

# Impact of Junk Food on Dysmenorrhea in Young Aged Females of Ahmedabad City

Dr. Dhruvi S. Zalavadia<sup>1</sup>, Dr. Amit M. Patel<sup>2</sup>

<sup>1</sup>1<sup>st</sup> Year MPT student (Orthopaedics), <sup>2</sup>Senior Lecturer & PG guide (Orthopaedics),  
JG College of Physiotherapy, Gujarat University, Ahmedabad, India.

Corresponding Author: Dr. Dhruvi Sanjaybhai Zalavadia

DOI: <https://doi.org/10.52403/ijhsr.20240802>

## ABSTRACT

**BACKGROUND:** Dysmenorrhea, or painful menstruation, is common among young females and can significantly affect their well-being. This study aims to explore the potential relationship between junk food consumption and severity of dysmenorrhea in young females residing in Ahmedabad city.

**INTRODUCTION:** Painful menstruation, or dysmenorrhea, is a widespread concern affecting many young females. The discomfort associated with dysmenorrhea can range from mild inconvenience to severe pain. It is understood that dysmenorrhea can be influenced by various factors, including hormonal changes and lifestyle choices. One lifestyle aspect that has attracted attention in recent years is dietary habits, particularly the consumption of junk food. This study, set in Ahmedabad city, aims to shed light on the potential impact of junk food consumption on dysmenorrhea in young females.

**METHODOLOGY:** A total of 100 female participants aged 18-25 were enrolled in the Ahmedabad city for the study. Participants were selected according to inclusion criteria, and were made to fill questionnaires which dealt with menstrual history, dietary habit and dysmenorrhea. Questionnaire was circulated through Google form. The intensity of pain was rated on numeric pain rating scale (NPRS).

**RESULT:** SPSS version 29 software was used for data analysis. For the correlation between junk food habit and dysmenorrhea spearman rho test was applied. ( $r = 0.898$  and  $p = <0.001$ )

**CONCLUSION:** There is a significant correlation between junk food habit and dysmenorrhea among young females. Thus, the study suggests that subjects with higher junk food habit have severe dysmenorrhea.

**Keywords:** *Dysmenorrhea, Junk food, Numeric Pain Rating Scale.*

## INTRODUCTION

For a young girl, adolescence is a time of profound physical and hormonal change. The regular, cyclical alterations in the female reproductive system are referred to as the menstrual cycle.<sup>[1]</sup> Menstruation typically span 28–35 days, during which time the menstrual flow lasts for 3–5 days and results in an average blood loss of 30–80 ml.<sup>[2]</sup> Adolescence, which is marked by

significant hormonal changes, is the stage of physical and mental development that occurs between childhood and maturity. The development of menarche is one of the most noticeable changes in the teenage ladies. Menarche, which marks the beginning of a woman's reproductive life, is influenced by both her genetic makeup and her surroundings. Common menstrual abnormalities that adolescent girls may have

after menarche include dysmenorrhea, irregular menstrual flow, and premenstrual symptoms.<sup>[3]</sup> Dysmenorrhea, another name for menstrual pain or cramps, is a frequent menstrual cycle issue that affects young women. Usually, it manifests as lower abdominal or pelvic pain that is persistent. It can occasionally be accompanied by a number of additional symptoms, including nausea, dizziness, irritability, diarrhea, or sadness. The pain can range in intensity from mild to severe.<sup>[4]</sup> With a prevalence of 60% to 93%, dysmenorrhea is the most frequent gynecological condition in women.<sup>[2]</sup> An crucial factor in preserving that hormonal balance is eating a nutritious diet.<sup>[5]</sup> Dietary habits can have an impact on menstruation, which is a typical result of hormonal changes in a woman's body. Food habits can impact menstruation health and lead to various menstrual problems.<sup>[6]</sup> The quality of life for women who are fertile is strongly correlated with their dietary practices. 75% of girls today deal with menstruation-related issues.<sup>[3]</sup> Across the world, there is growing concern over the link between eating habits and menstruation problems such as dysmenorrhea.<sup>[7]</sup> Junk food is defined as food that is low in nutrients and high in calories, fat, sugar, or salt. Junk food has too much fat, sugar, or sodium per calorie, making it nutritionally inadequate.<sup>[8]</sup> A new trend among the younger generation is fast food culture. They are well-liked by kids and teenagers due to their readily available nature, deliciousness, affordability, marketing techniques, and peer pressure.<sup>[3]</sup> Teenagers' dietary habits, such as their frequent consumption of fast food and meal skipping, have recently altered, compromising their nutrient requirements. Diet, physical labor, and mental stress all have a direct or indirect impact on the female reproductive cycle.<sup>[7]</sup> A sedentary lifestyle and increased consumption of high-energy junk food are believed to be major contributing factors to overweight and dysmenorrhea in young females.<sup>[8]</sup> When it comes to dietary considerations, a number of earlier research

