



PREVALENCE OF DYSMENORRHEA IN UNDERGRADUATE HEALTH COURSES AT AN INSTITUTION OF HIGHER EDUCATION

PREVALÊNCIA DE DISMENORRÉIA EM DISCENTES DOS CURSOS DE SAÚDE NUMA INSTITUIÇÃO DE ENSINO SUPERIOR

LA PREVALENCIA DE LA DISMENORREA EN LOS CURSOS DE PREGRADO DE LA SALUD EN UNA INSTITUCIÓN DE EDUCACIÓN SUPERIOR

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ABSTRACT

Objective: to determine the prevalence of dysmenorrhea in female undergraduate health students in an institution of higher education in Caruaru, Pernambuco. **Method:** this is a descriptive, quantitative, prospective, and cross-sectional study. The sample analyzed was probabilistic and systematic, where prevalence of regular cramps was 60 % among the students, with a significance level of 5 %. The sample consisted of 634 students. The data was collected through a questionnaire containing multiple choice questions and, subsequently, a descriptive analysis was performed. **Results:** a total of 86 % of the participating students reported experiencing dysmenorrhea. Most cases were seen on students between the ages of 18 and 23 years old, representing a prevalence of 65.9 %. It was also observed that 71.3 % of the students experienced menarche between the ages of 11 and 13 years old. When investigating the use of contraceptive methods, it was found that 38.2 % of the students used contraception. The prevalence was 62.9 % in the use of oral contraceptives (OC). Among the women in the study, 53.1 % reported that menstrual discomfort interfered with their daily activities. In addition, thirty two percent (32.2 %) of the students had already missed academic activities due to cramps. Among the methods used to relieve pain, the highest rated was oral medication (47.8 %), followed by medicinal teas (16 %). **Conclusion:** dysmenorrhea is a condition present in the academic environment, considering the prevalence of graduates with the disease was 86.0 %. Therefore, it is necessary that the nursing staff in health education motivate the students to perform professional and academic activities that prevent and mitigate the discomfort caused by dysmenorrhea. **Descriptors:** dysmenorrhea; menstrual period; menstrual pain.

RESUMO

Objetivo: determinar a prevalência referente à dismenorréia em discentes dos cursos de saúde de uma instituição de ensino superior em Caruaru-PE. **Método:** estudo descritivo, quantitativo, prospectivo, de coorte transversal. A amostra foi probabilística, sistemática, onde se adotou a prevalência de 60% para cólicas habituais do total de discentes dos cursos de Nutrição, Psicologia e Enfermagem, considerando a significância de 5%. Desta forma, a amostra totalizou 634 discentes. O cálculo amostral foi realizado no Programa software R® versão 2.11. Os dados foram obtidos no período de agosto, por meio de questionário com 20 questões; em seguida, foram digitados e tabulados usando o Programa Microsoft Excel® versão 2007 e, posteriormente, foi realizada a análise descritiva das variáveis. Este estudo foi submetido e aprovado pelo Comitê de Ética em Pesquisa do Hospital Agamenon Magalhães, com o registro nº 65, CAAE-0064.0.236.000-11. **Resultados:** 86% das discentes afirmaram ter dismenorréia; houve prevalência entre 18 a 23 anos, representando 65,9%, observou-se que 71,3% tiveram sua menarca entre os 11 e 13 anos de idade. Ao se investigar o uso de algum método contraceptivo, 38,2% faziam a utilização, e destas, houve prevalência (62,9%) na adoção do anticoncepcional oral (ACO). **Conclusão:** a dismenorréia é uma doença muito presente no ambiente acadêmico levando em consideração que houve prevalência de (86,0%) das discentes com a enfermidade. **Descritores:** Dismenorréia; Período menstrual; dor menstrual

