

A Cross-Sectional Study To Analyse The Prevalence Of Dysmenorrhea With Its Associated Complaints And Management Strategies Among Students Of Rawalpindi Medical University

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Abstract

Objective: To study prevalence of dysmenorrhea, its impact on daily routine, the associated complaints and the symptomatic management by the medical students at RMU.

Methods: Our research was based on a cross-sectional study from Aug 2023 to Dec 2023. Questionnaires were distributed among medical students of RMU with total participants of 170. Collected data was analyzed using SPSS version 27.0. The chi-square test was used for evaluation. Simple frequencies, percentages, and mean were obtained.

Results: We collected responses from 170 participants. Mean age of respondents was 20.59 ± 1.5 years. Based on the data we collected, we found that 70% of the respondents experienced dysmenorrhea with varying frequency. Dysmenorrhea had a considerable impact on students' daily life activities. 45% of the participants faced productivity issues, 28% experience emotional stress while 23.5% reported they avoid social events and 19% even miss school. Several complaints were associated with dysmenorrhea experience; most common were muscle cramps (45%), back pain (40.5%), nausea (27%) and fatigue (27%). We also investigated that majority of the students use self-management strategies to overcome their symptoms, which mainly included relying on pain relievers (36%) and use of heat therapy (37%). Use of herbal remedies was also common among 34% participants. 28% of the respondents had daily exercise routine, 19% avoid junk and 36% avoid cold water during menstruating days.

Conclusion: The study revealed that primary dysmenorrhea is a prevalent complaint among female at RMU, which severely affects their daily life. Meanwhile the myalgia, digestive, mental, physical, sleep, and appetite issues were self-managed by 63% while 37% sought medical help. The most prevalent symptomatic management are over the counter medicines, heat therapy some practice herbal remedies as well.

Keywords: dysmenorrhea, medical student, associated symptoms, pain relievers

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1. Introduction

Dysmenorrhea, commonly referred to as menstrual cramps or pain, is a prevalent gynecological condition that affects a significant number of menstruating women.¹ According to WHO (World Health Organization) dysmenorrhea is defined as the presence of pain or discomfort in the lower abdomen or pelvis, occurring just before or during menstruation. This pain can vary in Intensity, ranging from mild to severe, often associated with other symptoms and complaints that can impact overall well-being WHO states the prevalence to be in a range of 50-90% among the menstruating female. Primary dysmenorrhea pathophysiology is due to the abnormally increased uterine activity due to the release of prostaglandins during menstruation.^{2,3}

Dysmenorrhea is classified among two categories Primary dysmenorrhea is defined as Painful menses without any underlying abnormality and occurs before

or during menstruation. Whereas the next category refers to dysmenorrhea caused by several identifiable pathological conditions such as: endometriosis, adenomyosis, leiomyomas and pelvic inflammatory disease.^{4,5,6}

A study was conducted by Lacovides et.al emphasized that primary dysmenorrhea estimated prevalence was from 45-95% of menstruating females with associated GIT, physical and mental health issues with discomfort-^[7] Along with the prevalence, the wide range of pain and discomfort experienced among females of different ages, as well as the cultural association is an impact over the prevalence and intensity of primary dysmenorrhea. Moreover, cultural and geographical difference is also a topic of Prime search Focus The prevalence of dysmenorrhea in Nepal 75.2% Ethiopia was reported 71.69%.⁸ In Saudi Arabia primary dysmenorrhea 92.3%, and Secondary dysmenorrhea was 77% prevalent.⁶ In India; 62.75%. In Ireland it was 55% prevalent. According to a study where prevalence among different

countries was stated as 73% in Brazil, Egypt 76.1%-8. In Iran more than 70%⁹ and 85.4% in Pakistan.¹⁰ "A study that surveyed Prevalence of Dysmenorrhea among university students Of Pakistan at Lahore listed 91.5% prevalence rate."¹¹