have examined the potential relationship between the consumption of particular foods and menstruation discomfort, emphasizing the potential benefit of increasing the intake of fruits, vegetables, fish, and dairy products.<sup>[4]</sup> It is understood that dysmenorrhea can be influenced by various factors, including hormonal changes and lifestyle choices. One lifestyle aspect that has attracted attention in recent years is dietary habits, particularly the consumption of junk food.<sup>[3]</sup> This study, set in Ahmedabad city, aims to shed light on the potential impact of junk food consumption on dysmenorrhea in young females.

## **MATERIALS & METHODS**

A cross-sectional observational study was conducted among young females in Ahmedabad city, Gujarat, India. A sum of 100 responses were acquired using the purposive sampling approach, with subjects having age group between 18-25 years old and being included on based on inclusion and exclusion criteria. Approval from the Institutional Ethical committee was attained. Data was collected via an online questionnaire created with Google Forms, and analysis was carried out using SPSS version 29 software. Data was collected over a one month period from October 1 to October 31, 2023. 31 items Questionnaire dealt with demographic data, menstrual history, dietary habit and dysmenorrhea was circulated among young females. The intensity of dysmenorrhea was rated on numeric pain rating scale (NPRS).

## **INCLUSION CRITERIA**

- Females aged 18-25 years
- Females who are engaged in junk food habit
- Females who had attained menarche
- Willing to participate

## **EXCLUSION CRITERIA**

- Females having any chronic health disease
- Pregnant women

## OUTCOME MEASURE

### • NPRS- NUMERIC PAIN RATING SCALE: -

The NPRS is a segmental numeric visual analog scale (VAS) in which a respondent selects a whole number (0 - 10 integers) that reflects the intensity of the pain.

Score range from 0 -10. It is 11 point numeric scale with '0' is representing "no pain" and '10' is representing "pain extreme". Higher scores indicate greater pain intensity.

ICC VALUE : **0.967** <sup>[10]</sup>

## STATISTICAL ANALYSIS

SPSS version 29 software was used for the data analysis. To check the normality of the data, Kolmogorov-Smirnov test was used

