study by **Hu, Tang, Chen, Kaminga, & Xu (2020)** who estimated the frequency and risk variables linked to dysmenorrhea. Their results showed that over two thirds of the sample indicated that the pain began on the first day of the menstrual cycle. This is explained by the endometrium producing excessive quantities of prostaglandin E2 and F2α in the first day, which induce excruciating uterine cramps.

Concerning the time of first experience of dysmenorrhea the current study reported that more than one third of the girls forgetting how long the first experience of pain, this study finding was in disagreement with **Kristiawan (2021)** who studied the benefits of warm compresses and relaxation techniques for reducing dysmenorrhea in Indonesia. The result showed that more than three quarters of the studied sample reported first experience of dysmenorrhea 1 to 2 years after menarche. This contradiction may be attributed to the difference in sample size and age group.

Regarding symptoms associated with dysmenorrhea the current study reported that more than half of the studied girls had severe abdominal colic, these findings were in the same line with the findings of **Azagew, Kassie, & Walle (2020)** who evaluated the frequency, severity, and risk factors of primary dysmenorrhea in Ethiopian preparatory school students, discovered that over half of the sample reported abdominal colic.

Concerning back pain, the current study showed that the majority of the studied girls suffering from back pain, this finding was similar to the findings of **Unnisa, Annam, Gubba, Begum, & Thatikonda (2022).** Who conducted research to evaluate the impact of non-pharmacological therapy for dysmenorrhea in India. The researchers reported that the majority of the studied sample suffer from backache.

The results of the current study showed that nearly one third of the studied girls suffer from breasts tenderness. This study finding was in accordance with **Pachiappan et al., (2022)** who investigated the impact of moringa oleifera soup on primary dysmenorrhea in Indian teenage girls, found that minority of the girls reported tender breasts.

Regarding psychological symptoms the current study found that about two thirds of the studied girls suffered from mood swings. This study finding was in accordance with **Pachiappan et al., (2022)** found that nearly half of the girls suffering from mood swings.

In addition, the current study found that more than half of the studied girls suffering from anxiety, these findings were supported by the findings of **Rani et al., (2021)** who examined how dysmenorrhea affected Pakistani university women's quality of life and discovered that nearly three quarters of the sample had anxiety. This variation in symptoms explained by the fact, that the range and intensity of symptoms are vary from woman to another and from menstrual cycle to another in the same woman. Furthermore, behavioral, cultural, or environmental variables may contribute to these variances.

About absenteeism from school the present study showed that above half of the studied girls didn't go to institute during menstrual pain days. This finding was in the same line with Egyptian study by **Moustafa, Ahmed, Mohammed, El-Fatah, & El-Sayed (2023)** who evaluated the psychological effects of dysmenorrhea on adolescent girls. According to the results, over half of the sample reported missing school. This similarity may be attributed to the fact that during days of menstruation, most girls are uncomfortable sitting in the classroom and would never raise their hand to answer questions or write on the board.

Regarding concentration and understanding in the lectures, the current study showed that nearly three-quarters of the studied girls not concentrated and understood in lectures. This finding was in the same line with the findings of **Ferdane, & Zincir (2021)** who investigated the impact of dysmenorrhea on the educational and social performance of Turkish high school students. These findings of poor concentration among teenage girls during menstruation may be linked to the discomfort associated with menstruation, particularly dysmenorrhea and excessive bleeding, mainly due to constant worry that others may know about their menstruation.

Also, the current study finding presented that more than two thirds of the studied girls reported dysmenorrhea negatively affecting on their clinical training performance and nearly two-thirds of them reported not participated effectively in classroom lectures. This was in the same line with **Shinde, Pawar, & Deshmukh (2022**) who studied the association between teenage girls' dysmenorrhea and academic performance in India, found that less than half of the girls reported dysmenorrhea affecting on academic performance and school life in more than half of the studied girls.

Regarding academic achievement more than two thirds of the studied girls said that the menstrual pain affecting on their participation in college activities and academic achievement in the quizzes. This result was corroborated by the findings of **Khalil et al., (2020)** reported that the majority of the students experience high interference with completing school work and dysmenorrhea. There was poor academic performance due to lack of concentration from the pain, and inability to attend in institute due to absenteeism because of pain.

About the result of exam, the current study revealed that more than half of the studied girls reported menstruation effect on their result of exam. This was in agreement with **Halitopo (2022)** who studied how dysmenorrhea in Indonesian students related to studies found that over half of the sample couldn't answer exam questions while they were menstruating.

6. Conclusion

The current study concluded that most of the studied girls reported the presence of dysmenorrhea and more than one third of them had severe pain. More than half of the studied girls don't go to university during menstrual pain days, nearly three quarters of them not concentrated and understanding in lectures. More than two thirds of the studied girls reported dysmenorrhea negatively affecting on their clinical training performance and nearly two thirds of them reported not participated effectively in classroom lectures. More than two thirds of the studied girls reported the menstrual pain affecting on their participation in college activities and more than half of them reported menstruation effect on their results of exam.

7. Recommendations

- Developing student support systems to provide academic support for teenagers facing difficulties due to dysmenorrhea.
- Designing health education initiatives to raise girls' awareness of the non-pharmacological methods like applying heat and consuming herbal drinks as chamomile or fennel tea that can be used to lessen the intensity of menstrual pain.
- Further studies are recommended
- Further research ought to concentrate on the adaptive strategies students employ to lessen

the detrimental effects of dysmenorrhea on academic performance.

8. Acknowledgment

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9. Declaration of conflicting interests

The researchers reported that they had no conflict of interest.

10. Funding

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