PREVALENCE OF DYSMENORRHEA IN UNIVERSITY STUDENTS AND ITS RELATION TO SCHOOL ABSENTEISM, PHYSICAL EXERCISE AND USE OF MEDICINES

Prevalência de dismenorreia em universitárias e sua relação com absenteísmo escolar, exercício físico e uso de medicamentos

Prevalencia de dismenorrea en universitarias y su relación con absentismo escolar, actividad física y uso de medicamentos

Original Article

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ABSTRACT

Objective: To determine the prevalence of dysmenorrhea in female university students and the frequency of school absenteeism, physical exercise and use of medicines to treat the syndrome. **Methods**: This is a cross-sectional study conducted with university students using a self-administered questionnaire containing sociodemographic, obstetrical, and gynecological data. The menstrual pain was assessed by the visual analogue scale (VAS). Frequency, percentage, mean, and standard deviation were used for descriptive data analysis. **Results**: The sample consisted of 130 women aged between 17 and 33 years (20.6 ± 2.7 years). One hundred and twenty four volunteers (95.4%) complained of dysmenorrhea. Regarding the intensity, most of the volunteers felt moderate or severe menstrual cramps (51.6% and 36.3%, respectively). Sixty (48.4%) participants reported school absenteeism due to menstrual pain and none of them experienced mild pain. Among the volunteers who had moderate or severe dysmenorrhea, only 24 (20.2%) practiced physical exercise and most of them (79%) needed medicines to treat this syndrome. **Conclusion**: There was a high prevalence of dysmenorrhea among the university students, and in most cases, the pains limit activities and accounts for school absenteeism. Most women with moderate to severe dysmenorrhea do not practice physical exercise and need to use medicines to treat this syndrome.

Descriptors: Dysmenorrhea; Absenteeism; Exercise; Drug utilization.

RESUMO

Objetivo*: Verificar a prevalência de dismenorreia em universitárias e a frequência de absenteísmo escolar, prática de exercícios físicos e utilização de medicamentos para tratamento dessa síndrome.* ***Métodos****: Trata-se de um estudo transversal realizado com jovens universitárias por meio de um questionário autoaplicado contendo dados sociodemográficos, obstétricos e ginecológicos. Avaliou-se a dor menstrual através da escala visual analógica (EVA). Para análise descritiva dos dados, foram utilizadas frequência, percentagem, média e desvio padrão.* ***Resultados****: A amostra constou de 130 mulheres, com idade entre 17 e 33 anos (20,6±2,7 anos). Cento e vinte quatro voluntárias (95,4%) queixaram-se de dismenorreia. Quanto à sua intensidade, a maioria sentia dor menstrual moderada ou grave (51,6% e 36,3%, respectivamente). Sessenta (48,4%) participantes referiram absenteísmo escolar devido à dor menstrual; dessas, nenhuma tinha dor leve. Dentre as voluntárias que apresentavam dismenorreia moderada e grave, apenas 24 (20,2%) praticavam exercício físico e a maioria delas (79%) necessitava utilizar fármacos para tratar essa síndrome.* ***Conclusão****: A dismenorreia teve alta prevalência entre as universitárias avaliadas e na maior parte dos casos se apresentou com intensidade limitante, levando ao absenteísmo escolar. A maioria das mulheres com dismenorreia de intensidades moderada e grave não pratica exercício físico e necessita utilizar medicamentos para tratar essa síndrome.*

