



Effectiveness Of Structured Nutritional Education Program On Knowledge, Dietary Habits, And Nutritional Status Among Adolescent Girls In Selected Schools Of Nawanshahr, Punjab: A Randomized Controlled Study

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Research Guide

ABSTRACT

Background

Adolescent girls are highly vulnerable to nutritional deficiencies due to rapid physical growth, increased nutritional requirements, poor dietary habits, and inadequate nutritional awareness. Nutritional education plays a significant role in improving healthy dietary practices and promoting overall well-being among adolescents.

Objectives

1. To assess the effectiveness of a structured nutritional education program on knowledge regarding nutrition among adolescent girls.
2. To evaluate changes in dietary habits and nutritional status after the intervention.
3. To determine the association between post-test scores and selected demographic variables.

Methodology

A quantitative randomized controlled study was conducted among 100 adolescent girls studying in selected schools of Nawanshahr, Punjab. The participants were selected using simple random sampling technique and equally divided into experimental and control groups. The experimental group received a structured nutritional education program, while the control group received routine school health education. Data were collected using a structured knowledge questionnaire, dietary habits checklist, and nutritional assessment scale. Descriptive and inferential statistics were used for data analysis.

Results

The findings of the study revealed that the experimental group showed significant improvement in knowledge scores, dietary habits, and nutritional status after administration of the structured nutritional education program. The mean post-test knowledge score of the experimental group was higher than the control group, and the calculated 't' value was statistically significant at $p < 0.05$ level. Improvement in healthy dietary behaviors such as increased intake of fruits, vegetables, and iron-rich foods was also observed.

Conclusion

The study concluded that the structured nutritional education program was effective in improving nutritional knowledge, dietary habits, and nutritional status among adolescent girls. School-based nutritional interventions can contribute significantly to the promotion of adolescent health and prevention of nutritional deficiencies.

Keywords

Structured Nutritional Education Program, Adolescent Girls, Dietary Habits, Nutritional Status, Nutrition Education, School Health.

INTRODUCTION

Adolescence is an important stage of life characterized by rapid physical, emotional, and psychological changes. Adequate nutrition during this period is essential for maintaining proper growth and development. Adolescent girls require balanced nutrition to support increased physiological demands and to prevent nutritional deficiencies such as anemia and undernutrition.

In India, poor dietary habits and lack of nutritional awareness among adolescent girls continue to be major public health concerns. Increased consumption of junk food, skipping meals, and inadequate intake of

nutritious foods negatively affect the health status of adolescents. Nutritional education programs can help adolescents adopt healthy dietary behaviors and improve their nutritional status.

Schools are considered ideal settings for implementing health education interventions because they provide opportunities for regular interaction with adolescents. Structured nutritional education can significantly improve knowledge, dietary practices, and overall health outcomes among school-going girls.

NEED OF THE STUDY

Adolescent girls are one of the most vulnerable groups affected by malnutrition and nutritional deficiencies. Nutritional problems during adolescence not only affect present health status but also influence future maternal and reproductive health. Poor nutrition among adolescent girls may lead to anemia, decreased immunity, fatigue, poor concentration, delayed growth, and increased risk of health complications in adulthood.

In recent years, changing food habits, increased consumption of fast foods, sedentary lifestyle, and lack of awareness regarding balanced diet have contributed to poor nutritional status among adolescents. Many adolescent girls are unaware of the importance of nutritious foods, personal hygiene, and healthy lifestyle practices. Lack of nutritional knowledge often results in unhealthy dietary behaviors and inadequate nutrient intake.

Studies conducted in various parts of India have reported a high prevalence of undernutrition and anemia among adolescent girls. Despite the implementation of various national nutrition and school health programs, nutritional deficiencies continue to remain a major public health concern. Therefore, there is a need to provide effective nutritional education programs that can improve knowledge and promote healthy dietary practices among adolescents.

