



## A Pilot Study to Know the State of Knowledge of Exercise Therapy for Relieving Pain in Primary Dysmenorrhea

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### Abstract

**Introduction:** Primary dysmenorrhea, menstrual pain in the absence of pathology, is the main cause of gynecological consultation in young women. Physical agents, used in physiotherapy for therapeutic purposes, can be used by women with primary dysmenorrhea. Exercise therapy is recommended in clinical practice guidelines for relieving menstrual pain.

**Objective:** To determine if women with PD from University of A Coruña (Spain) know therapeutic exercise as a physical agent to relieve pain in primary dysmenorrhea.

**Methods:** An observational cross-sectional study was conducted among 48 students of University of A Coruña, Spain, in January 2021. A non-probabilistic convenience sampling was used. Data was collected through a self-administered online questionnaire to identify whether exercise therapy was known and used by women with primary dysmenorrhea.

**Results:** 40 responses were obtained. Just 18 students (45%) met the inclusion criteria. Among them, just 2 (11.1%) knew exercise therapy as a useful physical agent for relieving menstrual pain.

**Conclusion:** Even though therapeutic exercise is identified in some studies as effective in reducing menstrual pain, it's hardly known for the sample.

**Keywords:** Dysmenorrhea; Menstrual pain; Exercise therapy

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### Abbreviations

ET: Exercise Therapy; NRS: Numeric Rating Scale; PA: Physical Agent; PD: Primary Dysmenorrhea; PPAA: Physical Agents; TE: Therapeutic Exercise; WHO: World Health Organization

### Introduction

Dysmenorrhea, cyclic menstrual pain, is the leading cause of chronic pelvic pain, according to the World Health Organization (WHO) [1]. It represents the leading pathology of gynecological morbidity in women of reproductive age [2,3], regardless of age, nationality and economic status [3-5]. It is a public health and economic problem, due to its high prevalence and because it is an important cause of loss of work and school productivity [6-8].

The most common clinical presentation of dysmenorrhea is recurrent, jerking abdominal cramps and suprapubic pain; it originates just before or during menstruation and lasts between 2 and 3 days, or until the end of menstruation [9-12]. It is usually accompanied by a feeling of weakness [11,13], diarrhea [14,15], fatigue [9,16,17], neck pain [6,17,18], low back pain [18-21], swelling [6,22,23], nausea, dizziness, vomiting or general malaise [6,8,11,24-29]. There are two types of dysmenorrhea, primary and secondary. Secondary Dysmenorrhea (SD) is menstrual pain caused by an identifiable pathology [30]. Primary Dysmenorrhea (PD) is menstrual pain that occurs in the absence of an underlying pathology [2,8,30,31].

From physiotherapy, low-cost and effective strategies can be applied that act on the pain generated by dysmenorrhea and its socioeconomic consequences [2]. Physical Agents (PPAA), used in physiotherapy for therapeutic purposes, can be used by women with PD. Obtaining knowledge

about the use of strategies by women who suffer from it could be useful for addressing the challenge posed by PD [15].

Exercise Therapy (ET) in PD is a technique recommended in clinical practice guidelines [32-36]. It can be effective in relieving pain, improving the level of stress, reducing medication intake and absenteeism from work and school.

However, the level of literacy on this subject in young adults is unknown.

So, the aim of this study is to determine if women with PD from University of A Coruña (Spain) know therapeutic exercise as a Physical Agent (PA) to relieve pain in PD.

## Method

A pilot study was carried out in January 2021 on 48 students from University of A Coruña (Spain), to identify which PPAA were known to relieve menstrual pain. A non-probabilistic convenience sampling was used. They were students or researchers from 18 to 25 years, the age group with the highest incidence of PD and with the most exacerbated clinical manifestations [30,31,37,38]. Other inclusion criteria were nulliparous women, with regular menstrual cycles (21 to 35 days), not taking oral contraceptives in the last three months and score of at least 3 in Numeric Rating Scale (NRS), as average pain of the last three menses.

Data was collected using a self-administered online questionnaire, where a consent form was attached to the questionnaire. It could be filled out online, on a computer, mobile or a tablet, voluntarily. The questionnaire asked about the acknowledgement of thermotherapy, cryotherapy, exercise therapy, TENS, manual therapy, stretching, relaxation techniques and bandage. The difference between stretching and Exercise Therapy (ET) was used to help to identify the (PA) used.

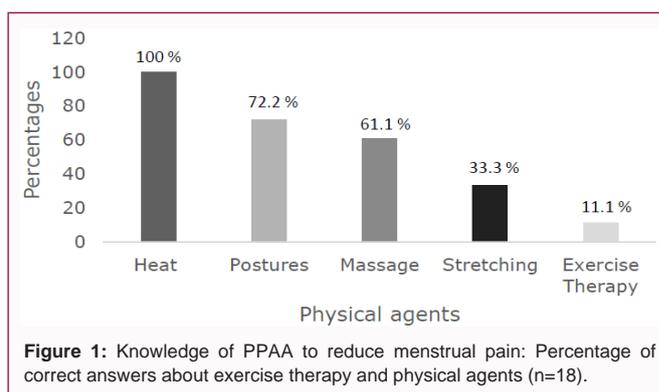
## Results

Forty (40) responses were obtained, where 18 of them (45%) met the inclusion and exclusion criteria. Just considering the responses that met those criteria, only 2 replies (11.1%) knew ET as a PA to relieve menstrual pain. Six responses identified stretching as a known PA (33.3% of those who met the inclusion criteria). On the other hand, 18 replies (100% of those who met the inclusion criteria) knew heat as a PA used for relieving menstrual pain, followed by postures (13 responses, 72.2% of those who met the inclusion criteria) and massage (11 responses, 61.1% of those who met the inclusion criteria).

## Discussion and Conclusion

The state of knowledge of PPAA to reduce menstrual pain is, to our knowledge, new to this study. The three most known were heat, postures and massage. Among all the PPAA asked in the questionnaire, ET is one of the PPAA that has more scientific support [32-35]. Despite this, it's one of the less known. In fact, in this pilot study is the second less known, just ahead of TENS. There are differences comparing to another PPAA, like heat, massage and postures, mainly. Even if TE and stretching were considered together, the two could reach 8 responses (44.4%).

Matthewman et al. [32] indicated that physical activity could be a potentially effective treatment for PD pain, but a larger number of higher-quality studies are needed to confirm these findings. Armout et al. [35], in the same line, identified physical activity as effective in significantly reducing the intensity of menstrual pain, although



a larger number of higher-quality studies would be required. Nor is the most appropriate type of physical activity clarified, although they identify different modalities that seem to show beneficial effects in reducing the VAS scale, such as stretching, strength training or interval exercise [35].

Findings from a pilot study can be used to adjust the study design and methods [39]. Strategies that improve knowledge and advise from physiotherapists on the application of ET as a method of reducing menstrual pain, could be developed. WHO (World Health Organization) recommendations, which are based on an interval of 150 to 300 weekly minutes of moderate physical activity, or 150 min of weekly vigorous physical activity, spread over 2 or more days a week, could be considered to design intervention strategies.

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