



Relationship Between Body Mass Index And Menstrual Irregularities Among The Female Students

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Abstract:

Introduction: Menstrual irregularities can significantly impact the quality of life, particularly in females experiencing conditions like dysmenorrhea and heavy bleeding. These irregularities are often linked to Body Mass Index (BMI). This descriptive correlational study aimed to assess the prevalence of menstrual irregularities and examine their relationship with BMI. Conducted at Desh Bhagat University, Mandi Gobindgarh, data was collected from 187 female students, of whom 100 reported menstrual irregularities. A self-structured checklist was used to assess menstrual patterns, while BMI was measured using a weighing scale and measuring tape. The study found that 69% of participants experienced menstrual irregularities, with 81% reporting mild symptoms. Additionally, 71% of the students had a normal BMI. Correlation analysis revealed a moderate positive correlation between BMI and menometrorrhagia, and a strong negative correlation between BMI and hypomenorrhea. Chi-square tests indicated a significant association between menstrual irregularities and demographic factors such as age, education, marital status, family income, and age at menarche. BMI also showed significant associations with age, education, marital status, and menstrual bleeding duration. The findings suggest that menstrual irregularities are more prevalent among obese women, highlighting the importance of lifestyle modifications, including proper diet and regular exercise, to maintain a healthy BMI and support menstrual health.

Index terms : Body Mass Index, Menstrual irregularities

Introduction:

Women face various health issues that can disrupt their daily lives, and menstrual irregularities are among the most common. These irregularities can significantly impact quality of life, particularly for those experiencing painful periods (dysmenorrhea) or heavy menstrual bleeding. Research has shown that menstrual cycle

irregularities are more common in women whose body weight deviates significantly from the norm.

The menstrual cycle governs menstruation and is a recurring sequence of events that typically occurs every 26 to 30 days in women throughout their reproductive years, which span approximately 36 years. This cycle involves simultaneous changes in the ovaries and the lining

of the uterus, driven by fluctuations in hormone levels in the bloodstream.

Despite their impact, menstrual issues are often regarded as minor health concerns and are frequently overlooked in public health discussions, especially in developing countries where women may face more severe health risks. Various types of menstrual disorders can disrupt the daily lives of adolescent girls and young women. Menstrual irregularities are commonly linked to a range of physical, mental, emotional, social, and reproductive challenges. In recent years, shifts in lifestyle, eating habits, and routines—particularly in developed countries—have led to rising obesity rates, which are associated with an earlier onset of menstruation.

Methods/ Approach:

A descriptive correlational research design was employed to explore the relationship between body mass index (BMI) and menstrual irregularities among female students at Desh Bhagat University, Mandi Gobindgarh. A total of 187 female students were selected using a multistage sampling method, from which 100 participants were further chosen through convenience sampling. The data collection instrument consisted of three parts: a socio-demographic profile, a self-structured checklist, and a clinical performa for BMI evaluation. The severity of menstrual irregularities was categorized as mild, moderate, or severe, while BMI levels were classified as underweight, normal, overweight, or obese. To examine the relationship between BMI and menstrual irregularities, the correlation coefficient was calculated. Additionally, the Chi-square test was used to determine the association between menstrual irregularities, BMI, and selected demographic variables.

Result/ Discussion:

The results indicated that the majority of female students, 81 (81.5%), experienced mild menstrual irregularities, while 19 (18.5%) had moderate irregularities, and none reported severe irregularities. Most participants (71%) had a

normal BMI, followed by 23.5% who were underweight, 4.5% who were overweight, and 1% who were classified as obese. The Chi-square analysis revealed a significant association between menstrual irregularities and certain demographic variables, including age, educational level, marital status, family income, and age at menarche. However, no significant association was found with other variables such as place of residence, length of the menstrual cycle, duration of menstrual bleeding, lifestyle, dietary habits, physical activity or sports involvement, and sources of information about menstruation.

Conclusion:

The study concluded that there is a relationship between body mass index (BMI) and menstrual irregularities among female students. The correlation coefficient analysis revealed a low positive correlation between dysmenorrhea and BMI (+0.09), a low negative correlation between menorrhagia and BMI (-0.01), and a low positive correlation between metrorrhagia and BMI (+0.166). A moderate positive correlation was observed between menometrorrhagia and BMI (+0.28). Additionally, there was a low negative correlation between polymenorrhea and BMI (-0.09), a low negative correlation between oligomenorrhea and BMI (-0.18), and a strong negative correlation between hypomenorrhea and BMI (-0.816). A low negative correlation was also found between intermenstrual bleeding and BMI (-0.02). The findings suggest that menstrual irregularities are more prevalent in women with obesity. While other contributing factors may exist, obesity is a significant contributor to menstrual cycle disturbances. Therefore, adopting healthy lifestyle changes—such as regular physical activity and a balanced diet—can help maintain a healthy body weight and BMI, potentially reducing the risk of menstrual irregularities.

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