"A STUDY TO ASSESS THE KNOWLEDGE AND UTILIZATION OF NATIONAL ANEMIA PROPHYLAXIS PROGRAMME AMONG ADOLESCENT GIRLS IN A SELECTED COMMUNITY AREA OF KOLAR DISTRICT''

Dissertation submitted to the

Rajiv Gandhi University of Health Science, Bangalore, Karnataka

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PROJECT REPORT SUBMITTED TO,

Sri Devaraj Urs College of Nursing Tamaka, Kolar.

As a Part of Curriculum Requirements for

The Degree of Basic BSC NURSING

UNDER THE GUIDANCE OF

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2024

DECLARATION BY THE CANDIDATE

We hereby declare that the project on "**A Study to assess the knowledge and utilization of National Anemia Prophylaxis Programme among adolescent girls in a selected community area of Kolar district''** Is Bonafide and genuine research work carried out by Community Health Nursing students under the guidance of **Dr. Malathi K.V,** HOD Dept. of Community Health Nursing SDUCON, Tamaka, Kolar.

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CERTIFICATED BY THE GUIDE

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We hereby declare that Sri Devaraj Urs College of Nursing, Tamaka, Kolar, shall have the right to preserve, use and disseminate this dissertation/thesis in print or electronic format for academic or research purpose.

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“The god of heaven himself will prosper us,”

Nehemiah 2:20

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ABSTRACT

Title: A study to assess the knowledge and utilization of the National Anemia Prophylaxis Programme among adolescent girls.

Background and Objectives

Anemia is a widespread health issue among adolescent girls in India, primarily due to inadequate nutrition, lack of awareness, and poor utilization of health services. The Government of India has implemented the National Anemia Prophylaxis Programme to reduce anemia prevalence. This study aimed to assess the knowledge and the extent of utilization of this programme among adolescent girls.

Methods

A descriptive research design was adopted. A total of 60 adolescent girls were selected using purposive sampling from a selected area. Data was collected using a structured questionnaire covering knowledge and utilization aspects of the program. Descriptive statistics were used for data analysis.

Results

The findings revealed that a moderate percentage of girls had adequate knowledge about anemia and the prophylaxis programme. However, actual utilization of services like IFA tablet consumption and nutritional counseling was low, indicating a gap between awareness and practice.

Conclusion

The study shows that although many adolescent girls have knowledge about anemia, the use of the National Anemia Prophylaxis Programme remains low. This highlights the need for better awareness and motivation. Nurses play a key role in promoting anemia prevention through IFA supplementation, deworming, and nutrition education.

Key words: Adolescent girls, anemia, knowledge, utilization, NAPP.

LIST OF ABBREVIATIONS

01.	NNAPP	National Nutritional Anaemia Prophylaxis Programme
02.	UNICEF	United Nations International Children's Emergency Fund
03.	WHO	World Health Organization
04.	NHM	National Health Mission
05.	NFHS	National Family Health Survey
06.	WIFS	Weekly Iron and Folic Acid Supplementation
07.	IFA	Iron and Folic Acid
08.	AMB	Anemia Mukt Bharat
09.	NIPI	Norway India Partnership Initiative
10.	HIMS	Health Information Management System
11.	CNNS	Comprehensive National Nutrition Survey
12.	TPDS	Targeted Public Distribution System
13.	ICDS	Integrated Child Development Services
14.	IDA	International Development Association
15.	SES	Socio-Economic Status

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INTRODUCTION

CHAPTER: I

INTRODUCTION

Anemia is a condition that develops when the blood produces a lower-than-normal amount of healthy red blood cells. If have anemia, in the body does not get enough oxygen rich blood. The lack of oxygen can make a feel tired or weak, it may also have a shortness of breath, dizziness, headaches, or an irregular heartbeat. According to the centers for disease control and prevention of anemia.[1]

The consequences of anemia include general body weakness, frequent tiredness, and lowered resistance to disease. Anemia can be particularly serious problem for pregnant women, leading to premature delivery and low birth weight.

