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Obesity awareness, knowledge, and attitudes among college students: A cross-sectional study

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Abstract

Obesity is a growing global health challenge, contributing to various chronic diseases, including cardiovascular disorders, type 2 diabetes, and mental health concerns. This study aimed to assess obesity awareness, knowledge, and attitudes among college students to identify gaps in understanding and behavior. A cross-sectional survey was conducted at PSG College of Arts & Science, Coimbatore, with 100 overweight and obese students participating. Data were collected through a structured questionnaire and analyzed using SPSS version 26. The findings revealed that 90% of students perceived themselves as overweight or obese, with the primary contributing factors identified as fast food consumption (46%) and lack of physical activity (26%). Although awareness of obesity-related health risks was high, actual lifestyle modifications remained inadequate. Screen time addiction, distracted eating, inconsistent fruit and vegetable intake, and sleep deprivation emerged as key concerns influencing obesity risk. Statistical analysis found no significant association between gender and obesity-related health perceptions ($p > 0.05$). The study highlights the need for targeted interventions, including nutritional education, physical activity promotion, behavioral modifications, and sleep hygiene awareness. Addressing these factors through public health strategies can bridge the gap between awareness and action, fostering long-term obesity prevention among young adults.

Keywords: Obesity awareness, college students, lifestyle behaviors, screen time, nutritional education

Introduction

Obesity is a significant global health concern, contributing to increased morbidity and mortality worldwide. It is a complex, multifactorial condition influenced by genetic, environmental, and behavioural factors. Obesity is associated with numerous chronic conditions, including cardiovascular diseases, type 2 diabetes, certain cancers, and musculoskeletal disorders, making it one of the leading causes of preventable deaths globally (Ikizek *et al.*, 2022) ^[1]. According to the World Health Organization (WHO), over 650 million individuals worldwide are classified as obese, with obesity-related complications causing approximately 2.8 million deaths annually (Ahirwar & Mondal, 2019) ^[2]. In India alone, more than 135 million individuals suffer from obesity, highlighting the urgent need for effective prevention and management strategies (Ahirwar & Mondal, 2019) ^[2].

The global prevalence of obesity has increased dramatically over the past four decades, nearly tripling since 1975. This surge is largely attributed to urbanization, reduced physical activity, and shifts in dietary patterns characterized by increased consumption of energy-dense, nutrient-poor foods (Pantenburg *et al.*, 2012) ^[3]. Obesity is a major public health challenge, not only because of its direct health implications but also due to its economic burden. The costs associated with obesity, including healthcare expenditures and loss of productivity, account for 2% to 8% of total health spending in many developed countries (Elsafi *et al.*, 2024) ^[4]. The condition disproportionately affects lower-income populations, contributing to health disparities worldwide (Al-Gabban *et al.*, 2013) ^[5].

The measurement of obesity relies on several indicators, with Body Mass Index (BMI) being the most commonly used metric. A BMI of 30 kg/m² or higher is classified as obesity, whereas a BMI between 25 and 29.9 kg/m² is considered overweight (Ogden *et al.*, 2000) ^[6]. However, BMI alone is an imperfect measure as it does not account for variations in body composition and fat distribution. Additional markers such as waist circumference and waist-to-hip ratio provide more accurate assessments of abdominal obesity, a key risk factor for metabolic disorders (Chooi *et al.*, 2019) ^[7].

Studies suggest that individuals with central obesity have a higher likelihood of developing cardiovascular diseases than those with a high BMI alone (Karmakar *et al.*, 2016) [8].

Obesity is not confined to any particular demographic; it affects individuals across all age groups and socioeconomic backgrounds. In high-income countries, obesity is prevalent across all socioeconomic strata, whereas in low- and middle-income countries, it is more common among urban populations, particularly middle-aged, affluent individuals (Bray *et al.*, 2017) [9]. Lifestyle choices, genetic predisposition, and environmental factors collectively contribute to obesity risk, necessitating a multifaceted approach to its prevention and management.