Schools provide a suitable environment for implementing structured educational interventions because students can be easily reached and motivated toward healthy behavior changes. A structured nutritional education program can help adolescent girls develop positive dietary habits and improve their nutritional status.

Hence, the investigator felt the need to conduct a study to evaluate the effectiveness of a structured nutritional education program on knowledge, dietary habits, and nutritional status among adolescent girls in selected schools of Nawanshahr, Punjab.

Objectives

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HYPOTHESES

H1

There will be a significant improvement in knowledge, dietary habits, and nutritional status among adolescent girls after administration of the structured nutritional education program at $p < 0.05$ level of significance.

H2

There will be a significant association between post-test knowledge, dietary habits, and nutritional status scores with selected demographic variables among adolescent girls at $p < 0.05$ level of significance.

MATERIALS AND METHODS

Research Approach

A quantitative research approach was adopted for the present study to evaluate the effectiveness of a structured nutritional education program on knowledge, dietary habits, and nutritional status among adolescent girls.

Research Design

A randomized controlled study design was used for the study. The design helped in comparing the outcomes between the experimental and control groups and determining the effectiveness of the intervention.

Setting of the Study

The study was conducted in selected schools of Nawanshahr, Punjab.

Population

The target population comprised adolescent girls studying in selected schools of Nawanshahr, Punjab.

Sample Size

The sample size consisted of 100 adolescent girls. The participants were randomly divided into:

- Experimental Group – 50 participants
- Control Group – 50 participants

Sampling Technique

Simple random sampling technique was used for selecting the participants.

Inclusion Criteria

- Adolescent girls aged between 13–18 years.
- Students willing to participate in the study.
- Students available during the period of data collection.

Exclusion Criteria

- Students suffering from severe illness.
- Students absent during data collection.

Description of the Tool

The data collection tool consisted of the following sections:

Section I: Socio-demographic Variables

This section included items related to age, educational status, family income, dietary pattern, parents' education, and source of health information.

Section II: Structured Knowledge Questionnaire

A structured questionnaire was developed to assess knowledge regarding nutrition, balanced diet, nutritional deficiencies, healthy eating habits, and personal hygiene.

Section III: Dietary Habits Checklist

This section assessed dietary practices such as meal patterns, intake of fruits and vegetables, milk consumption, junk food intake, and water consumption.

Section IV: Nutritional Assessment Scale

This section assessed the nutritional status of adolescent girls using selected nutritional indicators such as Body Mass Index (BMI) and general physical assessment.

Intervention

The experimental group received a structured nutritional education program prepared by the investigator. The program included the following topics:

- Balanced diet
- Importance of iron, protein, vitamins, and minerals
- Healthy eating habits
- Prevention of nutritional deficiencies
- Personal hygiene and physical activity

Teaching methods included lecture, discussion, charts, flashcards, and audiovisual aids to improve understanding and participation among adolescent girls. The control group received routine school health education.

Procedure for Data Collection

Prior permission was obtained from the concerned school authorities before conducting the study. Informed consent was obtained from the participants. Pre-test assessment was conducted for both groups using the structured tool. The structured nutritional education program was then administered to the experimental group. Post-test assessment was conducted after four weeks using the same tool to evaluate the effectiveness of the intervention.

Data Analysis

The collected data were organized, tabulated, and analyzed using descriptive and inferential statistics.

Descriptive Statistics

- Frequency and percentage

- Mean and standard deviation

Inferential Statistics

- Paired 't' test
- Unpaired 't' test
- Chi-square test

The level of significance was set at $p < 0.05$.

RESULTS

RESULTS

The findings of the study revealed that the structured nutritional education program was effective in improving knowledge, dietary habits, and nutritional status among adolescent girls in the experimental group. Significant improvement was observed in post-test scores when compared with pre-test scores. The calculated statistical values indicated that the intervention was effective at $p < 0.05$ level of significance.