The causes of anemia are

1.Age

2.Blood loss

3.Family history

4. lifestyle habits

5.Nutritional deficiencies

6.Sickle cell anemia

7. Thalassemia

8.Chronic kidney disease

9.Other causes like menstrual blood loss, pregnancy, chronic bleeding, medications

The vulnerable groups of anemia are

1. Children under five years of age particularly in infants, children under two years of age 2. Menstruating age

3.Adolescent girls

4. Women, and Pregnant

5. Postpartum Women.[2]

The risk factors of anemia includes:

1. Age (people over age 65 are at increased risk of anemia).
2. A diet lacking in certain vitamins and minerals. A diet consistently low in iron, vitamin B_{12}, and folate increases risk of anemia.
3. Intestinal disorders that affects the absorption of nutrients in small intestine (Crohn's disease, Celiac disease)
4. Menstruation in general, women who haven't had menopause have a greater risk of iron deficiency anemia than do men and postmenopausal women. mentruation causes the loss of red blood cells.
5. Chronic disorders like cancer, kidney failure
6. Family history
7. Other factors like infections, blood diseases, alcoholism, exposure to toxic chemicals, medications.[2]

If nutritional deficiencies are responsible for anemia, eating more iron rich foods can help. Some foods that are high in iron trusted source includes iron fortified cereal and bread, leafy green vegetables, such as spinach and watercress, pulses and beans,

brown rice, white or red meats, nuts and seeds, fish, eggs and dried fruits including apricots, raisins, and prunes.[3]

There is a range of treatments for trusted source for anemia. Each aims to increase a person's RBC count which increase the amount of oxygen in the blood.

The required treatment depends on the type of anemia includes like:

1. Iron deficiency anemia: iron supplements and dietary changes can help, and a doctor will identify and address the causes of any excessive bleeding if present.
2. Vitamin deficiency anemia: Treatments can include dietary supplements and vitamin B_{12} injections.
3. Thalassemia: Treatments include trusted source folic acid supplements, iron chelation, and for some people, blood transfusions and bone marrow transplants.
4. Anemia due to chronic disease: The doctor will focus on managing the underlying condition.
5. Aplastic anemia: Treatment for aplastic anemia involves blood transfusions or bone marrow transplants.
6. Sickle cell anemia: Doctors treat this with oxygen therapy, pain relief medication, and intravenous fluids. They may also prescribe antibiotics, folic acid supplements, blood transfusions, and a cancer drug called hydroxyurea Trusted source.
7. Hemolytic anemia: The treatment plan may include immunosuppressant drugs, treatments for infections, and plasmapheresis, which filters the blood.[3]

National anemia is a major public health problem in India. The NNAPP was started in 1970.It is a centrally sponsored scheme. Anemia especially affect women in the reproductive age group and young children. It is estimated that over 50percent of pregnant women suffer from anemia. Nutritional anemia, due to iron and folic acid deficiency is directly or indirectly responsible for about 20 percent of maternal deaths. Anemia is also a major contributory cause of high incidence of premature births, low birth weight and perinatal mortality. Presently, 22 million adult and 30 million child beneficiaries are being covered under the programme (Guidelines for National Nutritional Anemia Prophylaxis Programme, Ministry of Health and Family Welfare, Government of India,1990).[4]

The programme aims at significantly decreasing the prevalence and incidence of anemia in women in reproductive age group, especially pregnant and lactating women, and preschool children .The specific objectives of the programme are to assess the baseline prevalence of nutritional anemia in mothers and young children through estimation of hemoglobin(Hb)levels, to put the mothers and children with low Hb levels (less than 10 g and less than 8 g respectively)on antianemia treatment, to put the mother with Hb level more than 10 g /dl and children with Hb more than 8 g /dl on the prophylaxis programme ,to monitor continuously the quality of the tablets, distribution and consumption of the supplements, to assess periodically the Hb levels of the beneficiaries, to motivate the mothers to consume the tablets through relevant nutrition education(and to give to their children also).[4]

