



Primary dysmenorrhea, premenstrual tension and symptoms preceding menstruation in a group of physiotherapy students

Dismenorreia primária, tensão pré-menstrual e sintomas que antecedem a menstruação em um grupo de estudantes do curso de fisioterapia

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ABSTRACT

Introduction: Primary dysmenorrhea is the pain located in the lower abdomen, which appears in the first days before menstruation, and during the follicular phase. As a result, premenstrual symptoms accompany women during several different cycles of the month, as well as menstruation. The study of premenstrual symptoms has been developing and evolving every day to inform and assist the female population. **Objective:** This research aimed to analyze the possible cases of Primary Dysmenorrhea, PMS (Premenstrual Tension) and Symptoms That Precede Menstruation in a Group of Students of the Physical Therapy Course. **Methodology:** This is a descriptive, exploratory, and quantitative research, where possible cases of Primary Dysmenorrhea, PMS (Premenstrual Tension) and Symptoms Prior to Menstruation were analyzed in a group of 37 students of the Physical Therapy Course. **Results:** It was observed that 38% of the students reported anxiety during their period, 35% reported feeling like crying, 43% desire for food, 41% headache, 41% bloating, 43% felt changes in their relationship with co-workers, 49% in their social life activities, 27% reported making moderate use of medicines, while 24% made continuous use of contraceptive methods. **Conclusion:** Therefore, it was possible to observe from the research that many students present in a varied way the symptoms resulting from the premenstrual tension, as well as the interference of these in the day to day and the means used for the treatment of the symptoms.



Keywords: Dysmenorrhea, PMS (Premenstrual Tension), Menstrual Cycle, Menarche, Premenstrual Syndrome.

1 INTRODUCTION

Primary dysmenorrhea (pain in the lower abdomen) and the symptoms of premenstrual tension were for many years treated as taboo for both men and women. Nowadays, in addition to being one of the most discussed subjects in female social groups, they are also one of the biggest obstacles to the daily life of women.

Primary dysmenorrhea is the pain that precedes menstruation, but that ends with the completion of the cycle. While secondary dysmenorrhea intertwines with uterine malformation or related diseases. Premenstrual symptoms accompany women for several different cycles of the month, not only with menstruation; The daily changes of hormones affect both your emotional and your physical, some symptoms such as bloating and emotional sensitivity are part of everyday life.

The study of premenstrual symptoms has been developing and evolving every day in order to inform and assist the female population. Currently the lack of information has generated numerous doubts and exaggerated speculations and full of taboos, which only make these monthly days more difficult to deal with than they should be.

This article aimed to analyze possible cases of Primary Dysmenorrhea, PMS (Premenstrual Tension) and Symptoms that precede menstruation in a group of students of the Physical Therapy course.

2 THEORETICAL BACKGROUND

2.1 DYSMENORRHEA AND PREMENSTRUAL SYMPTOMS

Menstruation is, biologically, the result of the desquamation of the thin wall of the uterus, formed by the endometrium, which is released with the fall of the hormones progesterone and estrogen at the end of the ovulation cycle (MARINHO *et al*, 2019).

Dysmenorrhea consists of pain in the lower abdomen region that affects more than 50% of the female population during their menstrual cycle, making it impossible for women of all ages, who still have the possibility of reproduction, to continue normally with their daily tasks (SILVA *et al*, 2019).

Dysmenorrhea is a complaint that affects approximately 80% of the female population in adolescence, which is marked with the onset of puberty until the age of 20. Given the reality of



the symptoms presented, it can be concluded that dysmenorrhea negatively affects the daily life of women from the beginning of adult life to its end (DA SILVA *et al*, 2020).

2.2 HOW DYSMENORRHEA INTERFERES WITH A WOMAN'S DAILY LIFE

Along with the numerous difficulties that women have been facing with the symptoms of menstruation, it has been caused over generations the feeling of embarrassment when mencing, experiencing and dealing with the unusual situations that menstruation imposes on their daily routine. According to Pinho *et al*, 2021, it is possible to identify factors of origin of feelings of judgment, impurity and the caste sexual education.

Directly associated with sexual maturity, menstruation has become a taboo, leaving it labeled as an inappropriate topic to be mentioned in the social environment, where countless women suffer daily with judgment for their changes both high and noticeable, as low and subtle during the menstrual cycle. Taking into account physical changes, such as swelling, sensitivity and emotional changes such as stress and low self-esteem, the daily life of the female sex is full of obstacles that require your attention and caution, unfolding to deal with your moment of care and with external opinions (MARINHO *et al*, 2019). In view of this, the market for drugs and feminine intimate hygiene have been creating means to reach a wider audience, aiming at gains and development. A proof of this was the pandemic, which has brought new forms of accessibility to products launched in the midst of social isolation, enabling remote access to basic needs and of paramount importance to the health and well-being of women (CAVALCANTE *et al*, 2021).

