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A Study to Assess the Effectiveness of Structure Teaching Program On Knowledge Regarding Obesity On Health Among Schooler Children (10 - 14) Year in Selected School Prayagraj.

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Abstract

Obesity in children is a growing health concern worldwide including in India. Poor dietary habits sedentary lifestyle & lack of awareness contribute significantly to the rising prevalence of obesity among school age children. Early health education can play a crucial role in preventing childhood obesity & its associated health complications.

Method A pre-experimental study with one group pre-test & post-test design was conducted in a selected school of Prayagraj. A structured knowledge questionnaire was used to assess the pre-test and post-test knowledge before & after the intervention. The structured teaching program focused on causes, effects, preventing & management of obesity.

Result Mean score of knowledge was significantly increase after intervention. Mean pre-test of knowledge was 6.8667 which was increased to 19.133 was highly significant. There was significant association found between knowledge regarding obesity on health among children with demographic variable, significant knowledge about obesity.

Keywords: Obesity, Schooler children, Health, Structure Teaching Program, Knowledge.

1. Introduction

Obesity is a major public health problem affecting children worldwide. It is defined as an excessive accumulation of body fat that may harmful for health. The prevalence of childhood obesity has increased rapidly due to changes in lifestyle, dietary patterns, and reduced physical activity. Children between the ages of 10–14 years are at a critical stage of growth and development, where healthy habits play a vital

role in shaping their future well- being. During this period, hormonal changes, peer influence, and exposure to unhealthy food choices can contribute to weight gain. Childhood obesity not only affects physical health leading to problems such as diabetes, hypertension and joint issues but also impacts mental and social well- being, causing low self- esteem and social isolation. Early identification and prevention are essential to ensure that children grow into healthy adults and to reduce the long- term burden of obesity related diseases

''According to WHO'' Obesity defined as a condition of abnormal or excessive accumulation of fat in adipose tissue to that extends health may be impaired. Obesity in children is an equally significant public health concern. Many different factors contribute to this study that is imbalance between calorie intake and consumption, dietary habits, socioeconomic status and physical activity[1]

Obesity is pathological condition in which excess body fat accumulated, leading adverse effect on health and life expectancy. It is a chronic disorder with complex interaction between physical activity, socioeconomic status and dietary habits[2]

Childhood obesity is a growing problem. The number of overweight children has doubled, while the rate for teens has tripled. The principle causes of this increase in obesity are unhealthy eating habits and decreased physical activity. In Obese children and adolescents and can affect cardiovascular health hypercholesterolemia, dyslipidaemia, hypertension, the pulmonary system musculoskeletal system, the endocrine system, proinsulin's, insulin resistance, impaired tolerance, type– 2 diabetes mellitus, menstrual irregularity, and mental health status (depression and low self-esteem 2024),overweight and obesity are a growing threat to children' swell being globally, largely driven by a trap of unhealthy and highly processed foods combined with a lack of physical activity and sedentary behaviour. Almost 40 million under-fives around the world are overweight, equivalent to nearly 6 per cent of this age group. Among children aged 5 to 19 years, rates are significantly higher; it is estimated that more than 340 million are overweight, almost 18 per cent.[3]

Obesity is defined as a condition in which excessive accumulation of fat in the adipose tissues has taken places. It arises when the intake of food is in excess of physiological needs. Urbanization might also play a major role in the development of obesity. Obesity now considered as a "killer lifestyle'' disease is an important cause of preventable death worldwide. Overweight and obesity are known risk factors for a number of chronic medical conditions like cancer, diabetes and heart diseases, then in turn are primary drivers of health care spending, disability and death[4.]

Obesity, which was once viewed as the result of lack of will power, or a lifestyle "choice"–the choice to overeat and under exercise, is now being considered more appropriately by the Obesity, in simple terms, may be defined as a state of imbalance between calories ingested versus calories expended which would lead to excessive or abnormal fat accumulation. Body Mass Index (BMI) is a measure of weight corrected for height and which reflects the total body fat and has been the most accepted parameter for defining over weight. Childhood is the age span ranging from birth to adolescence. Childhood is divided into early childhood (3-8 years old), middle childhood (9 to 11years old), and adolescence (12 to 18 years old). Childhood brings many changes in a child's life. The physical social and mental skills develop quickly at this time, and this is a critical time for children to develop confidence in all areas of life, parents can make children to healthier through healthy eating habits, physical activity early and be a

role model by eating healthy at family meal time and having an active lifestyle. According to WHO, Obesity is defined by calculating Body mass Index (BMI) which is weight in kgs/weight in (meter) 2 It is also called Quetelet Index. BMI of 18-25 is normal, 25-30 is overweight, 30-35 is grade I obesity, 35-40 is grade II obesity and >40 is morbid obesity.[5]