RESUMEN

Objetivo: determinar la prevalencia de la dismenorrea en los cursos de graduación de la salud de una institución de educación superior en Caruaru-PE. **Método:** estudio descriptivo, cuantitativo transversal prospectivo. La muestra fue probabilístico y sistemático, donde adoptó la prevalencia de 60% para los calambres total de graduados de costumbre, teniendo en cuenta la significación del 5%. Así, la muestra incluyó a 634 estudiantes. Los datos fueron recolectados a través de un cuestionario que contiene preguntas de opción múltiple, se llevó a cabo después de un análisis descriptivo. **Resultados:** un total de 86% de los encuestados reportó haber dismenorrea. Hubo una prevalencia de 18 a 23 años, lo que representa un 65,9%, se observó que 71,3% de los estudiantes tuvieron su menarquia entre los 11 y 13 años de edad. Al investigar el uso de métodos anticonceptivos, el 38,2% de los estudiantes estaban usando. Y estos, hubo una prevalencia (62,9%) en la adopción de anticonceptivos orales (ACO). 53,1% de las mujeres afirmó que el malestar menstrual interfiere en sus actividades diarias. Sumado a esto, es que el 32,2% de los estudiantes ya han perdido las actividades académicas debido a los cólicos. Los métodos utilizados para el alivio del dolor fue el medicamento más utilizado por vía oral (47,8%), seguido por el té-medicina (16%). **Conclusión:** la dismenorrea es una condición muy presente en el ambiente académico, teniendo en cuenta que uno escucha prevalencia (86,0%) de los graduados con la enfermedad. Por lo que es hasta el personal de enfermería en la salud de la Ley de Educación, causando que los estudiantes desarrollen actividades profesionales y académicas que impiden y / o mitigar las molestias. **Descriptor:** dismenorrea; período menstrual; el dolor menstrual.

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INTRODUCTION

Dysmenorrhea is the condition of painful menstruation characterized by pelvic pain, appearing usually with the menstrual flow, and sometimes, also just preceding it. The pain intensity reaches its maximum when the blood flow is heavier; during the early days of the menstrual cycle. It is a frequent gynecological complaint.^{1,2}

Menstrual discomfort is a common condition in women during their reproductive years, affecting between 60 % and 80 % of them. Among these women, 8 % to 18 % experience very intense discomfort, to the point of causing disruption in their normal activities.³

Women may experience several uncomfortable symptoms during their menstrual period. The most common being pain in the lower abdomen. They may also experience nausea, vomiting, diarrhea, headache, pain in the lumbosacral region, dizziness, fainting, and fatigue.⁴

Menstrual discomfort can produce severe symptoms in many women, affecting their daily lives: it can slow down their normal routine and it impacts their activities at home, at work, and in school.⁴

Dysmenorrhea is classified into primary and secondary. Primary dysmenorrhea usually occurs a few years after the onset of ovulatory cycles, in the absence of other pelvic diseases, affecting many adolescents one to three years after menarche. Physical, gynecological, and laboratory exams show no abnormalities.^{1-2,5} Primary dysmenorrhea is usually caused by high levels of prostaglandin, which lead to symptoms. Non-steroidal anti-inflammatory drugs (NSAIDs) block the production of prostaglandin and can be very helpful in the treatment of the condition.⁶

Secondary dysmenorrhea appears, usually, at around 25 years of age, and it is associated with pelvic and anatomic abnormalities such as endometriosis, adenomyosis, fibroids, pelvic inflammatory disease, previous history of infertility, canalicular or uterine malformations, chronic and acute infections, benign and malignant tumors, and the presence of foreign bodies in the uterine cavity. In this case, the menstrual flow is heavy and the cycles are irregular, with severe pain that persists throughout the course of menstruation.^{1-2,5}

Several treatments are recommended for menstrual cramps: non-hormonal anti-

inflammatory drugs, oral contraceptives, oxytocin, vitamins, tocolytic agents, acupuncture, surgery, physical activity, cryotherapy, thermotherapy, and physiotherapy.³

Menstrual discomfort is a very common and serious problem that can often directly affect the quality of life for women, interfering in activities such as working or studying. In this study, we investigated how menstrual discomfort affects the students and to which extent it interferes with classroom activities.

Therefore, the objective of this study is to determine the prevalence of dysmenorrhea in students enrolled in health courses (Psychology, Nursing, and Nutrition) at an institution of higher education in Caruaru-PE.

