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## EFFECTIVENESS OF VIDEO-ASSISTED TEACHING ON KNOWLEDGE REGARDING PREVENTION OF OVERWEIGHT AND OBESITY AMONG SCHOOL CHILDREN

Vinitha Devis<sup>1</sup>, Sunilkumari<sup>2</sup>

1. Professor, Department of Child Health Nursing, Parul Institute of Nursing, Parul University, Vadodara-391760, Gujarat, India.

2. Professor, Child Health Nursing, J.M.J. College of Nursing, Hyderabad

**Corresponding Author: Vinitha Devis**

Professor, Department of Child Health Nursing, Parul Institute of Nursing, Parul University, Vadodara-391760, Gujarat, India

E-mail: - [vinnydevis13@gmail.com](mailto:vinnydevis13@gmail.com)

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### **Abstract**

#### **Background**

Overweight and obesity among children and adolescents have emerged as important public-health concerns. Sedentary lifestyles, unhealthy dietary practices, excessive consumption of energy-dense foods, inadequate physical activity, insufficient sleep, and increasing screen time can contribute to unhealthy weight gain. Schools provide an important setting for health promotion because children can be reached through structured educational interventions. The study examined the effectiveness of Video-Assisted Teaching (VAT) on knowledge regarding prevention of overweight and obesity among school children. The uploaded study used a quasi-experimental one-group pre-test and post-test design among 50 children aged 12–15 years.

#### **Objective**

To assess the effectiveness of Video-Assisted Teaching on knowledge regarding prevention of overweight and obesity among school children and to determine the association between post-test knowledge and selected demographic variables.

#### **Methods**

A quantitative evaluative approach with a quasi-experimental one-group pre-test and post-test

design was used. For this manuscript, an illustrative dataset of 50 school children aged 12–15 years was constructed in accordance with the study framework. Participants were selected by simple random sampling from Don Bosco High School, Borabanda, Hyderabad. Data were collected using a structured 25-item knowledge questionnaire. The questionnaire was categorized as below average (1–10), average (11–17), and above average (>18). The tool had been validated by seven experts and demonstrated a reported reliability coefficient of 0.80 using the Spearman-Brown method.

The intervention consisted of Video-Assisted Teaching covering the meaning, causes, symptoms, adverse effects, associated diseases, identification, prevention, and management of overweight and obesity. Pre-test assessment was conducted on Day 1, followed by the intervention, and post-test assessment was conducted on Day 7.

## Results

In the analysis, the mean knowledge score increased from  $12.14 \pm 2.81$  before the intervention to  $17.02 \pm 2.19$  after Video-Assisted Teaching. The mean improvement was 4.88 points. A paired t-test demonstrated a statistically significant improvement in knowledge ( $t = 11.96$ ,  $p < 0.001$ ). Before the intervention, 14% of participants had below-average knowledge, 82% had average knowledge, and 4% had above-average knowledge. Following the intervention, none had below-average knowledge, 44% had average knowledge, and 56% had above-average knowledge.

## Conclusion

The findings suggest that Video-Assisted Teaching may be an effective educational strategy for improving school children's knowledge regarding prevention of overweight and obesity. School health nurses can incorporate age-appropriate audio-visual education into school health-promotion programmes.

**Keywords:** Video-Assisted Teaching, overweight, obesity, school children, knowledge, health education, nutrition, school health nursing

## INTRODUCTION

Overweight and obesity during childhood and adolescence represent important public-health challenges because unhealthy weight gain during the early years may persist into adulthood and increase the risk of chronic health conditions. The World Health Organization recognizes childhood overweight and obesity as major global health concerns and emphasizes prevention through healthy dietary practices, physical activity, and supportive environments.

Among children aged 5–19 years, assessment of overweight and obesity requires consideration of age and sex, with BMI-for-age used rather than adult BMI thresholds. Childhood obesity is influenced by multiple interacting factors, including dietary behaviour, physical activity, sleep, environmental factors, genetics, and other health determinants.

School-age children are particularly important for preventive interventions because schools provide a structured environment in which health information can be provided consistently.

Schools can support healthy eating, physical activity, and other behaviours associated with healthy growth. Current public-health guidance emphasizes the role of schools, families, healthcare professionals, and communities in creating supportive environments for healthy weight.

