

Non-pharmacological interventions and coping mechanisms during dysmenorrhea among female undergraduates in a tertiary institution in Nigeria

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Abstract

Dysmenorrhea can be a burden on individuals and families. Investigating dysmenorrhea has become important to further our understanding of this issue and to research the measures that have been effective in managing it in other populations. Hence, the study aimed to investigate non-pharmacological interventions and coping mechanisms for painful menstruation among female undergraduates. The survey was carried out among 358 female students, and data was obtained with a researcher-structured questionnaire from a sample size of 208 derived using multistage sampling. A descriptive method of analysis was used to analyze the responses. Results revealed a high incidence of dysmenorrhea since 175 (89.7%) respondents experienced dysmenorrhea. Data revealed that nonpharmacological measures and home remedies for self-care, such as exercise, heat therapy, and herbal remedies, were prevalent among respondents. However, some respondents consult friends, families, and doctors for help. In conclusion, pharmaceutical and non-pharmaceutical interventions were common, and some young women opted to normalize pain and were not utilizing the most effective alternatives for managing menstrual pain.

Introduction

Armour *et al.* recorded that dysmenorrhea also referred to as period pain, and its associated symptoms are often common in young women below 25 years of age. This age correlates with a significant stage in adolescents and young women's academic lives at both school and in higher learning. Dysmenorrhea may cause absenteeism from class activities or result in decreased classroom attentiveness, productivity, and performance. It further stated that, owing to cultural and economic differences, its impact may vary by country.¹ For the survey under review, the focus is on primary dysmenorrhea.

Primary dysmenorrhea, as reported by Wong *et al.*, is defined as menstrual pain in the absence of an underlying abnormality, with the pain commonly starting within 3 years of menarche (the first menstrual period).² According to Whitaker *et al.*,³ secondary dysmenorrhea is menstrual pain associated with an identifiable cause such as endometriosis and an obvious underlying pelvic pathology like pelvic inflammatory disease, ovarian cysts, adenomyosis, and uterine myomas (as observed by Unsal *et al.*).⁴ Although dysmenorrhea is not a life-threatening condition, Al-Matouq *et al.* stated that it can cause a substantial burden on individuals and communities,⁵ while Wong highlighted the burden on the quality of life of women or female adolescents.⁶

Many young women, as documented in a study by Armour *et al.*, for a variety of reasons, think of period pain as 'normal' and something to be managed or endured.¹ This normalization of pain

is reinforced by family and friends and results in young women using self-care strategies to control their pain rather than seeking medical counsel and interventions. In addition, Armour *et al.* further added that self-care was used by more than half of all young females [55%, 95% confidence interval (CI) 34.1-74.3] with both pharmaceutical (48%, 95% CI 40.0-57.0) and non-pharmaceutical (51.8%, 95% CI 31.3-71.7) options used.¹ Paracetamol was the most common analgesic used (28.7%, 95% CI 19.6-39.9) but failed to provide sufficient pain relief for almost half of those using it. Non-steroidal anti-inflammatory medications, as reported by De Sanctis *et al.*,⁷ herbal medicines as documented by Nahid *et al.*,⁸ and massage as noted by Karampour *et al.*,⁹ are treatment approaches to reduce dysmenorrheic pain. The study under review shows that dysmenorrhea is being normalized as some females do not act to relieve their pain. While some think that dysmenorrhea is associated with significant emotional, psychological, and functional health impacts, they are unwilling to act to obtain comfort since the experience is not life-threatening.

Materials and Methods

The study was carried out among female students at the PAMO University of Medical Sciences. The study design is descriptive and cross-sectional. A total of 208 female students were selected from the study population of 358 using the multistage sampling technique. The inclusion criteria for the survey are female undergraduates at the PAMO University of Medical Sciences, while the exclusion criteria are female undergraduates who are in other institutions and are not at the PAMO University of Medical Sciences. The instrument for data collection was a researcher-structured questionnaire designed to elicit responses in line with the study objectives. The face and content validity of the questionnaire were ensured by assessing its judgmental validity. In addition, validity was ensured by assessing the agreement of the experts on the appropriate utilization of the conceptual definition of the research instrument. Data were collected using a questionnaire with a reliability coefficient of 0.84. The filled-out questionnaires were collected by trained research assistants. The data collection procedure was supervised by the authors. Data was analyzed quantitatively, and descriptive (mean, standard deviation, and percentage) data were computed using Statistical Package for Social Sciences (SPSS) version 20.0 (IBM, Armonk, NY, USA). The Ethical Review Committee of the University of Port Harcourt, Rivers State, Nigeria, issued ethical approval for the study. Copies of the survey were reviewed by the Institutional Review Board of the University of Port Harcourt, Rivers State, and approval was issued. Permission to conduct the survey was granted, having assured the participants of their freedom to express their human rights. After obtaining permission, respondents were informed about the study and its objectives. They were told that the study was only for research purposes, and anonymity was maintained. Participation was voluntary, and study participants were free to withdraw at any level during the study. Confidentiality of the information provided was ensured, and oral consent was obtained from the participants.

