

## **KNOWLEDGE AND ATTITUDE RELATED TO OVERWEIGHT AND OBESITY AMONG RURAL SCHOOL CHILDREN**

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### **ABSTRACT**

The prevalence of obesity in school-aged children and adolescents has risen to more than 10-fold over the past 40 years. (World Obesity Atlas 2022). Childhood obesity is one of the most serious public health challenges of the 21<sup>st</sup> century. The problem is global and is steadily affecting many low and middle income countries, particularly in urban and rural settings. The present study was undertaken to know Knowledge and Attitude related to overweight and obesity among rural school children. Self constructed questionnaire was administered to school children studying in 6<sup>th</sup> and 7<sup>th</sup> grade in rural area of Dharwad district, Karnataka. The results highlight various gaps in knowledge and attitudes regarding diet and health which was related to overweight and obesity. There is a need for comprehensive education and awareness initiatives to promote healthier dietary habits and combat misconceptions about food and nutrition. And there is also a need for increased education and awareness about the importance of physical activity in preventing and managing overweight and obesity, particularly among children.

### **INTRODUCTION;**

Obesity is a complex chronic disease defined by excessive fat deposits that can affect health condition. Obesity influences the quality of living, such as sleeping or moving. The diagnosis of overweight and obesity is made by measuring people's weight and height and by calculating the body mass index (BMI): weight (kg)/height<sup>2</sup> (m<sup>2</sup>). The body mass index is a surrogate marker of fatness and additional measurements, such as the waist circumference, can help the diagnosis of obesity.

Over 390 million children and adolescents aged 5–19 years were overweight in 2022. The prevalence of overweight (including obesity) among children and adolescents aged 5–19 has raised dramatically from just 8% in 1990 to 20% in 2022. The rise has occurred similarly among both boys and girls: in 2022 19% of girls and 21% of boys were overweight. While just 2% of children and adolescents aged 5–19 were obese in 1990 (31 million young people), by 2022, 8% of children and adolescents were living with obesity (160 million young people). (WHO 2024 March)

Childhood obesity is one of the most serious public health challenges of the 21<sup>st</sup> century. The problem is global and is steadily affecting many low and middle income countries,

particularly in urban and rural settings. The prevalence has increased at an alarming rate even in rural areas. Globally in 2010, the number of overweight children under the age of five is estimated to be over 42 million. Close to 35 million of these are living in developing countries. Indians are getting fatter, according to a new government survey, and experts are warning about a health emergency unless the growing obesity problem is tackled on a war footing. (NFHS-5)

"We are in an obesity epidemic in India and globally, and I fear it could soon become a pandemic if we don't address it soon," warns Dr. Ravindran Kumeran, a surgeon in the southern city of Chennai (Madras) and founder of the Obesity Foundation of India. Dr. Kumeran blames sedentary lifestyles and the easy availability of cheap, fattening foods as the main reasons why "most of us, particularly in urban India, are now out of shape". Johnson JA, Johnson AM. (2015) in the meta-analysis study found that higher rate of obesity was found among rural children than urban children. Obesity and overweight are growing health concerns nationwide. The world is heading towards bad eating habits that are leading to obesity and weight gain. Childhood obesity can also lead to poor self-esteem and depression. Based on this the present study was undertaken to know attitudes and awareness related to overweight and obesity among rural school children.

## **MATERIALS AND METHODS**

**Objectives:** To study Knowledge and Attitude related to overweight and obesity among rural school children.

**Procedure:** A sample of 100 children of the age group of 12-14 years from rural area of Dharwad district was randomly selected for the present study in the year 2019-20. The tool was used to elicit information was self-constructed. The questionnaire consists of both basic data and specific data. In specific data there were 22 statements–10 questions in the category of awareness on diet, 4 questions related to attitude on diet 4, questions each in awareness and attitude respectively on physical activity related to overweight and obesity consisted. The scoring pattern for awareness was two point scale with the options yes or no, and score was given as 1 for No and Yes for 2. For attitude it was three point scale such as disagree, no idea, and agree with the scoring 3, 2 and 1 respectively. Prior permission was taken from the respective authority of the rural school. Visits to the selected school were made to collect information. The respondents were requested to fill the questionnaire. It was made sure that answers of the respondents will be kept confidential and used for only research purpose.