METHODOLOGY

This is a descriptive, quantitative, prospective, and cross sectional study including all the students enrolled in the health courses (Nutrition, Psychology, and Nursing) at the Valley Ipojuca College (FAVIP) who started their academic activities in 2011. Currently, FAVIP offers 13 courses in the area of Exact Sciences, Humanities, and Health.

The students agreed to sign an Informed Consent (IC), after considering the inclusion criteria: being duly registered in the second semester of 2011 in at least one of the health courses offered by the Institution, and also the exclusion criteria: being pregnant or under 18 years.

The study sample was stochastic and systematic, with a prevalence of 60 % for regular cramps among the students, and a significance of 5 %. The sample included 634 students distributed among the health courses as follows: 195 in Nursing, 209 in Nutrition, and 230 in Psychology. The sample size calculation was done with the Programa R® software, version 2.11.

In August, a questionnaire with 20 questions was applied. Subsequently, we carried out a descriptive analysis of the variables. The data obtained was entered and formatted with Microsoft Excel® version 2007.

This study was approved by the Research Ethics Committee of the Agamemnon Magalhães Hospital, according to the Resolution 196/96 of the National Health Council/Ministry of Health - CNS/MS under the registration nº65, CAAE-0064.0.236.000-11.

RESULTS

We analyzed the students' socio-

demographic variables, gynecological and obstetric background, behavioral habits, and other aspects related to menstrual cramps.

Table 1. Socio-demographic characteristics of the students of health, FAVIP. Caruaru, 2011.

Socio-demographic characteristics		
Age group	n=642	%
18-23	423	65,9
24-29	126	19,6
30-35	48	7,5
36-40	20	3,1
41-45	15	2,3
46-50	4	0,6
51-53	3	0,5
Uninformed	3	0,5
Graduation Course	n=642	%
Nursing	198	30,8
Nutrition	213	33,2
Psychology	231	36,0

Table 1 shows the demographic characteristics of the students of health of the Valley Ipojuca College (FAVIP). The predominant age group was between 18 and

23 years, representing 65.9 % of the students. Psychology students comprised the majority of the sample, totaling 36.0 % of the students.

Table 2. Gynecological and obstetrics background of the students of health at FAVIP. Caruaru, 2011.

Ginecological and obstretic background		
Age group of menarche	n=642	%
9-10 years old	46	7,2
11-13 years old	458	71,3
14-16 years old	131	20,4
17-19 years old	4	0,6
Not informed	3	0,5
Has children	n=642	%
No	523	81,5
Yes	119	18,5
Number of children	n=119	%
1 child	68	57,1
2 children	25	21,0
3 children	18	15,1
4 children	3	2,5
5 children	2	1,7
Not informed	3	2,5
Improvement of cramping after childbirth	n=119	%
No	37	31,1
Yes	82	68,9
Uses contraceptive	n=642	%
No	397	61,8
Yes	245	38,2
Oral contraceptive (ACO)	154	62,9
Barrier Method	26	10,6
Injectable contraceptive	24	9,8
DIU	15	6,1
ACO e Barrier Method	8	3,3
Not informed	7	2,9
Behavioral methods	4	1,6
Emergency pill	2	0,8
ACO e DIU	1	0,4
Irreversible methods	1	0,4
DIU e Barrier Method	1	0,4
Injectable contraceptive and Barrier Method	1	0,4
Several	1	0,4
Pelvic changes associated*	n=652	%
Does not know	517	79,3
Polycist ovary syndrome	77	11,8
Neither	20	3,1
Myoma	17	2,6
Endometriosis	8	1,2
Other (breast lump, cervical disease)	8	1,2
Pelvic inflammatory disease	5	0,8

*The students could have provided multiple answers.

Table 2 shows the students' gynecological and obstetrics background. With respect to

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menarche, we observed that 71.3 % of students menstruated for the first time between 11 and 13 years of age.

When we investigated parity, it was seen that 81.5 % of the students did not have children and only 18.5 % had children. Among these, 57.1 % had one child and 68.9 % reported improvement in cramping after childbirth.