Dysmenorrhea often presents with many complaints such as: low back pain, fatigue, vomiting, diarrhea, insomnia¹², emotional distress¹³, lack of focus, headache, constipation, diarrhea, sweating as well. its risk factors include smoking, alcohol consumption, higher body mass index, family history, depression, heavy menstrual flow¹⁴. its common treatments include self-care strategies¹⁵; herbal medicines with analgesic and anti-inflammatory properties such as ginger^{16,17}, heat therapy, hot drinks¹⁸, NSAIDs such as Panadol, paracetamol^{19,20,21}, acupuncture²², Kinesio tapes²³ and relaxing therapies such as meditation.

Although, literature reveals various researches being conducted so far in Pakistan still dysmenorrhea being such a prevalent complaint needs to be taken under light with regards to its prevalence, associated symptoms, degree well as the management strategies being practiced among females which include cultural practices being passed on by older generations as well as the personal effective preferences. Our study covers the other generalized Complaints that include a vast domain; Gastrointestinal, systematic, psychological, physical, and eliminatory. The purpose of our study is to deal with the symptomatic management of P-Dysmenorrhea among medical Students (who are somewhat aware of their health) as well inculcating the effect of Food choices and physical management. many studies associate work life balance issues and decreasing academic performance^{10,24} with dysmenorrhea as it hinders the concentration and results in focus issues therefore our focus is to assess the impact and the management among medical students despite managing their tough academic life.

2. Materials & Methods

This Cross-sectional study was conducted from August 2023-December 2023 at Rawalpindi Medical University, Pakistan. The Study Population was 1st and 2nd year medical students at RMU. Inclusion Criteria was female students with complaint of Primary dysmenorrhea. Those with some secondary cause for dysmenorrhea

known as secondary dysmenorrhea such as Bleeding irregularities, Polycystic Ovarian syndrome, Abdominal infections were **excluded** from study.

A questionnaire was compiled and validated at RMU by holding a trial among students and getting the approval of Professors at university. After a successful trial and positive feedback this questionnaire was being circulated and filled online. Collected data was analyzed using SPSS version 27.0. The test was used to analyze the obtained data. Simple frequencies, percentages, and mean were obtained. Our sample size was 169 using the Open Epi Sample Size Calculator with a confidence interval of 95%, a margin of error of 5% and a population size of 300 since we surveyed only the female students of 1st and 2nd year of Rawalpindi Medical University. Data was collected from participants after their approval for informed consent. Participants were ensured of their given data confidentiality and were well informed of objectives of research. Further, our research was reviewed and approved by the "Ethical Review Board" of Rawalpindi Medical University. Data analysis was carried out using SPSS version 25. P-value less than 0.05 will be considered significant.

3. Results

We collected 170 responses to our questionnaire from the female students at Rawalpindi Medical University. The age of the participants ranged from 16 years - 27 years but Mean Age was 20.59 ± 1.5 years. Figure 1 represents a summary of the age groups that participated in this study. Based on our collected data, out of 170 respondents, 51 (30%) respondents never experienced dysmenorrhea (menstrual pain or cramps) but the rest of them (70%) experienced it with varying frequency. However, more than 30% of the respondents have been experiencing it for 5 years or longer duration. We further investigated if the issue of dysmenorrhea was due to any underlying cause (pelvic, hormonal or abdominal abnormalities or any other menstrual disorder) but such causes were prevalent only in 11% population.

We also studied the impact of dysmenorrhea in the lives of the students and based on the results, 28 (16%) participants were significantly impacted while 39 (23%) participants were moderately affected, and 32 (18%) participants were slightly affected due to dysmenorrhea

symptoms in their daily life activities. Less than 2% participants were not at all affected. Upon further investigation, we summarized that 45% of the participants face decreased productivity issues while 28% of the participants experience emotional stress and lack of focus. About 23.5% respondents avoid social events and 19% even miss school or work due to dysmenorrhea.

