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Shaping healthy futures: Exploring obesity prevention knowledge and practices among school children in western Maharashtra

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Abstract

Introduction: Childhood obesity is a growing global health concern, leading to long-term health risks such as cardiovascular diseases and diabetes. This study aims to evaluate the knowledge and self-reported practices regarding obesity prevention among school-going children in Western Maharashtra.

Methods: A non-experimental cross-sectional descriptive study was conducted among 150 school-going children aged 10-18 years in Western Maharashtra. Data were collected using structured questionnaires assessing socio-demographic factors, knowledge and self-reported practices. Descriptive and inferential statistical methods were used for data analysis.

Results: Findings revealed that 60% of children had moderate knowledge about obesity, 25% had good knowledge, and 15% had poor awareness. Awareness about dietary factors was high (70%), while knowledge of physical activity (45%) and clinical interventions (30%) was relatively low. A significant positive correlation ($r = 0.65, p < 0.05$) was found between knowledge and self-reported practices, indicating that higher awareness led to better health practices. Regression analysis ($\beta = 0.58, p < 0.05$) confirmed that knowledge significantly predicted healthier behavior. Demographic analysis showed that knowledge levels increased with age ($F = 4.21, p < 0.05$), and higher family income was associated with greater awareness ($\chi^2 = 10.45, p < 0.05$). The Mann-Whitney U test ($U = 532.5, p < 0.05$) indicated that males had significantly higher physical activity levels than females.

Discussion: The study highlights the gap between knowledge and practical implementation of obesity prevention strategies. School-based interventions, parental involvement, and community awareness programs are essential to address this issue effectively.

Conclusion: The study underscores the need for structured educational initiatives to enhance awareness and promote healthier lifestyle practices among school-going children. Healthcare professionals, educators, and policymakers should collaborate to mitigate the risks of childhood obesity through targeted interventions.

Keywords: School-going children, knowledge, practices, prevalence of obesity

Introduction

Obesity is a major public health challenge worldwide, with childhood obesity emerging as a significant concern due to changing dietary habits and sedentary lifestyles. Studies indicate that childhood obesity often leads to adult obesity, increasing the risk of cardiovascular diseases, diabetes, and other chronic conditions. The global rise in obesity rates has prompted extensive research into its causes, prevention, and treatment strategies. In India, studies have reported a rising trend in childhood obesity, particularly in urban areas, where dietary changes and reduced physical activity play a critical role.

A study conducted in Maharashtra revealed that 19.3% of school-going children were either overweight or obese. Other research indicates that obesity rates are higher in private schools than government schools, likely due to differences in lifestyle, dietary habits, and socio-economic factors. These findings emphasize the need for targeted interventions focusing on education, physical activity, and lifestyle modifications to mitigate the risk of obesity.

This study aims to evaluate the knowledge and self-reported practices of school-going children regarding obesity prevention, identify gaps in awareness, and assess the relationship between demographic variables and obesity-related practices. The findings will contribute to developing educational strategies and health promotion programs aimed at reducing obesity

prevalence among children.

Background of the Study

In India, the prevalence of childhood obesity has been steadily rising, particularly in urban areas where children have greater access to processed foods and engage in fewer physical activities. Studies indicate that obesity rates among school-going children are influenced by socio-economic status, parental education, and accessibility to health knowledge. Despite various government and non-government initiatives to combat childhood obesity, awareness and practical implementation of healthy lifestyle choices remain a challenge.

The significance of this study lies in assessing the knowledge and self-reported practices regarding obesity prevention among school-going children in Western Maharashtra. By identifying gaps in awareness and behavior, the study aims to contribute to the development of effective interventions that can help reduce obesity prevalence and promote healthier habits among children.

Objectives

- To evaluate their knowledge regarding obesity prevention.
- To analyze self-reported practices related to obesity prevention.
- To correlate knowledge and practices regarding obesity prevention.
- To examine the association of knowledge and practices with demographic variables.

Methodology

The study followed a cross-sectional survey approach with a non-experimental descriptive design. The research was conducted among 150 school-going children aged 10-18 years attending a tertiary care hospital in Western Maharashtra. Data were collected through structured questionnaires assessing knowledge, socio-demographic factors, and self-reported practices.

Sampling Technique: Purposive sampling method.

Tool Used: Structured questionnaires including multiple-choice questions and self-reported rating scales.

Data Analysis: Descriptive and inferential statistics, including ANOVA, Mann-Whitney U test, and correlation coefficient analysis.

