A study to evaluate the effectiveness of planned teaching programme in terms of knowledge regarding prevention and management of iron deficiency anemia among adolescent girls of selected English medium schools, Gandhinagar, Gujarat

Hetal J. Baraiya
M.Sc Nursing C.M. Patel College of Nursing Gandhinagar, Gujarat

***Abstract*—A study to evaluate the effectiveness of planned teaching programme in terms of knowledge regarding prevention and management of iron deficiency anemia among adolescent girls of selected English medium schools, Gandhinagar, Gujarat objective of the study is 1. To evaluate the knowledge of adolescent girls in selected English medium School, Gandhinagar regarding prevention and management of iron deficiency anemia before and after the administration of planned teaching programme. 2. To evaluate the effectiveness of a planned teaching programme on prevention and management of iron deficiency anemia. METHODOLOGY: In this study pre- experimental research approach and one group pre-test and post-test. Research design was used; variables under study were XII planned teaching program as independent variable; knowledge of the English medium students as dependent variable. Research setting was selected English medium colleges of Gandhinagar. Among which total 60 samples were selected with nonprobability sampling technique in that convenient sampling method was used. The tools used for data collection were the structured knowledge questionnaire. ANALYSIS AND INTERPRETATION: The data obtained were analyses and interpreted in the light of objective and hypothesis using descriptive and inferential statistical in terms of mean, standard deviations ,‗t' test and chi- square test value. The mean Pre-test score was 10.85and the mean post test score was 21.7 The mean difference between pretest and posttest knowledge is 10.88 the table was also showing that the standard deviation of pretest was 1.6 and posttest was 2.69 the calculated ‗t' was 31 and Table 't' value is 2.00 at 0.05 level of significance association with the pretest knowledge score of samples. CONCLUSION: The study reveals that the mean post-test score was significantly lower than mean pre-test score. The calculated ‗t' value was greater than the tabulated ‗t' value. Hence the null hypothesis was rejected and the research hypothesis was accepted. Thus, findings indicate that the plan teaching program was a suitable and effective method of instruction for updating and enhancing the knowledge of the students**

***Index Terms*— Prevention and Management of Iron Deficiency Anemia among Adolescent girls of Selected English Medium Schools**

I. INTRODUCTION

"This offers improved convenience for the patients and less injection related burden for the patients and health care professionals compared to weekly anemia treatment."

Willard Dere

Anemia is a condition in which the number of red blood cells or the amount of hemoglobin is low. Red blood cells contain hemoglobin protein that it enables them to carry oxygen from the lungs and deliver it to

all parts of the body. When the number of red blood cells is reduced or the amount of hemoglobin in them is low, the blood cannot carry an adequate supply of oxygen. An inadequate supply of oxygen in the tissues produces the symptoms of anemia. Even there are many blood disorders; Iron deficiency anemia is most prevalent nutritional disorders in the world today. Iron is a necessary mineral for body function and good health. Every red blood cell in the body contains iron in its hemoglobin, the pigment that carries oxygen to the tissues from the lungs. But a lack of iron in the blood can lead to iron-deficiency anemia, which is a very common nutritional deficiency in children& adolescents Iron-deficiency anemia doesn't develop immediately. Instead, a person progresses through stages of iron deficiency, beginning with iron depletion, in which the amount of iron in the body is reduced while the iron in RBCs remains constant. If iron depletion isn't corrected, it progresses to iron deficiency, eventually leading to Iron deficiency anemia. Symptoms of Iron deficiency anemia include fatigue, weakness, shortness of breath, and the inability to concentrate. Iron-deficiency anemia can be the consequence of several factors, including, insufficient iron in the diet, poor absorption of iron by the body ongoing blood loss, most commonly from menstruation or from gradual blood loss in the intestinal tract, periods of rapid growth. Iron deficiency anemia may result from: inadequate dietary intake of iron (less than 1 to 2 mg/day), during rapid growth in adolescents. Iron mal absorption, such as in chronic diarrhea, partial or total gastrostomy, chronic diverticulitis, and mal absorption syndromes, such as celiac disease and pernicious anemia. Blood loss secondary to drug-induced 3 GI bleeding (from anticoagulants, aspirin, and steroids) or due to heavy menses, hemorrhage from trauma, GI ulcers, esophageal varies, or cancer, intravascular hemolysis-induced hemoglobinuria or paroxysmal nocturnal hemoglobinuria. Mechanical erythrocyte trauma caused by a prosthetic heart valve or vena cava filters. It occurs most commonly in pre menopausal women, and adolescents (especially girls). Persons who are at increased risk for iron deficiency include those of low socioeconomic status who don‘t get a well-balanced diet that includes iron-rich foods. Poverty is a contributing factor to Iron deficiency anemia because families. Iron continues to remain the most neglected micronutrient inspite of its greater burden on health.