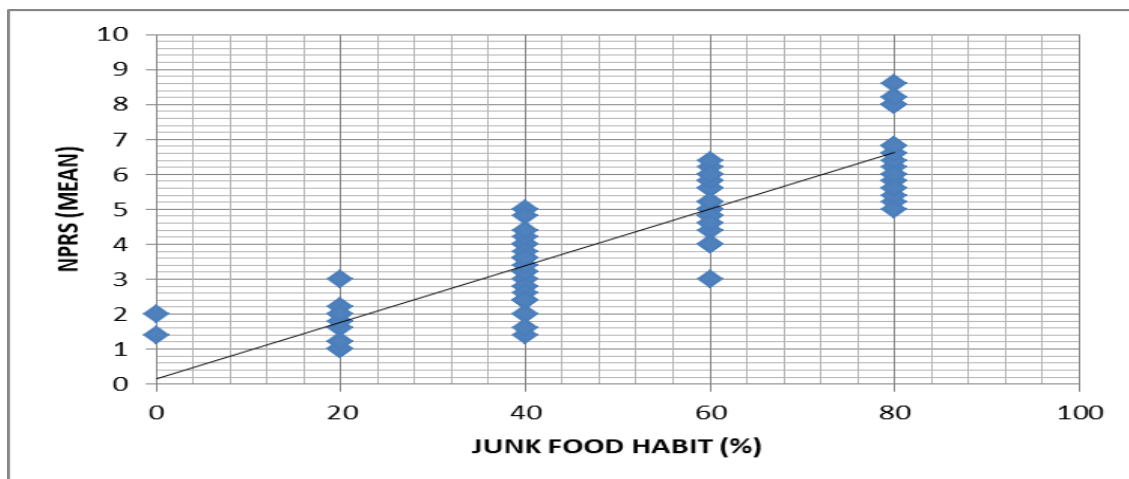
and the data was found not normally distributed. For the correlation between junk food habit and dysmenorrhea, Non-parametric spearman rho test was applied.

## RESULT

The study included 100 young females of aged 18-25 years. Questionnaire was distributed among them. Result was calculated on SPSS software version 29. For the correlation between junk food habit and dysmenorrhea, Non-parametric spearman rho test was applied. There is significant positive correlation ( $r = 0.898$  and  $p = <0.001$ ). The chosen significance level for the study was set at  $p < 0.05$ , this indicates that a correlation coefficient with a p-value below 0.05 would be considered statistically significant.

TEST	N	r Value	p Value
Spearman's RHO correlation	100	0.898	<0.001

## CORRELATION BETWEEN JUNK FOOD HABIT AND DYSMENORRHEA (NPRS MEAN)



## DISCUSSION

The present study's findings indicate that there is significant strong positive correlation found between junk food and dysmenorrhea in young aged females. This study suggests that subjects having higher junk food habit experience severe dysmenorrhea. Intervention like awareness for healthy food eating, dietary habits during menstruation, less consumption of

junk food will help to get relieve from menstrual pain.

Nirmala J.L. et al (2014) conducted a research on "A study of menstrual disorders in medical students and its correlation with biological variables". Study was conducted on 200 female students in a medical school in Pondicherry. Highly significant correlation was found between lack of exercise and consumption of junk food with

dysmenorrhea and PMS. Psychological stress was significantly associated with prevalence of various types of menstrual disorders. Dysmenorrhea, PMS, Menorrhagia and related stress were important causes for absence from college<sup>[2]</sup>.

Pramanik P. et al (2014) conducted research on "Impact of Fast food on menstrual health of school going adolescent girls in West Bengal, Eastern India". It was conducted on 826 girls of aged 13-18 years who attained menarche. It was found that 15% girls had irregular cycle in terms of menstrual flow and 9% in terms of length of cycle. It depends on frequency of intake of fast foods. It was found that dysmenorrhea is most frequent problems in adolescent girls. More common in girls who take fast food regularly<sup>[3]</sup>.

Amgain K. et al (2019) conducted research on "Effect of BMI and Food Habits on menstrual characteristics among Adolescent girls". Study conducted on 140 nursing students of Maharajgunj nursing campus aged between 20-35 years. Study showed that 87.9% had problems and 80.7% have dysmenorrhea. 68.6% of participants eat junk food, alcohol and tea/coffee have significant association with menstrual problems<sup>[6]</sup>.

Dr. PVS Smruthi et al (2022) conducted research on "Impact of lifestyle and dietary habits on menstrual cycle among female medical students." Study conducted on 200 students of tertiary care medical institute. It was observed that there was a significant association between consumption of junk food, physical activity and sleep habits on menstrual cycle of the respondents<sup>[1]</sup>.

