



# STUDY TO EVALUATE THE EFFECTIVENESS OF SCHOOL HEALTH PROMOTION PROGRAM ON KNOWLEDGE REGARDING PHYSICAL HEALTH AND NUTRITION AMONG ELEMENTARY SCHOOL CHILDRENS OF GOVERNMENT SCHOOL

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## ABSTRACT

**Introduction:** Physical health and nutrition are fundamental components of holistic child development, yet health education remains underemphasized in many rural Indian schools. In the absence of formal health curricula, children often grow up with poor awareness of physical activity, dietary needs, and hygiene practices. This study was undertaken to evaluate the effectiveness of a structured school health promotion program in enhancing knowledge related to physical health and nutrition among elementary school children.

**Statement of the Problem:** A study to evaluate the effectiveness of school health promotion program on Knowledge regarding physical health and nutrition among elementary school childrens of government school, Jamuhar (Rohtas).

**Objectives:** To assess pre-test and post-test knowledge scores regarding physical health and nutrition, implement an intervention program, evaluate its effectiveness, and analyze associations between knowledge scores and selected demographic variables.

**Methods:** A quasi-experimental one-group pre-test and post-test design was adopted. The study included 30 elementary school children (aged 8–12) from a government school in Jamuhar, Rohtas (Bihar), selected via purposive sampling. A structured questionnaire comprising 30 multiple-choice questions (15 from each domain: physical health and nutrition) was used. Each correct response scored 1 mark, with a maximum possible score of 30. A structured health promotion program was conducted over 4 weeks. Post-intervention, the same questionnaire was re-administered. Descriptive statistics (frequency, percentage, mean, SD) and inferential statistics (paired t-test and chi-square test) were used for analysis.

**Results:** Pre-test mean score:  $14.6 \pm 3.15$ , Post-test mean score:  $25.1 \pm 2.91$ , Mean difference: 10.5, Paired t-test value:  $t = 15.23$ ,  $p < 0.001$  (highly significant), Knowledge gain: 35% increase in mean score, No statistically significant association was found between post-test knowledge and variables such as age ( $\chi^2 = 2.14$ ), gender ( $\chi^2 = 1.33$ ), and class level ( $\chi^2 = 2.65$ );  $p > 0.05$ .

**Conclusion:** The study concluded that a school health promotion program significantly improved knowledge regarding physical activity and nutrition among children. The statistically significant difference between pre- and post-test scores establishes the intervention's effective

ness. Moreover, the results demonstrate the program's inclusivity, with no demographic group left behind. These findings support integrating structured health education into school curricula, particularly in rural settings, to enhance child health literacy and long-term public health outcomes.

**Keywords:** Health education, school health promotion, nutrition knowledge, physical health awareness, rural children, quasi-experimental design, child health literacy

## INTRODUCTION

Childhood is a critical period in life that lays the foundation for a healthy future. In this stage, children develop habits and behaviors that significantly influence their long-term physical and mental well-being. Two essential components that play a crucial role in maintaining good health are physical activity and proper nutrition. Regular physical activity promotes growth, improves cardiovascular health, strengthens muscles and bones, and contributes to mental health by reducing anxiety and depression. Similarly, a balanced and nutritious diet is necessary for optimal cognitive development, immunity, and the prevention of diet-related chronic diseases.

In recent years, there has been a global rise in childhood obesity and sedentary lifestyles, especially among school-aged children. According to the World Health Organization (WHO), more than 340 million children and adolescents aged 5-19 were overweight or obese in 2016, a figure that has continued to rise. These alarming statistics are attributed largely to reduced physical activity and increased consumption of processed and junk foods.

India, being a developing country, is witnessing a dual burden of malnutrition—undernutrition in some sections and overnutrition in others. Many children, particularly in rural areas, suffer from lack of awareness and limited access to nutritional food and structured physical activities. This scenario demands urgent attention toward developing strategies that instill healthy habits at an early stage. Schools, as community institutions, are in a unique position to address these challenges.