When questioned about the use of contraceptive methods, 38.2 % of the students said that they used contraception. Among these, the prevalence of adoption of oral contraceptives (OC) was 62.9 %. This method is also used as a pharmacological therapy for

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dysmenorrhea.

The presence of pelvic changes was also investigated but 79.3 % of the students could not tell whether they've experienced any. Among the students who did report pelvic changes, the most common disease was the polycystic ovary syndrome (11.8 %), followed by uterine myoma (2.6 %).

From all pelvic changes reported, endometriosis was the third most common among the students, totaling 1.2 % of the students interviewed.

Table 3. Aspects related to menstrual cramps in health students at FAVIP. Caruaru, 2011.

Menstrual cramps		
Feel menstrual cramps	n=642	%
No	90	14,0
Yes	552	86,0
Less than 24 hours	243	44,0
24-48 hours	235	42,6
More than 48 hours	54	9,8
Troughout the cycle	7	1,3
Less than 12 hours	7	1,3
Not informed	6	1,1
Menstruation flow	n=642	%
Low	71	11,1
Intense	118	18,4
Moderate	453	70,6
Menstrual cramp intensity	n=642	%
Low (0 a 2)	164	25,5
Intense (8 a 10)	177	27,6
Moderate (3 a 7)	301	46,9
Medium	5,2	-
Menstrual cramp interfere in the activitys	n=642	%
No	301	46,9
Yes	341	53,1
Cause physical discomfort (pain, indisposition)	134	39,3
Cause mental discomfort (irritação and deconcentration)	95	27,9
Prevent studying and work activities	83	24,3
Not informed	29	8,5
Missing classes due to colics	n=642	%
No	435	67,8
Yes	207	32,2
Method to relieving pain*	n=1035	%
Nothing	12	1,2
Oral medication	495	47,8
Medicinal Teas	166	16,0
Thermotherapy	148	14,3
Massages	101	9,8
Cryotherapy	41	4,0
Oral and parenteral medication	31	3,0
Not informed	28	2,7
Parenteral medication	11	1,1
Others	2	0,2
Drug therapy	n=671	%
AINES*	165	24,6
Analgesic**	67	10,0
Antispasmodic***	94	14,0
Not Informed	344	51,3
Various	1	0,1

*This class includes drugs such as acetylsalicylic acid, mefenamic acid, diclofenac sodium, ibuprofen, meloxicam, nimesulide, piroxicam. **This class includes medications such as Atroveran® and Scopolamine. ***This class includes drugs such as dipyron and paracetamol.

Table 3 shows the aspects related to menstrual cramps in students of health. Regarding the presence of menstrual pain, 86.0 % reported having cramps. Among these, 44.0 % reported their cramps lasted less than 24 hours.

In analyzing the menstrual flow and its intensity among the women in the sample, the majority reported moderate levels of pain (70.6 % and 46.9 %, respectively).

To measure and categorize the intensity of

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cramps in the questionnaire, a Visual Analogue Scale (VAS) was used, where a response rating of 0 - 2 points was considered mild; 3 - 7 points, moderate, and 8 - 10 points, intense.

We found the prevalence was 46.9 % for moderate cases and for the remaining categories, 27.6 % was found to be intense, and 25.5 %, mild. Dysmenorrheic women with moderate cramp intensity were found to be at the highest level of the scale.

In the present study, 53.1 % of the women reported that menstrual discomfort interferes

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with daily activities. Additionally, 32.2 % of the students had already failed to tend to academic activities because of cramps.

From the different methods used for pain relief, the most used was oral medication (47.8 %), followed by medicinal teas (16.0 %). Among the oral medications, the pharmacological class most used was NSAIDs.

According to the use of pharmacological therapies, shown in Table 3, NSAIDs represented 24.6 %, antispasmodics, 14.0 %, and analgesics, 10.0 %.