The scheme beneficiaries are children in 1-5 years of age, pregnant and nursing mothers, female acceptor of terminal methods of family planning and IUDs. The target beneficiaries of the scheme are 50 percent of total pregnant and nursing mothers and 25 percent of total women acceptors of terminal methods and IUDs. The target child population is 50 percent of total population in the age group of 1-5 years.[4]

NEED FOR THE STUDY

Anemia is a medical condition in which the red blood cell count or hemoglobin is less than normal. The normal level of hemoglobin is generally different in males and females. For men, anemia is typically defined as hemoglobin level of less than 13.5 gram /100ml and in women as hemoglobin of less than 12.0gram /1.[5]

According To WHO

The anemia affects the significance portion of India's population, particularly women and children. In 2019, approximately 29.9% of women aged 15-49 suffered from anemia, with a prevalence of 36.5% among pregnant women. This is concerning as iron deficiency anemia in pregnant women is linked to adverse reproductive out comes, such as preterm delivery and low birth weight infants. 39.8% of children aged 6-59 months suffered from anemia in 2019, translating to around 269 million children world wide. while global anemia prevalence in women of reproductive age as stagnated since 2000, there's been a slight decrease in pregnant women[6].

For children's under five, the prevalence has slowly decreased from 48.0% in 2002 to 39.8% in 2019. Anemia remains a significant public health concerning, India according to recent studies, anemia prevalence among adolescents in Karnataka is alarming, with 60.2% of adolescents aged 15-19 years affected, as reported in the 2019 national family health serve. this represents an increase from 54.1% in 2016. The global prevalence of anemia in 2021 affected approximately 40% of children aged 6-59 months, 37% of pregnant women and 30% of women aged 15-49 years. This translates around 269 millions children's and over half of a billion suffering[7].

According to UNICEF

Anemia prevalence in India and Karnataka is significant particularly among adolescents, according to UNICEF, approximately 40% of girls aged 10-19 years suffer from anemia, translating to around 72 millions adolescents in 2018. Breaking down the prevalence by region and state, UNICEF reports variations with girls affected at rates between 29% to 46%. Karnataka specifically has implemented initiatives to address anemia including school based health programmes that have shown positive results, with a relatively low anemia prevalence of 13.6% among school aged children's in Bangalore[8].

According to National Health Mission (NHM)

In Karnataka, anemia prevalence remains a public health concerns the key statistics like children(6-59months)-40.4%(2019-2020), Adolescent girls(10-19years)-46.2%(2018-2019), pregnant women 44.8%(2019-2020), lactating mothers-42.1%(2019-2020), women (15-49 years)-38.2%(2019-2020)[9].

In India, Children (6-59 Months) – 67.1% (NFHS-5,2019-2020), Adolescent girls (10-19 years) – 59.1% (NFHS-5,2019-2020), Pregnant woman 52.2% (NFHS-5,2019-2020), Lactating Mother 48.1% (NFHS-2019-2020) woman (15-49 years) 53.1% (NFHS-:2019-2020). Based on these statistics from variety of programs we came to know that so many adolescent girls are affecting from anemia even though they are preventing also but it was increasing, Because of that we taken this study to known the knowledge and utilization of anemia prophylaxis programme among adolescent girls[10].

According to mukth anemia Bharath

The prevalence of anemia among six groups as pre the National family health survey 5(2019-2021) is 25.0% in men (15-49 years) and 57.0% in women (15-49 years) 31.1% in adolescent boys (15-19 years) 59.1% in adolescent girls ,52.2% in pregnant women (15-19 years) and 67.1 percent in children (6-59 months)[11].

