A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge Regarding Prevention of Anaemia Among Adolescent Girls in Selected Rural Area

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Abstract: Anaemia is one of the most common nutritional deficiency disorders among adolescent girls in India and remains a major public health problem, particularly in rural areas. Iron deficiency during adolescence can lead to impaired physical growth, reduced cognitive performance, decreased immunity, and increased risk of complications during future pregnancies. Lack of awareness regarding balanced diet, iron-rich foods, menstrual hygiene, and government supplementation programmes contributes significantly to the high prevalence of anaemia. The present study was conducted to assess the effectiveness of a structured teaching programme on knowledge regarding prevention of anaemia among adolescent girls in a selected rural area. A quantitative approach with a pre-experimental one group pre-test and post-test design was adopted. A total of 60 adolescent girls were selected using simple random sampling technique. Data were collected using a structured knowledge questionnaire. The findings revealed that the mean post-test knowledge score was significantly higher than the pre-test score at 0.05 level of significance, indicating the effectiveness of the structured teaching programme. The study concluded that community-based educational interventions are essential to improve awareness and prevent anaemia among adolescent girls.

keywords- Anaemia, Adolescent Girls, Structured Teaching Programme, Community Health Nursing, Prevention.

I. INTRODUCTION

Anaemia is a major global public health problem affecting individuals of all age groups, particularly women and adolescents. It is defined as a condition in which the haemoglobin concentration in the blood is lower than normal, leading to reduced oxygen-carrying capacity of the blood. According to the World Health Organization, anaemia affects nearly half of adolescent girls in developing countries. In India, anaemia continues to be a significant nutritional deficiency disorder, especially among adolescent girls in rural areas. Adolescence is a critical period of growth and development characterized by rapid physical, psychological, and hormonal changes. During this stage, there is an increased demand for nutrients, particularly iron, due to growth spurts and the onset of menstruation. Inadequate dietary intake, poor absorption of iron, menstrual blood loss, worm infestation, and lack of awareness contribute to the high prevalence of anaemia among adolescent girls. Untreated anaemia can lead to fatigue, decreased academic performance, reduced work capacity, lowered immunity, and complications during future pregnancies. Community health nursing focuses on health promotion, disease prevention, and early intervention at the community level. Prevention of anaemia among adolescent girls is a priority under national health programmes such as the Anemia Mukt Bharat initiative. Community health nurses play a vital role in conducting health education sessions, organizing screening camps, promoting iron supplementation, and encouraging healthy dietary practices. Structured teaching programmes can

significantly enhance knowledge and promote behavioural change among adolescents.

II. NEED FOR THE STUDY

Anaemia remains one of the most widespread nutritional disorders affecting adolescent girls in India, particularly in rural areas. According to national health surveys, a significant proportion of adolescent girls suffer from mild to moderate anaemia due to iron deficiency. Rapid growth during adolescence increases the demand for iron, and the onset of menstruation further contributes to iron loss. Poor dietary habits, low intake of iron-rich foods, worm infestation, poverty, and lack of awareness about nutrition are major contributing factors. Anaemia during adolescence can lead to reduced physical stamina, fatigue, decreased concentration, poor academic performance, and lowered immunity. If left untreated, it can persist into adulthood and increase the risk of complications during pregnancy, such as maternal mortality, low birth weight babies, and preterm delivery. Despite various national programmes like Anemia Mukt Bharat and iron-folic acid supplementation initiatives, the prevalence of anaemia among adolescent girls remains high, especially in rural communities. Lack of knowledge regarding balanced diet, iron-rich foods, importance of deworming, menstrual hygiene, and available government health services is a major barrier to prevention. Community health nurses play a crucial role in educating adolescents through school health programmes, awareness camps, and structured teaching sessions. Health education has been proven to be an effective strategy to improve knowledge and promote positive health behaviours. Considering the high prevalence of anaemia and its long-term impact on women's health, there is a need to assess the knowledge level of adolescent girls and implement structured teaching programmes to enhance awareness and preventive practices. Hence, the researcher felt the need to conduct this study to evaluate the effectiveness of a structured teaching programme on knowledge regarding prevention of anaemia among adolescent girls in a selected rural area.

III. OBJECTIVES OF THE STUDY

- To assess the pre-test knowledge regarding prevention of anaemia among adolescent girls.
- To administer a structured teaching programme on prevention of anaemia.
- To assess the post-test knowledge regarding prevention of anaemia among adolescent girls.
- To evaluate the effectiveness of the structured teaching programme by comparing pre-test and post-test knowledge scores.
- To find out the association between pre-test knowledge scores and selected demographic variables of adolescent girls.

HYPOTHESES

- H_1: There will be a statistically significant increase in the post-test knowledge scores compared to the pre-test knowledge scores regarding prevention of anaemia among adolescent girls after the administration of the structured teaching programme.
- H_0: There will be no statistically significant difference between the pre-test and post-test knowledge scores regarding prevention of anaemia among adolescent girls after the administration of the structured teaching programme.

