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Orginal Article

A Comparative Study to Assess the Obesity Prevention Behavior among Adolescent Girls in Selected Engineering and Nursing Colleges Sri Ganganagar

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Abstract

Introduction: This comparative study aims to assess obesity prevention behavior among adolescent girls in selected engineering and nursing colleges in Chennai, India. The prevalence of overweight/obesity, the association between obesity and college type, the evaluation of obesity prevention behavior, the comparison of behaviors between engineering and nursing students, and the exploration of associations with demographic variables are key objectives of this research.

Materials and Methods: Data was collected using a survey method, which included bio physiological measurements and self-administered assessments. The study targeted adolescent girls aged 18 to 20 years, with total enumerative sampling. Results: The study's major findings revealed no significant differences in overall obesity prevention behavior scores between engineering and nursing students. However, associations were found with demographic factors such as family type, area of residence, and monthly family income.

Results: The findings indicate that while there were no significant disparities in overall obesity prevention behavior scores between engineering and nursing students, there were notable differences in certain demographic factors such as types of family, area of residence, and monthly family income. These variations suggest that socio-economic and environmental contexts may influence the adoption of obesity prevention behaviors.

Conclusions: This study emphasizes the importance of targeted interventions that consider socio-economic and environmental contexts in adolescent obesity prevention. It underscores the need for multifaceted approaches, encompassing education and structural changes, to promote healthier behaviors among adolescent girls. These findings provide valuable insights for policymakers, educators, and healthcare practitioners, facilitating the development of strategies that enhance the well-being of adolescent girls and address the complexities of obesity prevention behaviors.

Keyword;Obesity , Prevention Behavior, Adolescent Girls , Engineering And Nursing

Objectives of the study:

1. To determine the prevalence of overweight /obesity among adolescent girls in selected engineering and nursing colleges.

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2. To find out the association between obesity among adolescent girls and the type of colleges.
3. To assess the level of obesity prevention behavior among adolescent girls in selected engineering and nursing colleges.

Research hypothesis:

H^1 There is a significant association between obesity among adolescent girls and the type of college.

H^2: There is a significant difference in obesity prevention behavior among adolescent girls between Engineering and Nursing colleges.

H^3: There is a significant association between selected demographic variables and obesity prevention behavior among adolescent girls in Engineering and Nursing colleges.

Research approach: This research endeavors to evaluate the obesity prevention behavior among adolescent girls across diverse college disciplines. To achieve this, a survey approach was embraced as the foundation of the research methodology.

Research design: The selection of a comparative research design stems from its inherent ability to delve into the intricate nuances of obesity prevention behavior exhibited by adolescent girls across different academic disciplines.

Research setting: This study undertakes a meticulous consideration of the selected engineering, and nursing colleges of Shri Ganganagar, offering a diverse array of academic environments

Population

1. Study population: In the context of this research, the population under consideration comprises adolescent girls enrolled in engineering, and nursing colleges situated in Shri Ganganagar.
2. Target population: The target population in this study encompasses the entirety of adolescent girls attending arts, engineering, and nursing colleges, whose characteristics align with the research's inclusion criteria.
3. Accessible population: In this study, the accessible population constitutes adolescent girls pursuing their Bachelor's degree at specific institutions College of Engineering, and College of Nursing. These individuals conform to the set inclusion criteria, making them feasible candidates for participation in the study.

Sample and sample size

In the context of this research, the samples were composed of adolescent girls aged between 18 to 20 years, meeting the predefined inclusion criteria.

Phase I: During the initial phase, the screening process involved 100 from adolescent girls from selected College of Engineering, and 100 from selected College of Nursing.

Phase II: In the subsequent phase, all adolescent girls with a Body Mass Index (BMI) exceeding 29% were encompassed within the study. Specifically, 50 participants were selected from selected College of Engineering, and 50 from selected College of Nursing.

Sampling technique

The study employed the total enumerative sampling technique for both Phase I and Phase II.

Phase I: Initially, a total enumerative sampling strategy was employed to screen the entire cohort of 200 adolescent girls across the selected engineering, and nursing colleges. This facilitated the identification of obese participants.

Phase II: Subsequently, all obese adolescent girls from engineering, and nursing colleges were included in the study, which was achieved through the total enumerative sampling technique.