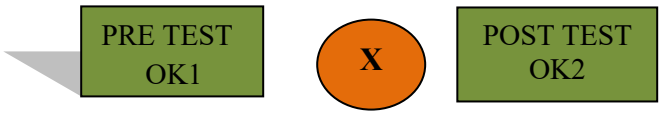
II. MATERIAL AND METHOD

RESEARCH APPROACH: A Pre Experimental approach helped the investigator to assess the effect of Planned Teaching Programme as a manipulation used on the variables that affect the Knowledge of the Samples in Selected English Medium Schools, Gandhinagar, Gujarat. As the control over the variables under the study was not taken, the group was not randomization, manipulation only is used. Hence, the pre experimental approach was the appropriate in this study.

RESEARCH DESIGN;

Research design selected for the present study was One Group Pre Test Post Test Design. The investigator had developed Structured Knowledge Questionnaire for evaluation of pretest and posttest. This design helped the investigator to manipulate the independent variable Planned Teaching Programme on Prevention and Management of Iron Deficiency Anemia and to observe its effect on the dependent variables Knowledge. In one group pretest posttest design, the dependent variable was measured before the Independent variable was applied and after an

appropriate period of time has elapsed and then the Dependent variable is measured again. The research design which is adopted for the study diagrammed as:



Keys:

OK1 Pre-test of Knowledge of Adolescent girls on Prevention and Management of Iron Deficiency Anemia

X Administration of a Planned Teaching Programme on Prevention and Management of Iron Deficiency Anemia

OK2 Post test of Knowledge of Adolescent girls on Prevention and Management of Iron Deficiency Anemia

VARIABLE:

Independent variables : Planned Teaching Programme on Prevention and Management of Iron Deficiency Anemia

Dependent variable : Knowledge of Adolescent girls on Prevention and Management of Iron Deficiency Anemia

POPULATION :The population is referred to as target population, which represents the entire group or all the elements like individuals or objects that meet certain criteria for inclusion in the study. The target population of the present study comprise of English medium student at Gandhinagar, Gujarat.

SETTING OF THE STUDY RESEARCH

The present study was conducted in Selected English Medium Schools, Gandhinagar, Gujarat .Investigator has selected two English Medium Schools of the Gandhinagar, Gujarat and selected meet the criteria of the study. Schools selection has done by multi stage sampling technique.

SAMPLE SIZE

Out of entire population selected 60 samples of Adolescent Girls in selected English Medium Schools Gandhinagar, Gujarat.

SAMPLING TECHNIQUE

The investigator has adopted Non probability sampling in which convenient sampling method to select the sample. The samples who met the criteria for sample selection were selected.

SAMPLING CRITERIA

1. 60 adolescent girls in Selected English medium Schools, Gandhinagar

2. Adolescent girls who are studying in 11th and 12th

3. Adolescent Girls who are present at the time of the study in selected English Medium Schools Gandhinagar, Gujarat

4. Adolescent Girls who are willing to participate in the study

TOOL FOR DATA COLLECTION

The Investigator has prepared a structured knowledge questionnaire to assess knowledge of sample on Prevention and Management of Iron Deficiency Anemia Tool was divided into 2 sections as follows:

Section –I This tool was constructed by the investigator. It contained 7 items for obtaining information regarding Age, religion, type of family, occupation of father and mother, Family income, resident, Source of knowledge of samples

Section –II self –administered knowledge questionnaire was prepared in the form of multiple choice questionnaire .It consists of 30 items

regarding Prevention and Management of Iron Deficiency Anemia. The total maximum score is 30. Deficiency Anemia.

- The total maximum score is 30. □
- For every right answer the score is -1 □
- For every wrong answer the score is -0

VALIDITY OF THE TOOLS

The content validation of the tool was done by 9 experts. Experts were Doctors , Masters in obstetric and gynecology, Masters Medical Surgical Nursing, PG Faculties, guides. The experts were selected on basis of their clinical teaching experience and interest, in the problem being studied. They were requested to give their opinions and suggestions of the items of the tool. Out of the items most of the items were accepted. Some of the items were modified.

RELIABILITY

The Reliability is a criterion for measuring adequacy, consistency, accuracy of tool. The reliability of structured knowledge questionnaire was determined by carrying out an initial try out in Vasu international school, Gandhinagar before pilot study. The reliability of structured knowledge questionnaire was determined by testretest method using Spearman‘s coefficient correlation Formula. Karl's Formula. X= pre test score Y= post test score N= number of samples The reliability of the knowledge questionnaire was determined by Karl's Formula and it was 0.8, which was more then 0.5; hence the questionnaire found to be reliable.