2.3 MAIN SYMPTOMS OF PMS AND THE FREQUENCY WITH WHICH THEY APPEAR

Over the years, when reaching the milestone of the beginning of puberty, the female population faces the challenge that is dysmenorrhea and PMS (Premenstrual Tension). The frequency of such symptoms can vary from woman to woman, bringing numerous distinct experiences to each. Deepening in research it is possible to observe several narratives, from women in favor and who make the use of contraceptives, to women who, through teas, oils and pills found the solution to intense pain without resorting to the use of contraceptives (RODRIGUES *et al*, 2022).

From the daily and daily activities among women, it is possible to analyze that after entering the university, the PMS symptoms reported by them worsened considerably, reaching 59.1% of the interviewees of the research of a study conducted by Messias *et. al* (2021), and the



main cause is stress followed by task overload. Of the psychic symptoms, lack of energy, anxiety, stress, concentration and irritability are listed.

2.4 PROPOSALS FOR RELIEF FOR THE SYMPTOMS OF PRIMARY DYSMENORRHEA

The methods of manual therapies have been gaining ground in the clinical environment, developing alternative treatments and innovative techniques to bring relief and improvement in the quality of life of women suffering from primary dysmenorrhea and pain related to PMS (GERZSON *et al.*, 2014).

Over the course of decades, numerous forms of treatment for the relief of primary dysmenorrhea have been created, addressing different techniques of application. Some forms of treatment through drugs are highly sought after, but have their percentage of uselessness between 20% to 25%, causing the female population to look for alternatives as effective or more effective, such as Functional Elastic Bandage, TENS (Transcutaneous Electrical Nerve Stimulation), acupuncture, exercises and therapeutic massages. (FALCIROLI and SOUZA, 2013).

2.5 ACCESSIBILITY OF THE FEMALE POPULATION TO PRODUCTS THAT GENERATE RELIEF OF PMS SYMPTOMS (PREMENSTRUAL TENSION)

In Brazil it is possible to link menstrual poverty to high rates of social inequality, associated with lack of access to important information about the care and precautions necessary during the menstrual period; the lack of access to such information and products has led the female population to take risks with dubious and unsafe methods for their own health (CRUZ *et al.*, 2023).

In search of more affordable and viable solutions to treat the symptoms of dysmenorrhea and hormonal changes of PMS (Premenstrual Tension), young middle-class women have been opting for the use of birth control pills, which help the rhythm of their cycles and relieve their cramps. Through deeper research it was observed that the opinion is not generalized, thus bringing responses from women who recently discontinued the continuous use of medication reporting that they were dependent on medication for control (RODRIGUES *et al.*, 2022).

4 METHODOLOGICAL PROCEDURES

This is a descriptive, exploratory and quantitative research, where possible cases of Primary Dysmenorrhea, PMS (Premenstrual Tension) and Symptoms Prior to Menstruation were analyzed in a Group of Students of the Physical Therapy Course, using a structured, validated and modified questionnaire. We used the general part of the questionnaire where data were collected through 38

closed questions. The sample consisted of 72 students of the physiotherapy course. The questionnaire was applied from May 16 to 29, 2023.

The inclusion criteria were observed the 61 students who were present on the date described, where only 37 answered the questionnaire correctly, and 11 students who were not present and 24 students who answered the questionnaire incorrectly were excluded.

All participants signed the Free and Informed Consent Form, agreeing to participate in the research. It is important to emphasize that the interviewees could give up participating in the research at any time, if they so desired. Under no circumstances will they be identified or have their names disclosed.

5 RESULTS AND DISCUSSION

A survey of data was carried out, through a questionnaire, referring to the analysis of possible cases of Primary Dysmenorrhea, PMS (Premenstrual Tension) and Symptoms That Precede Menstruation in a group of students of the physiotherapy course. The collected data were processed and properly represented in graphs and tables.

According to table 1, we analyzed the possible emotional symptoms (anxiety, anger, desire to cry, depressive mood, reduced interest in work activities, reduced interest in home activities and reduced interest in social activities) resulting from Premenstrual Tension presented during the menstrual cycle of the students and the way (absent, mild, moderate, severe) in which they occur. In the anxiety symptom, 5% of the students were absent, 14% answered mild, 43% moderate and 38% severe; Regarding anger, 5% answered absent, 16% mild, 60% moderate and 19% severe; in the desire to cry, 8% answered absent, 27% mild, 30% moderate and 35% severe; in depressive mood, 19% answered absent, 33% mild, 24% moderate and 24% severe; reduced interest in work activities, 13% answered absent, 32% mild, 41% moderate and 14% severe; in reduced interest in home activities, 8% answered absent, 33% mild, 35% moderate and 24% severe; in reduced interest in social activities, 19% answered absent, 24% mild, 46% moderate and 11% severe.