Table 1: Distribution of Adolescent Girls According to Pre-test Knowledge Level (N = 100)

Level of Knowledge	Frequency (f)	Percentage (%)
Inadequate Knowledge	62	62%
Moderately Adequate Knowledge	28	28%
Adequate Knowledge	10	10%

Percentage of Correctly Solving Problems in Three Module

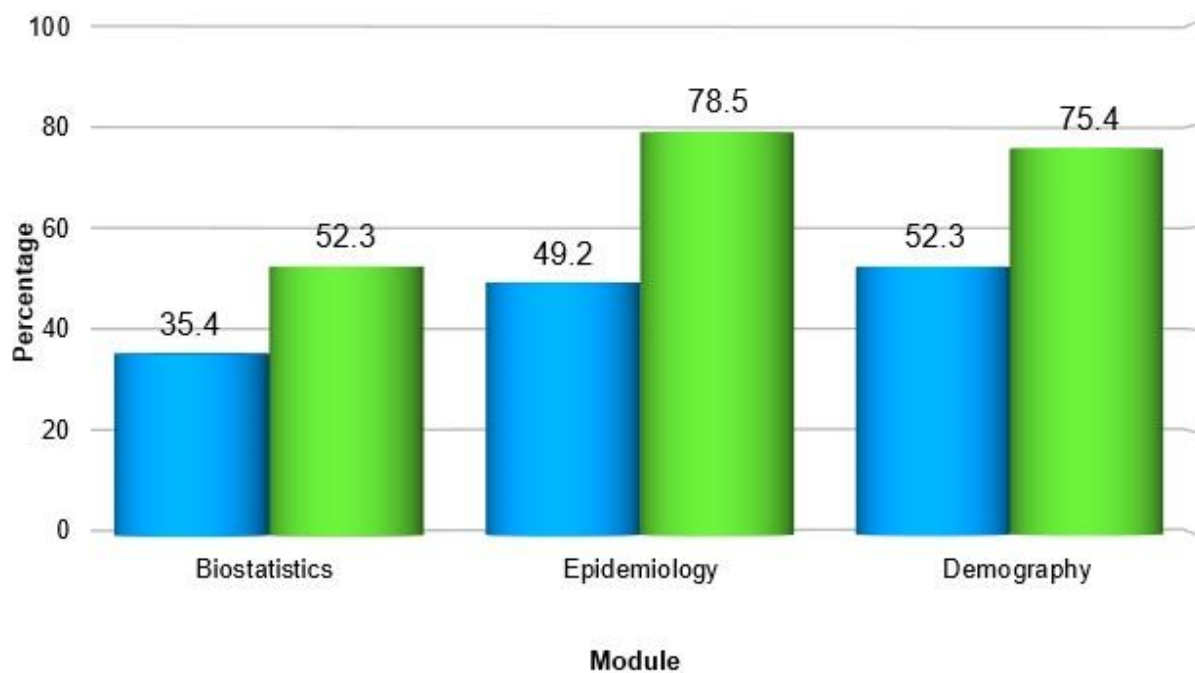


Table 2: Comparison of Pre-test and Post-test Knowledge Scores among Experimental Group (N = 50)

Test Score	Mean	SD	Mean Difference	Paired 't' Value	Level of Significance
Pre-test	11.24	2.85			
Post-test	21.68	3.12	10.44	15.62	Significant at $p < 0.05$