Sampling criteria

Inclusion Criteria:

- Adolescent girls aged 18-20 years.
- Adolescent girls with a BMI exceeding 29%.
- Adolescent girls present during the data collection period.

Exclusion Criteria:

- Adolescent girls unwilling to participate in the study.

Variables

1. Study Variable: At the core of this study lies the exploration and assessment of obesity prevention behavior as exhibited by adolescent girls.

2. Attribute Variables: the attribute variables encompass a spectrum of demographic dimensions of the adolescent participants. These include their chronological age, academic discipline or course of study, religious affiliation, family structure, geographical residential area, monthly familial

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income, dietary preferences, as well as pertinent clinical data, such as individual weight, height, and the waist-hip ratio.

Selection and development of study instruments The data collection instruments underwent development after an extensive literature review and consultation with experts. The instruments employed in this study were as follows:

- Demographic Variable Proforma of Adolescent Girls.
- Obesity Screening Tool for Adolescent Girls.
- Checklist for Assessing the Obesity Prevention Behavior of Adolescent Girls.

Demographic Variable Performa of Adolescent Girls

The demographic variable proforma of adolescent girls encompassed key details such as age in years, course of study, religion, family type, area of residence, monthly family income, and dietary habits.

Obesity Screening Tool for Adolescent Girls

The clinical variable proforma for adolescent girls featured an obesity screening tool consisting of measurements like weight, height, waist-hip ratio, and BMI.

Results:

Data analysis, the organized synthesis of research data, encompassed descriptive statistics such as frequency distribution, percentage, mean, and standard deviation, along with inferential statistics like ANOVA and chi-square to examine research hypotheses.

Organization and presentation of the data: The obtained data and findings have been organized and presented under the following heading.

Section I: Description of sample characteristics

Section II: Finding related to level of obesity prevention behavior among adolescent girls in engineering colleges.

Section III: Finding related to level of obesity prevention behavior among adolescent girls in nursing colleges.

Section IV: Finding related to comparison of level of obesity prevention behavior among adolescent girls in engineering and nursing colleges.

Section V: Finding related to association between level of obesity prevention behavior among adolescent girls with selected socio demographic variables of engineering colleges.

Section VI: Finding related to association between level of obesity prevention behavior among adolescent girls with selected socio demographic variables of nursing colleges.

Section I: Description of Sample Characteristics

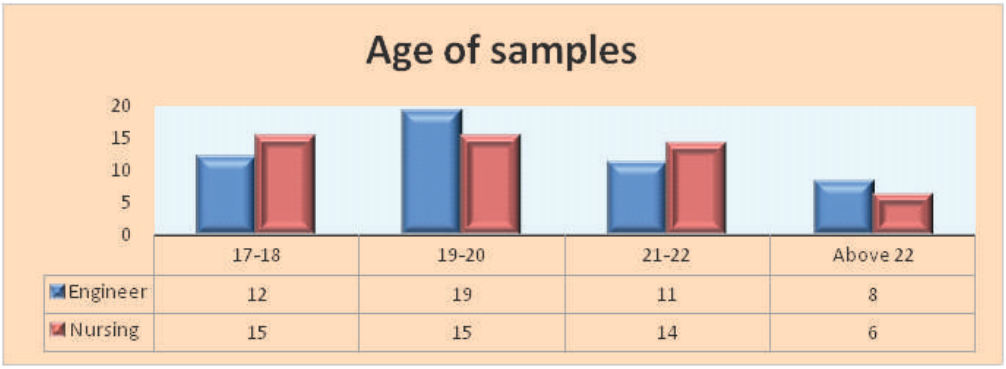

Figure:1Bar diagram showing age of samples

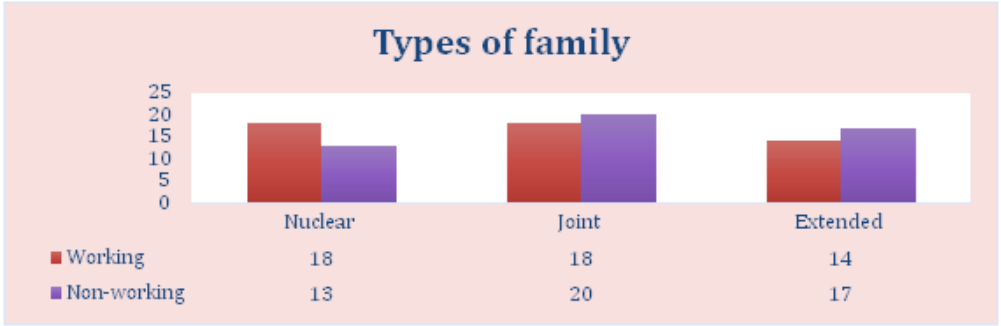

Figure:2Bar diagram showing types of family among samples

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Section II: Finding related to level of obesity prevention behavior among adolescent girls in engineering colleges.

