



TO STUDY THE RISK FACTORS ASSOCIATED WITH OVERWEIGHT AND OBESITY AMONG ADOLESCENTS IN PATNA, BIHAR

Physiology

Dr Sujit Kumar Tutor, Department of Physiology, Nalanda Medical College, Patna, Bihar, India

Dr Rashmi Singh* Tutor, Department of Community Medicine, Patna Medical College, Patna, Bihar, India
*Corresponding Author

Dr Anil Kumar Singh Associate Professor & HOD, Department of Physiology, Nalanda Medical College, Patna, Bihar, India

ABSTRACT

*Obesity is an important public health problem of global significance. Urbanization, modern life, altered dietary habits, and lifestyle practices among adolescents predispose to obesity. **Objective:** To Study The Risk Factors Associated with Overweight and Obesity among Adolescents. **Material and Methods:** A cross sectional study was conducted among 380 adolescents in Urban area of Patna, Bihar. A predefined, pretested questionnaire was used to collect data. Appropriate Statistical tests were used wherever applicable. **Results:** We observed that among 380 participants, 20.3% were overweight or obese. The study showed that there was a significant association between less consumption of vegetable, fruits, yoga practices and the occurrence of overweight and obesity. **Conclusion:** The urban adolescent population is not conscious enough to seek healthcare until critically ill. Community based studies are required to highlight the problem of overweight and obesity among urban adolescents.*

KEYWORDS

Obesity, Adolescents, Lifestyle Practices

I. INTRODUCTION

Adolescence is a psychological- biological stage of development between childhood and adulthood. Out of 1.2 billion adolescent worldwide about 85% live in developing countries. Adolescent constitute of 21% of Indian population.⁽¹⁾ As per NFHS-3, Adolescents in Bihar are 22.5%. obesity is an important public health problem of global significance. Obesity has reached a pandemic proportion with more than 1 billion of them have grown up as adult overweight; of them nearly 300 million have been noted to be clinically obese. Urbanization, modern life, altered dietary habits, and lifestyle practices among adolescents contributing to the development of obesity.⁽²⁾ Although the growing prevalence of overweight and obesity among adolescent has received much attention in recent years but there is not much data available, so the above study was done to find Risk Factors Associated with overweight and Obesity among Adolescents in urban Area of Patna, Bihar. The objective of the study was to know the risk factors associated with overweight and obesity among adolescents.

II. MATERIAL AND METHODS

This was a cross-sectional study conducted amongst 380 adolescents (10–19 years) residing in the urban community in Patna, Bihar, India.

Study Tool-

A predefined semi-structured questionnaire was used that was developed at the institute with the assistance from the faculty members and other experts in relation to overweight/obesity in the adolescent population with the socio demographic situation prevailing in India in local language. All the participants were explained about the purpose of the study and were ensured strict confidentiality.

Inclusion Criteria-

Those participants who were willing to participate.

Exclusion Criteria-

Those participants who were ill and not willing to participate. Overweight and obesity were defined by body mass index for gender and age. BMI > 85 percentile of reference data were considered overweight and with a BMI > 95 percentile were considered obese.

Statistical Analysis-

Appropriate statistical tests were used wherever applicable. Simple proportions, percentages and chi square were used. Data analysis was done by Epi-Info software.

III. RESULT

Among 380 adolescents, majority were of 15 years of age, males were 227 (59.73%) and 153 (40.26%) were females. 77 (20.3%) participants were overweight/obese and 303 (79.7%) respondents were not overweight/obese. Out of 77 overweight/obese adolescents,

63 (16.5%) were overweight and 14 (3.6%) were obese [Table -1]. Majority of them (70.5%) consumed fruit occasionally; 24 (6.31%) consumed fruit daily, 72 (18.9%) consumed fruit three to four times/week, and the remaining 16 (4.2%) did not consume fruit. Out of 380 adolescents, 59 (15.5%) practiced yoga and 44 (11.6%) used tobacco [Table-2]. 307 (80.9%) consumed vegetables daily and there was significant association between less consumption of vegetable and occurrence of overweight/obesity (chi-square = 7.33, degrees of freedom (df) = 2, $P < 0.05$), less consumption of fruit and overweight/obesity (chi-square = 38.2, df = 3, $P < 0.001$), and no yoga practicing and overweight/obesity (chi-square = 8.09, df = 1, $P < 0.05$).

