"A study to assess the effectiveness of a structured teaching programme on knowledge regarding the prevention of anemia among adolescent girls in selected villages of Tajopur and Paniara, Mau."

"An Educational Approach to Adolescent Health Promotion."

[1]Mansi Rajput,

[1]rajputmansi911@gamil.com

***Abstract*:**

Background: Anaemia, particularly iron deficiency anaemia, is a major public health concern among adolescent girls in developing countries like India. Rapid growth during adolescence increases nutritional requirements, and lack of awareness contributes to a high prevalence of anaemia, especially in rural areas.

Objective: To assess the effectiveness of a structured teaching programme on knowledge regarding the prevention of anaemia among adolescent girls in selected villages of Tajopur and Paniara, Mau.

Methods: A quantitative research approach with a one-group pre-test post-test experimental design was used. A total of 60 adolescent girls aged 11–18 years were selected through purposive sampling. Data were collected using a structured knowledge questionnaire covering causes, symptoms, and prevention of anaemia. The intervention included a structured teaching programme, and post-test evaluation was conducted using the same tool.

Results: Pre-test findings indicated that most participants had inadequate to moderate knowledge regarding anaemia. Post-test results showed a significant improvement in knowledge scores after the intervention, demonstrating the effectiveness of the structured teaching programme.

Conclusion: The study concludes that structured teaching programmes are effective in improving knowledge regarding anaemia prevention among adolescent girls. Such educational interventions should be integrated into community and school health programmes to reduce the burden of anaemia.

***Index Terms*:**

Anemia, Adolescent Girls, Structured Teaching Programme, Knowledge, Prevention.

I. INTRODUCTION:

Anaemia is one of the most widespread nutritional deficiency disorders globally and remains a major public health concern, particularly in developing countries. Among its various forms, iron deficiency anaemia is the most common and significantly affects vulnerable populations such as adolescents, pregnant women, and women of reproductive age. According to global estimates, billions of individuals are affected by anaemia, with a disproportionately higher burden observed in low- and middle-income countries.

Adolescence is a critical period characterized by rapid physical growth, hormonal changes, and increased nutritional requirements. Inadequate dietary intake, poor eating habits, menstrual blood loss, and lack of awareness contribute to a high prevalence of anaemia among adolescent girls. In India, the burden of anaemia among adolescent girls remains alarmingly high, with recent surveys indicating a rising trend. Rural areas, in particular, show higher prevalence due to socio-economic factors, cultural practices, and limited access to health education and nutritional resources.

Anaemia during adolescence can have serious consequences, including impaired physical growth, reduced cognitive performance, decreased immunity, and poor reproductive health outcomes. Furthermore, adolescent girls with anaemia are at increased risk of complications during pregnancy later in life, perpetuating a cycle of poor maternal and child health.

Despite the high prevalence, awareness regarding the causes, prevention, and management of anaemia among adolescent girls remains inadequate. Educational interventions, such as structured teaching programmes, have been identified as effective strategies to improve knowledge and promote healthy practices. These programmes can play a vital role in empowering adolescent girls to adopt preventive measures, including proper nutrition, iron supplementation, and hygiene practices.

Therefore, the present study aims to assess the effectiveness of a structured teaching programme on knowledge regarding the prevention of anaemia among adolescent girls in selected villages of Tajopur and Paniara, Mau. The findings of this study are

expected to contribute to strengthening community-based health education initiatives and reducing the burden of anaemia among adolescent girls.

II. Problem Statement

"A study to assess the effectiveness of a structured teaching programme on knowledge regarding the prevention of anemia among adolescent girls in selected villages of Tajopur and Paniara, Mau."

III. Objectives

1. To assess the knowledge regarding anemia among adolescent girls in selected villages of Tajopur and Paniara, Mau.
2. To evaluate the effectiveness of a structured teaching programme on knowledge regarding anemia among adolescent girls.
3. To determine the association between knowledge regarding anemia and selected demographic variables among adolescent girls.
4. To compare the pre-test and post-test knowledge scores regarding anemia among adolescent girls.

IV. Hypothesis

H_0 There will be no significant difference in knowledge regarding anemia among adolescent girls before and after the structured teaching programme in selected villages of Tajopur and Paniara, Mau.

H_1 There will be a significant difference in knowledge regarding anemia among adolescent girls before and after the structured teaching programme in selected villages of Tajopur and Paniara, Mau.

V. Material & Method

A quantitative, one-group pre-test post-test experimental design was adopted to assess the effectiveness of a structured teaching programme on knowledge regarding the prevention of anemia among adolescent girls. The study was conducted in selected rural villages of Tajopur and Paniara, Mau.

A total of 60 adolescent girls aged 11–18 years were selected using purposive sampling. Participants who were willing to participate and able to understand Hindi were included in the study. Those who were not available during data collection or unwilling to participate were excluded.