Among younger populations, particularly college students, obesity is becoming increasingly prevalent due to sedentary lifestyles, high consumption of processed foods, and inadequate physical activity. Research indicates that college students often experience significant weight gain due to poor dietary habits, stress, and lifestyle changes during their transition to adulthood (Surmachevska *et al.*, 2023) [10]. Understanding obesity awareness, knowledge, and attitudes among college students is crucial for designing targeted educational interventions that encourage healthier behaviours.

Despite growing awareness, obesity is often accompanied by social stigma and discrimination, which can exacerbate psychological distress and hinder weight management efforts (Pantenburg *et al.*, 2012) [3]. Stigmatization can lead to decreased self-esteem, avoidance of healthcare services, and unhealthy coping mechanisms such as emotional eating (O'Brien *et al.*, 2002) [11]. Addressing these challenges requires comprehensive public health strategies that promote not only weight management but also mental well-being and societal acceptance.

This study aims to assess obesity awareness, knowledge, and attitudes among college students to identify gaps and misconceptions. This study seeks to evaluate their understanding of obesity's causes and risk factors while identifying prevalent perceptions about its prevention and treatment. Additionally, the study aims to increase awareness of obesity and promote healthier lifestyle choices. By addressing these objectives, the research intends to provide insights into obesity-related perceptions among college students and contribute to the development of targeted interventions to mitigate obesity rates and improve overall health outcomes.

Materials and Methods

Study Design

This cross-sectional survey was conducted among college students to assess their awareness, knowledge, and attitudes toward obesity. Data were collected using a structured questionnaire during a specific period to provide a snapshot of obesity-related perceptions and behaviours within the target population.

Study Area and Population

The study was conducted at PSG College of Arts & Science, Coimbatore. The study population included undergraduate and postgraduate students from various disciplines, selected regardless of gender or age, to ensure a diverse and representative sample.

Study Sample: A total of 100 students were selected based on predefined inclusion criteria, specifically those classified as overweight or obese.

Data Collection

A structured questionnaire was developed to gather data on participants' anthropometric measurements, dietary habits, and obesity-related awareness and attitudes. The survey was administered within the college premises to ensure participant engagement and data reliability.

Data Analysis

Collected data were systematically classified, tabulated, and analyzed using SPSS version 26. Descriptive statistics were used to summarize demographic characteristics and obesity prevalence, while inferential statistical tests explored relationships between dietary habits, awareness levels and obesity risk factors.

Results

The findings of this study provide an in-depth understanding of the knowledge, attitudes, and awareness regarding obesity among college students. The demographic analysis revealed that most participants were postgraduate students, with a higher representation of female respondents (67%) compared to males (33%) and one non-binary participant. The anthropometric assessment indicated that 85% of students were overweight (BMI: 25-29.9 kg/m²), while 15% were classified as obese (BMI \geq 30 kg/m²). Waist-hip ratio analysis further highlighted that male students were at higher risk for obesity-related complications, whereas female students predominantly fell within a low-risk category, though a notable proportion exhibited moderate to high risk.

A striking 90% of respondents perceived themselves as obese, which suggests a heightened awareness of weight-related concerns. The primary causes of obesity, as identified by participants, included excessive consumption of fast food (46%), lack of physical exercise (26%), hormonal imbalances (15%), and hereditary factors (13%). Concerns about obesity were prevalent, with 44 students expressing general concern and 33 stating they were very concerned. The study also found that 35 respondents were very concerned about teenage obesity in the community. In terms of health implications, participants demonstrated a broad understanding of obesity-related risks, with 34% recognizing that all listed conditions including depression (22%), heart disease and diabetes (15%), high blood pressure (9%), and infertility (1%) are linked to obesity.

Despite recognizing the importance of physical activity, only 26 respondents engaged in regular exercise, with varying levels of satisfaction. Furthermore, 73% of students believed that both nutrition and exercise were equally crucial for maintaining health, though there was significant variation in opinions on recommended daily exercise duration. Screen time exposure was notably high, with 18% of students being fully addicted and 54% categorized as addicted, raising concerns about sedentary lifestyles. Eating habits during screen time were common, with 41% watching TV while eating, which aligns with the finding that 59% were aware that distracted eating leads to increased food intake. While 68% of respondents had breakfast regularly, only 9% consumed fruits and vegetables more than three times daily, indicating potential gaps in dietary habits.