Results

Respondents experiencing dysmenorrhea

All (100%) respondents experience menstruation (Figure 1). The distribution in Figure 2 shows that 89.7% of the respondents experience dysmenorrhea, while 10.3% do not.

Managing dysmenorrhea among respondents

The study findings in Table 1 show that out of 175 respondents who experience dysmenorrhea, only 119 (68.0%) take action to relieve symptoms.

Respondents' self-care practices during dysmenorrhea

Table 2 shows that respondents are not likely to self-medicate with over-the-counter drugs (2.62 ± 1.30), engage in physical exercise (1.91 ± 1.06), use home remedies, *e.g.*, heat therapy (2.93 ± 1.41), or consult a health care provider (2.03 ± 1.38).

Medication practice during dysmenorrhea

Table 3 shows that 65 (33.3%) participants use drugs 1-2 times per day, while 58 (29.7%) use drugs when necessary [*pro re nata* (PRN)]. A total of 108 (55.4%) use drugs throughout the menstrual period.

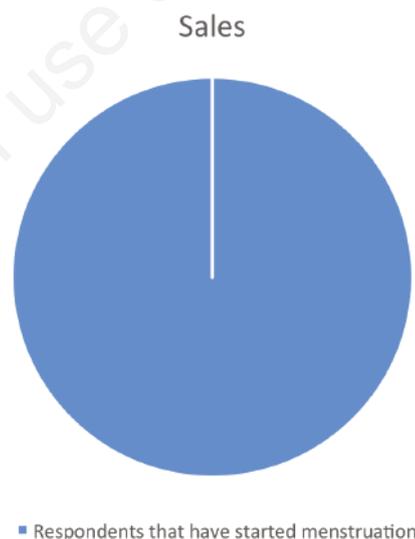


Figure 1. Distribution of respondents experiencing menstruation.

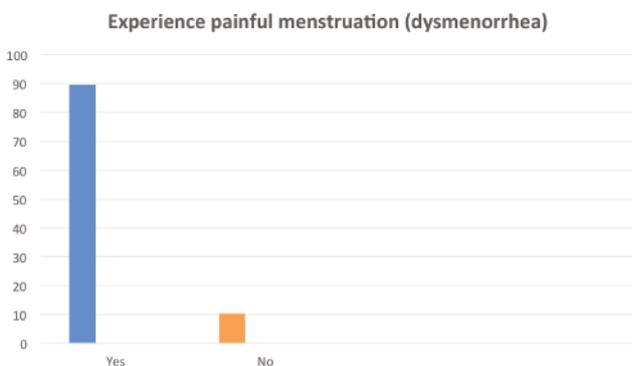


Figure 2. Distribution of respondents experiencing painful menstruation.

Discussion

Management of dysmenorrhea

This survey shows that 119 (68%) participants take action to relieve painful menstruation. Among the participants, varying levels of consultation are engaged. Respondents seek consultations with friends 38 (31.9%), mothers 41 (34.5%), sisters 10 (8.4%), and doctors 30 (25.2%). However, this does not rule out the fact that some people believe they can go through dysmenorrhea without consulting close family members, while others think that disclosing their concerns to others is irrelevant. Worthy of mention are the 56 (33%) participants who indicated that they do not act when experiencing dysmenorrhea. These could have personal reasons, but this act may lead to the conclusion that dysmenorrheic symptoms are being normalized among certain young females. What is unknown is the impact of this normalization on the mental health of this group of people as well as its role in feminism.