Obesity is defined, "as a condition in which excessive accumulation of fat in the adipose tissues has taken place. It arises when the intake of food is in excess of physiological needs. Obesity is the most common nutritional disorder in the western countries and among the higher income groups in the developing countries. Childhood obesity is a serious medical condition that affects children and adolescents. It occurs when a child is well above the normal weight for his or her age and height. Childhood obesity is particularly troubling because the extra pounds often start children on the path to health problems that were once confined to adults, such as diabetes, high blood pressure and high cholesterol. Childhood obesity can also lead to poor self-esteem and depression.[6] Obesity is a public health problem that has become epidemic worldwide. Obesity is a leading preventable cause of death. It is one of the most serious public health problems in 21st century. When people eat more calorie than they burn of, their body store the extra calories as fat. Doctor uses the term "overweight" or "obeys". Obesity has a negative impact on health and quality of life.[7] Although healthy eating patterns and regular physical activity (PA) help people achieve and maintain a healthy weight starting at an early age and continuing throughout life, every nation has unique cultural, economic, and health-care system conditions that make difficult to implement some detailed universal guidelines. Obesity is a chronic recurrent disease related to excessive fat tissue accumulation that presents a risk to health. The diagnosis of overweight, obesity, and severe obesity is usually based on the measurement of high and weight, calculation of weight-to-length ratio in children below the age of 5 years and body mass index (BMI) in older children.[8]

NEED OF THE STUDY

In recent years, childhood obesity has become a serious and growing health problem. Children between the ages of 10 to 14 years are increasingly affected by obesity due to changes in lifestyle, food habits, and daily activities. Increased intake of junk food, sugary drinks, and fast food, along with reduced physical activity, outdoor play, and exercise, has greatly contributed to weight gain among school-going children. The use of mobile phones, television, and video games has further reduced their physical movement.[9] This age group is a crucial stage of growth and development. During these years, children form habits related to eating, exercise, and daily routine, which often continue into adulthood. If obesity develops during this stage, it is more likely to persist later in life. Childhood obesity can lead to many serious health problems such as diabetes, high blood pressure, heart diseases, breathing difficulties, hormonal imbalance, and joint problems. Apart from physical health issues, obese children often suffer from emotional and psychological problems like low self-esteem, anxiety, depression, and social isolation due to teasing and bullying.[10] The increasing risk of obesity, many children have poor knowledge about its causes, harmful effects, and preventive measures. They are often unaware of the importance of balanced diet, regular exercise, and healthy lifestyle choices. Lack of correct knowledge leads to unhealthy behaviors, which further increase the risk of obesity.

OBJECTIVES :

- To assess the pre- test knowledge regarding obesity and its impact on health among school children.
- To develop and administer a structured teaching program on obesity and its health consequences.
- To evaluate the effectiveness of the structured teaching program to compare pre-test and post-test knowledge score.
- To find the association between post-test knowledge scores and selected demographical variables.

HYPOTHESIS :

- H0: There will be no significant difference in the knowledge score regarding obesity and its impact on health among school children before and after the structure teaching program.
- H1: There will be a significant increase in the knowledge score regarding obesity and its impact on health among school children after the structure teaching program.
- H2:Therewill be a significant association between post-test knowledge score and selected demographical variables.

VARIABLES UNDER STUDY

In the presented study the **independent variable** was a Structured Teaching Program .and the **dependent variable** were Knowledge Regarding Obesity and Its Health Effects.

Sampling criteria :-

The following criteria are set to select sample :-

INCLUSION CRITERIA

School age children who are:

- In age of 10 to 14 years.
- Of any gender.
- Willing to participate in the study,
- Present at the time of study.
- Regularly participating in classes
- Able to respond.
- Know and understand either Hindi or English language only

Tool description:-

- **Section A:-** socio demographic data including age of the child in year, gender, religion, type of diet, residence, type of play, do you have any knowledge about obesity?, from where did you get the knowledge about obesity?
- **Section B :**-self made questionnaire to assess the knowledge regarding obesity.

Scoring :-

- (0–15)=Good
- (16–20)=Very Good
- (21–25)=Excellent

Data collection :-

Data collection were done after obtaining formal permission and informed concent .data were analyzed using descriptive statistics(frequency and percentage)and inferential statistics(chi-square test)to determine association.