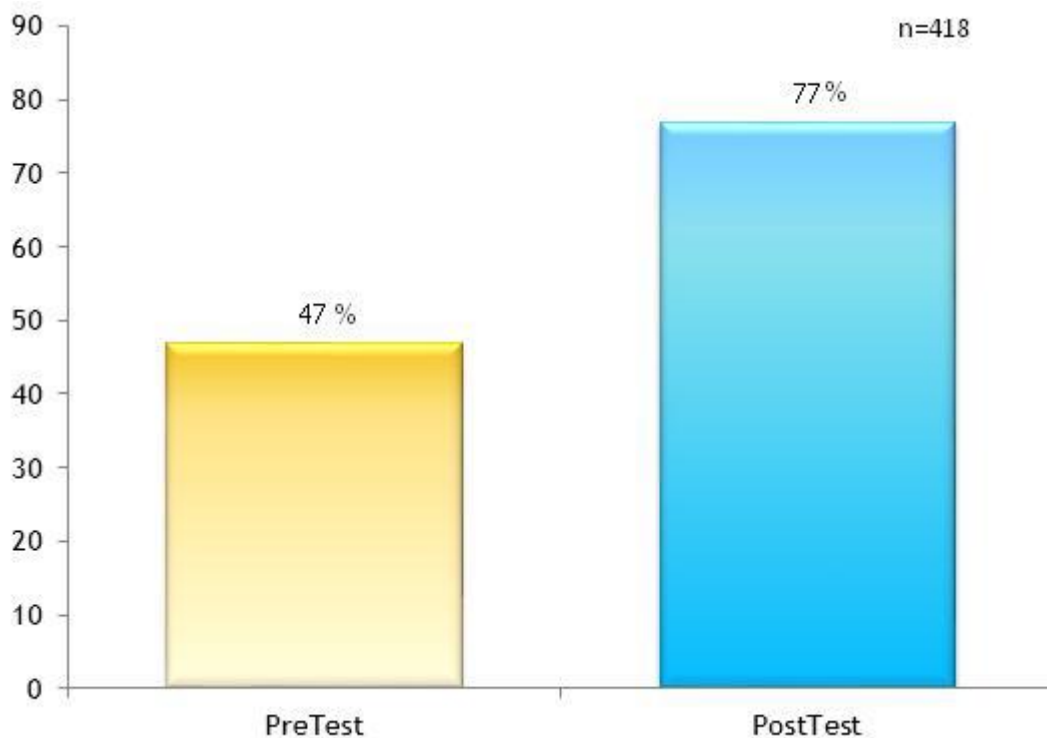


Table 3: Comparison of Post-test Knowledge Scores between Experimental and Control Group (N = 100)

Group	Mean	SD	Unpaired 't' Value	Level of Significance
Experimental Group	21.68	3.12	8.74	Significant at $p < 0.05$
Control Group	14.26	2.94		

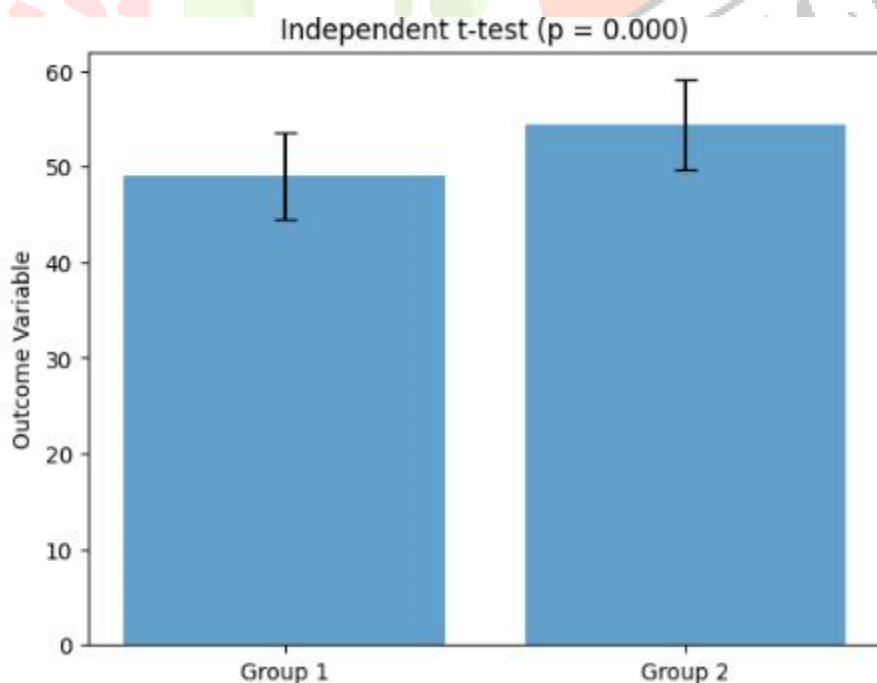


Table 4: Distribution of Adolescent Girls According to Improvement in Dietary Habits in Experimental Group (N = 50)