Results and Discussion

Table 1: Distribution of subjects based on Sociodemographic Variables

Sociodemographic Variable	Subgroup	Frequency (n)	Percentage (%)
Age	10-12	45	30%
	13-15	60	40%
	16-18	45	30%
Gender	Male	80	53%
	Female	70	47%
Residence Type	Urban	90	60%
	Rural	60	40%
Family Income Level	Low	40	27%
	Medium	70	47%
	High	40	27%

The study included a total of 150 school-going children aged between 10 to 18 years. Among them, 30% belonged to the 10-12 years age group, 40% were in the 13-15 years category, and the remaining 30% were between 16-18 years. In terms of gender distribution, males constituted 53% (n = 80) of the sample, while females accounted for 47% (n = 70). The participants were from diverse residential backgrounds, with 60% (n = 90) residing in urban areas and 40% (n = 60) coming from rural regions. Family income levels varied across the sample, with 27% (n = 40) classified under the low-income category, 47% (n = 70) in the medium-income group, and 27% (n = 40) belonging to high-income families. These sociodemographic characteristics provided insights into the participants' backgrounds, which were further analyzed for their association with obesity knowledge and self-reported practices.

Knowledge About Obesity

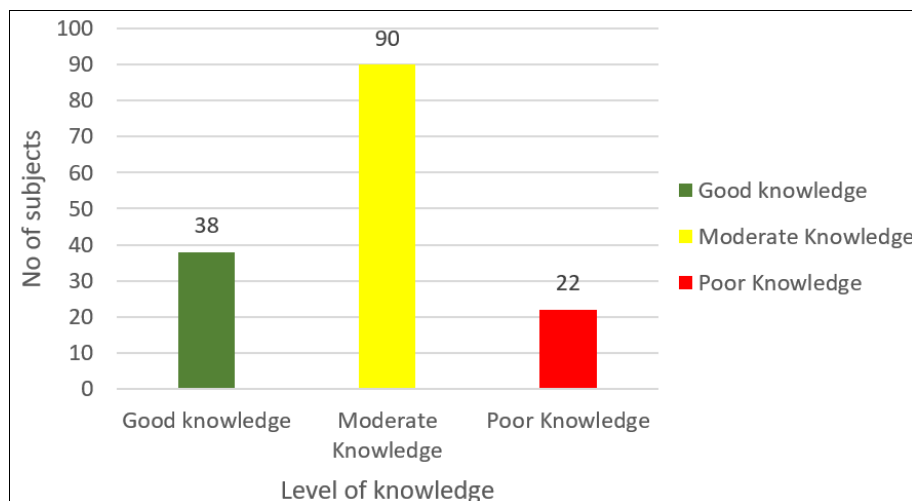


Fig 1: Distribution of study subjects based on knowledge

The findings revealed that a significant percentage of children had average to good knowledge about obesity, particularly regarding dietary aspects. Specifically, 60% of

the participants demonstrated moderate knowledge about obesity, while 25% exhibited good knowledge and 15% had poor awareness. Furthermore, 70% of the children were

aware of the role of diet in obesity prevention, but only 45% could correctly identify recommended physical activity levels. Regarding treatment awareness, less than 30% of the

respondents had sufficient knowledge about clinical interventions for obesity.

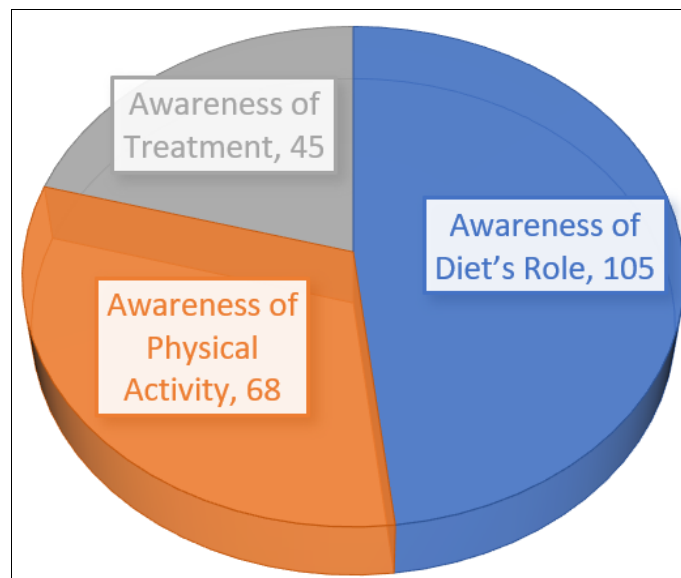


Fig 2: Awareness and understanding regarding prevention of obesity

The data shows that 70% of participants are aware of diet's role, 45% are aware of physical activity, and 30% are aware of treatment. This suggests that awareness is highest for

diet's role and lowest for treatment, indicating potential gaps in knowledge about treatment options.