Table 4. Behavioral habits of the health students at FAVIP. Caruaru, 2011

Behavioral Habits		
Alcohol Consumption	n=642	%
No	473	73.7
Yes	169	26.3
Casually (weekends only)	129	76.3
Two to Three Times a Week	9	5.3
Moderate to High	31	18.3
Smoking	n=642	%
No	628	97.8
Yes	14	2.2
Occasional (up to two packs a week)	8	57.1
Moderate (<= 3 packs/week)	3	21.4
High (> 3 packs/week)	3	21.4
Physical Activity Practice	n=642	%
No	431	67.1
Not informed	7	1.1
Yes	204	31.8
Aerobics	11	5.4
Walking	63	30.9
Weight training	107	52.5
Pilates	7	3.4
Sports (volleyball, swimming, team handball, futsal, dancing)	16	7.8
Frequency of activities	n=204	%
One time a week	13	6.4
Two to four times a week	123	60.3
Five to six times a week	55	27.0
Daily	13	6.4
Diet	n=1722	%
Vegetable, oils, and cereals	129	7.5
Fruit, vegetables, and legumes	372	21.6
Whole grain and whole grain based foods	125	7.3
Fish, poultry, and eggs	362	21.0
Dairy products or calcium supplements	184	10.7
Red meat, butter, white rice, white bread, potato, pasta, and sweets	425	24.7
No answer	2	0.1
All of the options	123	7.1

*The students could have provided multiple answers

Table 4 presents the behavioral habits of those surveyed. With regards to alcohol consumption, 73.7 % of the students did not drink and only 26.3 % consumed alcohol. Regarding smoking, 97.8 % of the students in the sample were non-smokers.

Physical activity was not performed by 67.1 % of women and only 31.8 % were considered physically active. Among these, weight training (52.5 %) was the most practiced form of physical activity. We found that, most commonly, those who exercised did it 2 - 4 times per week (60.3 %).

With regards to food groups, the group showing the highest prevalence, contained red meat, butter, white rice, white bread, potatoes, and sweets (24.7 %), followed by the group that included fruits and vegetables

(21.6 %).

DISCUSSION

Menarche is the onset of menstruation, and it is one of the most significant events in a woman's life. The average age of women experiencing menarche varies among populations.⁷ The results of a study showed that most women (60.0 %) had menstruated for the first time at 11 or 12 years of age and in another study, the prevalence of menarche happened at the mean age of 12.2 years - aligned with the findings of the current research, where 71.3 % of the students experienced menarche between 11 and 13 years of age.⁸⁻⁹

We also investigated the relationship between parity and dysmenorrhea. The

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improvement of cramps was more probable in women with multiple childbirths.¹⁰ Menstrual discomfort generally diminishes over the years. After the third decade of a woman's life, the symptoms tend to stabilize, as well as after childbirth. In the present study, we observed improvement in cramping after childbirth, as seen in literature.¹¹

Upon evaluating the use of oral contraceptives (OC), most students used contraception. The pharmacological effect of hormonal contraceptives occurs in the uterus, decreasing the production of prostaglandins and leukotrienes. They are an effective therapeutic option for women who need help with menstrual cramps as well as with contraception.⁵

Studies showing the effectiveness of hormonal contraceptives for the treatment of dysmenorrhea are scarce. However, it is believed that the benefits of this treatment are quite significant, at around 65.0 %.¹³ In an open clinical trial of a combined oral contraceptive involving 100,000 women, 65.0 % of the women who had dysmenorrhea as a pre-existing condition (23,500 women), reported relief in their symptoms as a result of the treatment.¹³

The use of OCs reduces the prevalence and severity of dysmenorrhea. Some authors also suggest that women that are not on OCs experience more intense discomfort.¹⁴

Some pelvic diseases may contribute to the onset of dysmenorrhea. Polycystic Ovary Syndrome (PCOS) was as the most frequent pelvic change encountered in the population studied. Other changes such as uterine fibroids and endometriosis, also prevalent in the population studied, may increase the symptoms of dysmenorrhea.