### **Limitation**

The study was restrained to school age children of the age group 12-14 years studying in rural area of Dharwad district.

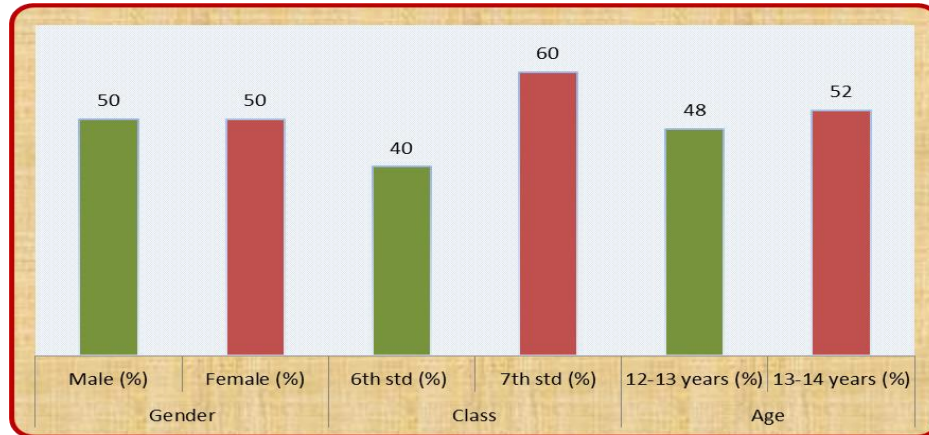
### **Compilation and Analysis of Data**

Data was tabulated using coding plan and master sheet was prepared. Frequency, percentage was the statistical methods applied for the study.

**RESULTS AND DISCUSSION**

The collected data are tabulated and interpreted as follows

The figure-1 shows the general information of the respondents. There were equal percent (50%) of both boy and girl children respondents studying in 6<sup>th</sup> standard and 7<sup>th</sup> standard class. About 48 percent of students belong to the age group of 12 to 13 years and 52 percent in the age group of 13- 14 years.



**Fig- 1 General information of the selected respondents**

**Table-1 Knowledge on diet related to overweight and obesity among rural school children**

**n=100**

SI No	Statements	Yes (%)	No (%)
1	Are you aware of a condition called overweight / obesity?	30	70
2	Do you know eating too much of fatty foods can lead to overweight and obesity?	35	65
3	Are you aware of consuming fried foods increases body weight?	26	74
4	Do you like junk foods?	38	62
5	Do you think can junk foods give you energy?	64	36
6	Are junk foods healthy?	76	24
7	Do you know you should drink 8 glasses of water per day?	26	74
8	Do you know that soft drinks contain only empty calories (only calories with no nutrients)	18	82
9	Do you know that eating fruits and vegetables regularly can keep you healthy?	48	52
10	Irregular eating patterns will lead to overweight and obesity?	64	36

Table- 1 shows knowledge about diet among rural school children, regarding awareness of overweight / obesity which indicates that 30% of respondents were aware of the condition of overweight / obesity, while 70% of the children were not. This suggests that there was a significant portion of the population who may not fully understand their health issue. Similarly, knowledge about fatty foods and obesity, only 35% of respondents acknowledge that eating too much of fatty foods can lead to overweight and obesity, while 65% do not. This shows a lack of awareness among rural school children about the link between dietary fat intake and weight gain. Awareness about fried foods' impact on body weight only 26% of respondents were aware that consuming fried foods can increase body weight, indicating a lack of understanding about the health effects of consuming such foods. Preference for junk foods indicates a significant portion (38%) of respondents admit to liking junk foods, which could potentially lead to unhealthy dietary habits and contribute to issues like overweight and obesity.