Dietary Habit Changes	Frequency (f)	Percentage (%)
Improved Dietary Habits	40	80%
Moderately Improved	08	16%
No Improvement	02	04%

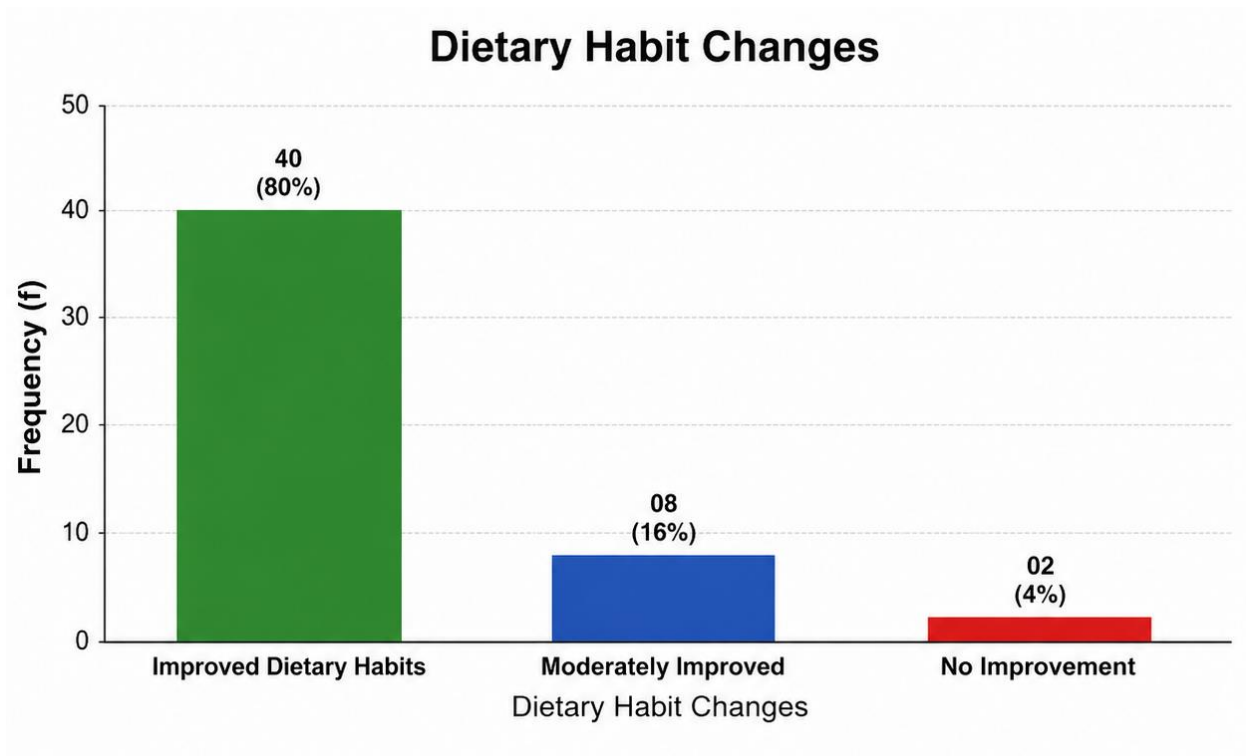
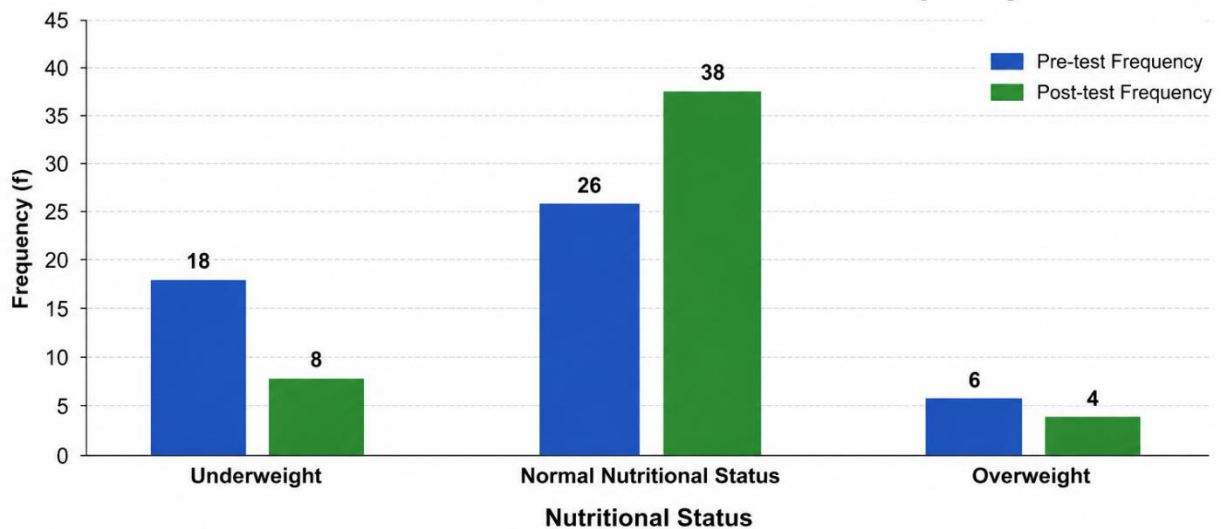


