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**A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING
PROGRAMME ON KNOWLEDGE REGARDING ANEMIA MukT BHARAT
PROGRAM AMONG ADOLESCENT GIRLS AT NARAYAN WORLD SCHOOL,
JAMUHAR**

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ABSTRACT

Background And Purpose Of The Study: Adolescence is a critical period marked by rapid growth and increased nutritional requirements, making girls more vulnerable to iron deficiency anemia. To address this issue, the Government of India launched the Anemia MukT Bharat (AMB) Program as part of the National Health Mission, focusing on strategies such as iron and folic acid supplementation, testing and treatment. Despite these efforts, lack of awareness and inadequate knowledge about anemia prevention and the AMB program among adolescent girls remain significant barriers to achieving desired outcomes. Structured teaching programs can play an essential role in improving knowledge and promoting healthy practices among adolescents.

Objectives:

1. To assess the pretest level of knowledge regarding anemia and the AMB program.
2. To evaluate the effectiveness of the Structured Teaching program by comparing pretest and posttest knowledge scores.
3. To determine the association between posttest knowledge scores and selected demographic variables such as age, class, dietary habits, and previous knowledge.

Design: Pre-experimental research design was selected for this study. Subjects: The participants were 30 Adolescent girls in Narayan World School, Jamuhar, .Sampling method: Convenient Sampling technique was used to select the sample of the study. Data collection Tool: Structured interview & Structured Knowledge Questionnaire on Anemia MukT Bharat program tool was used to collect the data from the sample.



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Data Analysis: The obtained data were analyzed by descriptive and inferential statistics and interpret in the term of objective and hypothesis of the study. Result: Paired t-test yielded $t=5.12$, $df=29$, $p<0.001$, rejecting null hypothesis (H_1 :significant Pretest posttest difference).Effect size (Cohen's $d \approx 1.2$) indicates large practical Significance.

Conclusion :The study concluded that the Structured Teaching Program was highly effective in improving the knowledge of adolescent girls regarding anemia and the Anemia Mukht Bharat Program. The significant increase in posttest scores highlights the importance of educational interventions in enhancing awareness and promoting preventive Practices.

KEYWORDS: Anemia, Structured Teaching program, Anemia Mukht Bharat Program , Adolescent Girls.

INTRODUCTION

Anaemia , meaning blood loss in Greek, is the most common blood abnormality in the-world. Anaemia is major public health concern, mainly affecting young children, pregnant and postpartum women, and menstruating adolescent girls and women. It has affected about 28.4% of the global population in both developing and developed-countries. Women, young children, and patients with chronic diseases are most at risk-of anaemia. The highest prevalence of 47.4 % is in preschool-age children while the lowest prevalence of 12.7 % is in men. The data from World Health Organisation (WHO) states that Africa has the most cases of anaemia. In Ghana, anaemia was ranked as the fourth leading reason for hospital admissions and the second factor contributing to death.¹

In the beginning of the 19th century, the word anaemia first came into existence, which referred to the pallor of the skin. This abnormality in the blood was first detected in Egypt, but very few had proper knowledge about it. The biological science of haematology was accelerated in 1888 when it became practical to examine the microscopic properties of blood. Anaemia is a common blood disorder that occurs when the body does not have enough healthy red blood cells or haemoglobin to carry adequate oxygen to tissues.India is one of the countries with anemia as a serious public health concern today. Almost 50 percent of the pregnant women, 59 percent of children under five years of age, 54 Percent of adolescent girls and 53 percent of non-pregnant non-lactating women of our country are anemic.²

Anemia is both preventable and treatable, and over the past two decades, the Government of India has taken strong, targeted action to combat it. A significant turning point came with the Second National Family Health Survey (NFHS-2) in 1998–99, paving the way for landmark



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programs like Anemia Mukht Bharat (AMB). Today, AMB reaches millions annually through a comprehensive strategy that includes Iron-Folic Acid supplementation, deworming, fortified nutrition, and behaviour change communication across all age groups. This sustained, community-led approach transforms outcomes for girls, pregnant and lactating women, and children under five—positioning India as a global leader in evidence-based, inclusive public health innovation.³

PROBLEM STATEMENT

A study to evaluate the effectiveness of Structured teaching program on Knowledge regarding Anemia Mukht Bharat Program among adolescent girls at Narayan World School, Jamuhar

OBJECTIVES OF THE STUDY

- To assess the pre test and post test level of knowledge regarding anemia and the Anemia Mukht Bharat program among adolescent girls at selected school.
- To evaluate the effectiveness of knowledge regarding the Anemia Mukht Bharat Program among adolescent girls at selected school
- To find the association between pre test and post test level of knowledge scores at the selected demographic variables .