Descritores: *Dismenorreia; Absenteísmo; Exercício; Uso de medicamentos.*

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RESUMEN

Objetivo*: Verificar la prevalencia de dismenorrea en universitarias y la frecuencia de absentismo escolar, práctica de actividad física y utilización de medicamentos para tratamiento de ese síndrome.* **Métodos***: Se trata de un estudio trasversal realizado con jóvenes universitarias con el usos de un cuestionario auto-aplicado con datos sociodemográficos, obstétricos y ginecológicos. Se evaluó el dolor menstrual a través de la escala visual analógica (EVA). Para el análisis descriptivo de los datos fueron utilizados frecuencia, porcentaje, media y desviación típica.* **Resultados***: La muestra constó de 130 mujeres de edad entre los 17 y 33 años (20,6±2,7 años). Ciento veinte cuatro voluntarias (95,4%) se quejaron de dismenorrea. En cuanto a su intensidad, la mayoría sentía dolor menstrual moderado o grave (51,6% y 36,3%, respectivamente). Sesenta (48,4%) participantes refirieron absentismo escolar debido el dolor menstrual; de esas, ninguna presentaba dolor leve. De las voluntarias que presentaban dismenorrea moderada y grave, apenas 24 (20,2%) practicaban actividad física y la mayoría de ellas (79%) necesitaba utilizar fármacos para tratar ese síndrome.* **Conclusión:** *La dismenorrea tuvo elevada prevalencia en las universitarias evaluadas y en la mayoría de los casos se presentó de intensidad limitante, llevando al absentismo escolar. La mayoría de las mujeres con dismenorrea de intensidades moderada y grave no practica actividad física y necesita utilizar medicamentos para tratar de ese síndrome.*

Descriptores*: Dismenorrea; Absentismo; Ejercicio; Utilización de Medicamentos.*

INTRODUCTION

Dysmenorrhea is a Greek word that means difficult menstrual flow and refers to a gynecological disorder that causes chronic and spasmodic pain felt as cramps in the lower abdomen during menstrual cycle[1,2]. It may be accompanied by other symptoms like nausea, vomit, diarrhea, headache, mastalgia, hyperhidrosis, pain in the lumbrosacral region and lower limb, and it can lead to the onset of situations of fatigue, nervousness, vertigo and fainting[2,3].

Dysmenorrhea can be classified in either primary or secondary. Its primary form (intrinsic or idiopathic) occurs when there is no detectable pelvic disease, and it causes cyclic pain associated with the ovulation cycle without the occurrence of any visible and objective organic cause. The secondary form (extrinsic and acquired) is associated with visible or diagnosable pelvic abnormality[1,4,5].

Circa 90% of women suffer from primary dysmenorrhea during the reproductive period, starting between six and eighteen months after menarche, when the cycles become ovulatory and regular. It reaches maximum between the age of 18-24 and can diminish with time or after pregnancy and delivery[6,7].

The high prevalence of dysmenorrhea among young women may lead to absenteeism and influence work activities[2,8] and the indirect costs related to productivity[9]. Thus, there is a constant pursuit of resources involved in the treatment of dysmenorrhea like drug administration, practice of physical exercise, alternative therapies (acupuncture, transcutaneous electrical nerve stimulation – TENS, topical heating, vitamin E, omega-3) and surgery[2].

Drug treatment has been used for pain associated with dysmenorrhea and has obtained satisfactory results. The medicines include non-steroidal anti-inflammatory drugs (NSAIDs) and oral contraceptives. The effectiveness of such drugs is due to the inhibition of the production of prostaglandin, reducing menstrual bleeding, myometrial contractions and alleviating pain[10].

The role of physical activity in the reduction of menstrual pain is still controversial[11]; however, it can help reduce dysmenorrhea symptoms[8,12]. Physical exercising increases the blood flow to the pelvic region, stimulating the beta-endorphin receptors and, consequently, alleviating pain[8].

Despite the high prevalence of dysmenorrhea among young women, constituting a public health problem, there is still a lack of research on this issue in the current literature. In this context, this research aimed to verify the prevalence of dysmenorrhea in college students and the frequency of school absenteeism, practice of physical activity and use of medicines for the treatment of the syndrome.

METHODS

This is a cross-sectional study conducted at the Federal University of Piauí (*Universidade Federal do Piauí – UFPI*), in the Parnaíba Campus, in August 2010. The study comprised Physiotherapy undergraduate students who were present in the classroom during data collection, with no occurrence of randomization of the population.

The Physiotherapy course of the UFPI has a duration of four years and a half and has nine classes with circa 50 students each. During data collection, there were 449 students enrolled in the course, with a 67% rate of women. All the ones who were present on the day of data collection answered the research instrument, totaling 130 college students.

Inclusion criteria included being nulliparous and agreeing to participate in the research. The ones who were pregnant or who did not have menstruation for at least three months were excluded from the research.

