

# Impact of Life Style and Dietary Habits on Menstrual Cycle of College Students

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**Abstract:** Menstruation is a normal physiological phenomenon occurring in females. Menstrual disorders frequently affect the quality of life in young women. Consumption of junk foods, lack of physical activities and skipping of breakfast are increasing among the young college students. So it is important to study the impact of these factors on menstrual cycle. The survey was carried out with the help of a questionnaire. 151 students participated in the study. The questionnaire included data's such as food habits like consumption of junk foods, skipping of breakfast, regularity and duration of menstrual cycle. Data's were analyzed manually and tabulated in percentages. It was found that 72.2% respondents had regular and 27.8% had irregular menstrual cycle. 36.4% respondents took junk food for more than 3 days/week. Skipping of breakfast was observed in 48.3% of students and only 21.2% students did regular exercises. In the present study it was found that there was no significant association between eating of junk foods, skipping of breakfast on menstrual cycle of respondents. But many scientists have reported the adverse effect of the above mentioned habits on menstrual cycle of young women. So it is important to evaluate the present situation and create awareness among college students about the effect of their dietary habits on the menstrual cycle and also the importance of regular physical activities. Life style modifications particularly decreasing the intake of fast food and promoting healthy eating habits should be emphasized.

**Keywords:** Menstruation, Junk foods, skipping of breakfast, physical activity, Sleeping habit

## 1. Introduction

Menstrual cycle determines the reproductive health of women. Disorders in cycles or its irregularities are a major gynaecological problem among female adults especially adolescent and a major source of anxiety to them and their family. Information on a woman's menstrual pattern will aids in clinical evaluation of gynaecological problems and will make womanhood easier for adolescent woman and adults (Harlow and Campbell, 2004). Irregular menstruation is one of the positive clinical symptoms which predict dysfunction of the hypothalamic-pituitary-ovarian axis. The list of menstrual disorders may range from amenorrhea, irregular cycles and abnormal flow to dysmenorrhoea and premenstrual symptoms (Campbell and McGrath, 1997). Dietary habits are fundamental factors that influence human life style and individual quality of life (QOL). Dietary habits in young women may determine their QOL in subsequent middle or old age and should be evaluated from the perspective of total benefit throughout whole life (Fujiwara and Nakata, 2004; Fujiwara *et al.*, 2007; Cerin *et al.*, 1993).

Changes in food habits can cause inadequate intake of calories, micronutrients, unsaturated fat, phytestrogens and fiber as well as increasing environmental toxins. These factors are speculated not only to influence the present lifestyle, but also to induce gynecologic disorders such as dysmenorrhea and irregular menstruation. (Fujiwara and Nakata, 2004; Berkey *et al.*, 2003 ; Abalkhail and Shawky ,2002).

The wide spread consumption of fat food, skipping food intake and shift from local food to western foods are increasing among the young women. So it is important to evaluate the present situation of eating habit in young women and estimate their influence on menstrual cycle (Fujiwara *et al.*, 2007). Schweiger *et al.* (1992) reported that daily eating habits significantly influence menstrual functions in young women. Fujiwara, (2003) found that

young women who skip breakfast have a significantly higher degree of dysmenorrheal symptoms than young women who eat breakfast, suggesting a positive correlation between skipping breakfast and menstrual disorders.

## 2. Objective

This study was designed to survey and determine the prevalence of menstrual irregularities in students and also to study the effect of consumption of junk foods, Fruits, Vegetables, skipping of breakfast, sleeping habits and physical activities on the menstrual cycle of college students.

## 3. Methodology

A total of 151 students in the age group ranging from 19-24 were selected for the present study. The survey was carried out with a questionnaire to collect data on food habits, sleeping habits, physical activities and menstrual cycle. The study subjects were briefed and requested to answer the questionnaire. The questionnaires were distributed and collected on the same day and data's were analyzed manually and tabulated in percentages.

## 4. Results

In this study normal menstrual cycle was defined as a menstrual cycle lasting for 26-29 days and irregular menstruation was defined as any subjects with the length of  $\leq 25$  or  $\geq 30$  days. It was observed that menstrual cycle was regular in 109 (72.2%) respondents and irregular menstrual cycle was found in 42 (27.8%) respondents. It was also observed that 101 (66.9%) respondents had painful menstrual flow, out of which 34 (33.7%) students had mild pain, 38 (37.6%) had moderate pain while 29 (28.7%) had severe pain.

