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RESEARCH ARTICLE

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## EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING IRON DEFICIENCY ANEMIA AMONG ADOLESCENT GIRLS 17-19 YEARS IN A SELECTED COLLEGE, COIMBATORE

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### ABSTRACT

**Introduction:** Adolescent with chronic illness, heavy menstrual blood loss or who are underweight or malnourished are at increased risk for iron deficiency and should be screened during health supervision or specialty clinical visits. Among girls however menstruation increases the risk for iron deficiency anemia throughout their adolescent and childbearing years. **Objectives:** 1.To assess the pre-test and post-test levels of knowledge regarding iron deficiency anemia among adolescent girls aged 17-19 years. 2.To evaluate the effectiveness of an instructional module on iron deficiency anemia among adolescent girls aged 17-19 years. 3.To determine the association between knowledge regarding iron deficiency anemia and socio-demographic variables among adolescent girls aged 17-19 years. **Materials and Methods:** An experimental study one-group pre-test post-test design was used to conduct the study. The sample consisted of 30 adolescent girls aged 17-19 years from a selected college in Coimbatore. Participants were selected using a probability sampling technique. Data were collected using a structured questionnaire to assess knowledge on iron deficiency anemia before and after the instructional module. **Results:** A total of 30 adolescent girls were assessed for their knowledge of iron deficiency anemia. In the pre-test, adolescent girls' knowledge regarding iron deficiency anemia was categorized as Inadequate (43.3%), Moderate (46.7%), and Adequate (36.6%). In the post-test, their knowledge levels improved, with Inadequate knowledge decreasing to 3.3%, Moderate knowledge at 43.3%, and Adequate knowledge increasing to 53.3%. **Conclusion:** The study emphasizes the need for anemia awareness programs, particularly for adolescent girls. Basic practices to prevent iron deficiency, including clinical evaluation, nutritional interventions to increase hemoglobin levels, and strategies to enhance immunity, are essential for the effective management of iron deficiency anemia in adolescents.

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## INTRODUCTION

**"It is health that is real wealth and not pieces of gold and silver"**  
-Mahatma Gandhiji

The development of a country can often be gauged by the health of its children. In developing nations, there are approximately 1.2 billion adolescents aged 10 to 19, accounting for one-fifth to one-quarter of the population. Adolescents are typically considered a low-risk group for poor health, and as a result, they often receive limited health care resources and attention. However, this approach overlooks the fact that many health problems in adulthood can be prevented or mitigated by encouraging healthy lifestyle habits during adolescence. European Journal of Clinical nutrition, (2010) Today's child is tomorrow's citizen. There is nothing more precious than the health of our children. Adolescence is a "coming of age," as children grow into young adults.

These teenage years are a period of intense growth—not only physically, but also mentally and socially. During this time, 50% of final adult weight and 20% of adult height are attained. Because of this rapid growth, adolescents are especially vulnerable to anaemia. Proper nutrition, including adequate iron intake, plays a vital role in a teenager's growth and development. During adolescence, teenagers acquire the knowledge and skills that help them become independent and successful. However, iron deficiency anaemia can negatively affect their learning, growth, and development. Therefore, providing adequate information can help teenagers stay healthy and prevent iron deficiency. Kala K.L., (2015)

Iron deficiency is the most prevalent micronutrient deficiency reported around the globe and is especially significant among adolescents. Iron deficiency anemia is a condition characterized by a decrease in the number of red blood cells due to insufficient iron. Iron is a vital component of hemoglobin, the oxygen-carrying protein in the blood. The body typically obtains iron through the diet and by

recycling iron from old red blood cells. Without enough iron, the blood cannot carry oxygen effectively. Oxygen is essential for every cell in the body to function properly. Iron deficiency and anemia are associated with impaired cognitive function, lower academic performance, and reduced physical work capacity. Shuvani Samyal MD., (2017)

**Need for the Study:** The healthy existence of children is essential for building a strong and resilient nation. Adolescence is a transitional phase from childhood to independent and responsible adulthood. It is a crossroads in life, where the choices and decisions made become crucial for an individual's future. Adolescents learn and adopt new knowledge and practices more easily, and these habits are often long-lasting, with an impact that can extend to the next generation. Rofw Iron. (2011). Iron deficiency anemia is a major health problem in developing countries. Based on extensive literature and the experiences of various researchers, it is evident that providing knowledge about iron deficiency anemia and its prevention to adolescent girls is essential. This knowledge can empower them to adopt healthier dietary habits and help them stay free from iron deficiency anemia. Melkan Tesfaye et.al., (2012). According to WHO estimates, iron deficiency is the most common and widespread nutritional disorder in the world. The prevalence rate of iron deficiency anemia among children aged 5–15 years ranges from 5.9% to 48.1%. In India, adolescence is closely associated with iron deficiency anemia, as highlighted in the National Family Health Survey (2014–2015). The report states that 56% of adolescent girls are anemic, and boys are also increasingly affected by the condition. Most anemic individuals, especially women, suffer from mild to severe iron deficiency. The hemoglobin levels of most adolescent girls in India are below the globally accepted standard of 12 g/dl. India is among the countries with the highest prevalence of anemia. WHO estimates that 27% of adolescents in developing countries are anemic. Studies by the International Center for Research on Women (ICRW) report high anemia rates in India (55%), Nepal (44%), Cameroon (32%), and Guatemala (48%). Adolescents are at a high risk of developing iron deficiency and iron deficiency anemia due to increased iron requirements, especially during menstruation, pregnancy, and lactation. WHO. (2015)

