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The Late-Night Snacking Patterns and Their Association with Body Weight, Sleep Patterns, and Health Awareness Among Adolescent Girls

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Abstract-- The Late-night snacking has become a commonly practiced dietary habit among adolescent girls, which has been influenced by contemporary lifestyle factors such as increased academic activities, irregular daily routines, increased levels of stress, increased screen time. This may lead to delayed sleep patterns, resulting in inappropriate consumption of foods. This may affect the normal functioning of the human body, which usually occurs during specific times of the day. Late-night consumption of foods may affect normal circadian rhythm, which may affect energy usage, hormone balancing, and digestion in the human body.

The present study aimed to assess the pattern of late-night consumption of foods, its association with increased body weight, and the frequency of consumption of foods by adolescent girls between 18 to 20 years of age. The results revealed that individuals who practice late-night snacking have a higher probability of increased body weight compared to those individuals who maintain regular mealtimes. This may be due to increased intake of foods, reduced physical activities during late hours, and inefficient utilization of nutrients by the human body. Moreover, the study highlights the influence of behavioural and lifestyle factors like emotional eating habits, sedentary lifestyles, and sleep deprivation that may accompany late-night eating habits. These factors may further add to the risk of overweight and health complications. The study highlights the need for nutritional education and awareness programs that focus on the need for appropriate and timely food habits, healthy dietary practices, and healthy eating habits. Healthy and regular food habits may help reduce the risk of unhealthy snacking habits and contribute to the health and weight management of young women.

Keywords-- Late Night Eating, Weight Gain, Mindful Eating, Energy Imbalance, Lifestyle Factors.

I. INTRODUCTION

Adolescence and early adulthood are considered an important period in the formation of long-term diet and lifestyle habits, which are critical in determining health outcomes.

In young females between the ages of 18 and 20, rapid changes in academic requirements, social settings, and personal responsibilities may cause irregular lifestyles, increased psychological pressures, and sleep habits. These lifestyle changes have led to the rise in unhealthy eating habits, especially late-night snacking, which are becoming more common in young females.

Late-night eating refers to the practice of ingesting food during late evening or nighttime hours, usually following the main meal or before bedtime. This practice has become more common in modern society due to a variety of factors, such as increased screen time, academic requirements, emotional pressures, and easy access to energy-dense foods. This practice may be considered a form of snacking, which may not be related to hunger at all but to habit, boredom, or emotional factors. These practices may cause disruptions in regular meals and may affect the body's natural circadian rhythm.

Recent findings indicate that timing is vital in the maintenance of metabolic well-being. Eating meals during late hours is often linked to increased caloric consumption, low energy expenditure, and inefficient metabolic performance. The body's capacity to metabolize food is known to reduce during nighttime due to physiological alterations, and this may cause inefficient utilization of consumed calories. Eventually, this may cause a positive energy balance, and weight gain may occur. Additionally, late-night meals are often linked to sedentary activities like prolonged usage of mobile phones and television, and this may cause low levels of physical activity, leading to weight-related problems.

In addition to this, eating habits during late-night hours are also related to sleep problems. A lack of quality sleep and reduced sleeping time can affect hormones such as ghrelin and leptin, leading to an increase in appetite and cravings for high-calorie foods. This shows a clear link between eating habits during late-night hours and sleep, and this, in turn, is related to unhealthy eating behaviours.

Considering the rising issues of weight-related concerns and lifestyle diseases among young women, it is of great significance to understand behavioural patterns of eating during late-night hours and their potential impact on health. It is a known fact that with an increase in awareness about healthy eating behaviours, young girls still prefer to maintain irregular eating patterns without realizing their potential impact on health in the future. Hence, this study is designed to assess the level of late-night snacking among young girls between 18-20 years of age and its potential impact on body weight status and other lifestyle-related factors, and the findings of this study are expected to provide valuable insights to help design healthy eating behaviours and lifestyle practices among young girls in general.

II. OBJECTIVES

- To determine the percentage of late-night snacking among adolescents.
- To determine the types of late-night snacks consumed.
- To determine the sleep patterns of the participants.
- To compare the sleep patterns based on the frequency of late-night snacking.
- To analyse the relationship between late-night snacking and sleep patterns.
- To raise awareness about the impact of late-night snacking on the health of adolescents.

III. REVIEW OF LITERATURE

The Changes in the lifestyle of adolescents, such as an irregular sleep schedule and increased screen time, have also contributed to the habit of late-night snacking. Kim et al. (2014) stated that late-night meals were related to increased caloric consumption and poor dietary quality, increasing the risk of overweight. Lent et al. (2022) stated that irregular meal timing can affect the metabolic system and body weight. Suri and Pradhan (2010) stated that late-night snacking is related to poor sleep patterns. Jain et al. stated the negative effects of this habit on the overall well-being of the individual. However, no specific research has been done on 18- to 20-year-old adolescent girls; therefore, more research is needed on this topic.

IV. METHODOLOGY

The present study aimed to examine the pattern of late-night eating habits and their influence on body weights among adolescent girls who fall in the age range of 18-20 years. A descriptive study design was adopted for the research to ensure the systematic collection and analysis of data related to the study.

Data for the study was collected using a questionnaire that aimed to collect information related to the lifestyle patterns of the participants. The questionnaire included a set of questions, such as their eating habits during late hours of the night, their sleep patterns, and their physical activity patterns. The data for the study was collected using the online survey design with the help of platforms such as Google Forms.