ASSUMPTION

- Adolescent girls may have inadequate knowledge regarding prevention of anaemia.
- Knowledge level of adolescent girls can be improved through a structured teaching programme.
- Adolescent girls will respond honestly to the questions asked in the knowledge questionnaire.
- Health education can promote awareness and positive health practices related to prevention of anaemia.
- Selected demographic variables such as age, educational status, dietary habits, and parental education may influence knowledge level regarding prevention of anaemia.

DELIMITATION

- The study was limited to adolescent girls in a selected rural area.
- The sample size was limited to 60 adolescent girls.
- The study focused only on knowledge regarding prevention of anaemia.

- The study evaluated only the immediate effectiveness of the structured teaching programme and did not assess long-term retention of knowledge.
- Only those adolescent girls who were present during the data collection period and willing to participate were included in the study.

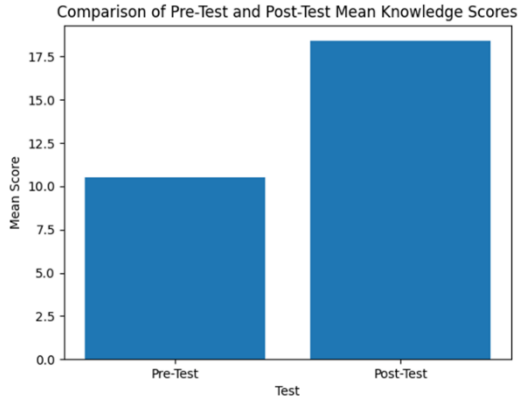
IV. ANALYSIS / INTERPRETATION

The data collected from 60 adolescent girls were analyzed using descriptive and inferential statistics. The findings are presented in the following tables and graphs.

TABLE 1: COMPARISON OF PRE-TEST AND POST-TEST KNOWLEDGE SCORES

Test	Mean	Standard Deviation	Sample Size
Pre-Test	10.5	3.2	60
Post-Test	18.4	2.6	60

GRAPH 1: PRE-TEST AND POST-TEST MEAN COMPARISON



The graph shows that the post-test mean knowledge score is higher than the pre-test mean score, indicating the effectiveness of the structured teaching programme.

Table 2: Paired t-Test Showing Effectiveness

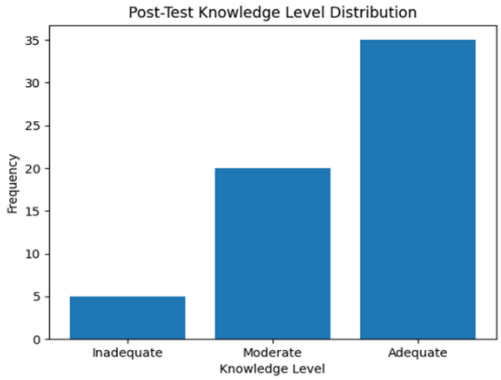
t-value	Degrees of Freedom	Level of Significance	Result
12.45	59	$p < 0.05$	Significant

The calculated t-value is statistically significant at 0.05 level, proving the effectiveness of the intervention.

Table 3: Post-Test Knowledge Level Distribution

Knowledge Level	Frequency	Percentage
Inadequate	5	8.33%
Moderate	20	33.33%
Adequate	35	58.33%

GRAPH 2: POST-TEST KNOWLEDGE LEVEL DISTRIBUTION



The majority of adolescent girls demonstrated adequate knowledge in the post-test.

V. RESULTS

The present study was conducted among 60 adolescent girls in a selected rural area to assess the effectiveness of a structured teaching programme on knowledge regarding prevention of anaemia. The findings revealed that the mean pre-test knowledge score was 10.5 with a standard deviation of 3.2, indicating inadequate knowledge before the intervention. After the administration of the structured teaching programme, the mean post-test knowledge score increased to 18.4 with a standard deviation of 2.6. The calculated paired 't' value was 12.45, which was found to be statistically significant at 0.05 level of significance. This indicates that the structured teaching programme was effective in improving knowledge regarding prevention of anaemia among adolescent girls. Further classification of post-test knowledge levels showed that the majority of participants demonstrated adequate knowledge after the intervention. The study findings support the research hypothesis and confirm that structured educational interventions play a vital role in enhancing awareness and promoting preventive health practices among adolescents.

VI. CONCLUSION

The present study concluded that adolescent girls had inadequate knowledge regarding prevention of anaemia before the implementation of the structured teaching programme. After the intervention, there was a significant improvement in knowledge scores, demonstrating the effectiveness of the structured teaching programme. The findings indicate that health education plays a crucial role in enhancing awareness and promoting preventive practices among adolescent girls. Therefore, community health nurses should regularly conduct educational programmes, screening activities, and awareness campaigns to reduce the prevalence of anaemia and improve the overall health status of adolescents in rural areas.

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