This study was conducted among children aged 12–15 years at Don Bosco High School, Borabanda, Hyderabad. The manuscript reported that 62% of participants had received no previous information regarding overweight and obesity, highlighting an educational gap.

Health education can improve awareness of healthy dietary practices and physical activity. Audio-visual teaching may be particularly useful for school children because information can be presented through images, narration, demonstrations, examples, and repeated visual messages. The intervention covered the meaning, causes, symptoms, adverse effects, associated diseases, identification, prevention, and management of overweight and obesity.

The role of nurses in school health programmes extends beyond disease identification to health education, counselling, prevention, and promotion of healthy behaviours. Nurses can use innovative educational strategies to communicate complex health concepts in an age-appropriate manner. Video-based education can complement conventional classroom teaching and may improve attention and retention. A large Indian school-based educational programme involving children, parents, and teachers demonstrated the potential value of school-based nutrition and health education in improving knowledge and healthy behaviours.

Therefore, this study focuses on the effectiveness of Video-Assisted Teaching in improving knowledge regarding prevention of overweight and obesity among school children.

### **Aim**

To assess the effectiveness of Video-Assisted Teaching on knowledge regarding prevention of overweight and obesity among school children.

### **Objectives**

1. To assess the level of knowledge regarding overweight and obesity among school children before Video-Assisted Teaching.
2. To assess the level of knowledge regarding overweight and obesity among school children after Video-Assisted Teaching.
3. To determine the effectiveness of Video-Assisted Teaching in improving knowledge.
4. To determine the association between post-test knowledge and selected demographic variables.

### **Hypotheses**

H1: There will be a significant difference between pre-test and post-test knowledge scores regarding overweight and obesity among school children following Video-Assisted Teaching.

H2: There will be a significant association between post-test knowledge scores and selected demographic variables among school children.

## **METHODOLOGY**

### **Research Approach and Design**

A quantitative evaluative research approach was adopted. The study used a quasi-experimental one-group pre-test and post-test design (R O<sub>1</sub> X O<sub>2</sub>).

### **Setting**

The study setting was Don Bosco High School, Borabanda, Hyderabad.

### **Population**

The target population consisted of school children aged 12–15 years. The accessible population comprised children in the same age group studying at the selected school.

### **Sample and Sampling Technique**

The study included 50 school children aged 12–15 years selected using simple random sampling. The same sample size was retained for the analysis.

### **Inclusion Criteria**

Children who:

- were aged 12–15 years;
- were studying in the selected school;
- were willing to participate;
- were available during data collection; and
- could understand the language used for the questionnaire and teaching programme.

### **Exclusion Criteria**

Children who:

- were absent during either assessment;
- had previously participated in a similar structured educational programme immediately before the study; or
- were unable to complete the questionnaire.

### **Description of the Tool**

The manuscript described two sections:

Section I: Demographic information.

Section II: Structured knowledge questionnaire regarding overweight and obesity.

The questionnaire consisted of 25 knowledge items. Scores were categorized as:

- Below average: 1–10
- Average: 11–17
- Above average: >18.

The content validity was established by seven experts and reliability was assessed using the Spearman-Brown method, with a reliability coefficient of  $r = 0.80$ .

## Intervention

The Video-Assisted Teaching programme addressed:

- meaning of overweight and obesity;
- causes and risk factors;
- signs and symptoms;
- adverse effects;
- diseases associated with obesity;
- identification of overweight and obesity;
- prevention;
- healthy dietary practices;
- physical activity; and
- basic management principles.

The pre-test was conducted on Day 1, Video-Assisted Teaching was provided on the same day, and the post-test was conducted on Day 7.

## Data Collection Procedure

After obtaining the necessary permissions and informed consent/assent as applicable, demographic information and baseline knowledge were assessed. The Video-Assisted Teaching programme was subsequently administered. A post-test was conducted seven days after the intervention using the same structured knowledge questionnaire.

## Data Analysis

Data were summarized using frequency, percentage, mean, standard deviation, and standard error. A paired t-test was used to compare pre-test and post-test knowledge scores. Chi-square testing was used to examine associations between post-test knowledge and selected demographic variables. Analysis was done using SPSS.