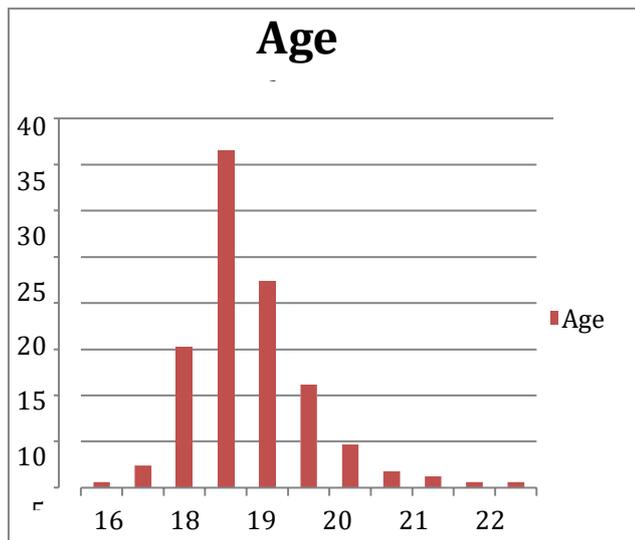


Figure 1: Age of Respondents

A number of associated symptoms are experienced by the participants who have issue of dysmenorrhea. Most prevalent symptom includes abdominal muscle cramps common among 77 (45%) participants, followed by back pain which is common among 69 (40.5%) participants. Substantial number of respondents (27%) also experience nausea and fatigue. Another prevalent complaint is of mood disorder which is experienced by at least 29% of the participants while loss of appetite is faced by 25% of the respondents. 22% participants reported that they also experience vomiting while 21% had complaints of pain in thighs, knees or legs. Another striking complaint was of anxiety among the participants due to dysmenorrhea which was reported by almost 19% students. 12% students also reported that they experience nervousness. Almost 15% students had affected sleep due to painful menstruation and experienced sleeplessness. Almost 13% reported about constipation. Other commonly experienced complaints

by the respondents included diarrhea, myalgia, frequent urination and sweating, increased appetite etc.

Based on the data we collected, we found that majority of our study population never sought medical advice or treatment for their symptoms. Most of them relied on self-management strategies which includes the use of pain relievers reported by 36% respondents while 37% relied on using heat through hot water bottles or heat pads to alleviate their symptoms. 34% participants used herbal remedies such as herbal tonic or herbal tea to help themselves. Use of ginger (in 15% population), peppermint (in 6% population), cinnamon (in 5% population) and corom seeds (in 9% population) was also observed among the respondents. 14% students reported that they made significant changes in their diet as well to deal with their symptoms. 10% students also try relaxation techniques like meditation, breathing exercises while 6% try warm up exercises. 7 students reported that they even have to take IV therapy due to the severity of their symptoms. Only 13 students reported that they take some kind of supplementation. 33 (19%) students also revealed that they avoid junk food while 47 (28%) students reported that they avoid cold water close to their menstruation days. Thus, mostly students do not seek official or medical help for their issues and rely on self-therapy by using various techniques Figure 2.