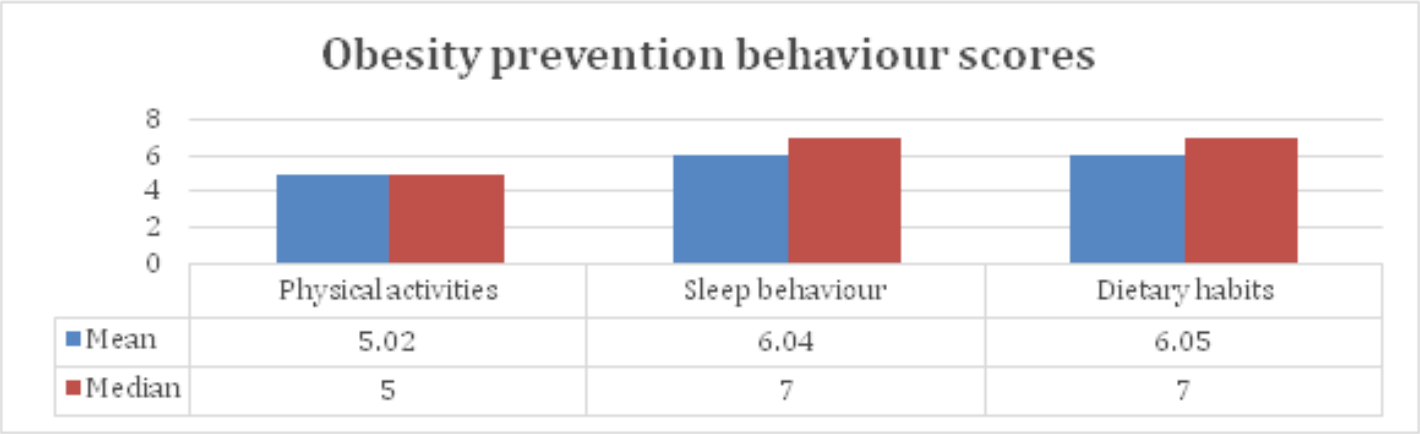

Figure 3: Bar diagram showing item analysis of Obesity prevention behaviour scores among engineer students
Section III: Finding related to level of obesity prevention behavior among adolescent girls in nursing colleges

