

Prevalence of Obesity and among Children Studying Selected High School at Bagalkot

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ABSTRACT

Background: Today, childhood obesity is a controversial problem in the World. The consequences of childhood obesity are clear and lead to life-threatening conditions such as heart disease, hypertension, behavioural disorders, and so on. So, the investigator needs to perceive childhood obesity among school children. A quantitative method using a descriptive survey research design is adapted, and 120 school kids reading 8th, 9th, and 10th standards at Basaveshwar English Medium High School were chosen by a non-probability convenient sampling technique.

Methods: The information was measured by questioning the approximate weight problems of one hundred twenty simple standards high school college students in Bagalkot at Basaveshwar English Medium excessive school. The data is received from descriptive and inferential resources.

Results: Findings imply that the general 75% of respondents had an average understanding regarding the prevalence of obesity, and 10% of respondents had terrible know-how concerning the superiority of obesity consequences, depicting that the total mean percentage of understanding rankings of children became sixty-three. Total 60% with a mean and SD of 18.66%. A chi-square test was calculated to evaluate the affiliation among information and decide on socio-demographic variables of adolescence. Findings show no great association was determined between understanding the prevalence of obesity and any of the socio-demographic variables of high-faculty kids.

Conclusion: The study concluded that a maximum of the youngsters had an excessive and common expertise of the prevalence of weight problems. It's far an effective study to perceive expertise regarding the prevalence of obesity amongst faculty kids.

Key-words: Childhood obesity, Knowledge, Obesity, Physical activity, Perceive, Prevalence Socio-demographic

INTRODUCTION

Over the past few decades, the prevalence of overweight and obesity has significantly increased among high school children^[1]. Childhood obesity is the biggest health problem. The problems of the 21st century have become global and continue to affect many in the lower and middle classes, especially in cities. Expansion is increasing at an alarming rate.

In 2010, the number of overweight children under the age of five worldwide was estimated to be more than 42 million. Due to various types of work and changes in transportation, there is an increase in the consumption of high-fat, high-energy foods and sugar and a decrease in physical activity. Dietary pattern and physical activity. These changes are mainly due to environmental development and societal changes, and the lack of policy support in sectors such as health, agriculture, transportation, urban planning environment, food processing, distribution, and marketing increases the risk of obesity^[1]. Obesity during pregnancy increases the risk of obesity, premature death, and disability in adulthood. Therefore, we focus on the 12–16 years age group. Therefore, this project aims to find out the prevalence of

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overweight and obesity in high school students and to examine the relationship between obesity and youth (10–19 years old), which shows rapid growth due to changing nutrition. Encourage ultra-processed foods and fast foods. Advertisements on television, the internet, and in movies fast food influence young people's food choices. These different characteristics help create an environment that promotes obesity (Obesogenic environment)^[2].

Short-term effects of this include psychological problems such as lack of self-confidence, depression and anxiety, negative thoughts and behaviours, asthma, low body weight, liver muscle problems, and metabolic and cardiovascular problems. Long-term effects often shorten lifespan. Therefore, it emphasizes that obesity should be paid attention to and be prevented [3,4].

MATERIALS AND METHODS

Research Design and Participants- This study is the April 2023 sample design. A sample of 120 high school girls and boys studying eighth, ninth, and tenth grade at Basaveshwar High School in Bagalkot. Children were willing to participate in the study, and the participants were also included in the training during the data collection phase. Children who were not healthy were then excluded from the analysis.

Inclusion Criteria

- ✓ High school girls and boys studied eighth, ninth, and tenth grades at Basaveshwar High School in Bagalkot.
- ✓ Children who expressed a willingness to participate in the study.
- ✓ Participants were included in training during the data collection phase.
- ✓ Children who were healthy at the time of data collection were included in the analysis.