Table 1: Emotional symptoms of Premenstrual Tension presented during the menstrual cycle.

EMOTIONAL SYMPTOMS	ABSENT	LIGHTWEIGHT	MODERATE	SERIOUS
Anxiety	5%	14%	43%	38%
Anger	5%	16%	60%	19%
Willingness to cry	8%	27%	30%	35%
Humor depressivo	19%	33%	24%	24%
Reduced interest in work activities	13%	32%	41%	14%
Reduced interest in home activities	8%	33%	35%	24%
Reduced interest in social activities	19%	24%	46%	11%

Source: survey data.

Stress can be classified as internal or external stimuli, these generate disorder in the current state of the individual; They can be classified into three categories: acute, acute episodic and chronic. So that acute stress is due to an external incitement that brings torment to the individual; while acute episodic stress is the implication of this incitement countless times. With this, chronic stress consists of this incitement being applied daily. The female sex has a prevalence twice as high compared to the male sex to develop depression and anxiety, this discrepancy is evident after menarche and puberty (BALDINI, 2023).

According to table 2, we analyzed the possible physical symptoms resulting from Premenstrual Tension presented during the menstrual cycle of the students and the frequency in which they occur, where in the option difficulty to concentrate 13% of the students were absent, 38% answered mild, 27% moderate, 22% severe; in relation to fatigue (lack of energy), 16% were absent, 24% mild, 35% moderate, 25% severe; in desire for food (overeating), 11% answered absent, 19% mild, 27% moderate 43% severe; in insomnia, 38% were absent, 22% mild, 16% moderate and 24% severe; in hypersomnia (sleeping more than usual), 49% were absent, 3% mild, 24% moderate and 24% severe; in feeling overwhelmed, 13% were absent, 30% mild, 41% moderate, 16% severe; in breast tenderness, 24% were absent, 24% mild, 27% moderate and 25% severe; in headache, 11% were absent, 24% mild, 24% moderate and 41% severe; in muscle pain, 16% were absent, 41% mild, 30% moderate, 13% severe; in back pain, 11% were absent, 16% mild, 41% moderate and 32% severe; in abdominal pain, 16% were absent, 19% mild, 35% moderate and 30% severe; in dizziness, 65% were absent, 22% mild, 8% moderate and 5% severe; in confusion, 51% were absent, 41% mild, 8% moderate and 0% severe; in swelling, 13% were absent, 19% mild, 27% moderate and 41% severe; in weight gain, 30% absent, 22% mild, 24% moderate and 24% severe; in joint pain, 30% absent, 35% mild, 24% moderate and 11% severe; in acne 16% answered absent, 35% mild, 24% moderate, 25% severe; In change in libido, 13% answered absent, 43% mild, 22% moderate and 22% severe.

Table 2: Physical symptoms of Premenstrual Tension presented during the menstrual cycle

PHYSICAL SYMPTOMS	ABSENT	LIGHTWEIGHT	MODERATE	GRAVE
Difficulty concentrating	13%	38%	27%	22%
Fatigue (lack of energy)	16%	24%	35%	25%
Food cravings (overeating)	11%	19%	27%	43%
Insomnia	38%	22%	16%	24%
Hypersomnia (sleeping more than usual)	49%	3%	24%	24%
Feel overwhelmed	13%	30%	41%	16%
Breast tenderness	24%	24%	27%	25%
Headache	11%	24%	24%	41%

Muscle soreness	16%	41%	30%	13%
Back pain	11%	16%	41%	32%
Abdominal pains	16%	19%	35%	30%
Dizziness	65%	22%	8%	5%
Confusion	51%	41%	8%	0%
Swelling	13%	19%	27%	41%
Weight gain	30%	22%	24%	24%
Joint pain	30%	35%	24%	11%
Acne	16%	35%	24%	25%
Change in libido	13%	43%	22%	22%

Source: survey data.

The Premenstrual Syndrome (PMS) consists of the development of some physical and / or emotional symptom during the recurrent period the follicular phase, to be considered premenstrual syndrome it is necessary that the symptom is repeated at least three consecutive times in the next cycles (MENON and DE MELLO, 2023).

PMS unfolds in a series of symptoms that accompany women throughout their monthly menstrual cycle, so that these symptoms can undergo changes according to the growth and maturation of the female body from the milestone of puberty and menarche, to the end of menstruation and the beginning of menopause, thus causing a reduction in the quality of life of the woman from the first menstruation, symptoms such as depression, crying, anxiety, irritability, weight gain and change in appetite, interfere directly in the passage of follicular and luteal days (DA SILVA *et al*, 2020).