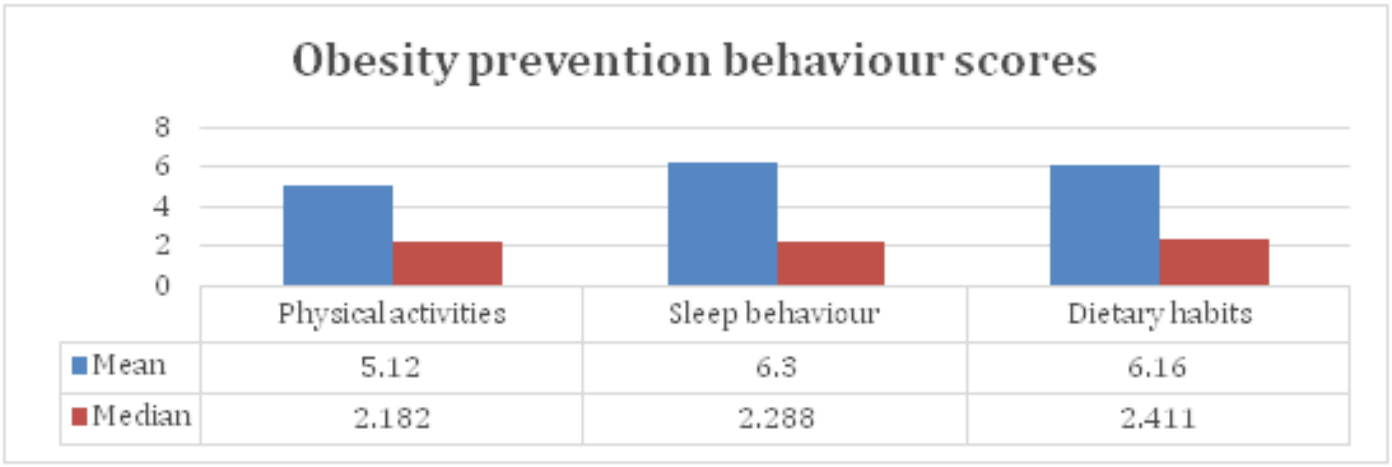

Figure 3: Bar diagram showing item analysis of Obesity prevention behaviour scores among engineer students
Section III: Finding related to level of obesity prevention behavior among adolescent girls in nursing colleges

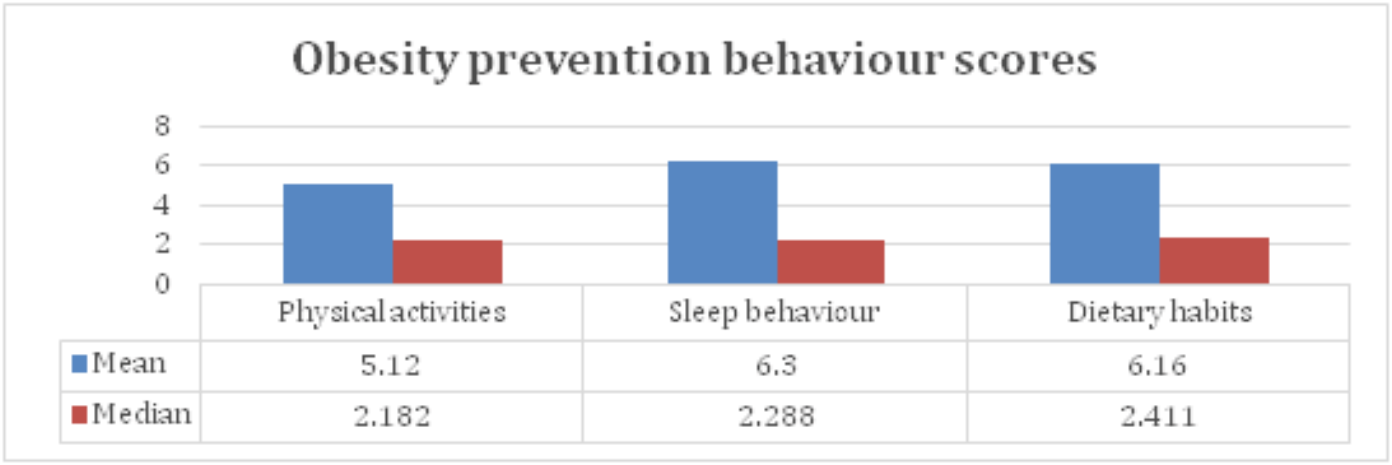

Figure 4 : Bar diagram showing item analysis of Obesity prevention behaviour scores among nursing students
Section IV: Finding related to comparison of level of obesity prevention behavior among adolescent girls in engineering and nursing colleges

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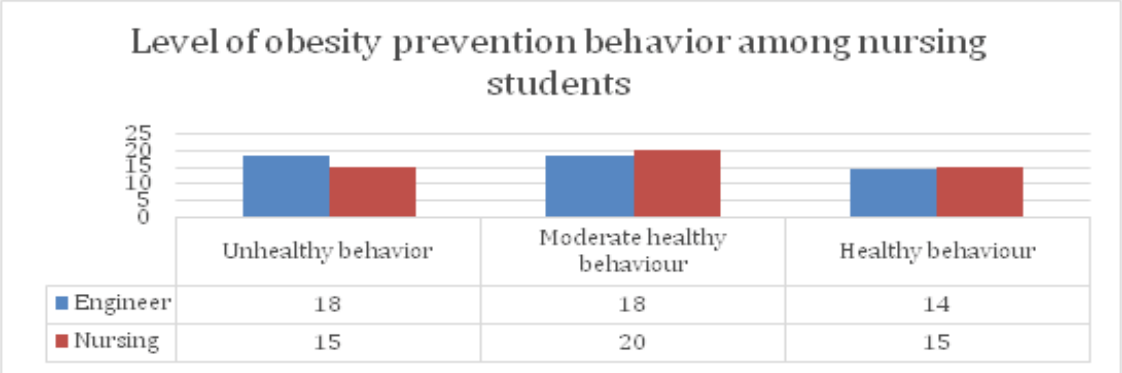