Schools play a critical role not only in academic education but also in imparting life skills, including health-related knowledge. Integrating structured health programs within the school system allows for the early identification of risk factors and promotes a proactive approach to health care. Such programs can instill a sense of responsibility, awareness, and lifelong behavior change that extends beyond the school environment.

A well-designed school health promotion program can foster a healthy environment that encourages students to engage in physical activity and adopt healthy eating habits. Such programs involve curriculum-based learning, physical exercises, practical demonstrations, and interactive sessions that make children more conscious of their lifestyle choices. These programs are not only effective in increasing knowledge but also contribute to behavioral change when consistently implemented.

This study was developed to evaluate a school health promotion program among children in government schools of Jamuhar (Rohtas), an area where structured health education is often lacking. Through assessments of knowledge before and after the intervention, the research aims to offer insight into the tangible benefits of school-based health education efforts and provide a basis for scaling similar programs across other regions.

## OBJECTIVES

1. To assess the pre-test level of knowledge regarding physical health and nutrition among elementary school children.
2. To implement a structured school health promotion program focusing on physical activity and nutrition.
3. To evaluate the post-test level of knowledge regarding physical health and nutrition after the intervention.
4. To compare the pre-test and post-test knowledge scores.
5. To identify the association between knowledge scores and selected demographic variables.

## MATERIALS AND METHODS

### Material and Methods:

#### Research approach

In the present study, the **quantitative research approach** was employed to guide the entire process of data collection, measurement, and analysis. Quantitative research is rooted in the philosophy of positivism, which assumes that social phenomena can be studied in the same way as natural sciences. This approach allows researchers to quantify behaviors, opinions, or attitudes and generalize results from a larger sample population.

#### Research design

The research design selected for this study was a **quasi-experimental one-group pre-test and post-test design**. This type of design is commonly used in intervention studies where it is not feasible to have a control group due to ethical, logistical, or institutional constraints. In this design, a single group of participants is observed before the intervention (pre-test), subjected to the intervention, and then observed again after the intervention (post-test).

#### Setting of Study

The study was conducted in a **selected government elementary school located in Jamuhar, Rohtas district of Bihar**, India. This location was intentionally chosen due to its rural setting, which reflects a population often underrepresented in health education research and interventions. Schools in such areas typically face challenges related to inadequate infrastructure, limited resources, and reduced access to health promotion initiatives. Therefore, conducting the study in this context allows for the evaluation of the program's effectiveness in a setting that can benefit most from targeted interventions.

#### Population

**Target population** comprised all peer group currently enrolled in grades 5, 6, and 7 (ages 7–12). This age band was selected based on:

- Adequate reading and comprehension skills for self-report tools.
- Heightened peer influence in shaping habits.

- Sufficient cognitive maturity to participate in discussions, games, and role-plays on nutrition.
- Accessible population** comprised students enrolled in grades 5,6 and 7<sup>th</sup> of specific peer groups that were available for study.

## Samples

The target population for the present study comprised **elementary school children between the ages of 8 and 12 years**. These children were enrolled in classes 3rd to 5th in a selected government elementary school in Jamuhar, Rohtas district of Bihar. This age group was chosen deliberately because it represents a critical developmental stage where children begin to form and adopt health-related behaviors that often extend into adulthood.

## Sampling Technique

A **purposive sampling technique** was employed to select the participants for this study.

## Sample Size

Each group consisted of 30 students

## Inclusion Criteria:

- Children aged 8 to 12 years: This age group is developmentally capable of understanding health information and participating in structured educational sessions.
- Enrolled in the selected government school: Ensures accessibility, monitoring, and consistency of intervention delivery.
- Available during the study period: Continuous presence was important for full participation in the intervention and for accurate pre- and post-test comparisons.
- Willing to participate with consent from guardians: Ethical research mandates voluntary participation supported by parental or guardian consent to ensure protection and transparency.

## Exclusion Criteria:

- **Children who were ill during data collection:** Illness could interfere with a child's ability to attend sessions regularly and focus on the content, leading to inconsistent participation.
- **Children whose parents did not give consent:** Ethical standards require informed consent from guardians for children's participation. Without it, the child was excluded from the study.
- **Children with disabilities that interfered with participation:** Students with cognitive or learning disabilities that hindered comprehension or engagement with the questionnaire or intervention were not included, as their responses might not reflect the intended impact of the program.