Exclusion Criteria

- ✓ Children who were not healthy during data collection were excluded from the analysis.
- ✓ Children who dropped out of the middle
- ✓ Children whose answers were not consistent or may be confusing

Tool- Health prevention uses surveys to measure children's knowledge. A total of 20 items in the survey

are scored as follows: 1: Never, 2: Some times, 3 very Often. The reliability of preventing adolescent obesity was ensured by the balanced test- by the test-retest method ($r=0.96$), Trustworthy.

Socio-demographic variables and clinical features-

Socio-demographic data includes information on childhood obesity such as age, gender, religion, year of education, father's educational status, mother's educational status, father's occupation, mother's occupation, family monthly income, type of family, and area of residence.

Statistical Analysis- The data obtained were analyzed regarding the study's objectives using descriptive and inferential statistics. A master data set was prepared with responses given by the participants. Frequencies and percentages to analyze the demographic data, the mean and standard deviation of answered questions. The Chi-square test was used to determine the selected socio-demographic variables in the tables and the graphs.

Ethical Approval- The Institutional Ethics Committee of BVVS Sajjalashree Institute of Nursing Sciences, Bagalkot, has granted ethical clearance.

RESULTS

The percentage distribution of young people by age group shows that most children (21.6%) are in the 1314 age group. The majority (52.5%) were children aged 1516. While the majority (25.8%) were children under the age of 16, they were men (51.6%) and women (48.3%). The majority of Hindu children (77.5%) study in high school, followed by Muslims (15.8%), Christians (4.1%) and others (2.5%). Most of the young men (50%) are secondary school graduates. The majority of young mothers (37.5%) are secondary school graduates. The profession of most young men (43.7%) is agriculture. Most young mothers (25%) are housewives and farmers. 37.5% of teens earn more than \$20,000 per month. Most of them (62.5%) are nuclear families. Most (75%) live in cities. Table 1 provides insights into the prevalence of obesity knowledge among high school children, categorizing them into three distinct levels: High, Average, and Poor. The data is presented in both numerical and percentage terms. Notably, 15% of the surveyed high school children demonstrated a high

knowledge of obesity, constituting 18 individuals. The majority, encompassing 75% of the participants (90 children), fell within the category of Average knowledge. Conversely, 10% of the students (12 individuals) exhibited poor knowledge of obesity. This breakdown highlights that a significant portion of high school children possess an average understanding of obesity, with smaller proportions exhibiting either high or poor levels of knowledge on the subject. The data underscores the need for targeted educational initiatives to improve obesity awareness among high school students, potentially reducing the prevalence of inadequate knowledge.

Table 1: Prevalence of obesity knowledge among High School children

| Obesity knowledge among children | Number | Percentage (%) |
|----------------------------------|--------|----------------|
| High | 18 | 15 |
| Average | 90 | 75 |
| Poor | 12 | 10 |

Table 2 showed that the mean, standard deviation and percentage of children's knowledge level scores, all percentages of children were 63.60%, and the mean and standard deviation were 50.81±7.18.

Table 2: Mean, SD, and Mean percentage of obesity score among adolescents

| Area | Max score | Min score | Mean n | SD | Mean (%) |
|-------------------|-----------|-----------|--------|------|----------|
| Obesity knowledge | 80 | 20 | 50.81 | 7.18 | 63.60 |

Table 3 above shows the relationship between obesity awareness among high school students and selected social variables. The findings revealed no significant relationship between obesity knowledge and any demographic variable among high school students in Basaveshwar. The above table shows the relationship between obesity awareness among high school students and selected social variables. The findings show no

significant relationship between obesity awareness and social variables among high school students.