Nawaz M. et al (2023), conducted research on "Assessing the difference concerning Junk Food consumption and menstrual health among female student –Athlete versus student Non-Athletes in the University setting". Study conducted among 340 girls, 170 athletes and 170 non-athletes aged between 18-25 years in University in Lahore, Pakistan. Result showed that irregular menstrual cycle and premenstrual

symptoms were higher in non-athletes as compared to athletes and junk food consumption were higher in athletes<sup>[9]</sup>.

## CONCLUSION

The present study showed dysmenorrhea was significant higher in the females with high consumption of Junk food. Dietary habit has a relationship with dysmenorrhea and other menstrual problems among young females. Study found significant strong positive correlation found between junk food and dysmenorrhea in young aged females. This study has some limitations that the research was conducted using electronic media tool to collect data and research is done across smaller area of Ahmedabad city. Further study can be done in larger area and different zones of the city. Future research could explore underlying factors that contribute to dysmenorrhea and other menstrual factors among young females.

## Declaration by Authors

**Ethical Approval:** Approved

**Acknowledgement:** None

**Source of Funding:** None

**Conflict of Interest:** The authors declare no conflict of interest.

## REFERENCES

1. Smruthi, P. V. S., et al. "Impact of lifestyle and dietary habits on menstrual cycle among female medical students." *IJGS* 5.1 (2023): 01-04.
2. Lakkawar, Nirmala Jaget, et al. "A study of menstrual disorders in medical students and its correlation with biological variables." *Sch J App Med Sci* 2.6E (2014): 3165-75.
3. Pramanik, Purushottam, and Arunima Dhar. "Impact of fast foods on menstrual health of school going adolescent girls in West Bengal, Eastern India." *Glob J Biol Agric Heal Sci* 3.1 (2014): 61-6.
4. Onieva-Zafra, María Dolores, et al. "Relationship between diet, menstrual pain and other menstrual characteristics among Spanish students." *Nutrients* 12.6 (2020): 1759.
5. Shinde, Prashant, and Omraj Sharma. "SumeetGoel: Effect of Junk Food/Fast

- Food on Menstrual Health: A review Study." *Int. AyurvedicMed. Journal* 2.1 (2017).
6. Amgain, Kapil, and Sujana Neupane. "Effects of BMI and Food Habits on Menstrual Characteristics among Adolescent Girls." *Europasian Journal of Medical Sciences* 1.1 (2019): 53-61.
  7. Negi, Priyanka, Aprajita Mishra, and Pramesh Lakhera. "Menstrual abnormalities and their association with lifestyle pattern in adolescent girls of Garhwal, India." *Journal of family medicine and primary care* 7.4 (2018): 804-808.
  8. Veena, K. S., et al. "Menstrual abnormalities in school going girls—are they related to dietary and exercise pattern?." *Journal of clinical and diagnostic research: JCDR* 7.11 (2013): 2537.
  9. Nawaz, Malka, Asif Ali, and Anam Nawaz. "Assessing the difference Concerning Junk Food Consumption and Menstrual Health among Female Student-Athletes verses Student Non-Athletes in the University Setting." *Pakistan Languages and Humanities Review* 7.3 (2023): 01-11.
  10. Hawker, Gillian A., et al. "Measures of adult pain: Visual analog scale for pain (vas pain), numeric rating scale for pain (nrs pain), mcgill pain questionnaire (mpq), short-form mcgill pain questionnaire (sf-mpq), chronic pain grade scale (cpgs), short form-36 bodily pain scale (sf-36 bps), and measure of intermittent and constant osteoarthritis pain (icoap)." *Arthritis care & research* 63.S11 (2011): S240-S252.

How to cite this article: Dhruvi S. Zalavadia, Amit M. Patel. Impact of junk food on dysmenorrhea in young aged females of Ahmedabad City. *Int J Health Sci Res.* 2024; 14(8):8-12. DOI: [10.52403/ijhsr.20240802](https://doi.org/10.52403/ijhsr.20240802)

\*\*\*\*\*