



# PREVALENCE OF PRIMARY DYSMENORRHEA AMONG YOUNG ADULT WOMEN IN VISNAGAR CITY - A CROSS-SECTIONAL STUDY

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**Abstract:** Primary dysmenorrhea (PD), or painful menstruation, is a common gynecological condition that can cause intense pain and functional disability in women of reproductive age. As a nonmalignant condition, PD is relatively understudied and poorly managed. The study aims to evaluate the prevalence of primary dysmenorrhea in young adult women. 160 women aged 18-25 were recruited, based on inclusion and exclusion criteria. Participants provided consent and completed the Menstrual Symptom Questionnaire (MSQ). Visnagar City has a significant prevalence of PD among young women aged 18-25, with 65.1% affected.

**Index Terms** - Primary Dysmenorrhea, Menstrual Symptom Questionnaire, Prevalence.

## I. INTRODUCTION

Menstruation is the recurrent and transient bleeding from the genital area, occurring from the time of menarche until menopause.<sup>[1]</sup>

It can be characterized as an endometrial disintegration-dependent cyclic uterine haemorrhage that happens approximately every 21 to 45 days during a normal cycle, with 2 to 6 days of flow and a mean blood loss of 20 to 60 ml. The bleeding usually lasts for 40 years.<sup>[1]</sup>

The term 'dysmenorrhea' is derived from Greek, where 'dys' signifies difficulty, pain, or abnormality, 'meno' refers to month, and 'rhea' indicates flow.<sup>[2]</sup>

Dysmenorrhea is the term for menstruation-related pelvic or lower abdominal cyclic or recurrent pain. With a prevalence of 43–93%, it is the most common gynaecological complaint among young women.<sup>[1]</sup>

The main complaint of individuals with dysmenorrhea is pain, followed by cramps, diarrhea, headaches, nausea, and syncope.<sup>[4]</sup>

Dysmenorrhea is commonly categorized into two types; primary and secondary.<sup>[5]</sup>

The focus of this review is Primary Dysmenorrhea (PD). Painful menses in the lower abdomen, are characterized by a feeling of cramping and may be preceded by additional symptoms like sweating, headache, nausea, vomiting, diarrhoea, or tremulousness. In women with normal pelvis anatomy, these symptoms occur just before or during the menstrual cycle.<sup>[5]</sup>

It is often characterized by congestive (deep, dull ache) and/or spasmodic (sharp spasms) pain.<sup>[6]</sup>

Secondary dysmenorrhea (SD) pertains to painful menstruation linked with pelvic abnormalities or medical conditions and it is often accompanied by chronic pelvic pain (CPP), dyspareunia, midcycle pain, and irregular menstrual bleeding.<sup>[7]</sup>

Clinical factors that increase the risk of PD include early onset of menstruation, irregular menstrual cycles, and heavy menstrual bleeding.<sup>[6]</sup>

Primary dysmenorrhea usually starts either during or shortly after menarche, once regular ovulatory cycles have been established. Women experiencing PD tend to produce higher levels of prostaglandins in the endometrium compared to those who do not experience symptoms.<sup>[10]</sup>

Current evidence indicates that the pathogenesis of dysmenorrhea is caused by increased endometrial secretion of prostaglandin F<sub>2α</sub> (PGF<sub>2α</sub>) and prostaglandin E<sub>2</sub> (PGE<sub>2</sub>), which are involved in increasing myometrial contractions that cause uterine ischemia and sensitize pain fibers. However, the exact pathophysiology of dysmenorrhea is still unknown.<sup>[9]</sup>

The pain of dysmenorrhea can be significantly debilitating, leading to limitations in physical and daily activities.<sup>[12]</sup>

Despite its high prevalence and negative impacts, numerous women do not seek medical attention for this condition.<sup>[2]</sup>

Chesney and Tasto developed the Menstrual Symptom Questionnaire (MSQ) in 1975, and it is suitable for assessing menstrual symptoms in general. [14] The MSQ consists of 25 items, 24 were statements regarding symptoms, and the 5th filling out the questionnaire had five response options that indicated how much the symptom was present.<sup>[14]</sup>

PD can significantly lower a woman's or an adolescent's quality of life, despite the fact that it is not a fatal illness. Dysmenorrhea is also thought to have serious economic repercussions.<sup>[15]</sup>

## I. RESEARCH METHODOLOGY:-

**Type of Research :** Observational study

**Type of study:** Cross-sectional study

**Sample design:** Convenient sampling

**Study Population:** Women aged between 18 to 25 years

**Sample size:** 160 participants

**Study setting:** Visnagar City

**Study duration:** Feb-march2024(2 months)

### Inclusion criteria:-

Age:- 18 -25 years

Those who are able to read, write and understand English.

