

Dysmenorrhea, Academic Stress and School Absenteeism among Adolescent Girls

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Abstract: Recent attention has been drawn to possible linkages between academic stress, school attendance and menstruation of adolescent girls. Dysmenorrhea was significantly associated with increased school absenteeism and academic stress, decreased academic performance, sports participation and socialization with peers. The study aimed to assess the relationship between academic stress, school absenteeism and dysmenorrhea among adolescent girls. A descriptive correlational study was conducted in the governmental preparatory and secondary schools in Port Said city. Data was collected by structured interview questionnaire and academic stress scale from 402 adolescent girls. The majority (85.1%) of studied adolescents had dysmenorrhea; 31.7% of them had severe dysmenorrhea. Moreover; 75.9% of studied sample were absent from their schools because of dysmenorrhea. There were statistical significant association between academic stress, school absenteeism and severity of dysmenorrhea ($X^2=17.86, 6.51$ at $p\text{-value}=.000, .039$) respectively. It could be concluded that most of the adolescent girls have dysmenorrhea which increases their academic stress and school absenteeism. Hence; provide anticipatory guidance to adolescent girls regarding the facts about menstruation and pain management practices might decrease their academic stress and school absenteeism during menstruation days.

Key words: Academic Stress • School Absenteeism • Dysmenorrhea • Adolescent • Girls

INTRODUCTION

Adolescence is a transition period from childhood to adulthood and this complex passage is particularly stressful for girls. In Egypt, adolescents form 33.21% of total population [1]. During this period individuals go through a time of rapid growth, make academic and professional decisions, identity develops, orientation towards the future begins and expectations from families and school make additional stress on the person [2]. During the teen years, a lot of changes take place; the adolescent girls are always confronted with problems and conflicts that could be reflected in social, academic and mental health. All the changes require adaptations and all these brings with them a certain amount of stress [3, 4]. This period needs special attention and protection because of the troubles that an adolescent face due to different stages of development, circumstances, needs and diverse problems. School is a prominent part of

teenagers' lives; it helps them to develop relationships with their peers and at school they have the opportunity to develop key cognitive skills [5]. It is a source of safety and stability for some young people and helps them to strengthen their sense of attachment, belonging and caring. Successful school performance reflects a constellation of personal competencies, including motivational and self-management, capabilities as well as cognitive skills. Hence, academic achievement is a good predictor of vocational productivity, but it is affected negatively by some developmental aspects of adolescence like menstruation which is considered a big issue for girls [6].

Dysmenorrhea is very common among adolescent girls with high prevalence rate, ranging from 30 to 70% of them [1, 5]. It is one of the most common gynecologic disorders that affect quality of life and social activities. Dysmenorrhea is classified into primary and secondary dysmenorrhea; primary dysmenorrhea is recognized by

painful menstrual cramps without any organic pathology [7]; while secondary dysmenorrhea is caused by underlying pelvic conditions or pathology and is more common as adolescent grow up, factors found to be correlated to dysmenorrhea included a younger age, nulliparity, family history of dysmenorrhea, prolonged menstrual duration, high menstrual flow, psychological factors and lifestyle [8].

Many studies have documented the effect of dysmenorrhea on student's concentration, participation and socialization with friends, test skills and performance of household tasks. Moreover; Dysmenorrhea is associated significantly with school absence and low academic performance, athletic participation and relations with peers [9, 10]. Menstruation during adolescence further needs for special attention because of the physical and emotional problems associated with it, thus managing menstruation is important to worry about and needs nursing care and education to decrease the level of academic stress and improve their school achievement before and during menstruation [11].

Aim of the Study: To assess the relationship between dysmenorrhea, academic stress and school absenteeism among adolescent girls.

MATERIALS AND METHODS

A descriptive correlational study was conducted in the governmental secondary and preparatory schools in Port Said city. Simple random sampling was used to select the four governmental schools in Port Said city by using lottery method. The sample for the present study was collected and its size was determined using Dobson formula [12], $n = Z^2/\Delta^2 * P(100 - P)$ where n is the sample size, Z is a percentile of the standard normal distribution by 95% confidence level = 1.96 p = prevalence of adolescents among Egyptian population was 33% as reported by Agency of Public Mobilization and Statistical [1, 13], Δ^2 = the width of the confidence interval = 5.0. Using this formula, a sample of 374 was obtained, which was rounded up to 402 female adolescent students was selected for this study in academic year 2016-2017. Students were eligible for recruitment in the study; adolescent females, free from abnormal puberty and is not pregnant or breast fed, in addition has no metabolic disease or psychiatric disorder that affect their menstruation or academic stress, any deviation from these criteria was excluded.