Table 5: Comparison of Nutritional Status Before and After Intervention in Experimental Group (N = 50)

Nutritional Status	Pre-test Frequency	Post-test Frequency
Underweight	18	08
Normal Nutritional Status	26	38
Overweight	06	04

Nutritional Status: Pre-test vs Post-test Frequency



Nutritional Status	Pre-test Frequency	Post-test Frequency
Underweight	18	08
Normal Nutritional Status	26	38
Overweight	06	04

Interpretation of Results

The study findings demonstrated that the structured nutritional education program significantly improved nutritional knowledge, dietary habits, and nutritional status among adolescent girls. The post-test scores of the experimental group were considerably higher than the control group. Positive behavioral changes such as increased intake of fruits, vegetables, milk products, and iron-rich foods were also observed after the intervention.

NURSING IMPLICATIONS

Nursing Practice

School health nurses can conduct regular nutritional counseling and screening programmes for adolescent girls to identify nutritional deficiencies and promote healthy dietary habits. Nurses can also provide individualized guidance regarding balanced diet, iron-rich foods, and healthy lifestyle practices for the prevention of malnutrition and anemia.

Nursing Education

Nursing education should emphasize adolescent nutrition, growth and development, and preventive healthcare. Nursing students should be trained to provide nutritional assessment, counselling, and health education to adolescents in school and community settings.

Nursing Administration

School health administrators and nursing administrators should organize periodic nutritional assessment programmes, nutrition awareness campaigns, and health education sessions in schools. Adequate resources and support should be provided for implementing adolescent nutrition and health promotion activities effectively.

Nursing Research

Further research studies can be conducted with larger sample sizes and longer follow-up periods to evaluate the long-term effectiveness of nutritional counselling and educational interventions on dietary practices, nutritional status, and hemoglobin levels among adolescent girls.

CONCLUSION

The study concluded that structured nutritional education programs are effective in improving nutritional knowledge, dietary habits, and nutritional status among adolescent girls. School-based nutritional interventions should be regularly implemented to promote healthy lifestyle behaviors and prevent nutritional deficiencies among adolescents.

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