### Exclusion Criteria:-

Those who don't want to participate

Participants with any endocrine disorders, chronic disease

Participants who had undergone any major surgery

### OUTCOME MEASURES

Menstrual Symptom Questionnaire

### DATA COLLECTION PROCEDURE

This cross-sectional study was conducted after obtaining ethical approval from the institutional ethical committee of Nootan College of Physiotherapy, Sankalchand Patel University, Visnagar, Gujarat, India. A Convenient sample of 160 women age between 18 to 25 was taken from different parts of the city like Sankalchand Patel University, Kamana circle etc. Participants were selected for the study based on inclusion and exclusion criteria. The whole procedure was clearly explained to all the participants and their consent was taken and then the assessment form was filled. After that participants were asked to fill up Menstrual Symptom Questionnaire about the symptoms of primary dysmenorrhea. Then the data was collected and then it was further used for analysis.

## STATISTICAL ANALYSIS AND RESULT:-

The data was analyzed using MS Excel. Descriptive statistics was performed for demographics. The prevalence of Primary Dysmenorrhea was determined by considering number of participants affected and dividing it by the total number of participants who answer the question.

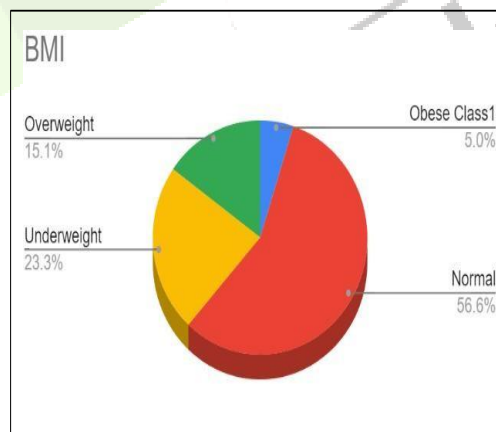
Table 5.1: Shows demographics data of all participants

Demographic data of participants	
VARIABLE	MEAN±SD
NO. OF Participants	16 0
AGE	20.2±1.54
WEIGHT	53.8±10.15
HEIGHT	157.6±6.34
BMI	21.7±4.15

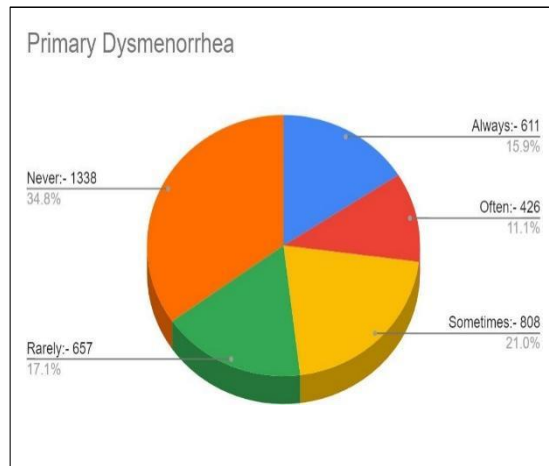
Table 5.2: Shows body mass index of all participants

Body mass index	
Underweight (< 18.5)	36
Normal weight (18.5–24.9)	92
Overweight (25–29.9)	24
Obese (≥ 30)	8