Data were collected through a self-administered questionnaire designed by the authors to assess sociodemographic, obstetrical and gynecological data

concerning characteristics of the menstrual cycle, dysmenorrhea complaint and associated symptoms, use of medicines to control menstrual pain, occurrence of school absenteeism due to dysmenorrhea and practice of physical activity (at least thirty minutes a day and three times a week)[13]. The visual analog scale (VAS) was used to assess menstrual pain, providing a range of scores from 0-10 (zero to ten), with zero meaning "no pain" and ten indicating the "worst possible pain". For a better description, pain was graded mild (1-3), moderate (4-7) and severe (8-10)[14].

The application of instruments for data collection took place inside the classrooms during class breaks. Initially, the volunteers were informed about dysmenorrhea and then received some guidance to answer the questionnaire according to their three last menstrual cycles. After that, data were stored in a Microsoft Excel 2010 database and validated through double data entry in order to check accuracy. Data were analyzed through descriptive statistics, including frequency (proportions and percentages), mean and standard deviation.

This research was approved by the Research Ethics Committee of the UFPI under Opinion No. 0260/2011 and all students included in the study were informed about the objectives of the research and then signed the Free and Informed Consent according the guidelines of resolution 196/96 of the National Health Council.

RESULTS

The sample consisted of 130 women aged 17-33 years (20.6±2.7 years). A total of 124 (95.4%) of these women complained of dysmenorrhea and presented a mean age of 12.2±1.3 years at menarche. All the volunteers were college students with incomplete higher education level and nulliparous. The characteristics of the women who complain of dysmenorrhea such as school absenteeism, use of medicines to relieve menstrual pain and regular practice of physical activity are described in Table I.

The variables pain intensity and associated symptoms are described in Table II. The results are expressed through the percentage distribution of each variable in relation to the total sample of women who complained of dysmenorrhea (n=124).

When assessing absenteeism rate according to the intensity of dysmenorrhea it was found that college students who felt more intense pain (moderate and severe) reported

Table I - Characterization of the sample of girls who complained of dysmenorrhea (n= 124). Parnaíba, PI, 2010.

Participants (n)	Participants	(%)
Absenteeism	60	48.4
Use of medicines	98	79
Regular practice of physical activity	25	20.2

Table II - Distribution of menstrual pain intensity and dysmenorrhea associated symptoms (n=124). Parnaíba, PI, 2010.

Menstrual pain intensity	Participants (n)	Participants (%)
Severe	45	36.3
Moderate	64	51.6
Mild	15	12.1
Dysmenorrhea associated symptoms		
Irritability	67	54
Mastalgia	63	50.8
Low back pain	63	50.8
Headache	34	27.4
Nausea	33	26.6
Lower limbs edema	17	13.7
Vomiting	14	11.3
Diarrhea	13	10.5

missing college activities more often during menstrual period. Of the 64 volunteers who felt moderate menstrual pain, 25 (39.1%) reported missing college activities because of pain. Among the women with severe dysmenorrhea (n=45), a total of 35 (77.8%) reported missing classes at college. None of the students who felt mild menstrual pain reported missing classes during menstrual period (Figure 1).

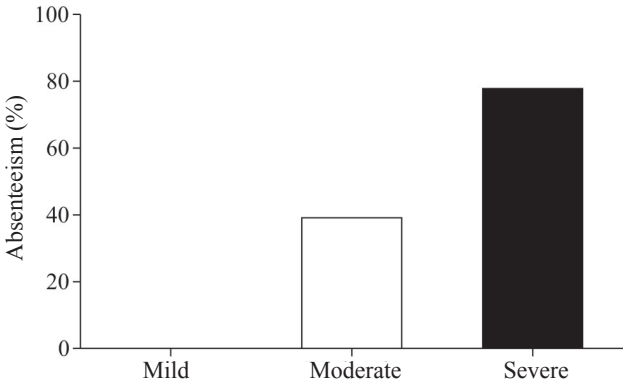

Figure 1 – College absenteeism rate among women with mild, moderate and severe dysmenorrhea. Parnaíba, PI, 2010.

