Table 3 – Most Significant Predictors of Anemia

Variable	Effect Direction	Statistical Significance
BMI	Protective	p = 0.030
BMI category	Protective	p = 0.006
2nd trimester	Risk factor	Observational (50%)
Age	Minimal effect	p = 0.935
Parity	No effect	p = 0.946

Conclusions

The findings of this study demonstrate that maternal BMI is the most significant determinant of hematological status and anemia risk during pregnancy. Lower BMI is strongly associated with reduced hemoglobin levels and increased likelihood of anemia, while higher BMI exerts a protective effect. The second trimester represents the period of highest vulnerability, with a twofold increase in anemia prevalence compared to later stages of pregnancy.

In contrast, maternal age and parity do not significantly influence anemia risk in this cohort. The developed multivariate model and risk scoring system provide a practical framework for early identification of high-risk patients and may contribute to improved antenatal screening and targeted interventions. Further studies with larger sample sizes and inclusion of biochemical markers such as serum ferritin are required to validate these findings and refine predictive accuracy.

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ASSOCIATION BETWEEN BODY MASS INDEX (BMI) AND MENSTRUAL IRREGULARITIES AMONG YOUNG WOMEN

Introduction

Menstruation is one of the most important physiological milestones of adolescence, marking the maturation of the female reproductive system. It follows a cyclical pattern usually monthly and continues as a normal biological process from the onset of menarche until menopause. During adolescence, menstrual irregularities are quite common because the hormonal pathways that regulate the cycle are still developing. For this reason, the menstrual cycle is often viewed as a sensitive indicator of reproductive and endocrine health in young women [1]. Body mass index (BMI) is one of the key factors known to influence menstrual regularity. As a widely used measure of nutritional

status, BMI reflects overall body fat and can affect hormonal balance. Both extremes of BMI are associated with disturbances in menstrual function. Higher BMI and obesity are frequently linked to infertility and irregular cycles. On the other hand, very low BMI may also disrupt reproductive function. Insufficient body weight can lead to hormonal imbalance and reduced energy availability, resulting in irregular cycles or even ovulatory infertility. Much of the existing evidence on low BMI and menstrual dysfunction comes from specific groups, such as women with eating disorders or athletes, but the underlying mechanisms apply broadly. Maintaining a healthy BMI is therefore considered important for supporting normal menstrual function and overall reproductive well-being [2]. Beyond BMI, several lifestyle-related factors can also influence menstrual patterns in young women. Stress, fluctuations in body weight, and varying levels of physical activity can all affect hormonal regulation. Young women especially students often experience changes in daily routines, eating habits, and stress levels, which may contribute to menstrual disturbances. Although awareness of the connection between BMI and reproductive health is increasing, research exploring this association in many populations remains limited. Understanding how BMI relates to menstrual irregularities is essential for identifying modifiable risk factors and preventing potential reproductive complications later in life.

Goal

The goal of this study is to examine how body mass index (BMI) is related to menstrual irregularities among young women. By analyzing patterns in cycle regularity and irregularity across different BMI categories. This research aims to identify whether variations in body weight contribute to disruptions in normal menstrual function.

Materials and methods of research

This study was carried out as a cross-sectional survey using an online questionnaire. There were 411 responses from young women. The questionnaire collected details such as height and weight ranges, menstrual cycle regularity, cycle length, bleeding duration and flow, and the severity of dysmenorrhea. Participants also reported any diagnosed conditions, including PCOS, thyroid disorders, or diabetes, along with their perceived stress levels and physical activity habits. BMI categories were estimated based on height and weight measurements that were provided in ranges, these ranges to classify participants as underweight, normal weight, overweight or obese. The collected data were then analyzed to explore patterns and possible associations between BMI and different types of menstrual irregularities.

The results of the research and their discussion

The table 1 below shows a clear shift in menstrual cycle patterns as BMI increases. Among 411 women, 42 are underweight, where 31 reported regular cycles, while only 11 experience irregular ones. In the normal-weight group of 213 women, regular cycles are still more common at 174, though irregular cycles rise slightly to 53. The overweight category with a total of 106, presented 42 regular and 63 irregular cases. 23 cases in the obese group and only 10 have regular cycles, while 27 report irregular ones. These numbers suggest that higher BMI is strongly linked to menstrual irregularity, highlighting how weight can influence hormonal balance and cycle stability.