Table 3: Association between prevalence of obesity knowledge and select sociodemographic changes during adolescence

| Sociodemographic variables | Df | Chi-square value | p-value |
|----------------------------|----|------------------|---------|
| Age | 4 | 3.25 | 0.51 |
| Gender | 2 | 0.06 | 0.97 |
| Religion | 6 | 3.94 | 0.68 |
| Years of education | 4 | 0.9 | 0.92 |
| Father's educational level | 6 | 5.64 | 0.46 |
| Mother's educational level | 6 | 2.6 | 0.85 |
| Father's job | 8 | 8.07 | 0.42 |
| Mother's job | 8 | 5.1 | 0.74 |
| Family monthly income | 4 | 1.36 | 0.85 |
| Family type | 2 | 0.69 | 0.70 |
| Address | 2 | 1.63 | 0.44 |

DISCUSSION

Similar studies show that most of the young people (52.5%) are in the age group 16 years old. Most of the women (48.3%) are elderly. 68% of the youth are Hindu [5-7]. This is consistent with and supported by M. Keerthan Kumar's cross-sectional study of 500 students aged 12 to 15 years on the prevalence and impact of overweight and obesity among urban and rural children in Mangalore and Udupi districts. Year. The percentages of fat and obesity are 2.6% and 3%, respectively. The study found that men are more likely to be overweight and obese. The study found that the prevalence of obesity in children in private schools (4.51%) was higher than in public schools (1.28%), but the weight of children in public schools was higher [8-10]. Demographic features of young people show that 21.6% are 13-14 and 52.5% are 15-16. The gender breakdown is 25.8% male and 51.6% female for children under 16. Further investigation shows that Hindu youngsters attend high school (77.5%), followed by Muslims (15.8%), Christians (4.1%), and others (2.5%). Interestingly, 50% of young males and 37.5% of young moms graduate from secondary school. The rate of overweight (3.11%) and obesity (4.15%) in children in nuclear families is higher

than in children in mixed families (1.89% and 1.42%). The proportion of those who do not exercise regularly (3.2% and 4.51%) is higher than that of those who exercise regularly (2.31% and 1.77%) and those who do energy exercise for less than 2 hours a day (3.21% and 1.77%). A total 3.92% is much higher in those who consume pastries and fried food regularly (4.88.44%) as compared to those who do not consume them regularly (0.72 and 1.81%)^[11-14]. Many young males (43.7%) work in agriculture, whereas 25% of young moms are housewives and farmers. Financially, 37.5% of teens make above \$20,000 monthly, with 62.5% in nuclear households. The majority of questioned youngsters (75%) live in cities. Childhood obesity is a major public health issue in several Asian nations, including India. A significant incidence of cardiovascular disease and type 2 diabetes mellitus is linked to it. In order to gauge the scope of the issue and put measures in place to prevent it from reaching maturity, it is crucial to determine the incidence of overweight and obesity in children. The participants in this cross-sectional research were students from two urban schools in Mysuru, Karnataka, who were in the age bracket of eleven to fifteen. On the other hand, our study found that high schoolers' obesity knowledge is classified as high, average, or poor. Notably, 15% had good obesity knowledge, 75% ordinary, and 10% low. This breakdown emphasizes the need for specialized high school obesity instruction. The current study found that children's knowledge levels have a mean percentage of 63.60% and a mean standard deviation of 50.81±7.18. Table 3 shows no significant relationships between obesity awareness and selected socioeconomic characteristics in Basaveshwar high school students. The survey found that 12.27% of children were overweight and 3.86% were obese. The previous research found that 4% were obese and 8% were overweight. The present study respondents' significantly greater prevalence of overweight suggests that increasing urbanization influences people's dietary habits and weight status, particularly among youngsters in big cities. This is consistent with and supported by Dr. Abdul Rehman was proved. The overall prevalence of overweight and obesity was 13.4% (14.2% for girls and 12% for boys; $p = 0.02$) and 18.2% (18% for girls and 1.4% for boys; $p=0.73$), respectively. Compared with the WHO-based national prevalence rate of obesity reported in 2004 ($\approx 9.3\%$), the obesity rate has doubled over 10