OPERATIONAL DEFINITION

Effectiveness:- This study indicates the actual impact of knowledge of Anemia Mukht Bharat Program among adolescent girls.



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Knowledge:-In this study, knowledge consists of these components definition of Anemia Mukh Bharat, components, strategies. The AMB program is based on a 6×6×6 strategy, which includes six target groups, six interventions, and six institutional mechanisms.

Anemia Mukh Bharat Program:-In this study, Anemia Mukh Bharat Program refers to the Government of India's National initiative aimed at preventing and controlling anemia through iron and folic acid supplementation, deworming, nutrition education, and screening services provided to adolescents.

Structured Teaching program:-Structured Teaching program consists of Anemia Mukh Bharat initiatives, components and coverage of adolescents and knowledge regarding Anemia.

Adolescent Girl:-In this study, an adolescent girl refers to the Narayan world school.

ASSUMPTIONS

The study assumes that:

- Adolescent girls are at risk of developing anemia due to increased nutritional requirements and menstrual blood loss.
- The Anemia Mukh Bharat Program is designed to reduce the prevalence of anemia through iron and folic acid supplementation, deworming, and health education.
- Adolescent girls who are exposed to the Anemia Mukh Bharat Program will have Better knowledge regarding anemia and its prevention.

HYPOTHESIS

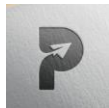
(H1): There is significant difference between pre-test and post test level of knowledge on Anemia Mukh Bharat Program among adolescent girls at selected demographic variables.

(H2): There is a significant association between the post level knowledge with selected Demographic variables.

DELIMITATIONS

The study has limited to :

- The study is only limited to adolescent girls aged 10-19 years only.



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- The data collection period is limited to Two weeks.
- The study focuses only on adolescent girls who are beneficiaries of the Anemia Mukh Bharat Program.
- Male adolescents are excluded from the study

CONCEPTUALFRAMEWORK

The conceptual framework of the present study is based on Roy's Adaptation Model, which found suitable to evaluating the effectiveness of Structured teaching program on Knowledge regarding Anemia Mukh Bharat Program among adolescent girls at Narayan World School, Jamuhar

Research Approach: An Quantitative research approach was used.

Research design: Pre- experimental research design was used .

The Schematic Presentation Of Research Design

GROUP	Pre- Test	Interventions	Post – Test
Pre-Experimental	O1	X	O2

KEYWORDS:

O1:Pre-test to assess the level of knowledge regarding anemia and the Anemia Mukh Bharat program among adolescent girls at selected school.

X: Structured Teaching program

O2:Post-test to assess the level of knowledge regarding anemia and the Anemia Mukh Bharat program among adolescent girls at selected school.

Variables :

Dependent variables : In this study, it refers to the knowledge regarding the Anemia Mukh Bharat Program among adolescent girls. This variable represents the outcome being measured to determine the effectiveness of the Structured Teaching Program

Independent Variables: In this study, it refers to Structured Teaching Program on the Anemia Mukh Bharat Program.

Socio Demographic Variables: In this study demographic variables are Age of the adolescent



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girls , Educational level , Type of Family , Parental Education , Parental Occupation , Socioeconomic status, Dietary Pattern , Previous exposure to information on Anemia.

Settings of the study:

The study was conducted in Narayan World School which is located 10 kms away from Sasaram in the Jamuhar, District of Bihar. It was established in the year 2017. It is a part of the Narayan Group of Institutions, founded under the Shail Foundation (a sister organization of the Deo Mangal Memorial Trust) to provide education from kindergarten to senior secondary levels. The school is affiliated with the Central Board of Secondary Education (CBSE).

Population: The study population consist of :

Target population: In this study target population consist of adolescent girls.

Accessible population: In this study, the accessible populations are Adolescent Girls of 8th and 9th class at Narayan World School , jamuhar ,Rohtas , Bihar .