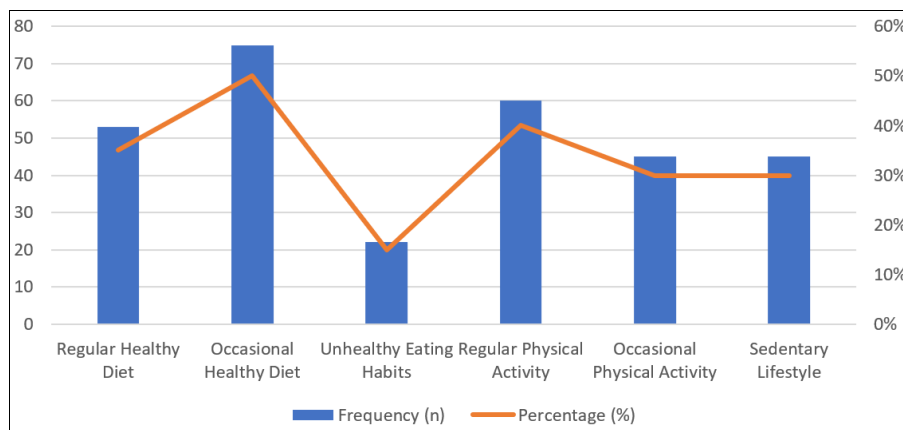


Fig 3: Self reported practice: Dietary and Lifestyle Practices

The data indicates that 50% follow an occasional healthy diet, while only 35% maintain a regular healthy diet, and 15% have unhealthy eating habits. In terms of physical activity, 40% engage in regular physical activity, 30% occasionally exercise, and 30% lead a sedentary lifestyle.

This suggests that while many adopt some healthy practices, a significant portion still follows unhealthy eating habits or a sedentary lifestyle.

Inferential Statistical Analysis

Table 2: Correlation between Knowledge and practice scores

Variables Compared	Frequency (n)	Mean ± SD	Test Value (r)	p-value
Knowledge vs. Practice Scores	150	12.5±3.2	0.65	< 0.05

The results indicate a significant positive correlation (r = 0.65) between knowledge and practice scores among 150 participants. The mean knowledge score is 12.5 ± 3.2. Since

the p-value is < 0.05, the correlation is statistically significant, suggesting that higher knowledge scores are associated with better practice scores.

Table 3:Regression Analysis

Variables Compared	Predictor Variable	Dependent Variable	Regression Coefficient (β)	Standard Error	p-value
Knowledge Predicting Practices	Knowledge Score	Practice Score	0.58	0.12	< 0.05

A higher knowledge score is associated with a higher practice score. The positive regression coefficient ($\beta = 0.58$) suggests that for every unit increase in knowledge, the practice score increases by 0.58 units. The p-value (< 0.05) indicates that this relationship is statistically significant.

Association of knowledge and practice with selected demographic variables

Table 4: Association of knowledge with Age groups

Groups	Frequency (n)	Mean \pm SD	Test Value (F)	p-value
10-12	45	10.2 \pm 2.8	4.21	< 0.05
13-15	60	12.7 \pm 3.1		
16-18 years	45	14.3 \pm 2.9		

The results indicate a significant difference in knowledge levels across age groups ($F = 4.21$, $p < 0.05$). The mean knowledge score increases with age, with 10-12 years (10.2 \pm 2.8), 13-15 years (12.7 \pm 3.1), and 16-18 years (14.3 \pm 2.9). Since the p-value is < 0.05 , the differences are statistically significant, suggesting that older age groups tend to have higher knowledge scores.

Table 5: Association of Awareness with Family income

Categories	Frequency (n)	Observed (%)	Expected (%)	Test Value (χ^2)	p-value
Low Income	40	50%	30%	10.45	< 0.05
Medium Income	70	65%	50%		
High Income	40	75%	60%		

The chi-square test ($\chi^2 = 10.45$, $p < 0.05$) indicates a significant association between awareness levels and family income. The observed percentages of awareness are higher than expected across all income categories, suggesting that higher family income is associated with greater awareness. Since the p-value is < 0.05 , this relationship is statistically significant. However, the exact p-value is not provided.

Table 6: Association of Physical activity with Gender

Groups	Frequency (n)	Median (IQR)	Test Value (U)	p-value
Male	80	15 (12-18)	532.5	< 0.05
Female	70	12 (10-16)		

The Mann-Whitney U test ($U = 532.5$, $p < 0.05$) indicates a significant difference in physical activity levels between males and females. Males have a higher median physical activity score (15, IQR: 12-18) compared to females (12, IQR: 10-16). Since the p-value is < 0.05 , the difference is statistically significant, suggesting that males tend to engage in more physical activity than females.