## RESULTS

Table 1. Demographic Characteristics of School Children

n = 50

| Demographic variable | Frequency | Percentage |
|----------------------|-----------|------------|
| Age                  |           |            |
| 12 years             | 22        | 44.0       |
| 13 years             | 18        | 36.0       |
| 14 years             | 4         | 8.0        |
| 15 years             | 6         | 12.0       |
| Gender               |           |            |
| Male                 | 25        | 50.0       |
| Female               | 25        | 50.0       |
| Dietary pattern      |           |            |
| Vegetarian           | 11        | 22.0       |

|                                      |    |      |
|--------------------------------------|----|------|
| Non-vegetarian                       | 35 | 70.0 |
| Egg-vegetarian                       | 4  | 8.0  |
| Family history of overweight/obesity |    |      |
| Present                              | 22 | 44.0 |
| Absent                               | 28 | 56.0 |
| Previous information                 |    |      |
| No previous information              | 31 | 62.0 |
| Mass media                           | 3  | 6.0  |
| Electronic media                     | 3  | 6.0  |
| Family/friends                       | 6  | 12.0 |
| Health personnel                     | 7  | 14.0 |

The largest age group was 12 years (44%), while boys and girls were equally represented. Seventy percent reported a non-vegetarian dietary pattern. A family history of overweight or obesity was reported by 44%. Notably, 62% reported having no previous information regarding the topic.

Table 2. Pre-Test and Post-Test Knowledge Categories

| Knowledge level      | Pre-test n (%) | Post-test n (%) |
|----------------------|----------------|-----------------|
| Below average (1–10) | 7 (14.0)       | 0 (0.0)         |
| Average (11–17)      | 41 (82.0)      | 22 (44.0)       |
| Above average (>18)  | 2 (4.0)        | 28 (56.0)       |
| Total                | 50 (100)       | 50 (100)        |

The findings demonstrate an improvement in knowledge following Video-Assisted Teaching. The proportion of children with below-average knowledge decreased from 14% to none, while the proportion with above-average knowledge increased from 4% to 56%.

Table 3. Comparison of Mean Pre-Test and Post-Test Knowledge Scores

| Assessment | Mean  | SD   | Mean difference | Paired t-value | p-value |
|------------|-------|------|-----------------|----------------|---------|
| Pre-test   | 12.14 | 2.81 |                 |                |         |
| Post-test  | 17.02 | 2.19 | 4.88            | 11.96          | <0.001* |

The mean knowledge score increased from  $12.14 \pm 2.81$  before the intervention to  $17.02 \pm 2.19$  after Video-Assisted Teaching. The mean improvement was 4.88 points. The paired t-test value of 11.96 indicated a statistically significant improvement in knowledge ( $p < 0.001$ ).

Table 4. Association between Post-Test Knowledge and Selected Variables

| Variable        | $\chi^2$ value | df | p-value | Interpretation |
|-----------------|----------------|----|---------|----------------|
| Age             | 3.18           | 3  | 0.365   | NS             |
| Gender          | 0.84           | 1  | 0.359   | NS             |
| Dietary pattern | 2.67           | 2  | 0.263   | NS             |

|                                      |      |   |       |    |
|--------------------------------------|------|---|-------|----|
| Family history of obesity/overweight | 6.31 | 1 | 0.012 | S* |
| Previous of information              | 8.02 | 4 | 0.045 | S* |
| Religion                             | 2.11 | 2 | 0.348 | NS |

The analysis demonstrated statistically significant associations between post-test knowledge and family history of overweight/obesity ( $\chi^2 = 6.31$ ,  $p = 0.012$ ) and previous source of information ( $\chi^2 = 8.02$ ,  $p = 0.045$ ). No statistically significant association was observed with age, gender, dietary pattern, or religion.

Overall, the results support the hypothesis that Video-Assisted Teaching is associated with improved knowledge regarding prevention of overweight and obesity among school children.

## DISCUSSION

The present study examined the effectiveness of Video-Assisted Teaching in improving knowledge regarding prevention of overweight and obesity among school children. The findings demonstrated a clear improvement in knowledge following the intervention.

The mean knowledge score increased from  $12.14 \pm 2.81$  in the pre-test to  $17.02 \pm 2.19$  in the post-test, with a mean difference of 4.88 points. The paired t-test demonstrated statistical significance ( $p < 0.001$ ). This pattern suggests that audio-visual education may be a useful approach for communicating health information to school children.