Sample: In the present study , sample is 30 Adolescent Girls studying at Narayan World School Jamuhar who fulfill the inclusion criteria.

Sampling technique: In this study, Non-Probability sampling: Convenient sampling technique was used.

Sampling Criteria:

Inclusion criteria

- Adolescent girls aged 10–19 years studying at Jamuhar Narayan World School girls who were present during the data collection period .
- Girls who were willing to participate in the study .
- Girls whose parents/guardians provided informed consent (where applicable)

Exclusion criteria

- Girls who were suffering from chronic illnesses such as thalassemia, sickle cell Anemia, or other hemoglobinopathies



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- Girls with a history of recent blood transfusion
- Girls who were severely ill at the time of data collection
- Girls who were not available during either the pre-test or post-test assessment

Instrument Of Data Collection: The tool consists of two section.

Section A: It consist of demographic profile like age, class/grade, dietary pattern, menstrual history, parental education, and region of residence.

Section B: It consist of structured knowledge questionnaire . The questionnaire included items related to the meaning of anaemia, causes, signs and symptoms, prevention of anemia, importance of iron rich diet, iron and folic acid supplementation, and the objectives and components of the Anemia Mukd Bharat Program. The same questionnaire was administered during pre-test and post-test to evaluate the effectiveness of the Structured Teaching Program.

Scoring Key:

Correct answer = 1 mark

Wrong answer = 0 mark

Total score = 20

Interpretation of Scores :

0–10= Inadequate knowledge

11-15 = Mild adequate knowledge

16–20 = Adequate knowledge

Content validity: There was 100 % agreement on most of the items.

Data Collection Procedure:

The researcher obtained permission from the School authorities for Conducting the study. The data collection period was 15 days as the Convenience of the respondents. Adolescent Girls



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were properly informed about the purpose of the study and regarding Anemia Mukht Bharat program . Consent was taken from all the participants .

The data was collected in the following phases:

Phase 1 : In this phase, pre-test was conducted every day, per day from 4 patients and divided them 2 in experimental group and 2 in control group by using Structured Questionnaire tool.

Phase 2: In this phase, For pre experimental group, Structured Teaching program was used, there is no manipulation samples was in daily routine.

Phase 3: In this phase, the post test was conducted for pre experimental group, after administration of Structured Teaching program .

Plan For Data Analysis:

The data was analyzed by using both descriptive and inferential Statistics based on the on the objectives and hypothesis of the study.

Ethical Consideration: Written permission from the authorities of the School and informed consent from the subjects were obtained before conducting the study. No ethical issues confronted while conducting the study.

Major findings of the study:

Findings of the Sociodemographic Variables

Demographic analysis revealed that the majority of participants were aged 14-15 years (80%), followed by 12-13 years (20%). The most respondent class is 8Th (100%) and none of the response in class 9Th . There are equal number in both vegetarian and Non-vegetarian (50%), parents' education 60% are graduated followed by 23.3% are Matriculated, area of residence was 50% are semi government followed by 30% in Rural and 20 % comes under urban.

Knowledge assessment findings indicated that 53.3% of respondents had in mild Adequate knowledge, 30% had adequate and only 16.6% had inadequate knowledge.

Pretest Knowledge Levels

Pretest scores showed 16.6% inadequate (0-10), 53.3% mildly adequate (11-15), 30%Adequate (16- 20), with overall mean 13.50 ± 2.85 (67.5% of 20 max). Specific deficits Included AMB components (6x6x6strategy), deworming schedules (biannual), IFA timing (weekly post-



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lunch), and iron absorption enhancers (vitamin C).

Interpretation : Baseline gaps mirror NFHS-5's 59.1% anaemia prevalence amid AMB Implementation, indicating poor program dissemination despite 2018 launch. Angered & Ranjita (2014) reported similar: 91% anaemia awareness but only 33% knew Dietary causes. This justifies STP's structured content (anaemia aetiology, prevention, AMB pillars), addressing knowledge-attitude-practice disconnects in schoolgirls.

Post-test Knowledge Levels

Post-STP, knowledge transformed dramatically: 76.7% adequate (16-20), 23.3% Mildly adequate, 0% inadequate; mean 16.80 ± 2.10 (84% max). Gains were consistent across items, with 90% + correct responses on core AMB elements (IFA distribution) Screening sites, deworming benefits).