Table no.1 Overweight/Obesity among Participants

Age (in years)	10-12		13-15		16-19		Total
	M	F	M	F	M	F	
Normal	18	5	85	59	90	46	303
Overweight	11	12	7	9	11	13	63
Obese	1	3	3	2	1	4	14
Total	30	20	95	70	102	63	380

M=Male, F=Female

Table-2 Risk Factors of Overweight and Obesity among Adolescent

Factors	Overweight/Obesity (%)		Total (%)	Chi- Square
	Present	Absent		
Vegetable consumed				$\chi^2=7.33$, df=2, p value <0.05
-Regularly	57(15.0%)	250(65.8%)	307(80.8%)	
-Sometimes	20(5.26%)	50(13.2%)	70(18.42%)	
-None	2(0.7%)	1(0.26%)	3(0.75)	
Milk consumed				$\chi^2=0.37$, df=2, P value >0.05
-Regularly	6(1.6%)	27(7.10%)	33(8.68%)	
-Sometimes	65(23.2%)	250(65.7%)	315(82.9%)	
-None	8(2.10%)	24(6.3%)	32(8.15%)	
Fruit consumption				$\chi^2=38.2$, df=3, P value <0.001
-Daily	3(0.78%)	21(5.5%)	4(6.31%)	
-3-4 times/week	14(3.68%)	58(15.3%)	72(18.9%)	
- occasionally	48(12.6%)	220(57.8%)	268(70.5%)	
-Never	13(3.4%)	3(0.78%)	16(4.2%)	
Tobacco use				$\chi^2=1.44$, df=1, P value >0.05
-Yes	6(1.6%)	38(10.0%)	44(11.6%)	
-No	72(18.9%)	264(69.5%)	336(88.42%)	

Yoga Practice				$\chi^2=8.09$, df=1, P value <0.05
-Yes	4(1.05%)	55(14.5%)	59(15.5%)	
-No	74(19.5%)	247(65.0%)	321(84.5%)	
Nature of physical activity at work				$\chi^2=0.03$, df=1, P value >0.05
-Light	75(19.7%)	289(76.05%)	364(95.7%)	
-Moderate	3(0.8%)	13(3.4%)	16(4.21%)	

IV. DISCUSSION

In the present study, one-fifth had over-nutrition. A significant association between less consumption of vegetable foods and occurrence of over-nutrition was noted by us. Gupta *et al.*, found 84.29% adolescent consume vegetables among rural adolescent in Bengal.⁽³⁾ There was a significant association between less consumption of fruit and the occurrence of overweight/obesity in the adolescents. Yusuf *et al.*, showed that abnormal lipids, tobacco, hypertension; diabetes, abdominal obesity; psychosocial factors; consumption of fruits, vegetables and regular physical activity accounted for most risks.⁽⁴⁾

This study showed that there was significant association between no yoga practicing and physical inactivity with the occurrence of overweight/obesity in the adolescents. A study observed that lack of physical activity and high consumption of junk food was found to be associated with obesity in children. Smoking was not significantly associated with the obesity in the present study.

Limitations of the study:

Larger sample size could have provided more vital information, however due to constraint of time the same could not be achieved. Presence of family members during interview could not be avoided and it might have influenced the response of the study subjects.

V. CONCLUSION

Preventive healthcare strategies need to be clearly formulated and tested. Behaviour change communication supported by the screening is important for early detection to prevent complications.

VI. REFERENCES

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