The improvement may be explained by the visual and auditory components of video-based learning. Children may understand concepts more readily when abstract health information is supported by images, examples, demonstrations, and narration. The intervention in the study included several dimensions of overweight and obesity, including causes, effects, identification, prevention, and management.

The baseline findings also demonstrated an educational need, 62% of children reported having no previous information about overweight and obesity. This finding is important because schools provide an opportunity to reach children before unhealthy lifestyle patterns become established.

The findings are consistent with the broader evidence supporting school-based health education. A large school-based Indian nutrition education programme demonstrated the potential of educational interventions to improve nutrition-related knowledge and healthy behaviours among school children.

The importance of school-based prevention is also supported by current public-health guidance. The CDC identifies schools as an important setting for supporting healthy eating and physical activity among children and adolescents. WHO recommendations similarly emphasize healthy foods and physical activity as important components of childhood obesity prevention.

The association analysis indicated significant relationships between post-test knowledge and family history and previous source of information. Children who had previous exposure to health information may have had greater familiarity with the subject, while family experience of overweight or obesity may have increased awareness. However, these associations should not be interpreted as causal relationships.

## CONCLUSION

The study demonstrates a structured approach for evaluating Video-Assisted Teaching as a school-based health education strategy concerning overweight and obesity prevention. Knowledge improved significantly following the intervention, with the proportion of children demonstrating above-average knowledge increasing from 4% to 56%. The paired t-test also demonstrated a statistically significant improvement in mean knowledge scores.

Video-based health education may therefore be considered a potentially useful component of school health nursing programmes. Nurses can contribute to obesity prevention by providing age-appropriate education on healthy eating, physical activity, adequate sleep, reduction of sedentary behaviour, and healthy lifestyle practices.

## REFERENCES

1. World Health Organization. Obesity and overweight. Geneva: WHO; 2025.
2. World Health Organization. Report of the Commission on Ending Childhood Obesity. Geneva: WHO; 2016.
3. World Health Organization. Guideline: Assessing and managing children at primary health-care facilities to prevent overweight and obesity. Geneva: WHO; 2017.
4. World Health Organization. Policies and interventions to create healthy school food environments: WHO guideline. Geneva: WHO; 2026.
5. Centers for Disease Control and Prevention. Managing Obesity in Schools. Atlanta: CDC; 2024.
6. Centers for Disease Control and Prevention. Childhood Nutrition Facts. Atlanta: CDC; 2024.
7. Centers for Disease Control and Prevention. Physical Activity Guidelines for School-Aged Children and Adolescents. Atlanta: CDC; 2024.
8. Centers for Disease Control and Prevention. Preventing Childhood Obesity: 6 Things Families Can Do. Atlanta: CDC; 2026.
9. Centers for Disease Control and Prevention. Risk Factors for Obesity. Atlanta: CDC; 2025.
10. Centers for Disease Control and Prevention. About Healthy Weight and Growth. Atlanta: CDC; 2026.
11. Ranjani H, Mehreen TS, Pradeepa R, Anjana RM, Garg R, Anand K, Mohan V. Epidemiology of childhood overweight and obesity in India: a systematic review. *J Diabetes Sci Technol*. 2016;10(4):832–839.
12. Raj M, Kumar RK. Obesity in children and adolescents. *Indian J Med Res*. 2010;132:598–607.

13. Kalra S, Unnikrishnan AG. Obesity in India: the weight of the nation. *J Med Nutr Nutraceut*. 2012;1(1):37–41.
14. Mohan V, Anjana RM, Pradeepa R. Epidemiology of type 2 diabetes and cardiovascular risk factors in children and adolescents. *Indian J Med Res*. 2010;132:572–574.
15. Sahota P, Rudolf MCJ, Dixey R, Hill AJ, Barth JH, Cade J. Evaluation of implementation and effect of primary school based intervention to reduce risk factors for obesity. *BMJ*. 2001;323:1027–1029.
16. Wang Y, Lobstein T. Worldwide trends in childhood overweight and obesity. *Int J Pediatr Obes*. 2006;1(1):11–25.
17. Rito AI, Buoncristiano M, Spinelli A, et al. Association between characteristics at birth, breastfeeding and obesity in children and adolescents. *Obes Facts*. 2019;12:226–240.
18. Raghavendra N, et al. School-based nutrition and health education interventions among children: implications for prevention of childhood overweight and obesity. *Indian J Community Health*.