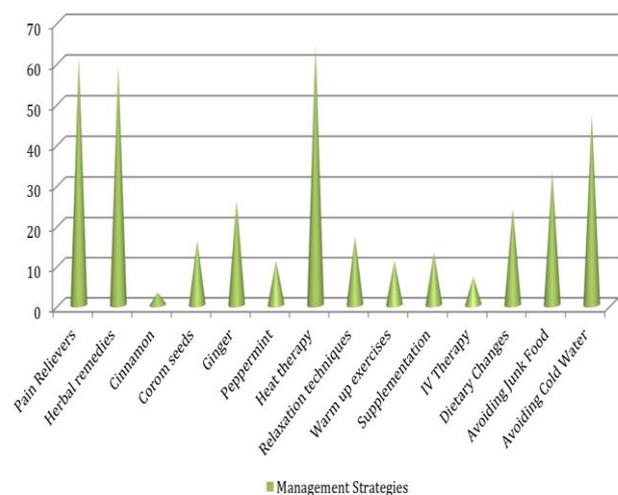


Figure 2: Various management strategies employed by the respondents

4. Discussion

Dysmenorrhea is the most prevalent complaint among menstruating female all over the world. It has so far gathered much limelight in the research domain. WHO states its prevalence about 50-90%. Our survey revealed the prevalence rate of 70% among the medical students at RMU. Dysmenorrhea being a frequent issue surely is concerning to deal with. Therefore, many researches across the world have been conducted so far to study and analyze the relief and worsening factors, the preventive and the causative aspects, the frequent complaints and symptomatic managements, its effects over physical and mental health as well as work life balance issues for females. A study concluded the effects of dysmenorrhea among university going female was a academic hurdle compared to those who didn't have it ^[25].

Our study was meant to reveal the prevalence of primary dysmenorrhea, excluding the secondary one, among medical students at RMU. As well as explore the related genres. The period for how long the participants have been suffering was though variable but 30% of the respondents have been dealing with it for more than five years. The impacts of painful menstruation are worth discussing. Our study focused on overall influence over daily life which includes mental health and status, physical activity and endurance, anxiety and mood, social events avoidance, skipping university. The results appeared to be significant 29% of respondents gave a verdict of severely influencing while 39% were moderately affected. A study revealed significant impact of dysmenorrhea on quality of life. ^[26]

Another aspect of our study was to rate the prevalence of other complaints as dysmenorrhea pain comes along with various other health disturbances often which include dietary and appetite issues, sleep issues, emotional and mental health disturbances ^[13], digestive issues such as constipation, diarrhea, vomiting, nausea, pains such as: headaches, myalgia, abdominal cramps, joint pain, back pain and reduced focus and productivity ^[27].

Management strategies being practiced all over the world vary with culture and regional aspects also with efficient self-choice. Being medical students the participants of our research were well aware of the reproductive cycle and the changes associated with it

going around in their body. Therefore, self-management was found to be prevalent. The management strategies most prevalent were heat therapy (37%), pain relievers (36%) and herbal remedies. randomized control trials were held to study the significant effect of heat therapy on dysmenorrhea. ^[28] Herbal remedies such as ginger, cardamom, ajwain; carom seeds are as well preferred by 34% population. ^[29]

The cause known for dysmenorrhea is due to the inflammatory factors produced because of shredding of endometrium during menstruation and the abnormal contractions of uterus due to chemical imbalances. Therefore N-SAIDS; over the counter medicines are helpful in alleviating the pain. ^[14] Some preventing options for worsening dysmenorrhea as well is the step forward in raising the awareness of dealing this issue among females ^[31]. Our research also dealt with the practice of such methods among students at RMU that include; dietary changes, junk avoidance, avoiding food that worsens inflammation, cold water avoidance, maintaining good health, supplements for minerals and vitamins in routine basis to ensure balanced diet intake, also regular exercise ^[32]

The gap which we couldn't bridge through our study is the comparison of prevalence, impact, prevalence and management between medical females and non-medical females. Our data responses are limited to 1st and 2nd year only. However, the students from other years also allied h health sciences indeed can be the source of better analysis. The number of responses collected were though significant but still a limiting aspect of our research.

5. Conclusion

Dysmenorrhea being such a prevalent complaint should be addressed by the medical healthcare providers. Young female group should be guided with the efficient management strategies. Lectures could be conducted at institute to well equip the complainers with the knowledge of management options. Proper counselling can help the students minimize the impacts of dysmenorrhea over their daily life. Dietary choices and physical as well as mental therapies that provide relief should be brought about to practice. Medical students being well aware of the dysmenorrhea can help in playing a key role in raising awareness among general female public over this issue

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