According to table 3, it was analyzed in which day-to-day situations the symptoms of Premenstrual Tension interfere and the way (absent, mild, moderate, severe) in which this occurs. In their efficiency in work productivity, 19% of the students marked that there is no interference, 38% mildly, 30% moderately and 13% very; in their relationships with co-workers, 14% answered that there is no interference, 38% mildly, 43% moderately and 5% very; in their relationship with the family, 19% answered that there is no interference, 30% slightly, 35% moderately, 16% a lot; in their activities of social life, 16% answered that there is no interference, 49% mildly, 22% moderately and 13% very; in their activities of social life, 16% answered that there is no interference, 49% mildly, 22% moderately and 13% very; In daily responsibilities, 16% answered that there is no interference, 41% mildly, 32% moderately and 11% very.

Table 3: Interference of Premenstrual Tension symptoms.

SYMPTOMS INTERFERE	NO INTERFERE	INTERFERE LIGHTLY	INTERFERES MODERATELY	INTERFERE VERY MUCH
Your work efficiency/productivity	19%	38%	30%	13%
Your relationship with co-workers	14%	38%	43%	5%
Your relationship with family	19%	30%	35%	16%
Your activities of social life	16%	49%	22%	13%
Daily responsibilities	16%	41%	32%	11%

Source: survey data.

Menarche, by directly interfering with hormonal changes, is responsible for significant variations in emotional state and neural responses to stress stimuli, generating changes in the cognitive responses of the brain. Some drops in the hormones responsible for regulating the coordination of the menstrual cycle as in estradiol, responsible for inhibiting the oxidizing monoamine, increasing the serotonin reuptake gene in some regions of the brain, is interconnected to the lack of interest in everyday activities that are accepted and performed daily, generating embezzlement in productivity, and increased frustration by prevalence of inactivity (BALDINI, 2023).

According to table 4, we analyzed the forms of treatment used by the students for the symptoms of Premenstrual Tension and the frequency of use (absent, mild, moderate, severe) in which this occurs. In you use some method of relief for the symptoms mentioned above, 41% of the students marked not to use, 24% answered low frequency, 22% moderately and 13% continuously; in medicines, 38% answered not to use, 27% low frequency, 27% moderately and 8% continuously; in thermal heat bag, 73% answered not to use, 8% low frequency, 11% moderately, 8% continuously; in an ice pack, 81% answered not to use, 19% low frequency, 0% moderately and 0% continuously; in thermal adhesive, 95% answered not to use, 3% low frequency, 0% moderately and 2% use continuously; in practice of exercises, 40% answered not to use, 22% low frequency, 30% moderately and 8% continuously; in contraceptive methods, 65% answered not to use, 6% low frequency, 5% moderately and 24% continuously; in TENS, 97% answered not to use, 0% low frequency, 0% moderately and 3% continuously.

Table 4: Forms of treatment for the symptoms of Premenstrual Tension and the frequency of use.

FORMS OF TREATMENT AND FREQUENCY OF USE	NO USES	USES WITH LOW FREDERICK	USES MODERATELY	USED CONTINUALLY
Do you use some method of relief for the symptoms mentioned above	41%	24%	22%	13%
Remedies	38%	27%	27%	8%
Thermal Heat Bag	73%	8%	11%	8%
Ice pack	81%	19%	0%	0%
Thermal adhesive	95%	3%	0%	2%
Exercise practice	40%	22%	30%	8%
Contraceptive methods	65%	6%	5%	24%
TENS	97%	0%	0%	3%

Source: survey data.

Dysmenorrhea is a very common problem among women, which causes symptoms such as premenstrual tension, with pelvic pain being the main one. For the treatment of the symptoms of premenstrual tension, several resources are used, such as transcutaneous electrical nerve stimulation (TENS), strengthening exercises, muscle relaxation and stretching (TORRILHAS *et al*, 2017).

The practice of physical exercises is of paramount importance in the control of PMS symptoms, due to increasing endorphin levels as well as stimulating the production of anti-inflammatory substances (JÚNIOR *et al*, 2022). Cryotherapy and thermotherapy can also be effective in reducing pain due to their physiological effects, which promote analgesia (DE ARAÚJO *et al*, 2010).

6 CONCLUSION

Thus, it is concluded that the present study responded to the general objective proposed, analyzing the possible cases of Primary Dysmenorrhea, PMS (Premenstrual Tension) and symptoms that precede menstruation in a group of students of the Physical Therapy course. Therefore, it was possible to observe from the research that many students present in a varied way the symptoms resulting from premenstrual tension, as well as the interference of these in the day to day and the means used for the treatment of symptoms.

However, it was possible to confirm, through the data obtained in table 4, that the dissemination of such non-conventional methods has been little explored, leaving the female population hostage to the use of pharmacological drugs. In view of this, the research showed several means of non-conventional treatments, enabling the search for non-pharmacological methods, in addition to offering a better quality of life to the female population.



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