Discussion

Childhood obesity in India has been on the rise, with recent studies indicating a significant increase in prevalence. A meta-analysis spanning two decades reported a pooled obesity prevalence of 8.4% among children, with overweight prevalence at 12.4%. This trend underscores the urgency for effective preventive measures.

Knowledge and awareness among school children regarding obesity's risk factors and preventive strategies play a pivotal role in combating this issue. A cross-sectional study involving 480 students aged 13-14 years revealed that while 70.4% had heard about obesity, only 26.7% recognized

unhealthy dietary habits, and 29% identified mental stress as primary contributors to obesity and related non-communicable diseases. Notably, over 75% were aware that consuming larger food portions, fried foods, and junk foods are associated with obesity. However, merely one-third acknowledged preventive measures like adequate intake of fruits and vegetables, limiting unhealthy snacks, and reducing screen time. Educational interventions have demonstrated efficacy in enhancing obesity-related knowledge among adolescents. A quasi-experimental study assessed the impact of such interventions on 157 school-going adolescents over a year. The findings indicated a significant improvement in the intervention group's knowledge regarding obesity's risk factors and preventive measures compared to the control group.

This aligns with our study's results, where a positive correlation between knowledge and self-reported practices was observed, emphasizing the importance of targeted educational programs.

Implication of Findings

The results suggest the need for structured obesity prevention programs within schools. Health education should be integrated into the curriculum, emphasizing the importance of diet and physical activity. Parental involvement is critical, as studies indicate that family habits significantly influence children's health behaviors. Community-level awareness programs, regular health screenings, and school-based initiatives, such as fitness programs and nutrition workshops, could effectively address childhood obesity concerns.

Strengths of the Study

- A well-structured methodology with a representative sample size of 150 school-going children.
- Use of validated tools to assess knowledge and self-reported practices, ensuring reliability.
- Inclusion of diverse socio-demographic factors, providing a comprehensive understanding of obesity prevalence and awareness.

Limitations of the Study

- Self-reported data may be subject to recall bias or social desirability bias.
- The study is limited to Western Maharashtra, restricting generalizability to other regions.
- The cross-sectional design does not allow for long-term behavioural assessments.

Recommendations for Future Research and Policy

- Longitudinal studies to assess the long-term impact of obesity prevention programs.
- Expansion of the study to different geographic regions for broader applicability.
- Implementation of intervention-based studies to evaluate the effectiveness of school-based health education programs.
- Policy recommendations to incorporate mandatory physical activity sessions in schools and improved access to healthy meals.

Conclusion

The study underscores the need for structured educational

initiatives to enhance awareness and promote healthier lifestyle practices among school-going children. Findings indicate that while knowledge levels about obesity are moderate to good, the practical application remains limited. Healthcare professionals, educators, and policymakers should collaborate to mitigate the risks of childhood obesity through targeted interventions. By integrating awareness campaigns, parental involvement, and school-based fitness programs, a substantial reduction in childhood obesity rates can be achieved, ensuring a healthier future generation. The study highlights the gap between knowledge and practical implementation of obesity prevention strategies. School-based interventions, parental involvement, and community awareness programs are essential to address this issue effectively.

Conflict of Interest Statement

The authors declare that there is no conflict of interest regarding the publication of this study. No financial, institutional, or personal relationships influenced the research, data collection, analysis, or conclusions presented in this article. The study was conducted independently, and all findings are reported transparently and objectively.

References

1. Shah R, Misra A, Gupta N, Kumar R. Childhood obesity: Emerging public health challenge in India. *Indian Journal of Endocrinology and Metabolism*. 2020;24(3):203-210.
2. Patel D, Sharma S. Impact of educational interventions on obesity awareness among school children: A quasi-experimental study. *International Journal of Health Research*. 2022;14(2):89-98.
3. Singh A, Verma P, Kumar S. Prevalence of overweight and obesity among school-going children in Maharashtra. *Journal of Pediatric Health*. 2021;19(1):45-52.
4. Gupta N, Rao R. Obesity prevention strategies among adolescents: A systematic review. *Current Epidemiology Reports*. 2023;10(4):112-126.
5. World Health Organization. *Childhood obesity: Causes, prevention, and intervention strategies*. Geneva: WHO Report on Childhood Obesity; c2022.
6. Indian Council of Medical Research. *Obesity trends in India: A comprehensive analysis*. New Delhi: ICMR Annual Report; c2023.

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