PCOS is a reflection of heterogeneous endocrine disorder, appearing in 5 - 10 % of the women during reproductive age and it is associated with reproductive, metabolic, and psychological dysfunctions.¹⁵ In cases of uterine fibroids, dysmenorrhea and bleeding happen mostly when the location of these fibroids is intramural.¹⁶

Endometriosis is endometrial tissue outside the uterine cavity, in peritoneal surfaces, ovaries, and rectovaginal septum. The prevalence rate varies between 6 and 10 %¹⁷ and it is considered a common cause of dysmenorrhea in adolescents, affecting approximately 45 - 70 % of patients with chronic pelvic pain. It is estimated that about 4 - 17 % of adolescents have endometriosis after menarche.¹⁸

Menstrual cramps are very common among women in their reproductive phase and most often, it is associated with a change in mental, physical, or emotional health.¹⁹ The sample was significant, given that 86.0 % of the students experienced dysmenorrhea, which is aligned with data found in literature. One study showed that 75.0 % of the women reported feeling intense discomfort due to the condition and in 41.0 % of the cases reported, that happened during menstrual bleeding.

According to another study, dysmenorrhea intensity ranged from mild to severe and continued for 48 - 72 hours, starting with the menstrual bleeding, and it could also manifest itself before or after that.²⁰

According to that study, patients reported menstrual discomfort for an average of two days, again, in alignment with the data found here: 42.6 % of the students showed menstrual cramps lasting between 24 and 48 hours, as shown on Table 3.¹

The Visual Analogic Scale is based on an evenly sectioned ruler, serially numbered from 0 to 10, with the 0 (zero) at one of its ends, representing the absence of pain, and at the other end, the 10 (ten), representing the most pain someone experienced.^{1,3}

Data from a study confirmed that pain intensity, according to the Visual Analogue Scale, before completion of treatment, was moderate to intense. Upon division of the groups, the women of one of the groups indicated that their pain rated 6.8 in intensity (moderate), in agreement with the data found in this research, showing that moderate intensity is the most common in the population studied.²¹

The data from this study differs from the data found in a research where the authors state that the pain intensity in dysmenorrheic patients varied a great deal, where the highest prevalence was in mild intensity, followed by intense, with moderate, being the lowest.²²

Also, differing from the results found in the present study, the research authors claimed that the moderate intensity cramps were at 7.5 in the numerical pain scale. About 65 % of the women showed intense pain (7 - 10), 30 % showed moderate pain (4 - 6), and 5 % showed mild pain (0 - 3).¹

In the researched study, 36.2 % of the women declared that the pain or discomfort interfered in their activities, also reporting that menstruation caused significant expenses and efforts.²³

Primary dysmenorrhea occurs in up to 50 % of female adolescents and it is associated with a significant reduction in academic performance, practice of sports, and socialization with parents.²⁴

The rate of absence from activities, both academic and in the workplace, is a common consequence for dysmenorrheic women. One study reports that between 13 % and 15 % of women missed at least once their activities and between 5 % and 14 % of them justified their absence with disability caused by worsening symptoms.²⁵

To avoid or diminish dysmenorrhea symptoms, pharmacists are more often consulted and effective for treatment. The non-hormonal anti-inflammatory drugs act by inhibiting and synthesizing prostaglandin and thus eliminating pain in the lower abdomen and also working on reducing other symptoms related to dysmenorrhea, such as physical symptoms, headaches, leg pain, breast pain, diarrhea, and others. It is worth emphasizing that to best choose the appropriate non-hormonal anti-inflammatory drug, one approach should be considered: selecting the ones with most clinical efficiency and with the least side effects.⁵

The initial recommendation for the treatment of dysmenorrhea is the NSAIDs. Approximately 70 % of the women who experience the condition in its moderate or severe form showed improvement with the treatment. In many cases, the use of simple analgesics can also have equivalent results.²⁷ A calming elixir (*Piper callosum* Ruiz & Pav.) is used in popular medicine, in the form of leaf-infused teas, to treat menstrual and intestinal cramps, diarrhea, and dysmenorrhea.²⁶