Tools of Data Collection: The questionnaire consisted of two parts:

The First Part: Included socio demographic data about the adolescent females such as (age and family income, etc...) and their menstrual characteristics and school absenteeism as (Age of menarche, regularity, amount, duration, associated menstrual discomforts, school absent days and causes of absenteeism).

The Second One Was (Academic Stress Scale): This tool was modified by the researchers guided by Academic Stress Scale (ASS) which was developed by Xiao [13]. The ASS is a 17 items scale designed to measure the students' perceived academic stressors during menstruation. Respondents report their level of stress under 17 different stressful situations (e. g., examination, excessive homework) using a 5-points Likert response format (1 = not at all stressful, 2 = rarely stressful, 3 = sometimes stressful, 4 = fairly stressful, 5 = extremely stressful). Scores are obtained by summing the reported scores for each item; a higher score is indicative of greater stress [14]. Also, the participants categorized according their level of academic stress to high academic stress and low academic stress; the ASS was translated into Arabic for the purpose of this study by the researchers to assess the students' perceived academic stress during menstruation.

Validity and Reliability: Tool was reviewed by a panel of five experts in the field of pediatric and maternity nursing to test its content validity. Modifications were done based on their judgment and it has been shown that the Cronbach's alpha coefficient equal to 0.87 for the questionnaire and the ASS has equal to (.92) which are excellent factors for the present study.

Administrative and Ethical Consideration: An official permission was granted by submission of an official letter from the faculty of nursing in Port Said to the responsible authorities of the study setting to obtain their permission for data collection. Oral consent was obtained from every student prior to data collection. The researchers explained the aim of this study to all included adolescent girls before participation to gain their acceptance. Confidentiality of data and professional help were provided for them whenever needed. The participation in the study was totally voluntary and they can withdraw from the study at any stage of the research.

Pilot Study: It was carried out on 10% of the sample (who were excluded from the sample) to assess the clarity and applicability of the data collection tools and necessary modifications were assumed.

Field Study: Collection of data covered a period of four months from 1st June to 30th of September 2017; two days per week and 10-12 adolescents were interviewed daily; each interview lasted for 10 – 15 minutes.

Statistical Analysis: Was performed using the Statistical Package for Social Sciences (SPSS version 16). Spearman correlation, Chi-square test was used to study the significance of association between academic stress and menstrual discomforts and its impact on school absenteeism. "P value" of = 0.05 was considered as statistically significant.

RESULTS

As table 1 showed; 61.9% of studied girls were aged 15 to 18 years with the mean age of 14.9 ± 2.1 years, slightly more than two-thirds (67.2 %) of them were in secondary school. In addition; the majority of them (83.8%) lived in crowded homes and more than half of them (56.5 %) had insufficient family income. Furthermore, near two-thirds (63.2 %) of the adolescent girls had menarche at 11 to less than 14 years, 85.1% of studied girls had dysmenorrhea; 31.9% of them had severe menstrual cramps (Table 2).

In respect of school absents; 75.9% of studied girls didn't attend their classes in the school during menstruation days; the most common causes of absenteeism included inappropriate sanitation and disposal system of the school (95.1%) and dysmenorrhea (68.2%) (Table 3).

Table 1: Distribution of the studied sample according to their demographic characteristics

Characteristics (n=402)	No.	%
Age (years)		
▪ 12 -	153	38.1
▪ 15 - 18	249	61.9
Mean \pm SD	14.9 \pm 2.1	
Educational level		
▪ Preparatory school	132	32.8
▪ Secondary school	270	67.2
Family income		
▪ Sufficient	175	43.5
▪ Insufficient	227	56.5
Crowding index		
▪ Crowded	337	83.8
▪ Not crowded	65	16.2

Table 2: Distribution of the studied sample according to their menstrual characteristics

Items	No.	%
Age of menarche		
▪ 9-	108	26.9
▪ 11-14	254	63.1
▪ Don't know or unsure	40	10.0
Presence of dysmenorrhea		
▪ Yes	342	85.1
▪ No	60	14.9
Severity of dysmenorrhea: (n=342)		
▪ Mild	82	24.0
▪ Moderate	151	44.3
▪ Severe	109	31.7