Data were collected using a structured questionnaire consisting of demographic variables and 25 multiple-choice questions related to anemia, including its causes, symptoms, prevention, and management. Knowledge scores were categorized as inadequate (0–40%), moderate (41–70%), and adequate (71–100%).

After obtaining permission from the concerned authorities and informed consent from participants, a pre-test was conducted to assess baseline knowledge. This was followed by the administration of a structured teaching programme. A post-test was conducted using the same questionnaire to evaluate the effectiveness of the intervention.

The content validity of the tool was established through expert review, and reliability was assessed using the test-retest method. A pilot study was conducted on 6 participants to ensure feasibility. Data were analyzed using descriptive and inferential statistics to compare pre-test and post-test knowledge scores.

VI. Method Of Data Analysis

Data were coded, entered, and analyzed using descriptive and inferential statistical methods. Descriptive statistics, including frequency and percentage, were used to summarize the demographic characteristics of the participants and to assess the level of knowledge regarding anemia.

The effectiveness of the structured teaching programme was evaluated by comparing pre-test and post-test knowledge scores. Inferential statistics were applied to determine the significance of the difference between pre-test and post-test scores.

The association between pre-test knowledge scores and selected demographic variables was analyzed using appropriate statistical tests. The results were presented in tables and interpreted accordingly.

VII. Major Findings Of The Study

Demographic Characteristics of Participants:

A total of 60 adolescent girls participated in the study. The majority (33%) were aged 16–18 years. Most participants belonged to rural areas (91.66%) and joint families (75%). Half of the participants (50%) had higher secondary education. Regarding prior knowledge, 41.66% had poor knowledge of anemia, and teachers were the primary source of information (66.66%).

Table 1: Distribution of Participants by Selected Demographic Variables (N = 60)

Variable	Category	Frequency (f)	Percentage (%)
Age	16–18 years	20	33%
Residence	Rural	55	91.66%
Family Type	Joint	45	75%
Education	Higher Secondary	30	50%
Prior Knowledge	Poor	25	41.66%
Source of Information	Teacher	40	66.66%

Pre-test and Post-test Knowledge Levels:

Pre-test findings showed that most participants had inadequate to moderate knowledge regarding anemia. Following the structured teaching programme, there was a noticeable improvement in knowledge levels, with a majority achieving adequate knowledge in the post-test.

Table 2: Comparison of Pre-test and Post-test Knowledge Levels (N = 60)

Knowledge Level	Pre-test f (%)	Post-test f (%)
Inadequate	Majority	Reduced
Moderate	Moderate	Reduced
Adequate	Few	Majority

Effectiveness of Structured Teaching Programme:

The effectiveness of the structured teaching programme was assessed by comparing mean pre-test and post-test knowledge scores. The results indicated a significant increase in knowledge scores following the intervention.

Table 3: Comparison of Mean Knowledge Scores (Pre-test vs Post-test):

Test	Mean Score	Standard Deviation	t-value	Significance
Pre-test	Lower	—		
Post-test	Higher	—	Significant	$p < 0.05$

Association with Demographic Variables:

An association was observed between pre-test knowledge scores and selected demographic variables such as education and prior knowledge of anemia. Participants with higher education and prior exposure to information demonstrated better knowledge levels.

Table 4: Association Between Knowledge and Demographic Variables:

Variable	Association with Knowledge
Education	Significant
Prior Knowledge	Significant
Age	Not significant

VIII. RECOMMENDATIONS

1. **Conduct Regular Structured Teaching Programmes:** Since the study showed improvement in knowledge after intervention, similar structured teaching programmes should be regularly organized for adolescent girls in rural areas.
2. **Strengthen Health Education in Rural Areas:** As the majority of participants belonged to rural settings and had poor baseline knowledge, more emphasis should be given to community-based health education on anemia prevention.
3. **Focus on School-Based Interventions:** Teachers were identified as the main source of information; therefore, schools should play an active role in delivering continuous education regarding anemia and nutrition.
4. **Improve Awareness on Dietary Practices:** Educational programmes should focus on promoting iron-rich diets, proper nutrition, and prevention of micronutrient deficiencies among adolescent girls.
5. **Early Identification and Prevention:** Regular screening and early detection of anemia among adolescent girls should be encouraged to prevent complications.
6. **Involve Family and Community:** Since family background and socio-economic factors influence knowledge, awareness programmes should also include parents and community members.

7. **Reinforcement of Knowledge:**
   The study indicated the need for reinforcement; therefore, follow-up teaching sessions should be conducted to sustain and improve knowledge levels.
8. **Further Research:** Similar studies can be conducted with larger sample sizes, different populations, and longer duration to enhance the validity and generalization of findings.

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