Figure: 5Bar diagram showing level of obesity prevention behaviour among nursing students

Section IV: Finding related to comparison of level of obesity prevention behavior among adolescent girls in engineering and nursing colleges

S.N.	Name of variables	Level of obesity prevention behavior			Chi square	df	P value	Result
		Unhealthy	Moderately healthy	healthy				
1	**Age in years.**				1.502	6	0.959	NS
	17-18	5	5	2				
	19-20	6	7	6				
	21-22	4	3	4				
	Above 22	3	3	2				
2	**Religion**				1.292	4	0.863	NS
	Hindu	11	12	11				
	Muslim	4	4	2				
	Christian	3	2	1				
	Other	0	0	0				
3	**Types of family**				29.321	4	<.001	SIG
	Nuclear	15	3	0				
	Joint	3	8	7				
	Extended	0	7	7				
4	**Area of residence**				52.572	4	0.001	SIG
	Urban	17	0	0				
	Rural	0	13	14				
	Semi urban	1	5	0				
5	**Monthly family income**				15.710	6	0.015	SIG
	Less than 10000	3	2	0				
	10000-20000	12	9	3				
	20000-30000	1	3	8				
	30000 and above	2	4	3				
6	**Diet habit**				1.102	4	0.894	NS
	Vegetarian	10	11	7				
	Non-vegetarian	7	5	6				
	Egg vegetarian	1	2	1				

Table 1. Chi Square value showing association between the level of obesity prevention behavior among adolescent girlsin engineer student and their selected demographic variables

Section V: Finding related to association between level of obesity prevention behavior among adolescent girls with selected socio demographic variables of engineering colleges.

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S.N.	Name of variables	Level of obesity prevention behavior			Chi square	df	P value	Result
		Unhealthy	Moderately healthy	healthy				
1	**Age in years.**				3.786	6	0.706	NS
	17-18	4	5	6				
	19-20	5	7	3				
	21-22	3	7	4				
	Above 22	3	1	2				
2	**Religion**				2.524	4	0.640	NS
	Hindu	11	14	13				
	Muslim	2	3	2				
	Christian	2	3	0				
	Other	0	0	0				
3	**Types of family**				15.344	4	0.004	SIG
	Nuclear	9	4	0				
	Joint	4	9	7				
	Extended	2	7	8				
4	**Area of residence**				46.827	4	0.001	SIG
	Urban	11	0	0				
	Rural	0	11	15				
	Semi urban	4	9	0				
5	**Monthly family income**				6.801	6	0.340	NS
	Less than 10000	0	2	0				
	10000-20000	4	7	9				
	20000-30000	7	7	4				
	30000 and above	4	4	2				
6	**Diet habit**				2.992	4	0.559	NS
	Vegetarian	11	12	12				
	Non-vegetarian	4	7	2				
	Egg vegetarian	0	1	1				

Table 2. Chi Square value showing association between the level of obesity prevention behavior among adolescent girls in nursing student and their selected demographic variables

Conclusions

The findings indicate that while there were no significant disparities in overall obesity prevention behavior scores between engineering and nursing students, there were notable differences in certain demographic factors such as types of family, area of residence, and monthly family income.

These variations suggest that socio-economic and environmental contexts may influence the adoption of obesity prevention behaviors. Such knowledge is

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pivotal for developing targeted interventions that consider the unique needs and challenges faced by these distinct groups of adolescent girls.

Recommendations:

? Suggests conducting a larger-scale study to enhance the validity of the results and the generalizability of the findings.

? Recommends replicating the study in various settings to assess the consistency of results across different contexts.

? Proposes conducting interventional studies to test the effectiveness of interventions aimed at reducing obesity among adolescents.

? Suggests a comparative study to analyze differences in obesity prevention behavior between male and female adolescents.

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Conflicts of interests: The authors declare that they have no conflict of interest with regard to the content of the report.

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