ORGANIZATION OF THE STUDY FINDING

The analysis is presented under the following sections:

Section I: Criteria-wise analysis of level the knowledge regarding obesity on health among schooler.

Section II: Chi-square analysis showing association between level of knowledge regarding obesity on health among schooler and selected demographic variables.

SECTION - I

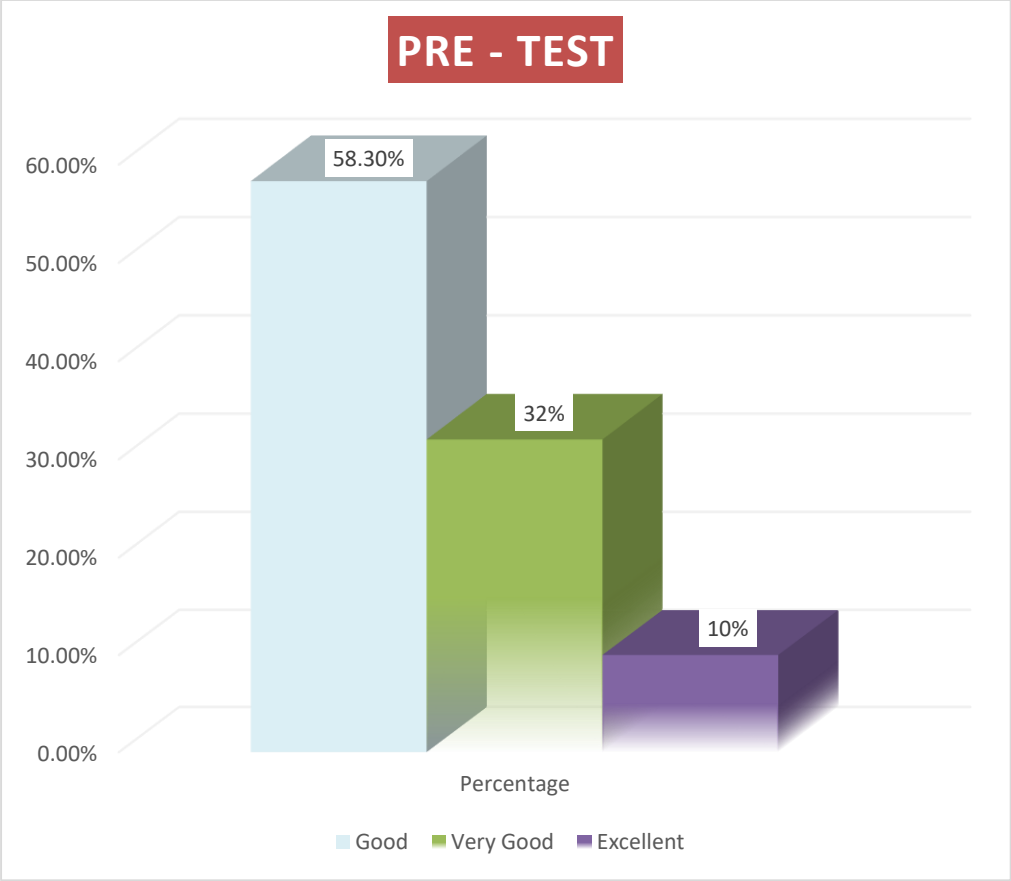
A. Distribution respondents score according to their knowledge regarding obesity during pre – test.

TABLE 1.1

N = 60

Pre – Test		
Good f (%)	**Very Good** f (%)	**Excellent** f (%)
(0 – 15)	**(16 – 20)**	**(21 – 25)**
35 (58.3%)	19 (31.6%)	6 (10%)

Whereas duringpost - test, majority 30 (50%) of them had very good knowledge,21 (35%) of them had excellentknowledge and 9 (15%) of them had good knowledge.