As per the above statistics the anemia is common among the adolescent girls and most of the girls are not aware of the national programme implemented by government which benefits the adolescent girls to improve the hemoglobin level by intake of iron and folic acid tablets which is available in Anganwadi and schools and government health centers.

Hence we have selected the present literature related to knowledge on Anemia to create awareness in utilization of the same.

STATEMENT OF THE PROBLEM

A Study to assess the knowledge and utilization of National Anemia Prophylaxis Programme among adolescent girls in a selected community area of Kolar district.

OBJECTIVES OF THE STUDY

1.To assess the knowledge of National Anemia Prophylaxis Programme among adolescent girls by using structured knowledge questionnairies.

2.To assess the utilization of National Anemia Prophylaxis Programme among adolescent girls.

3.To find out the association between the knowledge with selected socio demographic variables.

Hypothesis

H_1:- There is a significant difference in the knowledge and utilization of the national anemia prophylaxis programme among adolescent girls in a selected community area of Kolar district.

H_0:- There is no significant difference in the knowledge and utilization of national anemia prophylaxis programme among adolescent girls in a selected community area of Kolar district.

1.Research Hypothesis(H_1)

There is a significant association between the level of knowledge and the utilization of the national anemia prophylaxis programme among adolescent girls.

2. Null Hypothesis(H_0)

There is no significant associate between the level of knowledge and the utilization of the national anemia prophylaxis programme among adolescent girls.

Assumption

1.Adolescent girls may have inadequate knowledge regarding national anemia prophylaxis programme.

2.The adolescent girls may have little knowledge on utilization of the national anemia prophylaxis programme.

Operational definitions

Knowledge

In this study it reference to response given by the adolescent girls on national anemia prophylaxis programme.

Utilization

In this study reference to use of iron and folic acid tablets distributed from Anganwadi and primary health centers.

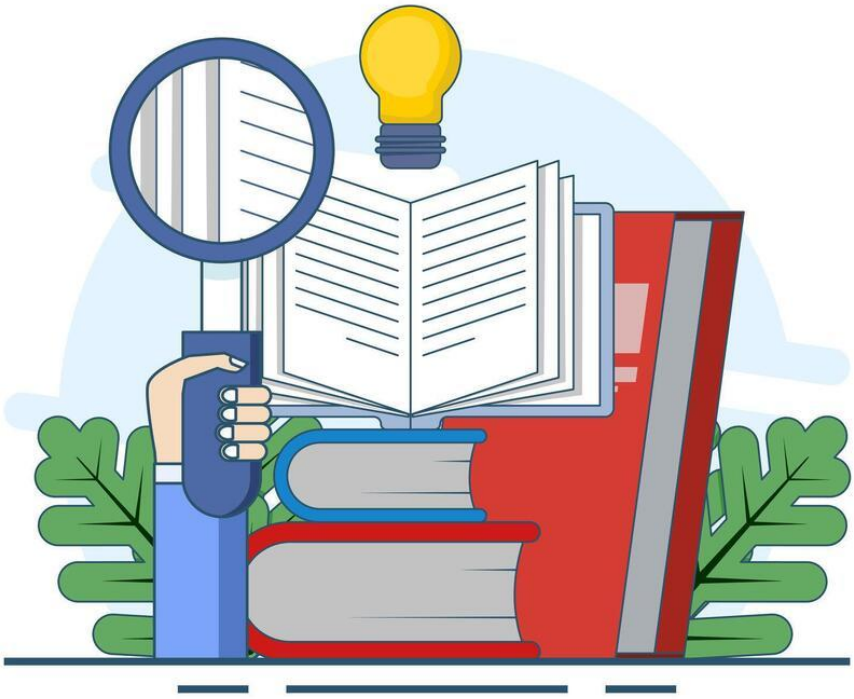
Adolescent girls

In this study reference to teenage girls age in between 12-19 years.

Community area

In this study reference to area coming under Kolar district.