PILOT STUDY

The objectives for the pilot study were to validate the consistency of data collection instrument, adequacy of the contents, feasibility of the study and time duration required for responding the data collection instruments. The Prior permission was obtained from the concerned authorities of the selected Vasu international school, Gandhinagar On 31/03 /2023. Six samples were 38 selected from Vasu international school by convenient, nonprobability sampling method. The investigator had discussed the objectives of the study and obtained consent for participation in study. The pretest was conducted on 31/10/2023. Knowledge of samples on Prevention and Management of Iron Deficiency Anemia was assessed by structured knowledge questionnaire. The duration was 45 min. Planned teaching program was administered after pretest. The duration for administering the planned teaching program was 45 minutes. Posttest knowledge assessment was conducted on same day. Knowledge of samples was assessed by administering posttest which took 50 minutes. The data were analyzed using descriptive and inferential statistics. Findings of the pilot study were mean Knowledge Scores obtained from the samples in pretest was 9.5 and in posttest is 17.33 with the mean difference of 7.83 The mean post test score in Knowledge were higher than their mean pretest score. The findings of the pilot study revealed that the tools were found to be consistent for the final study. The planned teaching programme was found to be effective in improving knowledge and attitude and it was feasible to conduct the study as planned. No problems were faced during pilot study. Therefore, the plan for data collection was finalized.

PROCEDURE FOR DATA COLLECTION

Formal permission was obtained from the concerned authorities. Investigator took the permission from Principal of the selected English Medium Schools Gandhinagar, Gujarat for the data collection for the

Main study. The data collection procedure was started from 31/03/2023 to 22/04/2023. The time schedule varies in Knowledge test Mean Mean difference Pre-test 9.5 7.83 Post-test 17.33 39 each School from 8 a.m. to 2. p.m. The investigator introduced her to the participants and objectives of the study were explained and informed consents were taken. The Investigator has administered pretest on 1st day and the administered Planned Teaching Programme and next week. The post test was after 1 week . All samples gave good co-operation during data collection procedure and no problem was faced during data collection

III ANALYSIS

ANALYSIS AND INTERPRETATION OF SOCIO DEMOGRAPHIC DATA

Demographic variable shows that out of 60 samples under study, majority of 42(70%) samples were in the age group of 16 years, 18(30%) samples were belongs to 18years and no sample 0(0%) belongs to 18 years. Under study majority of religion Hindu 32(53.33%) samples were Muslim 28 (46.67%) samples were belong to Christian no samples, were other No samples , In the type of family, majority of joint family 41(68%) samples were belongs to nuclear family, 19(32%) samples were belongs and no one was belongs to extended family. In Occupation of father, majority of self-employed 34(53%) samples‘ father were in 3 (5%) samples professional occupation, 23(38%) sample‘s father were sample‘s father was labour no samples. In Occupation of mother, majority of house wife 47(78.33%) samples‘ mother were sample‘s mother were self-employed, 5(8.33%) sample‘s mother were in professional occupation 8(13.33%) sample‘s mother was labour.no samples. Family income per month, highest 51 (85%) samples had belong to > `15000/9 (15%) are having up to `10001- `15000/- and very less no samples belong to `5000- `10,000/- In resident, majority of 50 (83.33%) samples were belongs to urban area and less 10 (16.67%) samples were belongs to rural area.Sources of information, 37 (61.67%) samples get the information from family and friends, 15 (25%) samples get the information from mass media, 8 (13.33%) samples get information from any other

ANALYSIS AND INTERPRETATION OF THE DATA RELATED THE KNOWLEDGE OF THE SAMPLES BEFORE AND AFTER ADMINISTRATION OF PLANNED TEACHING PROGRAMME THKNOWLEDGE OF THE SAMPLES BEFORE AND AFTER ADMINISTRATION OF PLANNED TEACHING PROGRAMM

Data shown thate mean pre test and post test score in of sample on Prevention and Management of Iron Deficiency .the knowledge area was divided into four sub areas such as introduction, Risk group & Causes, Sign / Symptoms & Diagnosis, Treatment & prevention.,

For knowledge about introduction out of 7 pre-test mean score was 2.73(39.05%)and post-test mean score was 5.47(78.10%)knowledge gain 39.05.is area.

For knowledge about Risk group & Causes out of 2 pretest score was 1(47.50%)and posttest mean score was 1.65 (82.5%) knowledge gain 35.00 is area.

For knowledge about Sign / Symptoms & Diagnosis out of 3 pretest score was 1.5(50 %) and post test mean score was 2.21(73.89%) knowledge gain 23.89 is area.