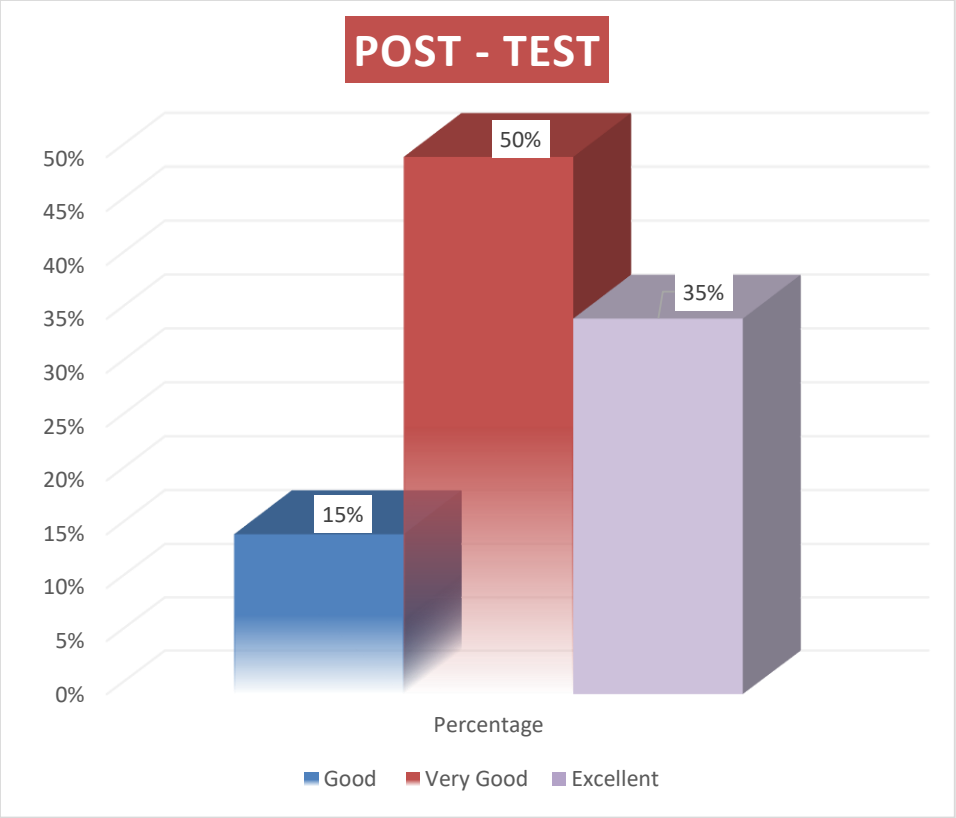
Pre – Test knowledge regarding obesity.

The data depicts the respondent's knowledge regarding obesity during pre – test. It is evident that, majority 35(58.3%) of the 'schooler children had good knowledge,19 (31.6%) schooler children had very good knowledge and 6 (10%) schooler children had excellent knowledge regarding obesity in the pre - test.

B. Distribution respondents score according to their knowledge regarding obesity during post – test.

Table 1.2

Post – Test		
Good f (%)	**Very Good** f (%)	**Excellent** f (%)
(0 – 15)	**(16 – 20)**	**(21 – 25)**
9 (15%)	30 (50%)	21 (35%)



Post – Test knowledge regarding obesity.

The data depicts that, majority 30(50%) of the 'schooler children had very good knowledge,21 (35%) schooler children had excellent knowledge and 9 (15%) schooler children had good knowledge regarding obesity in the post - test.

C. Distribution of Pre – test and Post – test knowledge level of respondent regarding obesity.

N=60

Test	Mean	Median	Mode	SD	Range
Pre – Test	6.8667	6.5	5	1.7989	6
Post - Test	19.134	19	19.5	2.908	11

Table reveals pre – test knowledge score of respondents regarding obesity, it shows that; In pretest, respondents' knowledge mean was 6.8667, median was 6.5, mode was 5 with standard deviation 1.7989 and score range was 6.In post – test knowledge score respondents mean was 19.134, median was 19 and mode was 19.5 with standard deviation 2.908 and score range was 11.

SECTION - II

Chi – Square values between knowledge regarding obesity their selected demographic variables

Table No. 1.4

Sl. No.	Demographic Variables	Knowledge Score			df	Chi Square Value	P value	Level of Significance
		Good	Very Good	Excellent				
1.	**Age of child in year.**							
a)	10 – 10.9 years	0	3	3				
b)	11 – 11.9 years	4	11	2	8	13.719	15.51	NS
c)	12 – 12.9 years	4	6	5				
d)	13 – 13.9 years	1	8	5				
e)	14 – 14.9 years	0	2	6				
2.	**Gender**							
a)	Male	6	17	10				
b)	Female	3	13	11	4	0.9908	9.49	NS
c)	Transgender	0	0	0				
3.	**Religion**							
a)	Hindu	9	29	19				
b)	Muslim	0	1	2	6	1.5539	12.59	NS
c)	Christian	0	0	0				
d)	Sikh	0	0	0				
4.	**Types of Diet**							
a)	Vegetarian	6	24	13	2	2.1223	5.99	NS
b)	Non - Vegetarian	3	6	8				
5.	**Residence**							
a)	Urban	6	21	16	2	0.3635	5.99	NS
b)	Rural	3	9	5				
6.	**Types of Play**							
a)	Indoor Game	1	8	6				
b)	Outdoor game	3	7	3	4	2.0946	9.49	NS
c)	Both	5	15	12				
7.	**Do you have any knowledge about obesity?**							
a)	Yes	5	20	16	2	1.3166	5.99	NS
b)	No	4	10	5				
8.	**From where did you get the knowledge about obesity?**							
a)	Newspaper	3	2	1				
b)	Social – Media	4	5	5	4	11.29	9.49	Significant
c)	Other	2	23	15				