The methodology adopted was based on a systematic approach to assess the relationship between late-night snacking habits, sleeping habits, and body weight status among adolescent girls.

V. RESULTS

The analysis of the data obtained from the sample of 100 adolescent girls has provided useful insights into late-night snacking, body weight status, and sleep patterns.

The body weight status of the participants was found to be distributed as 51.5% in the normal range, 24.8% underweight, 13.7% overweight, and 10% obese. However, even though most of the participants belonged to the normal range, the presence of underweight and overweight categories also reflects the diversity in the eating patterns and lifestyle.

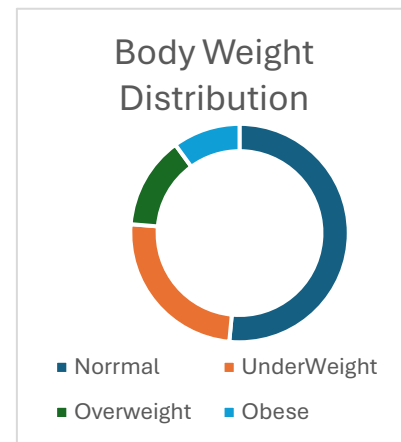


Fig. 1: Distribution of Body Weight Status Among Participants

In relation to late-night snacking patterns, it was found that a significant number of participants frequently consumed food during late hours, although not all participants frequently consumed late-night meals. Participants who frequently consumed late-night meals were likely to have irregular patterns of meals and a tendency to consume high-calorie snack foods.

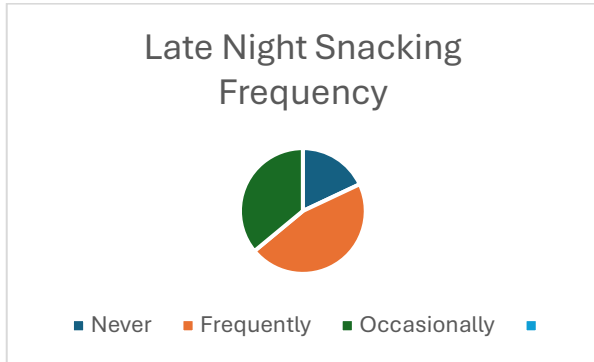


Fig.2: Frequency of Late-Night Snacking Among Participants

The Chi-square test results revealed differences in body weight distribution among various groups of snacking frequency. It was found that the group of participants who frequently participated in late-night snacking had a relatively higher tendency to be overweight or obese, while those with minimal or no late-night snacking had a normal weight.

Table 1:
Chi Square Test for Weight vs Late Night Snacking Frequency

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	165.191 ^a	153	.237
Likelihood Ratio	132.831	153	.879
N of Valid Cases	77		
a. 208 cells (100.0%) have expected count less than 5. The minimum expected count is .05.			

Regarding sleep patterns, the independent sample t-test was conducted to analyse variations in sleep duration among the participants based on their snacking habits. It was found that participants who frequently participated in late-night snacking had a relatively lower sleep duration compared to those with regular eating habits.

The above findings collectively confirm that late-night snacking is a significant contributing factor to weight status and sleep patterns among adolescent girls.

VI. DISCUSSION

The findings of the present study reveal the possible impact of irregular eating patterns, especially late-night snacking, on the lifestyle of adolescent girl students. The study reveals that late-night snacking is a common phenomenon, and it is affected by several factors, including academic pressure, screen time, and irregular daily schedules.

The variations in body weight status of the students also reveal that eating patterns, especially meal timing, are crucial in the maintenance of energy balance in the body. Late-night snacking can result in increased calorie consumption during a time when the metabolic rate is low, thereby leading to gradual increases in body weight. In addition, late-night snacking is also related to the consumption of high-calorie, low-nutrient foods.

It was also found that there was a connection between late-night snacking and changed sleep patterns. The study participants who had the habit of late-night snacking had a reduced and irregular pattern of sleep duration. This may be attributed to the disturbance in the body's circadian rhythm due to delayed consumption of food and the increased usage of electronic gadgets. This may influence the quality of sleep and increase the level of hunger and the consumption of unhealthy food items.

In addition, it may be assumed that the combined effect of irregular consumption of food and inadequate sleep may result in a decrease in the level of physical activity. This may result in the development of metabolic disorders and obesity-related health complications.

The study findings suggest that it is essential to adopt healthy lifestyle habits and regular consumption of food during the adolescent stage. The awareness of the health complications that may arise due to late-night snacking and the promotion of healthy dietary habits and sleep patterns are essential for the well-being of adolescent girls.

VII. CONCLUSION

The conclusions drawn from the present study reveal that late-night snacking behaviour is a significant behaviour among adolescent girls between the ages of 18 and 20. The results obtained from the study also reveal that the frequency of late-night snacking behaviour differs in adolescents, and these differences are related to weight and sleep.

The late-night snacking behaviour may cause an adverse impact on the lifestyle and nutritional status of an individual. The late-night snacking behaviour may also cause an adverse impact on the health and weight status of an individual.

The results obtained from the study also reveal that there is a need to create awareness regarding healthy eating habits and late-night snacking behaviour among adolescent girls. The late-night snacking behaviour and healthy eating habits may also help in creating a healthy lifestyle among adolescents.

Encouraging adolescents to develop a structured pattern in their eating habits and to make healthy food choices may help in creating a healthy lifestyle and in preventing potential health risks.



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