Regarding the use of medicines according to the intensity of menstrual pain, the results showed that in the group of students with moderate dysmenorrhea (n=64), 52 (81.3%) of them used medicines to alleviate pain. As to women with severe dysmenorrhea (n=45), 40 (88.9%) of them used medicines. Only six (0.4%) volunteers who felt mild pain (n=15) used medicines to alleviate dysmenorrhea (Figure 2).

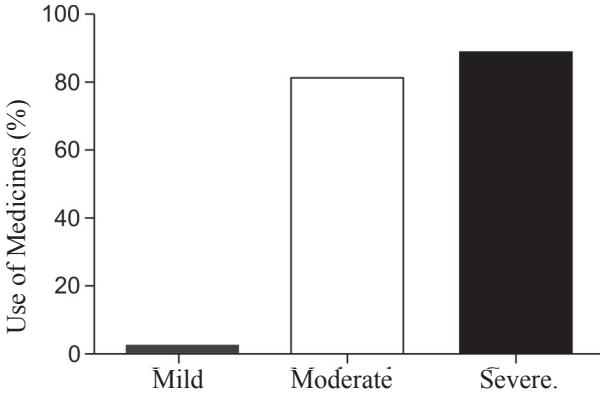

Figure 2 - Use of medicines among womwn with mild, moderate and severe dysmenorrhea. Parnaíba, PI, 2010.

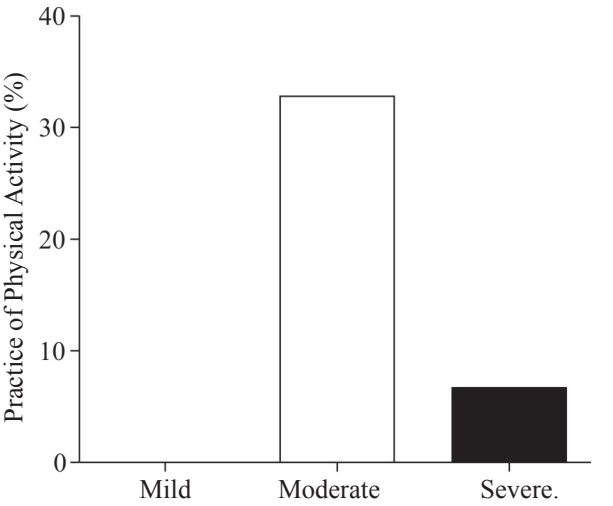

Figure 3 – Practice of physical activity among women with mild, moderate and severe dysmenorrhea. Parnaíba, PI, 2010.

Regarding the regular practice of physical activity according to the intensity of menstrual pain, it could be found that among the students who felt moderate pain (n=64), 21 (32.8%) of them practiced physical activity. Among the ones who felt severe pain (n=45), only three (6.7%) practiced some kind of exercise while none of the participants who felt mild pain exercised (Figure 3).

DISCUSSION

Dysmenorrhea is a gynecological disorder that affects 45-90 per cent of women at reproductive age[2,9,15]. This fact corroborates this study whose prevalence was 95.4%. Other studies also verified a high prevalence of this syndrome among students. A cross-sectional research[16] conducted with 623 students of a university in Turkey verified a prevalence of 72.7%. The results of a research[17] carried out in the same country showed a dysmenorrhea prevalence of 55.5% among young college students.

Menstrual pain is a very common problem and at least one in four women feel annoying pain, requiring the use of medicines and leading to the absence from school and social activities[18]. In this research, regarding the volunteers who reported having dysmenorrhea, 45 (36.3%) described menstrual pain as severe, 64 (51.6%) moderate and 15 (12.1%) mild. A similar study[13] verified a frequency of 26 (15.1%) volunteers with severe pain, 93 (54.1%) with moderate pain and 53 (30.2%) with mild pain.

Regarding associated symptoms, irritability was the most frequent symptom found in this investigation followed by mastalgia and low back pain. In another study[13], mastalgia was the most common associated symptom.

Dysmenorrhea has been estimated to account for circa 140 million lost working hours annually[19]. In the United States, this syndrome has been pointed as the main reason for short-term absences from school[6]. This study verified that 48.4% of college students missed classes due to dysmenorrhea and this rate is similar to the ones found in other studies[8,18]. A research[20] conducted with 198 students showed that circa 51-54 per cent of young girls who had experienced menstrual discomforts reported missing school or work because of pain. This fact matches the findings of this current investigation.