REVIEW OF LITERATURE



CHAPTER- II

REVIEW OF LITERATURE

This chapter describes in detail on the studies reviewed related to the research project. Review of literature is an essential component of research process. It is critical examination of publication related to a topic of interest. Review should be comprehensive and evaluative. Review of literature helps to plan and conduct the study in a systematic manner.

The Review of literature is classified under the following subheadings:

1. **Literature related to knowledge on Anemia**
2. **Literature related to utilization of National Anemia prophylaxis programme.**
3. **Literature related to National Anemia prophylaxis programme**.

Literature related to knowledge on anemia among adolescent girls.

A descriptive study was conducted in Chandragiri, Andhra Pradesh 2024 to assess the knowledge regarding iron deficiency anemia among adolescent girls. 100 adolescent girls were involved in the study and the data were collected using structured questionnaires and the data were analyzed using descriptive and Inferential statistics. The Results revealed that 42% of participants had moderate knowledge, 35% had adequate knowledge, and 23% had inadequate understanding of anemia. The study recommended the use of educational booklets and school-based awareness programs to enhance knowledge and promote healthier practices among adolescents[12].

A cross-sectional study was conducted in Mysuru, Karnataka 2021 to address the persistent issue of anemia among adolescent girls. The study involved 300 adolescent

girls enrolled in JSS schools and colleges in Mysuru, Karnataka. The data were collected using a structured proforma- a predesigned questionnaire and the data were analyzed using descriptive statistical techniques. The Results revealed that adolescent girls is having Poor knowledge about anemia despite existing national programs and Positive attitudes and good practices were observed. The researchers emphasized the need to strengthen community-level health education and suggested reinforcing existing programs like Weekly Iron and Folic Acid Supplementation (WIFS) and POSHAN Abhiyan with more targeted and engaging educational efforts[13].

A cross sectional descriptive study was conducted in Mehrauli, Delhi 2023 to evaluate the knowledge of anemia among adolescent girls. The study involved 50 adolescent girls and the data were collected using structured questionnaire and the data were analyzed using descriptive statistics. The Results revealed that 46.48% of the participants had average knowledge about anemia, while the rest demonstrated either low or high levels of awareness. The study recommended regular health education sessions and proposed integrating anemia awareness into the school curriculum to improve understanding and prevention among adolescent girls[14].

A cross –sectional study involving 625 adolescent girls aged 11 to 19years was conducted in Western Rajasthan 20233 to assess the prevalence, associated factors, and knowledge regarding anemia. The study involved 625 adolescent girls aged 11 to 19 years and the data were collected using questionnaire and Hemoncue device and the data were analyzed using descriptive statistical techniques. The Results revealed that 56.36% recognized weakness as the most common symptom, 51.36% knew that iron supplements and a balanced diet help treat anemia,39.68% understood the importance of a balanced diet alone,56.48% identified green leafy vegetables as a

good source of iron having knowledge about anemia among adolescent girls. The study recommended strategies to achieve this goal and improve health outcomes of adolescent girls[15].

A cross sectional study was conducted in Hyderabad 2015 to assess the nutritional knowledge related to anemia among adolescent girls. The study involved 100 adolescent junior college students and the data were collected using structured questionnaires and the data were analysed using descriptive statistical techniques. The Results revealed that 63% of adolescent girls had a normal nutritional status**,** while 33% were underweight**.** Around 60% ate out once a week, mostly preferring fast foods and carbonated beverages**,** and only 25% had good knowledge about anemia. The study recommends introducing nutrition education in schools to improve awareness about anemia and healthy eating habits and also suggests to reduce fast food intake and promoting iron-rich diets among adolescents[16].