In a study, data showed that the use of medicinal teas (e.g. rose tea) is a safe and effective treatment for dysmenorrhea; easily available and simple. The data showed that, in the experimental group, there was less menstrual pain, anguish, and anxiety, improving well-being in the long-run, after one, three, and six months from the start of the intervention.²⁴

Among the women with primary dysmenorrhea, between 10 % and 20 % did not see improvement with NSAID or OC treatment and many of them would present side effects from these medications. Therefore, there's value in non-pharmacological therapies to relieve and stop menstrual cramps.²⁷

Physiotherapy also brings numerous therapeutic benefits that can reduce or eliminate menstrual discomfort simply and

effectively. Cryotherapy and thermotherapy are forms of alternative treatments with positive effects due to their direct application to the body, facilitating recovery.²¹

Thermotherapy and cryotherapy represent the second (14.3 %) and the fourth (4.0 %), respectively, non-pharmacological methods most used by the students. This finding was confirmed by another research, where the authors stated that many women are familiar with these treatments, however, they do not use them often: 51.9 % of the interviewees used thermotherapy and only 12.2 % used cryotherapy. In alignment with what these researchers found, we also found that thermotherapy is far more used than cryotherapy.⁴

Although there is disagreement between the studies regarding the most effective method of treatment, the authors stated that the effects of cryotherapy are much stronger than of thermotherapy. The data analysis reveals that either by the use of the VAS or the McGill pain questionnaire, heat was not seen as an efficient method of treatment; in fact, the opposite was found, where these two evaluation methods showed satisfactory results for treatment with cold.²¹ Therefore, further studies should be done to identify the best treatment.

Massage was also found to be a popular treatment method used by the interviewed women, resulting in 9.8 %. Connective tissue massage causes skin stimulation that activates mechanoreceptors, where sensory nerves transmit the stimulus through the sympathetic ganglia to the spinal cord. This stimulus acts on the release of opiates such as enkephalin, which inhibits pain transmission.²⁸

Connective tissue massage is a great non-pharmacological treatment to relieve menstrual cramps. In this study, almost 90 % of women with primary dysmenorrhea reported a reduction or elimination of menstrual pain after an average of 24 sessions of massage, during three consecutive menstrual cycles.⁸

Some factors can affect the severity of dysmenorrhea, like the duration of the menstrual flow, younger menarche average age, smoking, alcohol consumption, and obesity, in addition to stress and emotional disturbances.¹¹

Smoking is understood as a factor that predisposes dysmenorrhea, possibly because nicotine has been linked to vasoconstriction and hypoxia of the myometrium.²⁷

Physical activity promotes better

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functioning of the organs by adjusting metabolism, electrolyte balance, improving hemodynamics conditions and blood flow, including in the pelvic region, which influences the reduction of dysmenorrhea.³

In the sample, 31.8 % of the students practiced some type of physical activity, a relatively low number compared with other studies that showed that 73 % of the women were considered active. Therefore, physical activity could be a very effective non-pharmacological therapy against menstrual discomfort.³

The fact that most women do not maintain the habit of physical exercise may lead to increased intensity and symptom severity of dysmenorrhea, since there is a tendency for women who exercise to have fewer premenstrual symptoms than those who do not.²⁰

Changes in lifestyle such as healthy eating habits, eating foods low in fat and rich in vitamins and minerals, have a beneficial effect on dysmenorrhea.²⁷

Certain diets may cause an increase in the symptoms and in the intensity of menstrual discomfort. In one study, it was reported that two women felt increased intensity of symptoms with the ingestion of certain foods, especially caffeine-based, and 61.4 % said caffeine worsened their symptoms during the menstrual period.²⁰

CONCLUSION

Dysmenorrhea is a common condition in the academic environment of the Institution, considering that most of the students experienced it, thus affecting the activities in the classroom.

Along with the numbers obtained in this study, the lack of information from the students was also identified.

Nursing plays a key role in health education, which should be promoted and exercised, starting with the academic environment. It is necessary that students and professionals develop activities and distribute information guides in order to pass on information about the main treatments for dysmenorrhea and healthy behavioral habits that can prevent and mitigate the development of this condition.

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