## Description of the Tool

**Self-Structured questionnaire** consisted of the three sections:

Section 1: Demographic Profile:- This section collected basic background information about the participants. It included variables such as name (coded for anonymity), age, gender, class, and self-reported general health status. Collecting demographic data helped to categorize responses and analyze the association between knowledge levels and specific variables such as age or gender.

Section 2: Knowledge Related to Physical Health:- This section assessed the children's awareness and understanding of physical activity. It included 15 structured multiple-choice and yes/no questions covering areas such as the importance of physical exercise, daily activity habits, perceived health benefits of play, awareness of physical fitness, and recommended durations of activity. The items were

designed based on guidelines from WHO and other child health literature. Each correct response was given a score of 1, and each incorrect or 'don't know' response was scored 0.

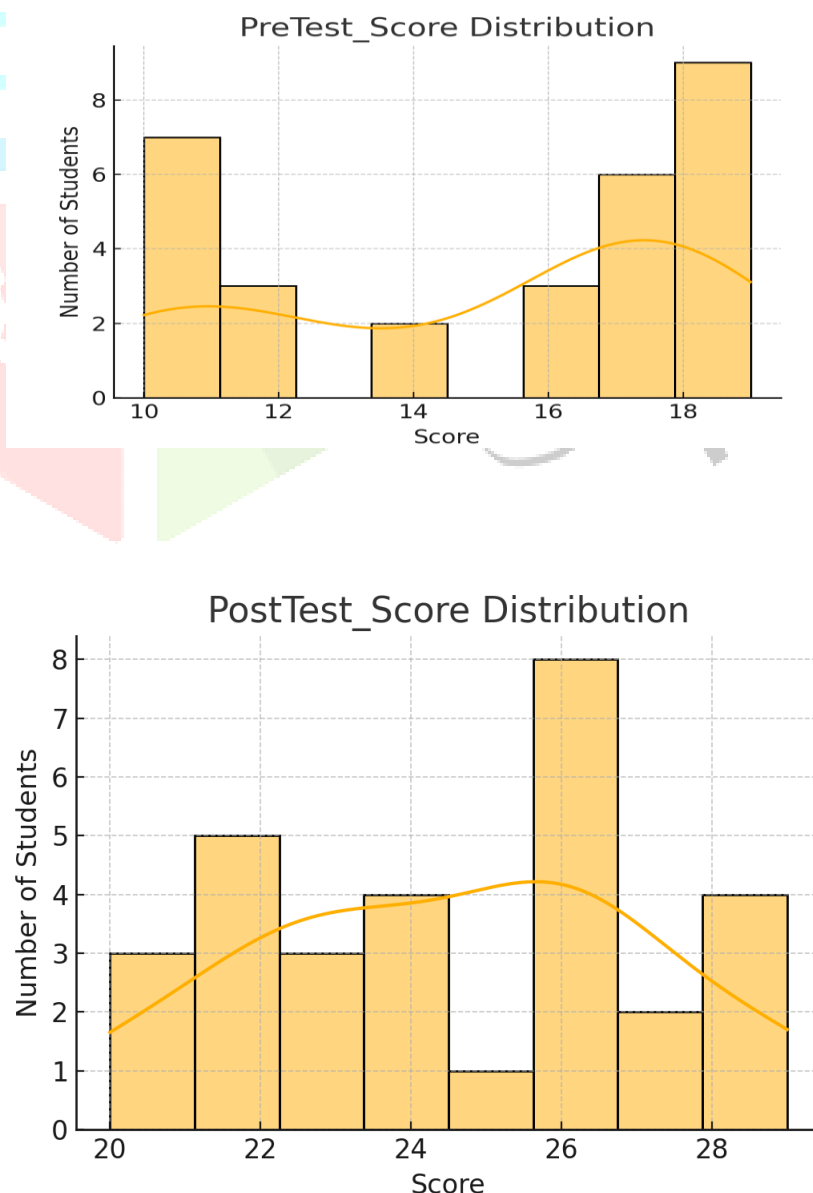
**Section 3: Knowledge Related to Nutrition:-** This section comprised another 15 questions that tested students' knowledge about healthy eating habits. Topics included balanced diet components, food groups, healthy vs. unhealthy food, benefits of drinking water, risks of junk food, and the role of specific nutrients like calcium and protein. Questions were both objective (multiple-choice) and dichotomous (yes/no) to ensure clarity for young respondents.