years. There was a significantly higher prevalence of obesity in adolescents (>11 years) than in children (20.2% vs. 15.7%; $p<0.01$). As health conditions increase, obesity also increases. Obese children are 1.5 times and 2 times more likely to develop diarrhoea and vomiting than non-obese children^[15-17]. This is consistent with and supported by Edward Y's research and is 13.9%, as shown in the results included in the study. It is classified as obese. Not participating in a sports team (odds ratio [OR], 1.61; 95% confidence interval [CI], 1.31–1.98), current smoker (OR, 1.42; 95% CI 1.14–1.77) and 3 or more hours spent at work per day watching TV (OR, 1.38; 95% CI, 1.09–1.76) were associated with obesity^[18-21]. This is consistent with and supported by Bharati D. in Wardha City in 2006. The participants of this study are children between the ages of 10 and 16 studying in secondary and high schools in the city of Varda. Child BMI is a tool to measure obesity in children. They found that 43% (95% CI: 3.65.2) of children were overweight or obese. "The percentage of overweight or obesity (5%) is higher in early adolescence (≥ 15 years) than in early youth (≤ 15 years). There is no significant difference." There is obesity and obesity; 4.4% in boys and 4.3% in girls, respectively^[22]. Previous research in Indian cities found a rise in schoolchildren's obesity. The previous research found 7.09% and 4.08% overweight and obese schoolchildren in Bengaluru^[12]. The previous research found 12% overweight and 6.3% obese high school pupils in Trivandrum, Kerala. In Mangalore, South Karnataka, Shashidhar et al. found 9.9% overweight and 4.8% obese school-children^[14]. During the COVID-19 epidemic, lockdowns increased childhood obesity, according to a study. A literature search by Stavidrou *et al.*^[16] found that forced home stays have led to youngsters eating more fried foods, snacking, and being more inactive, raising obesity rates^[15]. Another research by Dunton et al. found that COVID-19 limits had affected children's physical activity and sedentary behaviour. The previous research found a substantial rise in BMI (21.8-22.1 kg/m², $p<0.001$) and obesity prevalence (10.5-12.6%) among children of different ages during the COVID-19 lockdown^[22].

CONCLUSIONS

From the data we collected at Basaveshwar High School, we conclude that regular exercise, more than 5 days a week, plays a major role in the fight against overweight

and obesity and should, therefore, be encouraged. Since watching TV for over 3 hours daily is the main culprit for childhood obesity, we should advise parents and teachers to involve children in outdoor games and healthy activities. Children who carry Tiffin from home tend to be similar and, therefore, healthier as they refrain from consuming junk food and reduce the risk of obesity by addressing critical elements in the life course, tackling the population level Obesogenic environment and norms, and lastly, treating obese children to improve their current and future health. At all stages, teaching children and parents about healthy eating and having an active lifestyle should be an integral part of the school curriculum. Another way of teaching children and parents about healthy food options.