The table revealed that there was a statistically significant association between the knowledge score and the source of knowledge about obesity ($\chi^2 = 11.29$, df = 4, $p < 0.05$). However, no significant association was found between knowledge score and other selected demographic variables such as age, gender, religion, type of diet, residence, type of play, and previous knowledge regarding obesity.

Implications for practices :-

Implications for Nursing Practice

- Nurses play a key role in health promotion and disease prevention among school children. The study highlights that a structured teaching program is effective in improving knowledge regarding obesity and its health effects.
- Community health nurses and school health nurses can use structured teaching programs as a cost-effective and practical method to educate children about healthy diet, physical activity, and prevention of obesity.
- Nurses can identify children at risk of obesity and provide early counselling and guidance to prevent future health complications.
- Health education sessions conducted by nurses can help in developing healthy lifestyle habits among children at an early age.

Implications for Nursing Education.

- The results of the study emphasize the importance of including childhood obesity and its prevention in the nursing curriculum.
- Nursing students should be trained to plan and conduct structured teaching programs in schools and community settings.
- **Nursing educators** can use the findings of this study as teaching material for student learning and demonstrations.
- Educational institutions can encourage students to take part in school health programs focusing on nutrition, exercise, and lifestyle modification.
- This study helps nursing students understand the importance of preventive nursing care. Implications for Nursing Administration
- Nursing administrators can plan and organize regular health education programs in schools to prevent childhood obesity.
- Administrators can develop policies and guidelines for school health services focusing on prevention of obesity.
- Proper utilization of nursing personnel can be ensured for conducting health awareness programs.
- The findings support the need for collaboration between schools, health departments, and nursing services.
- Nursing administrators can motivate staff nurses to participate actively in community and school health promotion activities. Implications for Nursing Research
- The study provides a base for future research related to childhood obesity and health education. Researchers can conduct similar studies with a larger sample size and in different settings. Comparative studies can be carried out between urban and rural school children.
- Further research can assess the long-term effectiveness of structured teaching programs.
- The study encourages evidence-based nursing practice through systematic research.

RECOMMENDATION

Based on the study's findings, here are several recommendations for improving childhood health education

1. Implement a Comprehensive School Health Program
2. The most important recommendation is to integrate a structured teaching program on obesity and health into the regular school curriculum.
3. The program should go beyond just increasing knowledge. It needs to foster positive attitudes and promote healthy behaviours.
4. Include Practical Activities: Incorporate hands-on activities like cooking classes to teach healthy meal preparation, or interactive sessions on reading food labels.
5. Promote Physical Activity mandate and enhance physical education classes, and encourage schools to organize sports clubs, fitness challenges, and outdoor activities.
6. Include sessions on body image, self-esteem, and the psychological impacts of obesity. This can help children develop a healthier relationship with food and their bodies.
7. Involve Parents and the Community for the program to be truly effective, it must extend beyond the school gates.
8. Conduct workshops and seminars for parents to educate them on childhood nutrition, healthy cooking, and the importance of physical activity

Conclusion

The following conclusion was drawn on the basis of the findings of the study: This study aimed to assess the effectiveness of a structured teaching program on improving the knowledge of schooler children aged 10-14 years regarding obesity and its health implications. The findings of the study demonstrate that a well-designed, interactive teaching program can significantly increase children's understanding of obesity, its causes, consequences, and preventive measures. Pre-test score/findings showed that the schooler children had inadequate and moderate knowledge regarding Obesity, so there was need to provide them knowledge and make them aware. The Structured teaching programme (STP) was found effective in improving the level of knowledge of schooler children regarding Obesity as evident from their post-test knowledge score. There was significant association between pre-test knowledge score with the selected demographic variables (monthly income) and there was no significant association between pre-test knowledge score with demographic variables. (age, gender and types of diet). These findings reveal that an effective structured teaching program must be conducted in schooler children. Schooler students knowledgeable about Obesity.

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