Further research is needed to explore the implications of normalizing dysmenorrheic symptoms. This thought is consistent with that of Armour *et al.*, who noted that most young women, for varying reasons, think of period pain as normal and something to be controlled or endured.¹ This normalization of pain is often fortified by family and acquaintances and results in young women using self-care strategies to manage their dysmenorrhea rather than seeking medical advice. Normalization of painful experiences is a common practice among humans and cultures; however, normalization of dysmenorrhea is observed in the responses of our study participants: 40 (71.4%) of the 56 who indicated that they do not act suggest that pain is natural, while others stated reasons like the dislike to take medication (analgesics) and pain being for a short duration.

When assessing self-care practices during dysmenorrhea, responses among these participants suggest that they are more likely to ignore pain and not likely to self-medicate and consult healthcare providers, which further supports pain normalization in young

Table 1. Actions taken to relieve painful menstruation.

Items	Response	Frequency (n=175)	Percentages (100%)
Take actions to relieve symptoms.	No	56	33.0
	Yes	119 (n=119)	68.0
If 'yes', who do you consult during dysmenorrhea?	Friends	38	31.9
	Mothers	41	34.5
	Sisters	10	8.4
	Doctors	30 (n=56)	25.2
If 'no', what are the reasons for not seeking medical treatment?	Pain is Natural	40	71.4
	Other reasons like:		
	Dislike to take medication	8	14.3
	Pain was for a short duration	2	3.6
	Unknown	6	10.7

Table 2. Distribution of self-care practices.

Items	Never (%)	Rarely (%)	Sometimes (%)	Often (%)	Always (%)	Total (%)	Mean±SD	Decision
Ignore the pain	36(18.5)	27(13.8)	37(19)	38(19.5)	57(29.2)	195(100)	3.27±1.47	Likelihood
Self-medicate with over-the-counter drugs	57(29.2)	27(13.8)	65(33.3)	26(13.3)	20(10.3)	195(100)	2.62±1.30	No likelihood
Physical exercise	93(47.7)	45(23.1)	48(24.6)	0(0)	9(4.6)	195(100)	1.91±1.06	No likelihood
Use home remedies e.g., heat therapy	39(20)	46(23.6)	36(18.5)	37(19)	37(19)	195(100)	2.93±1.41	No likelihood
Consult a healthcare provider	103(52.8)	37(19)	28(14.4)	0(0)	27(13.8)	195(100)	2.03±1.38	No likelihood
Total	328(33.6)	182(18.7)	214(21.9)	101(10.4)	150(15.4)	975(100)	2.55±1.43	No likelihood

SD, standard deviation.

Table 3. Types of analgesics used for dysmenorrhea and medication practice.

Variables	Items	Frequency (n=195)	Percentage (%)
Drug used (most often)	Paracetamol	32	16.4
	Ibuprofen	63	32.3
	Buscopan	52	26.7
	Piroxicam-Felvin	38	19.5
	Diclofenac	10	5.1
Frequency of drug use per day	1-2 times	65	33.3
	3-4 times	72	36.9
	When necessary (PRN)	58	29.7
Timing of drug-use	Before the onset of the menstrual period	59	30.2
	Throughout menstrual period	108	55.4
	After the onset of menstruation	28	14.4

PRN, *pro re nata*.

African households. This seemingly docile response toward dysmenorrheic experience could be a means of avoiding further hurts following pain-relieving interventions. It also proves the conclusions in the previous study by Abdul-Razzak *et al.*, which recorded that possible reverberations of some drugs make some women with dysmenorrhea look for alternative medicine such as herbal drugs, diet, fish oil supplements, vitamin E, low-fat diets, and vegetables to control their symptoms,¹⁰ which participants in our study seem uninterested in exploring. Afreen *et al.* reported that many women never seek medical attention but rather practice self-medication with analgesics, non-steroidal anti-inflammatory drugs (NSAIDs), and direct application of heat without a treatment guide or prescription.¹¹ It is important to note that our respondents are not likely to engage in physical exercise (a common verbalization among young people with sedentary lifestyles) as a measure of relieving painful menstruation, although their reasons were not mentioned. This is contrary to the conclusion by Dehnavi *et al.* (2018), which recorded that based on their findings, utilizing regular aerobic exercise with average intensity can decrease or prevent the occurrence of certain menstrual disorders.¹² Consequently, aerobic exercise can serve as a preventive, therapeutic, or therapeutic approach to managing dysmenorrhea and other menstrual disorders. It further added that performing regular aerobic exercise through mental and physical relaxation and enhancing blood flow can revamp menstrual symptoms.