**Table 1:** Lifestyle characteristics of study participants

Characters	Number	Percent (%)
<b>Vegetable intake</b>		
<3 days/week	25	16.6
≥ 3 days/week	126	83.4
<b>Fruit intake</b>		
< 3 days/week	56	37.1
≥ 3days/week	95	62.9
<b>Eating of junk food</b>		
<3days/week	96	63.6
≥ 3days/week	55	36.4
<b>Skipping of breakfast</b>		
<3days/week	78	51.7
≥ 3days/week	73	48.3
<b>Physical activity</b>		
Yes	32	21.2
No	119	78.8
<b>Sleeping habit</b>		
<3 days/week	23	15.2
≥ 3days/week	128	84.8

**Table 2:** Association between Lifestyle and Menstrual cycle

Variable	Menstrual cycle pattern			
	Regular		Irregular	
	Number	%	Number	%
<b>Intake of vegetables</b>				
<3 days / week	10	40	15	60
3-7 days/ week	99	78.6	27	21.4
<b>Intake of fruits</b>				
<3 days / week	42	75	14	25
3-7 days/ week	67	70.5	28	29.5
<b>Junk food</b>				
<3 days/week	67	69.8	29	30.2
3-7days/week	42	76.4	13	23.6
<b>Skipping of Breakfast</b>				
<3 days / week	58	74.4	20	25.6
3-7 days/ week	51	69.9	22	30.1
<b>Physical activity</b>				
Yes	22	68.8	10	31.2
No	87	73.1	32	26.9
<b>Sleeping Habit</b>				
<6 hours/day	6	26.1	17	73.9
≥6hours/day	103	80.5	25	19.5

Table 1 show the lifestyle characteristics of study participants and Table 2 shows the association between lifestyle and menstrual cycle of the study group. It was found that 55(36.4%) respondents took junk food for more than 3 days/week out of which 42 (76.4%) students had regular menstrual cycle and 13 (23.6 %) students had irregular menstrual cycle. 73 (48.3 %) respondents skipped breakfast for more than 3 days/week of which 51 (69.9%) students had regular menstrual cycle and 22 (30.1%) had irregular menstrual cycle.

78.8% of the respondents did no physical exercise while only 21.2% respondents did regular exercise out of which 68.8% students had regular menstrual cycle and 128 (84.8%) students slept for more than 6 hours, out of which 80.5% had regular menstrual cycle and 19.5% had irregular menstrual cycle.

## 5. Discussion

In the present study we attempted to find a relation between various life style factors like eating of junk foods, fruits, vegetables, skipping of breakfast, lack of physical activities and sleeping habits on the menstrual cycle of college students.

48.3 % students Skipped breakfast for more than 3 days/week. In our study we did not find any significant association between skipping of breakfast and menstrual cycle which might be due to small sample size but Fujiwara *et al.*, 2009 reported that skipping of breakfast had adverse effect on menstrual cycle in young college students. Goel *et al.*, 2013 performed a study in adolescent girls in Haryana and found that 66.25% adolescent girls skipped at least one meal a day and the most frequently missed meal was breakfast. Fujiwara and Nakata in 2010 studied and reported that skipping of breakfast is associated with reproductive dysfunction in post-adolescent female college students found the incidence of irregular menses was higher in the population that skipped breakfast. On the other hand gynaecologic disorders such as dysmenorrhoea and irregular menstruation were associated with food intake problems. (Fujiwara and Nakata , 2004 )

In the study we noticed that 55 (36.4%) respondents took junk food for more than 3 days / week and significant association was not observed between consumption of junk food and menstrual cycle. Similar result was also reported by Rupavani *et al.* ( 2013). Junk foods being deficient in micronutrients like vitamin B6, calcium, magnesium and potassium might be responsible for triggering premenstrual symptoms (Rupavani *et al.*, 2013) , whereas Nirmala *et al.* (2014) reported a significant association between irregular menstrual cycles, abnormal flow, dysmenorrhoea and PMS with frequent consumption of junk food. Fujiwara *et al.* (2009) found an association between fast food consumption and dysmenorrhoeal. Frequency of fast food intake was significantly associated with dysmenorrhoeal.

It was also found that menstrual cycle was regular in 68.8% respondents who did regular exercise. Similar result was also reports by Nirmala *et al.* (2014) who observed a significant association between physical exercise and menstrual abnormalities. But Lee *et al.* (2006) found no association between physical activity and menstrual problems. Regular physical activity helps to maintain ideal body weight, increases insulin sensitivity, increases BMR and release endorphins, which in turn helps in regularisation of menstrual cycle, improvement in PCOS and hypothyroidism, reduction in PMS and overall feeling of well-being. (Rupavani *et al.*, 2013;Teixeira *et al.*, 2013; Seedhom *et al.*, 2013) . In the present it was noticed that 84.8 % slept for more than 6 hours out of which 80.5% had regular menstrual cycle showing a relationship between sleeping habit and menstrual cycle.

## 6. Conclusion

In the present study it was observed that majority of the respondents had regular menstrual cycle and there was no significant association between lifestyle habits and menstrual cycle but many scientists have observed and reported the

adverse effect of lifestyle habits on the menstrual cycle. So further study is required with a large sample size. Lifestyle modifications like regular physical activities, decreasing the intake of junk foods and promoting healthy eating habits should be emphasised to improve menstrual health of young college students.

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