### MAJOR FINDINGS OF THE STUDY

The data shows that the majority of students scored between 10–17 during the pre-test, while most of the post-test scores clustered between 23–29. This shift in score frequency clearly demonstrates the positive effect of the intervention on students' knowledge related to physical health and nutrition. Section III: Comparison of Pre-test and Post-test Knowledge Scores\*\*

A paired t-test was used to determine the significance of difference:

- t-value = 15.23
- p-value < 0.001 This confirmed a statistically significant increase in knowledge after the intervention.





## IMPLICATION FOR PRACTICE

The present study has The outcomes of this study hold significant relevance for the field of nursing, particularly in the domain of community health nursing, pediatric care, and school health services. Nurses, by virtue of their close association with families, schools, and communities, play a vital role in advancing child health through education, advocacy, screening, and referral.

### **Role in Health Education:**

Community health nurses are uniquely positioned to deliver structured health education in schools. They can serve as facilitators of programs that promote physical activity and nutritional awareness, much like the intervention used in this study. With proper training, nurses can deliver culturally sensitive, age-appropriate content that resonates with both children and caregivers.

### **Partnership with Schools:**

Nurses can collaborate with school administrators and teachers to plan, implement, and evaluate health promotion activities. This collaboration can be institutionalized through school health programs where nurses regularly visit for health talks, counseling, growth monitoring, and immunization checks. In areas with limited access to pediatricians or health educators, nurses become the frontline of child health services.

### **Screening and Referral:**

During health education sessions, nurses have the opportunity to screen children for signs of malnutrition, inactivity, or behavioral challenges. Early identification allows timely referral to higher centers for further evaluation. This early intervention model can prevent long-term complications and support overall well-being.

### **Family and Community Education:**

Nurses can act as liaisons between the school and the community, educating parents about the importance of healthy diets, physical activity, and preventive health practices. This strengthens the knowledge-to-practice bridge and encourages families to support children in applying what they learn in school.

### **Curriculum Integration and Advocacy:**

Nurses can also participate in policy discussions at the school or district level to advocate for the integration of health education into the curriculum. Their clinical and community insights make them effective advocates for evidence-based health strategies.

### **Long-Term Monitoring and Follow-Up:**

Nurses can contribute to the ongoing evaluation of school health programs by maintaining health records, conducting periodic assessments, and facilitating longitudinal studies to track behavioral change and health outcomes over time.

In conclusion, this study emphasizes the indispensable role that nurses can play in school health promotion. By integrating educational, clinical, and community strategies, nursing professionals can lead the way in ensuring that children not only gain knowledge but also apply it to live healthier lives.

## CONCLUSION

This research confirms that a simple, structured, and school-based health promotion program can significantly enhance knowledge among elementary school children regarding physical health and nutrition. The program's effectiveness, validated through statistically significant knowledge gains, reflects the critical importance of integrating health education into early academic experiences.

The structured approach—featuring interactive sessions, visual aids, and child-centered learning—proved both accessible and impactful. Uniform improvement across all demographic subgroups underscores the inclusiveness and adaptability of the intervention, supporting its feasibility for broader implementation, particularly in underserved and rural school settings.

The broader implications of this research are multi-dimensional. In India, where the dual burden of malnutrition and rising childhood obesity exists alongside gaps in public health education, the study offers a promising path forward. Children who are educated about nutrition, hygiene, and physical activity are not only more likely to make informed choices for themselves but also become change agents within their families and communities. This ripple effect has the potential to transform household practices and community norms, contributing to improved health outcomes on a wider scale.

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