A cross- sectional study was conducted in Asante-Akim Municipality, a rural district in Ghana in 2021 to assess the knowledge and practices related to dietary iron intake and anemia among early adolescents. The study involved 137 adolescents aged 10-14 years and the data were collected using Structured questionnaire and Haemoglobin levels measured using Hemocue 301 and the data were analyzed using Descriptive statistics, Chi-square tests, Binary logistic regression. The Results revealed that 40% of adolescents knew about iron deficiency anemia, while only 31.4% could identify iron-rich food sources, with just 4.4% mentioning animal-based sources, 88% of dried fish consumers had normal haemoglobin levels compared to 66.7% of non-consumers ($\chi^2 = 4.5$, $p = .050$), suggesting a protective effect against anemia[17].

A descriptive cross-sectional study was conducted in Lucknow, India, in 2023, to assess the knowledge regarding anemia and its management among adolescent girls. The study involved 135 adolescent girls selected through non-probability convenience sampling. Data were collected using a structured knowledge questionnaire and the data were analyzed using descriptive statistics. The Results revealed that 48.9% of participants had inadequate knowledge**,** 32.6% had moderate knowledge, and only 18.5% demonstrated adequate knowledge and an information booklet was developed and distributed to improve awareness and understanding of anemia and its management[18].

A cross-sectional study conducted among adolescent school girls aged 11–15 years from five government schools under urban field practice area of JJM medical college, Davangere. The study was conducted from 1st September to 30th November 2014 for a period of 3 months by using a pre-designed, pre-tested, semi-structured questionnaire. Age of students ranged from 11 to 15 and the mean age was 13 years. One hundred sixty (91%) had heard of anemia; 53 (33%) girls told poor diet is the only cause for anemia; 49 (31%) told tiredness is the only feature of anemia; 20 (13%) answered anemia impacts on physical growth, learning process, and decreases work capacity; and 88 (55%) girls told they will consult doctor and takes iron tablets.[19]

A cross study about nutritional knowledge among adolescent girls the study was undertaken on 100 adolescent junior college students of Hyderabad. A questionnaire has been developed to collect the demographic profile of the subjects; food habits of the subjects and food-frequency questionnaire (FFQ) was used. Most of the subjects were within the age range of 15- 17yrs, living in nuclear family, having non

vegetarian food habits and belong to middle income group. The mean height and weight of the subjects was156.4±5.98cm and 46.2±8.28 kg. 63% of the subjects were normal and 33% subjects were underweight. Most of the subjects were having faulty food habits; 60% of subjects eat out once a week followed by23% subjects eat out twice a week and most of them preferred to eat fast foods and carbonated beverages. Only 25% of the subjects were having good knowledge about anemia. The results show that the nutrition education intervention is required for the adolescent girls to create awareness and to disseminate the knowledge related to the prevention and control of anemia. Keywords: Anemia, Food Frequency, Food Habits, Nutritional Knowledge.[20]

A cross-sectional study was conducted in Banjarmasin municipality, South Kalimantan, Indonesia in 2024, The **purpose of the study** was to examine how **knowledge and attitudes influence anaemia prevention practices** among female high school students in Banjarmasin municipality, Indonesia, and to explore the **reasons why many students do not practice anaemia prevention**. The **data in this study were collected using two main approaches** as part of the mixed-method sequential explanatory design. The results revealed that 254 (72.6%) female students had poor practice, 147 (42.0%) had poor attitude, and 169 (48.3 %) had poor knowledge related to iron deficiency anemia (IDA) prevention. Female students in the older age group (17-18 years old) (adjusted odds ratio/AOR 1.88, 95% CI 1.12, 3.16), studying at vocational school (AOR 1.85, 95% CI 1.05, 3.27), good knowledge (AOR 2.52, 95% CI 1.49, 4.26) were significant predictors on iron deficiency anemia (IDA) prevention.[21]