Concerning intensity, 10-15 per cent of women who have the syndrome present a severe symptomatology that can lead to incapacity, interfering negatively with social, professional and personal activities[1]. A study[21] about the impact of dysmenorrhea on adolescents verified school absenteeism rate of 52% among the participants who felt severe menstrual pain and 20% among the ones who felt mild pain. Agreeing with this research, the results of the aforementioned study showed that the absenteeism rate among college students who reported severe pain (77.8%) was higher than the one found among students who reported feeling moderate pain (39.1%). However, the students who felt mild menstrual pain did not report absences from college activities.

Dysmenorrhea is one the most common menstrual disturbs among women[22] and has been emerging as an important public health problem[16], affecting their quality of life and productivity[16,22]. Despite the high prevalence of this syndrome among adolescents and young adults, a great number of girls do not seek medical care and are sometimes undertreated. Most adolescents use non-drug methods of pain relief, but only 40% notice some efficacy. Circa 30-70 per cent of women reported occasional self-medication using pain relievers; however, more than half of them take sub-therapeutic doses of these drugs[2].

Dysmenorrhea treatment aims to alleviate pain or symptoms, affecting the physiological mechanisms that cause them. Medicines like paracetamol, aspirin and NSAIDs act as inhibitors of prostaglandin production. Oral contraceptives inhibit ovulation[8]. A systematic review[18] verified that NSAIDs present an effectiveness of 17-95 per cent in the treatment of dysmenorrhea while oral contraceptives present an efficacy of 65%. Another literature review[23] that assessed 73 controlled and randomized clinical trials verified that NSAIDs significantly alleviate pain in women with primary dysmenorrhea when compared to the placebo or paracetamol group. However, the study warns about the significant risk of side effects that this drug can cause.

In this current study, it could be found that 79% of the volunteers who complained of dysmenorrhea used some kind of drug to control menstrual pain. In another research[13], this rate was 68%.

By analyzing the study sample, it could be found that most volunteers who complained of severe menstrual pain (88.9%) used medicines to alleviate it. Accordingly, a recent study[18] conducted in Italy verified that 89.9% of the volunteers with severe menstrual pain needed some kind of medicine to relieve pain.

A cross-sectional study conducted with 172 adolescents and young adults with dysmenorrhea verified that 59.3% of them practiced physical activity[13]. On the contrary, the data of this current research revealed that only 20.2% of the volunteers exercised regularly.

A research comprising 100 young college students with primary dysmenorrhea, who were classified according to the level of regular physical activity in sedentary, insufficiently active, active and very active, verified an inverse relationship between practice of regular physical activity and menstrual pain perception – the pain-related scores tended to decrease as the level of physical activity increased. The authors of the aforementioned study concluded that the regular practice of physical activity helps alleviate pain caused by dysmenorrhea and is considered an option for the treatment of the syndrome[12].

A systematic review[22] verified that – considering non-pharmacological methods – physical activity is a low-cost method that provides good results since it can prevent dysmenorrhea, besides reducing the frequency and severity of the syndrome. The clinical trials on this issue are not enough since they do not have a methodology based on evidences. This implies the need for more research on this issue[11,22].

Given that, it can be noticed that medical treatment and regular practice of physical activity have been considered methods that provide good results in the treatment of dysmenorrhea. However, the use of medicines can cause long-term side effects and has a high cost. On the other hand, physical activity seems to rise as a simple and affordable form of prevention and/or treatment of the syndrome, providing women who complain of dysmenorrhea with well-being and improved quality of life. In addition, it helps reduce the rates of absenteeism due to menstrual cramps. Considering the results obtained in this study, it is important to foster actions to promote the regular practice of physical activity among women as a form of prevention and treatment of dysmenorrhea, contributing to a healthier and more productive life.

CONCLUSIONS

There was a high prevalence of dysmenorrhea among the college students assessed, and most cases presented a

crippling intensity that led to college absenteeism. Most women with moderate or severe dysmenorrhea did not practice physical activity and needed to use medicines to treat the syndrome.

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