Previous findings prove that exercise therapy and physical activity are related to decreasing dysmenorrhea, but it appears the subjects in this survey may be ignorant of this intervention or assume their pain could be worse when exercising and choose not to act to help relieve themselves. This is where public education comes in handy, and researchers have embarked on sensitizing females within reproductive age and engaging this group in positive reproductive lifestyle activities and university community campaigns to bridge the gap between knowledge and reality. Although our findings did not assess the level of awareness in this respect, research documented important notices on dysmenorrhea stating that sports exercises with increased premenstrual pelvic blood flow and the onset of prostaglandin accumulation in this area delayed the start-up of pain; exercise during pain can result in faster transfer of wastes and prostaglandins (which is the major etiology of menstrual pain) from the uterus. However, regular exercise is key to reducing stress, ameliorating blood circulation, and elevating levels of endorphins and nerve transducers. Therefore, dysmenorrhea decreases the blood flow to the uterus, and diffidence in stress is one of the most familiar causes of the relationship between exercise and menstruation, as noted by Heidarianpour *et al.*¹³ When reviewing analgesics used to relieve dysmenorrhea and medication practice among our respondents experiencing menstrual pain, it was observed that respondents manage dysmenorrhea with commonly prescribed medication such as ibuprofen, buscopan, piroxicam (felvin), paracetamol, and diclofenac. Findings indicate that 32.3% of respondents used ibuprofen, while only 16.4% managed period pain with paracetamol. Armour *et al.* are of the opinion that paracetamol is the most frequently used analgesic.¹ This may be because it is readily available in most homes. The possible reason for the discordance between the findings of Armour *et al.* and our results may be related to peculiar differences in the study methodology.¹ Our findings are in concordance with those of Bello *et al.*, who often reported the use of drugs that inhibit prostaglandin production, *i.e.*, non-steroidal anti-inflammatory drugs (NSAIDs), and supported the use of ibuprofen.¹⁴ A study confirms that using NSAIDs for dysmenorrhea is the right action, as they appear to be more effective for pain relief than paracetamol, as recorded by Marjoribanks *et al.*¹⁵ Contrary to this,

the use of drugs such as paracetamol as a management strategy for dysmenorrhea was reported by Ameade *et al.* and Parra-Fernández *et al.*^{16,17} Although magnesium supplementation was found effective by Parazzini *et al.*,¹⁸ it is important to note that respondents in this study indicated their preference to use buscopan (an antispasmodic) and piroxicam, specifically felvin, for dysmenorrhea. This supports the conclusion that NSAIDs appear to be a very effective treatment for dysmenorrhea, though it calls for caution due to the substantial danger of adverse effects. Furthermore, there is insufficient proof to determine which (if any) individual NSAID is the safest and most efficacious for the treatment of dysmenorrhea, according to Marjoribanks *et al.*¹⁵ There is a paucity of research on PRN medication use during dysmenorrhea; however, data on the frequency of drug use per day shows that 29.7% take menstrual pain-relieving drugs when necessary (PRN), but most 36.9% use analgesics 3 to 4 times a day to achieve their desired comfort. This suggests the need to evaluate the effectiveness of self-administration of drugs and patient- or nurse-initiated medication, as some drugs are administered PRN when indications outlined by the manufacturer or prescriber are observed.

Medication practice among our respondents revealed that more than half (55.4%) of them take analgesics throughout menstrual pain, while 30.2% commence analgesic use before the onset of menstrual pain. Administering analgesics is to relieve pain due to menstrual flow, but the practice of doing the same before menstrual pain is believed to serve as prophylaxis in achieving comfort prior to physical menstrual flow. Some studies prove that there are people who feel symptoms [pre-menstrual symptoms (PMS)] indicating they are about to menstruate. A study by Kural *et al.* confirms that it is thought that PMS prompts women to be on guard in readiness to keep them safe.¹⁹

Conclusions

Pharmaceutical and non-pharmaceutical interventions were common practice; however, menstrual pain was normalized among respondents, as some took no action to obtain relief for personal reasons; hence, evidence-based information on interventions and coping mechanisms during dysmenorrhea is a top priority for PRN medication prescription.

The study is limited, and the data from the survey cannot be generalized since it was conducted among a single population with similar characteristics.

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