Interpretation: 24.5% relative improvement (3.3-point gain) confirms STP efficacy in 45-60 min sessions using visual aids. This exceeds general counselling outcomes (Sanghavi et al. 2020-21: 9.34% anaemia reduction) and matches targeted interventions Like Chaudhary et al. (2021: 42 → 85% adequate).

Effectiveness (Paired t-Test)

Paired t-test yielded $t=5.12$, $df=29$, $p<0.001$, rejecting null hypothesis (H_1 : significant Pretest post-test difference). Effect size (Cohen's $d \approx 1.2$) indicates large practical Significance.

Interpretation: Statistical power affirms STP's causal impact in pre-experimental Design (O-X-O). Comparable to Gopal & Chand (2017), Poodle et al. (2022) (paired t, $P<0.05$), and Kaparwan (2024: 90.63% post-test). The gain addresses Objective 2 (evaluate STP effectiveness supporting AMB's behaviour change communication Pillar).

Association with Demographic Variables (Chi-Square)

Post-test knowledge showed no significant associations: age ($\chi^2=1.23$, $p=0.54$), class ($\chi^2=0.89$, $p=0.64$), diet ($\chi^2=1.45$, $p=0.48$), parental education ($\chi^2=2.10$, $p=0.33$), family type ($\chi^2=0.76$, $p=0.68$), residence ($\chi^2=1.67$, $p=0.43$). Pretest-post-test associations also non-significant.

Interpretation: Null findings (Objective 3) contrast Kaparwan (2024: age/education links) but align with Gopal & Chand (2017). Small $n=30$, homogeneity (60% graduate parents), and high baseline receptivity likely masked effects. Supports STP's broad applicability across similar school demographics, though larger rural samples might reveal disparities per NFHS-5 rural



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urban gradients.

Supportive studies are:-

Dt singh al (2023):- conducted a study among anaemic adolescent girls to assess the effectiveness of a structured teaching programme on knowledge regarding anaemia prevention. The study included 30 adolescent girls. The results demonstrated that participants had inadequate knowledge in the pre-test, but there was significant improvement in post-test knowledge scores after the structured teaching programme. The study concluded that educational interventions are effective methods for improving awareness and prevention of anaemia among adolescent girls.

Sanghavi (2021):- conducted a study in selected schools of Kotdwar, Uttarakhand, to evaluate the effectiveness of a structured teaching module on prevention of anaemia among adolescent girls. The study was conducted among 30 adolescent girls. The results showed that the majority of participants had poor knowledge during the pre-test, whereas after the intervention most girls achieved moderate to adequate knowledge scores. The study concluded that structured teaching programmes significantly improve knowledge regarding iron deficiency anaemia.

IMPLICATIONS OF THE STUDY

Nursing Education

- The study highlights the importance of including Anemia Mukh Bharat Program and adolescent health topics in nursing curriculum.
- It helps future nurses develop teaching skills and awareness on national health programs.
- It encourages nursing educators to adopt innovative teaching methods to improve health knowledge in the community.

Nursing Practice

- The findings will help nurses understand the level of awareness among adolescent girls regarding Anemia Mukh Bharat (AMB) Program
- It will promote the role of nurses in health education and anemia prevention
- It strengthens school health nursing services and encourages early prevention of anemia.



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Nursing Administration

- Nursing administrators can plan and organize structured health education sessions in schools.
- It helps in developing policies for implementing regular awareness programs in educational institutions.
- It supports collaboration between school authorities and health departments.

Nursing Research

- The study provides baseline data for future research on adolescent health and anemia prevention.
- It can encourage further studies on long-term effectiveness of STP
- It may help in developing improved teaching modules for AMB Program

LIMITATIONS

- Small size sample size
- Single setting
- Short duration of study
- Limited variables
- Lack of control group
- Environmental influence

RECOMMENDATIONS FOR FUTURE RESEARCH

- Similar studies can be conducted on a larger sample size for better generalization.
- Comparative studies can be done between urban and rural schools.
- Long term studies can assess retention of knowledge and behavioral changes.
- Research can be extended to include male adolescents and other age groups.
- Experimental studies can be conducted using a control group and experimental group to measure the exact effectiveness of the structured teaching programme.
- Comparative studies can be done between government and private schools.
- Studies can be conducted among different or regional populations for wider applicability.



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