Belief in junk foods providing energy shows that, the majority (64%) of respondents believe that junk foods can provide energy. While these foods may offer quick energy due to their high sugar or carbohydrate content, they often lack essential nutrients and can lead to energy crashes. Perception of junk foods' healthiness surprisingly, 76% of respondents consider junk foods to be healthy. This highlights a misconception about the nutritional value of these foods and their potential negative impacts on health. Knowledge about daily water consumption indicates, only 26% of respondents were aware of the recommendation to drink eight glasses of water per day, indicating a lack of knowledge about hydration and its importance for overall health. Awareness of soft drinks as empty calories a very less percentage (18%) of respondents recognize that soft drinks contain only empty calories, lacking essential nutrients. This suggests a need for education about the nutritional content of sugary beverages.

Understanding the health benefits of fruits and vegetables defines nearly half (48%) of respondents understand that eating fruits and vegetables regularly can promote health. However, this also indicates that a significant portion may not fully grasp the importance of consuming these foods for overall well-being. Belief in irregular eating patterns leading to overweight and obesity indicates the majority (64%) of respondents acknowledge that irregular eating patterns can lead to overweight and obesity, demonstrating some awareness of the relationship between eating habits and weight management.

Overall, the survey results highlight various gaps in knowledge and attitudes regarding diet and health. There is a need for comprehensive education and awareness initiatives to promote healthier dietary habits and combat misconceptions about food and nutrition.

**Table-2 Attitude on diet related to overweight and obesity among rural school children****n=100**

Sl No	Statements	Dis agree (%)	No idea (%)	Agree (%)
1	Not having breakfast can make you fat	38	42	20
2	Eating fast foods more than twice/week increases the risk of becoming fat?	44	34	22
3	Nutrition knowledge and healthy eating habits is important to decrease overweight and obesity	14	38	48
4	Eating more of tidbits/ goodies (cookies with fillings, salty industrialized snacks, sweets and soft drinks can cause overweight and obesity?	40	28	32

The table-2 illustrates that not having breakfast can make you fat suggests that opinions were divided, with a significant portion having no clear stance on whether skipping breakfast can lead to weight gain. However, notable percent (38%) of the participants disagree with this statement, indicating a lack of consensus on the impact of breakfast on weight management. About eating fast foods more than twice/week increases the risk of becoming fat Again, opinions vary, with a sizable portion (44%) disagreeing with the statement. However, 22% agreed that frequent consumption of fast foods can contribute to weight gain, indicating some recognition of the potential health risks associated with this dietary habit.

Nutrition knowledge and healthy eating habits are important to decrease overweight and obesity says the majority (48%) of respondents agree that nutrition knowledge and healthy eating habits are crucial for reducing overweight and obesity. However, a significant portion (38%) were uncertain or had no clear opinion on this matter, suggesting a lack of awareness or understanding of the importance of diet in managing weight. Eating more of tidbits/goodies can cause overweight and obesity defines there was a lack of consensus; with 40% disagreeing that consuming tidbits/goodies can lead to overweight and obesity. However, notable percent (32%) agreed with this statement, indicating some awareness of the potential health risks associated with excessive consumption of these types of foods.

Overall, the survey results revealed varying attitudes toward diet and its relationship to weight management. While there was some recognition of the importance of healthy eating habits in preventing overweight and obesity, there were also significant proportions of respondents who were uncertain or hold differing opinions on specific dietary factors' impacts on weight. This

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highlights the need for continued education and awareness efforts to promote evidence-based nutrition knowledge and encourage healthier dietary choices. Johnson JA, Johnson AM. (2015), study has observed that in rural children, the prevalence of overweight and obesity was more than under nutrition. There is a need for nutrition education, reinforcement of lifestyle changes, and healthy behaviors for the schools and community.