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REFERENCES

- [1] Teshome T, Singh P, Moges D. Prevalence and associated factors of obesity among high school adolescents in urban communities of Hawassa, Southern Ethiopia. *Curr Res Nutr Food Sci.*, 2023; 12(2): 23-30.
- [2] Junja H, Lingling Z, Yuan H, et al. All Prevalence of Overweight and Obesity among people aged 18 years. *China. Res Public Health*, 2020; 17(2): 40-48.
- [3] Kaur S, Sachdev HPS, Dwivedi SN, et al. Overweight and obesity amongst schoolchildren in Delhi, Asia, *Pac J Clin Nutr.*, 2008; 17(2): 592-96.
- [4] Kumar MK, Hegde KS. Prevalence of obesity among high school children in Dakshina Kannada and Udupi districts, *Nitte Univ J Health Sci.*, 2011; 1(4): 12-20.
- [5] Saha J, Chouhan P, Ahmed F, Ghosh T, Mondal S, et al. Overweight/Obesity Prevalence among Under-Five Children and Risk Factors in India: A Cross-Sectional Study Using the National Family Health Survey. *Nutr.*, 2022; 14(17): 3611-21.
- [6] Lodder GMA, Goossens L, Scholte RHJ, Engels RCM, et al. *J Youth Adolesc.*, 2016; 22(5): 2406-16.
- [7] Edward Y, Ramachandran HS, Bhattacharya K, et al. Obesity Among High School Students in the United States Obesity Among High School Students in the United States: Risk Factors and Their Population Attributable fraction. *Prev Chronic Dis.*, 2018; 12(5): 22-32. doi: 10.5888/pcd15.180122.
- [8] Gayakwad VS, Shankar G. A community-based study on factors influencing body mass index of adolescent girls in urban area of Bagalkot, Karnataka. *Indian J Forensic Community Med.*, 2019; 6(3): 144-48.
- [9] Chilapur GG, Natekar DS. Dietary Habits and Nutritional Status among Preschool Children: An Observational Study at Bagalkot. *Age*, 2015; 18: 02-38.
- [10] Kalasker PS, Dorle AS, Vetri S. A cross sectional study on obesity among first year MBBS students of S. Nijalingappa medical college, Bagalkot. *Natl J Community Med.*, 2015; 6(1): 108-11.
- [11] Devi MC. A Pilot Study on Prevalence of Obesity and its Determinants among Adolescents in Schools of Jalandhar, Punjab. *Int J Trend Sci Res Dev.*, 2023; 12(2): 15-27.
- [12] Manjula R, Dorle AS, Mannapur BS, Desai S, Mallapur A. Effectiveness of school based educational intervention for healthy body mass index and its association with academic performance among school children: a quasi-experimental study. *Int J Community Med Public Health*, 2018; 5(2): 1828-34.
- [13] Vetri Selvan T, Lalitha D, Hiremath CH, Ghattargi JB. A cross sectional study on eating disorders among college students in Bagalkot city. *Med Innov.*, 2015; 4(1): 1-8.
- [14] Kotabal R, Chilgod N, Belur MN, Nagendra K. A study on prevalence and factors associated with obesity among adolescents in Shivamogga City—A cross sectional study. *Natl J Community Med.*, 2018; 9(01): 29-32.
- [15] Sidenur B, Shankar G. A Cross-Sectional Study of Hypertension among 20–40 Years Old Residing in an

- Urban Area of Bagalkot City, North Karnataka. Indian J Community Med., 2023; 48(1): 98-110.
- [16] Sultana A, Bhattacharya S, Hossain MM. COVID-19 and primary care: a critical need for strengthening emergency preparedness across health systems. J Family Med Primary Care, 2021; 10(1): 584-85.
- [17] Gupta BK. Assessment of Lifestyle and Habits associated with Obesity among the School Children of Bhirahawa, Nepal-A Cross-Sectional Survey. J Adv Med Dent Scie Res, 2015; 3(6): 107-10.
- [18] Bagalkot N, Verdezoto N, Ghode A, Purohit S, Murthy L, et al. Beyond health literacy: Navigating boundaries and relationships during high-risk pregnancies: Challenges and opportunities for digital health in north-west India. In Proceedings of the Nordic Conference on Human-Computer Interaction: Shaping Experiences, Shaping Society, 2020; 25(2): 1-15.
- [19] Jacobson MH, Woodward M, Bao W, Liu B, Trasande L. Urinary bisphenols and obesity prevalence among US children and adolescents. J Endocr Soc., 2019; 3(9): 1715-26.
- [20] Karki A, Shrestha A, Subedi N. Prevalence and associated factors of childhood overweight/obesity among primary school children in urban Nepal. BMC Public Health, 2019; 19(1): 1-12.
- [21] Yusuf ZI, Dongarwar D, Yusuf RA, Bell M, Harris T, et al. Social determinants of overweight and obesity among children in the United States. Int J Maternal Child Health AIDS, 2020; 9(1): 22-41.
- [22] Panigrahi A, Das SC. Undernutrition and its correlates among children of 3–9 years of age residing in slum areas of Bhubaneswar, India. Sci World J., 2014; 20(4): 12-22.
- [23] Alekhya M. Research Papers. J Family Med Primary Care, 2018; 7(3): 1-26.

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