Table 3: Distribution of the studied adolescent girls according to their school absenteeism during menstrual days

	No	%
Absent from school due to menstruation: (n=402)		
▪ Yes	305	75.9
▪ No	97	24.1
Reasons of school absenteeism during menstruation days: (n= 305)*		
▪ Fear of leakage/staining	130	42.6
▪ Inappropriate sanitation and disposal system of the school	290	95.1
▪ Lack of continuous water supply	149	48.9
▪ Menstrual pain/discomfort	208	68.2

* Numbers are not mutually exclusive

Table 4: Relationship between dysmenorrhea and level of academic stress

	Academic stress level (n= 342)					
	Low		Low		Total (n= 342)	
	No.	%	No.	%	No.	%
Severity of dysmenorrhea						
▪ Mild	54	31.2	28	16.6	82	24
▪ Moderate	58	33.5	93	55.0	151	44.2
▪ Severe	61	35.3	48	28.4	109	31.8

X²: 17.86, p-value (.000**)

Table 5: Relationship between dysmenorrhea and school absenteeism

	School Absenteeism n= 342					
	Yes		No		Total n = 342	
	No.	%	No.	%	No.	%
Severity of dysmenorrhea						
▪ Mild	67	81.7	15	18.3	82	24
▪ Moderate	135	89.4	16	10.6	151	44.2
▪ Severe	85	78	24	22	109	31.8

X²: 6.51, p-value (.039*)

As revealed from Table (4); there was a statistical significant association between severity of dysmenorrhea and academic stress of the studied adolescent girls (X²=17.86, p-value= .000**). Also; there was a statistical significant association between school absenteeism and the severity of the dysmenorrhea (Table 5).

DISCUSSION

Despite menstruation usually is a normal process; sometimes associated with dysmenorrhea which could be very problematic and lead to more stress and loss of school days. In this respect the prevalence of dysmenorrhea among adolescent girls in current study revealed that the majority of them had monthly dysmenorrhea, this result is supported by Nooh *et al.* [15] who stated that dysmenorrhea was present among two thirds of their studied population and also congruent with Abdelmoty *et al.* [1] who found that the majority of their studied sample had menstrual pain and also with Ekepenyong *et al.* [16] and Olowokere [17] who reported that prevalence of menstrual disorders was more than one third of female undergraduates.

The present study results revealed that there was a strong and significant association between academic stress and dysmenorrhea; about one third of those with high stress had severe dysmenorrhea, these findings are consistent with several studies on stress and associated dysmenorrhea as in a study by Ekepenyong *et al.* [16] to determine the association between academic stress and menstrual disorders among female undergraduates in Uyo, South Eastern Nigeria, they observed that there is direct association between academic stress and dysmenorrhea among their studied population and also Nwakwo *et al.* [18] who found that academic stress was significantly increased with menstrual cycle discomforts and also similar findings were reported by Padmavathi *et al.* [19] who illustrated that there was significant correlation between premenstrual symptoms and academic performance. In addition to Abdelmoty *et al.* [1] who illustrated that Menstrual discomforts interfered with social and academic life.

Regarding the school absenteeism the present study have shown associated dysmenorrhea with regular absenteeism among adolescent girls in schools as there was positive statistical correlation between school absenteeism and severity of the menstrual discomforts. These results might be attributed to the adolescent girls preferred to stay at home; some of them mentioned that to take rest on the first two days as they had severe pain in this time, others stated that they afraid of leakage or staining especially there were inappropriate sanitation and disposal system in the school. This finding was similar to the submission of Khamdan *et al.* [20] who showed that that dysmenorrhea is related to school absenteeism and limitations of academic activities among

undergraduate students in their study and they reinforced that menstrual discomforts are the leading cause of absenteeism. Also this is very similar to the descriptive, cross-sectional study conducted by Olowokere *et al.* [17] among 190 adolescent girls of a rural secondary school of West-Bengal were 39% girls reported absenteeism due to menstruation. And the same for Suman *et al.* [21] who verified that there was high prevalence (76.2%) of school absence among studied girls who are suffering from menstrual pain.

CONCLUSIONS

Most of the studied adolescent girls have dysmenorrhea which increases their academic stress and school absenteeism rate.

Recommendations: Education on dealing with academic stress and personal development among female adolescents and anticipatory guidance to adolescent girls regarding the facts about menstruation and pain management practices should be provided to decrease their academic stress and school absenteeism during menstruation days.

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