**Table- 3 Knowledge on physical activity related to overweight and obesity among rural school children n=100**

SL No	Statements	Yes (%)	No (%)
1	Do you think less physical activity leads to overweight and obesity?	38	62
2	Should overweight and obese children exercise every day?	43	57
3	Is it necessary for overweight and obese children to lose weight by physical activity along with diet?	38	62
4	Being obese can cause health complication?	32	68

The table 3 illustrates that only 38% of respondents believe that less physical activity leads to overweight and obesity, while the majority (62%) do not hold this belief. This indicates a significant portion of the population may not fully understand the relationship between physical activity and weight management. Whereas slightly higher percentage (43%) of respondents, agreed that overweight and obese children should exercise every day, while 57% do not shared this view. This suggests a somewhat higher awareness of the importance of physical activity for overweight and obese children is needed. The table redefines only 38% of respondents believed it's necessary for overweight and obese children to lose weight through physical activity along with diet, while 62% do not agree. This reflects a lack of understanding about the role of physical activity in weight management among children. And there is, only 32% of respondents acknowledge that being obese can cause health complications, while 68% do not recognize this fact. This highlights a concerning lack of awareness about the significant health risks associated with obesity, such as diabetes, cardiovascular disease, and certain cancers.

Overall, the survey results suggest a need for increased education and awareness about the importance of physical activity in preventing and managing overweight and obesity, particularly among children. There appears to be a lack of understanding about the relationship between physical activity levels and weight status, as well as the health consequences of obesity.

Attitude of respondents on physical activity is depicted in the table-4, while a significant portion (33%) disagreed that watching television for more than two hours is a determinant of weight gain and obesity, there's also a notable proportion (29%) who agreed with this statement. However, a considerable number of respondents (38%) were unsure or have no clear opinion. This suggests a

lack of consensus or awareness about the impact of sedentary behaviors like TV watching on weight. Similarly, opinions were divided regarding the link between irregular sleeping patterns and weight gain. A slightly higher percentage (39%) disagreed with this statement, while 25% agreed. However a significant portion (36%), is uncertain or have no clear opinion. This indicates a lack of understanding or awareness about the potential role of sleep habits in weight management.

**Table-4 Attitude on physical activity related to overweight and obesity among rural school children n=100**

Sl No	Statements	Dis agree (%)	No idea (%)	Agree (%)
1	Watching television for more than two hours is another important determinant of weight gain and obesity	33	38	29
2	Irregular sleeping pattern can cause weight gain?	39	36	25
3	Lack of physical activity can lead to weight gain and obesity	37	28	35
4	Obesity leads to health complications	22	61	17

Further the table shows that there's a relatively balanced distribution of opinions regarding the relationship between lack of physical activity and weight gain/obesity. While 35% agreed that lack of physical activity can lead to weight gain and obesity, 37% disagreed, and 28% were unsure. This suggests some recognition of the importance of physical activity for weight management but also indicates uncertainty or differing opinions among respondents. The table results in a considerable majority (61%) of respondents have no clear idea about whether obesity leads to health complications, while 22% disagree with this statement. Only 17% agree that can lead to health complications. This highlights a concerning lack of awareness or acknowledgment of the significant health risks associated with obesity.

Overall, the table results suggest a mixed understanding and awareness of the relationship between physical activity, sedentary behaviors, sleep patterns, and weight management. There's a need for increased education and awareness about the importance of physical activity, healthy sleep habits, and the health consequences of obesity.

Sarala. P., *et al.* (2019) results opines similarly with the present study, which shows that among rural children, the prevalence of overweight and obesity (16.2%) was higher than the prevalence of thinness and severe thinness (12.2%). Among rural male children, the prevalence of

overweight and obesity (14%) was almost equal to the prevalence of thinness and severe thinness (13%). In rural female children, the prevalence of overweight and obesity (18.6%) was higher than the prevalence of thinness and severe thinness (11.4%). This may suggest a possible shift of trend toward overweight and obesity in rural area children

### **CONCLUSION**

The rising prevalence of overweight among children underscores the need for early intervention strategies, emphasizing the importance of reducing screen time and promoting increased physical activity. These measures are critical in addressing the growing challenge of being overweight during childhood and its potential long-term health implications. Before that bring awareness campaign and intervention will definitely improve the life style of the children. One of the best strategies to reduce childhood obesity is to improve the eating and exercise habits of entire family. Treating and preventing childhood obesity helps protect child's health now and in the future.

### **REFERENCES**

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