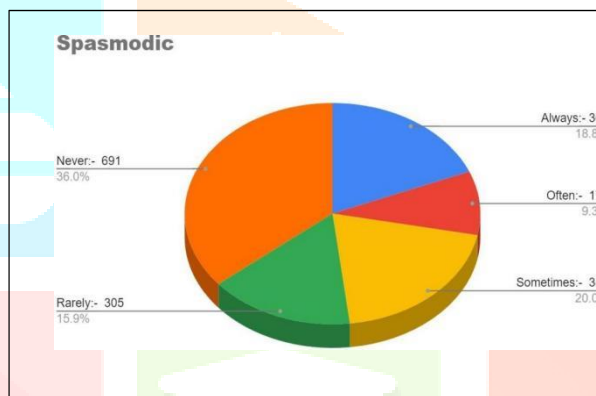
Pie Graph 5.1:- shows the BMI of participants in percentage



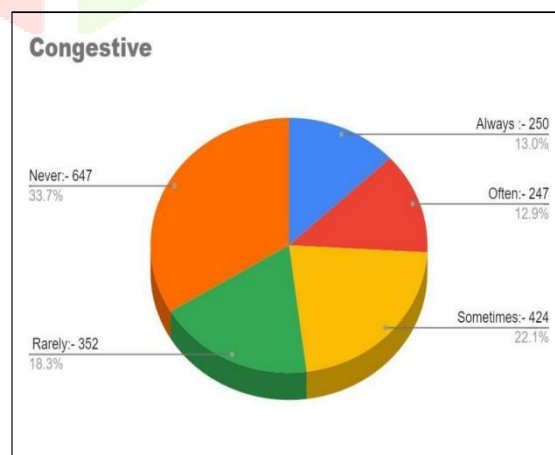
**Pie Graph 5.2:- Shows the prevalence of primary dysmenorrhea in Visnagar City**



**Pie Graph 5.3:- Shows the prevalence of spasmodic (type I) primary dysmenorrhea in Visnagar city**



**Pie Graph 5.4:- Shows the prevalence of congestive (type II) primarydysmenorrhea in Visnagar city**



A cohort study was conducted among a group of 160 females who menstruate in Visnagar city, ensuring a remarkable 100% response rate. These individuals, falling within the age range of 18 to 25 years, exhibited a mean age of  $20.2 \pm 1.5$  years, as illustrated in Table 1. Notably, the overwhelming majority, constituting 93.8% of the participants were pursuing undergraduate studies. Upon examination of their Body Mass Index (BMI), it was observed that the majority of respondents fell within the normal BMI range, as per the Asian classification of BMI by the World Health Organization (WHO). Specifically, the mean BMI was recorded at  $21.7 \pm 4.1$ . Delving into the prevalence of primary dysmenorrhea within this cohort, findings revealed that 65.1% of the surveyed females

experienced this condition. Further analysis delineated that within this prevalence 64% suffered from Spasmodic (type 1) while 66.3% endured congestive (type 2) primary dysmenorrhea. These insights shed light on the significant prevalence and varied manifestations of dysmenorrhea among the female population in Visnagar City.

## DISCUSSION

The purpose of this study was to determine the prevalence of PD in Visnagar City's young adult female population. Based on inclusion and exclusion criteria, a total of 160 participants were chosen for this study. The subjects' mean age was  $20.2 \pm 1.5$  years, and they ranged in age from 18 to 25. According to the current study, 65.1% of young adult women in Visnagar city who menstruate have PD. The current study's findings are consistent with previous research that has found a prevalence rate of PD, including 63.3% among nursing students in Southern Spain, 60% among 2721 women in Canada, and 70.6% in Saudi Arabia.<sup>[9]</sup>

Previous research has shown that a high prevalence rate is found in several cross-sectional studies carried out in various nations, such as 89.6% in Lebanon, 84.2% in Lithuania, 88% in Australia, 85.1% in Palestine, 83.6% in Northern Ghana, and 84.1% in Italy.<sup>[9]</sup>