Table 1 – Impact of BMI on Regular vs irregular menstrual cycles

BMI Category	Regular cycles (n)	Irregular cycles (n)
Underweight (<18,5)	31	11
Normal weight (18,5–24,9)	174	53
Overweight (25–29,9)	42	63
Obese (≥30)	10	27

The combined results of table 2 and 3 from our dataset show a clear link between BMI and menstrual irregularity. Among overweight participants, 63 out of 105 (60,00%) reported irregular cycles, while 174 out of 227 (76,60%) normal-weight participants did so. The overweight group had more irregular cycles in absolute numbers, the statistical analysis clarifies the true pattern: the chi-square value of 42,43 ($p < 0,01$) confirms a strong association between BMI category and cycle regularity. The odds ratio of 0,21 (95% CI: 0,12–0,35) indicates that normal-weight individuals are significantly less likely to experience irregular cycles compared with those who are overweight. Put simply, overweight participants have higher odds of irregular menstruation. This aligns with known physiological mechanisms, where excess adiposity can disrupt hormonal pathways involved in ovulation. Overall, these findings highlight BMI as an important factor influencing menstrual health. The strength and consistency of the statistical results suggest that weight-related hormonal changes may play a meaningful role in cycle irregularity, reinforcing the importance of early lifestyle and metabolic interventions for reproductive-age individuals.

Table 2 – Association between BMI category and menstrual irregularity

Group	Irregular cycles (+)(n)	Regular cycles (-)(n)	Total
Overweight (experience)	63	42	105
Normal weight (control)	53	174	227
Total	116	216	332

Table 3 – Statistical analysis of BMI and menstrual irregularity

Statistical test	Result
Chi-square (x^2)	42,43
p-value	<0,01
Odds ratio	0,21 (95% CI:0,12–0,35)
significance	0,01
Total	332

Conclusions

Based on the responses of 411 young women, this study shows a clear link between BMI and menstrual irregularities among young women. Irregular cycles were noticeably more common in those with higher BMI. Among participants with irregular cycles, 63 were overweight and 27 were obese, compared with 53 normal-weight and 11 underweight women. On the other hand, regular cycles were far more common in the normal-weight group (174 women), while only 42 overweight and 10 obese participants reported regular cycles. The statistical analysis supports this pattern. The association between BMI and menstrual irregularity was highly significant ($\chi^2 = 42,43$, $p < 0.01$).

The odds ratio of 0,21 (95% CI: 0,12–0,35) indicates that women with a normal BMI were much less likely to experience irregular cycles compared to those who were overweight or obese. Taken together menstrual irregularities in people who are overweight often stem from a combination of hormonal disruptions, insulin resistance, polycystic ovary syndrome (PCOS), chronic low-grade inflammation, and unhealthy lifestyle habits. Because these factors are closely connected, addressing them with targeted interventions is essential for improving menstrual health and overall reproductive well-being.

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ANTI FUNGAL RESISTANCE PATTERNS IN VULVOVAGINAL CANDIDIASIS IN SRI LANKA

Introduction

Vulvovaginal Candidiasis is a prevalent reproductive health issue affecting all over the world. Vulvovaginal candidiasis is a common mucosal infection caused by candida species that occurs with itching, burning , abnormal vaginal discharge , dysuria. It can lead to recurrent, complicated disease in some cases. In severe form it can lead to extensive vulvar inflammation, erosion and negative impact on quality of life requiring systematic treatment. In Sri Lanka, Anti-fungal resistance has become a critical public health concern, facing challenges for effective treatment and management. Factors such as misuse or overuse of drugs, metabolic diseases contribute to increase the rate of resistance. Biofilm formation ability of certain Candida species including Candida albicans, non-albicans species (*C. auris, C. tropicalis, C. krusei* and etc.) complicate the treatments . The present of non-albicans species which are known to be intrinsically resistant to azoles emphasizes the importance of species-level identification in recurrent cases [1].

Biofilms not only provide a protection for microorganisms against anti-fungal agents but also enhances their resistance. Biofilm formation was significantly associated with reduced anti-fungal susceptibility, particularly among non-albicans species [2].

Candida species causing different patterns in anti-fungal susceptibility which impact treatment choices, complications and prognosis. It shows some species are multi drug resistant and that can increase recurrent infections, chronic infections, sex dysfunctions, complications and negative outcomes in quality of life.

Goal

To study about patterns of anti-fungal resistance in vulvovaginal candidiasis in Sri Lanka.

Material and methods of research

An anonymous online questionnaire survey was conducted among 102 Sri Lankan patients aged 18–40 years who had been previously diagnosed with vulvovaginal candidiasis. Questions consist with patient's history, resent episodes and treatments, laboratory tests results (species identification, anti-fungal resistance, biofilm status), medical history, recent antibiotic usage, diabetic, pregnancy and usage of immunosuppression. Primary data were collected via a structured Google Forms questionnaire. Responses synced to Google Sheets for cleaning and validation and systematic organization. Each survey response was recorded as a unique row with a corresponding timestamp to ensure data traceability.

The results of the research and their discussion

There were 26.7% first episode of candidiasis and 66.3% more than one-time experienced patient among the surveyed patients. In the past six months 67.5% used prescription oral tablets