## METHODOLOGY

**Research Approach:** The research approach selected for this study was quantitative research approach.

**Research Design:** The Experimental research one group pre-test post-test only design was used to conduct the study.

O1	X	O2
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**O1** – Pre-test level of Knowledge regarding Iron Deficiency Anaemia among adolescent girls.

**X** – Structured teaching programme on knowledge regarding Iron deficiency anaemia among adolescent girls.

**O2** – Post level of Knowledge regarding Iron Deficiency Anaemia among adolescent girls.

**Population:** The targeted population selected for this study were 30 adolescent girls who have age group between 17-19 years in selected college, Coimbatore.

**Sample:** The sample selection for the study were 30 adolescent girls, who have age group between 17-19 years studying at selected College, Coimbatore.

**Sample Size:** The study consists of 30 samples.

**Sampling Technique:** Non-Probability Convenience sampling technique was used to select the samples.

### Sampling Criteria

#### Inclusive criteria

- Adolescent girls in the age group of 17-19 years
- Adolescent girls who are willing to participate in this study.

#### Exclusive criteria

- Adolescent girls who are not present on the time of data collection.
- Adolescent girls who are sick at the time of data collection.

**Data Collection Tool:** Questionnaires were prepared to identify knowledge on iron deficiency of anemia in adolescent girls.

**Description of Tool:** The structured questionnaire was designed into two parts.

**Part: 1 (Demographic Variable):** It consists of age, religion, occupation, income, sibling, types of family, nutrition status.

**Part: 2 (Assess Knowledge Regarding Iron Deficiency Anemia):** It consists of 25 multiple choice questions regarding iron deficiency of anemia.

#### Methods of Data Collection

- Structured questionnaire was distributed by the research to collect data. The purpose of the study is explained to involve them for the study.
- Pre- test conducted and structured teaching program was administered.
- Post test assessment was done after 5 days of the implementation of the structured teaching program.

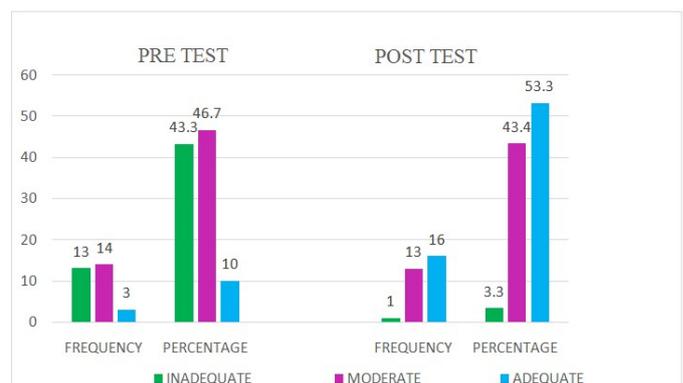
#### Plan for Data Analysis

- Data was planned to analyse on the basis of objectives by using both descriptive inferential statistics.
- Descriptive statistics includes frequencies, percentages mean and standard deviation.
- Inferential statistics includes data was analysis by using chi-square test and paired positive test presented in the form of tables, graphs, and diagrams.

#### Data Analysis and Interpretation

**Table 1. Distribution of sample pre test and post test according to the level of knowledge score**

Level of knowledge score	Pre test		Pre test	
	F	%	F	%
Inadequate	13	43.3	1	3.3
Moderate	14	46.7	13	43.4
Adequate	3	10	16	53.3



The data presented in Table 2 show that, in the pre-test, adolescent girls' knowledge regarding iron deficiency anemia was inadequate in 43.3% of cases, moderate in 46.7%, and adequate in only 10%. However, in the post-test, the results improved significantly, with only 3.3% showing inadequate knowledge, 43.4% showing moderate knowledge, and 53.3% demonstrating adequate knowledge about the condition.

## CONCLUSION

The study emphasizes the need for anaemia emergency programs, particularly for adolescent girls. Practices such as basic iron deficiency management techniques, including clinical evaluation of the child, establishment of blood replenishment processes, and boosting immunity, are essential for the successful emergency treatment of children.

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