For knowledge about Treatment & prevention out of 18 pretest score was 6.3(34.91%)and post test mean score was 12.52(69.53%) knowledge gain 34.62 is area

ANALYSIS AND INTERPRETATION OF THE DATA RELATED EVALUATE THE EFFECTIVENESS OF PLANNED TEACHING PROGRAM ON PREVENTION AND MANAGEMENT OF IRON DEFICIENCY ANEMIA.

the mean post-test knowledge score was significantly higher than the mean pre-test knowledge scores. The calculated ‗t' value (t = 10) was greater than the tabulated ‗t' (t = 2.00) therefore the null hypothesis H0 was rejected and research hypothesis H1 was accepted and it reveals that planned teaching programme was effective in terms of knowledge among the samples. Investigator concluded that there was significant increase in the mean post knowledge score as compared to the mean pre-test knowledge score after administration of Planned Teaching programme Regarding prevention and Management Of Iron Deficiency Anemia

IV. DISCUSSION

The main aim of the study was to assess the effectiveness of Planned Teaching Programme on Prevention and Management of Iron Deficiency Anemia in terms of Knowledge among Adolescent Girls of selected English Medium schools of Gandhinagar, Gujarat .

Based on the objectives, an extensive search for literature was made to determine and develop the conceptual framework and methodology for the study. Conceptual framework was based on a system model, a guide for development, utilization and evaluation. The research approach adopted for the study was PreExperimental with one group pretest and post-test design. The study was conducted in selected English medium schools of Gandhinagar, Gujarat. Planned Teaching Programme was developed on Prevention and Management of Iron Deficiency Anemia. The Planned teaching Programme was developed under expert guidance of principal, associate professor and Assistant professor of C.M Patel College of Nursing, Gandhinagar. The Planned Teaching Progrmme was developed for enhancing the knowledge regarding Prevention and management of iron deficiency anemia. The study comprised of total 60 samples selected from Selected English medium schools of Gandhinagar, Gujarat. Through convenient non probability sampling technique. The instrument used for collecting necessary data were Structured Knowledge Questionnaire assess knowledge of the Adolescent girls on Prevention and Management of Iron Deficiency Anemia. The investigator collected data by establishing rapport with the subject and ensuring confidentiality of their response. 62 The data were analyzed and interpreted in terms of objectives of the study. Descriptive and inferential statistics were utilized for the data analysis.

V. CONCLUSION

Findings leads to the major conclusion are following: Knowledge deficit existed in all area of Prevention and Management of Iron Deficiency Anemia. The findings indicated that Planned Teaching Programme prepared by the Investigator was effective in enhancing the knowledge of the samples towards Prevention and Management of Iron Deficiency Anemia

REFERENCE

[1]. Abdellah F.G.Batter Care Through Nursing Research 2nd Edi.New York: Mcmillan Co:1979.

[2]. Anderson KN, Anderson LE. Mosby‘s Medical, nursing and allied health dictionary. 5 thedi. Philadelphia: Mosby publisher; 2005

[3]. Basavanthappa B.T. Essentials of medical surgical nursing. New Delhi: Jaypee BrothersPublishers; 2011.

[4]. Basavanthappa B.T. Fundamentals of nursing. 1 st edi. Kundali: Jaypee Brothers Publishers; 2004.

[5]. Basavanthappa B.T. Nursing education. New Delhi: Jaypee Brothers Publishers; 2003

[6]. Agrawal KN et al ―Anemia prophylaxis in adolescent school girl‘s by weekly or daily iron- folic supplementation‖ Indian pediatrics 2003 Apr: 40(40) :296- 301.

[7]. Basu set al ―prevalence of anemia among school going adolescents of Chandīgarh‖ Indian pediatric. 2005 jun; 42(6) : 593-7

[8]. BT Basavnthappa ― nursing Research‖; 2nd edition jaypee pblication new delhi 2007 ; 92.

[9]. Bulliyy G et al ― hemoglobin status of non-school going adolescent girls in three districts of Orissa, india‖ int J Adolescent med health. 2007 OCT-DEC ; 19(4) : 395-406

[10]. Choudhary A et al ― prevelance of anemia among adolescent girls in the urban slum of vellore south india‖ top doc 2006 jul; 36(3) : 167-9

[11]. Deshmukh PR et al ― effectiveness of weekly supplement of iron to control anemia among adolescent girls of nashik, Maharashtra, India‖ : J health popal north. 2008 mar ; 26(1) : 74-8

[12]. Approaches to prevention and control. World Health Organization, Geneva.

[13]. DeMaeyer EM, Dallman P, Gurney JM, et al (1989) Preventing and controlling iron deficiency anemia through primary health care: a guide for health administrators and programme managers. Geneva: World Health Organization.

[14]. Gillespie S, Kevany J, Mason J (1991) Controlling iron deficiency. ACC/SCN State of-the-Art Series Nutrition Policy Discussion Paper No. 9. United Nations.

[15]. Gillespie S (1998) Major issues in the control of iron deficiency. Micronutrient Initiative, UNICEF, in press.