One possible explanation for the variations in these estimates could be attributed to the ethnic and sociocultural backgrounds of the groups being studied.<sup>[21]</sup> In the majority of studies, the prevalence rate of PD exceeded 60%. This suggests that it is a widespread issue and warrants appropriate attention and management. In the current investigation a 25-item questionnaire about menstrual symptoms was used. When asked the 25th question, 64% of respondents had spasmodic (type 1) PD and 66.3% had congestive (type 2) PD. None of the subjects had symptoms that were only congestive or spasmodic; all of them showed signs of both. "I have cramps that start on the first day of my period" (89.3%) and "I feel exhausted, lethargic, or tired for several days before my period" (84.3%) were the two most prevalent symptoms seen in the current study in the spasmodic type. The congestive type's most prevalent symptom was "I feel agitated, easily agitated, and impatient a few days before my period." (88.7%) and "I experience light headedness and weakness during my period" (85%). The majority of participants experienced a combination of symptoms characteristic of both spasmodic and congestive PD. In our study, headaches were reported by 56.8% of participants, while 60.6% experienced nausea. According to the previous study, 33.33% of the study population had emotional instability and 50% of the study population was disgusted and irritable. Several studies also noted headaches (14.1%), nausea or vomiting (8.97%), decreased appetite (29.48%), and disturbed sleep (26.92%).<sup>[21]</sup>

In our study, 71.8% of participants reported dull, continuous pain during their period, while 63.1% reported feeling depressed for a few days prior to their period. It lowers a person's quality of life by interfering with their psychological health, making them sicker, and making them miss work and classes more frequently. The symptoms of PD do not consistently correlate with each other and can differ from one individual to another. The mean age of the young adult women who participated in this study, who were between the ages of 18 and 25, was  $20.2 \pm 1.5$  years. The majority of the female respondents to the survey, who were mostly between the ages of 19 and 21, displayed more symptoms. Out of the total number of participants, 93.8% of the women were undergraduate students. Prior research has indicated that women under 25 years old are more prone to experiencing PD, and the occurrence of dysmenorrhea tends to decrease as age increases.<sup>[9]</sup> However, while the prevalence observed in our study was also higher among females under 25 years, similarly to previous studies, it's noteworthy that no statistical significance was found across various age groups. This lack of significance could be attributed to the narrow age range within the participants.<sup>[9]</sup> The average weight of the participants was  $53.8 \pm 10.15$  while the average height was  $157.6 \pm 6.34$ . The mean Body Mass Index (BMI) for all 160 participants was calculated to be  $21.7 \pm 4.1$ . Out of 160 participants, 92 (56.1%) had a BMI in the Normal range (18.5–24.9), 36 (23.3%) were underweight (18.5–24.9), 24 (15.1%) were overweight (25–29.9), and 8 (5%) were obese (>30). In the underweight category, "I feel irritable, easily agitated, and impatient a few days before my period" was the most frequently reported symptom. The least common symptom was "I take aspirin for the pain during my period" (19.4%), accounting for 97.2% of cases. In the normal category the most seen symptom was "I have cramps that begin on the first day of my period" (88%) and the least seen symptom was "I take a prescription drug for the pain during my period" (20.6%). Within the overweight category, "I have cramps that start on the first day of my period" was the most commonly reported symptom (87.5%), while "I have diarrhea during my period" (37.5%) was the least common.

The least visible symptom in the obese group is "I take a prescription medication for the pain during my period" (25%) and these individuals also had the majority of the other PD symptoms.



According to earlier research the relationship between BMI and PD, however, is still debatable. Numerous studies have found no connection between BMI and dysmenorrhea, while other research has linked PD to a higher frequency in subjects who are overweight or obese. <sup>[21]</sup>

Young adult women experience dysmenorrhea at a high rate, and the pain they endure can be severe and debilitating. It might be time to investigate different therapeutic approaches for the relief of dysmenorrheic pain and to decrease the detrimental effects that dysmenorrhea has on young adult women's social, economic, and personal lives.

## CONCLUSION

The study concluded that Visnagar City reveals a significant prevalence of primary dysmenorrhea among young adult women aged between 18 to 25 years, with 65.1% experiencing the condition.

## LIMITATION OF THE STUDY:

In this study, the sample size taken was less compared to other studies conducted in other parts of India. So, it can be done on a large population. Also, this study is confined to a limited area and limited population of Visnagar City so, it can be carried out in large areas.

## FUTURE RECOMMENDATIONS OF THE STUDY:

There is a need to investigate the impact of lifestyle factors such as diet, exercise, stress, and sleep quality on the prevalence and severity of primary dysmenorrhea among young adult women. Understanding how these lifestyle factors contribute to dysmenorrhea could inform holistic management approaches. Physiotherapy can play a crucial role in effectively managing primary dysmenorrhea and enhancing the quality of life for young adult women.

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