Additionally, 36% of students had dinner between 8-9 PM, with a smaller percentage eating late at night, which could contribute to weight-related issues. The study also revealed inconsistent micronutrient intake, as 49% reported occasional consumption, and 37% of students slept between 5-7 hours, highlighting the need for better sleep hygiene. The statistical analysis using the Chi-Square test ($p > 0.05$)

found no significant association between gender and perceived health problems related to obesity, suggesting that perceptions of obesity-related risks were similar across genders. Additionally, no significant association was found between gender and self-perception of obesity, as 90% of respondents reported feeling overweight regardless of gender.

Table 1: Association between gender and perceived health problems linked to being overweight

		Problems linked with being overweight												Total	
		Depression		Trouble sleeping		Heart disease		Diabetes		High blood pressure		All of the above		No.	%
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Gender	Male	3	9.1	7	21.2	2	6.1	8	24.2	4	12.1	9	27.3	33	100.0
	Female	19	28.4	8	11.9	3	4.5	7	10.4	5	7.5	25	37.3	67	100.0
Total		22	22.0	15	15.0	5	5.0	15	15.0	9	9.0	34	34.0	100	100.0

Table 2: Association between gender and perception regarding feeling obese

		Feeling for being obese				Total	
		Yes		No		No.	%
		No.	%	No.	%		
Sex	Male	30	90.9	3	9.1	33	100.0
	Female	60	89.6	7	10.4	67	100.0
Total		90	90.0	10	10.0	100	100.0

Discussion

The study highlights a strong self-perception of obesity among college students, with the majority attributing their weight status to lifestyle choices such as diet and physical inactivity. While awareness of obesity-related health risks is relatively high, this does not necessarily translate into active lifestyle modifications. The concern about obesity, both personal and societal, indicates a recognition of its seriousness, yet a gap remains between awareness and action. The study reveals a discrepancy between knowledge and behaviour, as while most students acknowledge the importance of nutrition and physical activity, many struggle with adopting healthy habits. Screen time addiction emerged as a concerning factor, as it contributes to unhealthy eating behaviours and reduced physical activity. Distracted eating was prevalent, with many students unaware of its link to increased food intake. Additionally, while the majority of students consumed fruits and vegetables daily, many did so inconsistently, highlighting potential nutritional imbalances. Sleep deprivation was also a common concern, with most students getting less than the recommended 7-9 hours of sleep per night. Poor sleep patterns can exacerbate obesity-related issues by affecting metabolism and appetite regulation.

Table 3: Perception of Obesity Based on Gender Distribution

		Do you feel that you are obese				total	
		Yes		No		No.	%
		No.	%	No.	%		
sex	Male	30	90.9	3	9.1	33	100.0
	Female	60	89.6	7	10.4	67	100.0
total		90	90.0	10	10.0	100	100.0

Overall: 90% of respondents feel obese, while 10% do not.

Sex-wise Distribution: Males: 90.9% feel obese, and 9.1% do not. Females: 89.6% feel obese, and 10.4% do not.

The Chi-Square test is used to determine if there is a significant association between gender and Feeling Obese.

The null hypothesis (Ho): There is no significant association between gender and perception regarding feeling obese.

Table 4: Chi-Square Test

	Value	df	Sig.
Chi-Square	.045	1	Ns

Critical value at 5% level: 3.841 Ns – Not significant

Inference: The critical value at the 5% level is 3.841, which is greater than the calculated Chi-Square value (0.045). Based on the Chi-Square test, since critical value is greater than the calculated chisquare value (0.045) it is inferred that there is no statistically significant association between gender and perception about feeling obese at the 5% level. Hence the hypothesis is accepted.

Conclusion

This study provides valuable insights into obesity-related knowledge, attitudes, and behaviours among college students. The findings indicate a high level of self-awareness regarding obesity and its health risks, yet many students struggle to adopt healthier lifestyle practices. There is a clear need for multifaceted public health interventions to bridge the gap between awareness and behaviour, with a focus on nutrition, physical activity, screen time reduction, and sleep hygiene. By addressing these factors, institutions can contribute to improved health outcomes and long-term obesity prevention among young adults.

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