Literature related to utilization of national anemia prophylaxis programme

A cross-sectional survey was conducted in two northern Indian states: Bihar and Uttar Pradesh ,2015–2016 to evaluate the prevalence and determinants of iron-and-folic-acid (IFA) supplement receipt among male and female adolescents. The study involved 20,594 adolescents aged 10–19 years both males and females and the data were collected using multi-stage systematic sampling and household selection based on probability proportional to size. Data were analyzed using Weighted bivariate analysis, Multivariate logistic regression and Confidence intervals and odds ratios. The Results revealed that only 3.6% of male and 4.8% of female adolescents aged 10–19 years in Bihar and Uttar Pradesh received iron-and-folic-acid (IFA) supplements in the year prior to the survey and was associated with factors like age and state of residence for males, and religion and mother's education for females, with adolescents in rural areas showing higher odds of receiving supplements than those in urban settings.[22]

A cross-sectional study was conducted in six districts of Madhya Pradesh,2022 to evaluate the knowledge of weekly Iron and Folic Acid Supplements (WIFS). The study involved 3,213 adolescent boys and girls were enrolled using a multistage stratified random sampling technique. Data collection was carried out using a pre structured and validate paperless tool, with ethical approval and participant consent obtained. The study revealed that the study found that 29.3% of adolescent girls had knowledge of Weekly Iron and Folic Acid Supplementation (WIFS), compared to only 14.1% of boys. A greater proportion of girls (60.8%**)** received IFA tablets than boys **(**24.1%**),** with schools being the main source. Factors like female gender**,** rural

residence**,** literacy**,** and anemia awareness were linked to higher WIFS knowledge. The findings highlight the need for targeted education, especially among boys.[23]

A descriptive study was conducted in Nutrition Foundation of India Bulletin (January 2023) to strengthening multi-sectoral coordination, improving supply chain logistics for Iron-Folic Acid supplementation**,** enhancing community-level awareness**,** and integrating non-nutritional causes of anemia (e.g., infections and hemoglobinopathies) at national level in India. The study involved over 600,000 households, covering children under 5, pregnant women, and women of reproductive age. Data collection was conducted via structured household surveys, and analysis involved trend comparison, prevalence mapping, and policy gap identification. It synthesizes historical data and programmatic evaluations spanning from the inception of the National Nutritional Anaemia Prophylaxis Programme (1970) through the National Iron Plus Initiative (2013) to the current Anemia Mukt Bharat (AMB) strategy. The study draws on secondary data sources, primarily from NFHS-5 (2019–21)**,** The results revealed persistently high anemia prevalence: 67% among children under 5**,** 52% among pregnant women**,** and 57% among women aged 15–49**,** despite decades of intervention.[24]

A **narrative review** was by Nambiar and Ansari (2021) at Maharaja Sayajirao University of Baroda, Gujarat, to examine the limited success of India's anemia control programs. The study used **secondary data collection** from national surveys, policy documents, and academic literature. Through **thematic analysis**, they explored the evolution of initiatives like NNAPP, NIPI, and Anemia Mukt Bharat. No primary sample was used, but the review covered data from large-scale sources such as NFHS. The findings revealed that **India continues to have the highest global burden of**

anemia, with fragmented implementation and poor departmental coordination as major barriers. The lack of synergy between health, education, and sanitation sectors was highlighted. The authors recommended **strengthening interdepartmental collaboration**, improving community outreach, and adopting a **lifecycle approach** to anemia prevention for better outcomes.[25]

A **quantitative study was conducted by** Joe et al. (2022) in India using **HMIS data from 2017–2020** to assess the impact of the Anemia Mukt Bharat (AMB) strategy. The study analyzed **national-level data** from various beneficiary groups, though the exact sample size was not specified. Data was collected from routine health system reports and analyzed using an **AMB Index** and comparative statistics. Results showed improved Iron-Folic Acid coverage—**pregnant women (78% to 90%)** and **adolescent girls (23% to 40%)**—with no major gender bias in school distribution. The study recommended **stronger departmental coordination** and **training for officials** to enhance program delivery.[26]

A descriptive study was conducted by Baruah and Gautam (2023) to assess the prevalence and causes of anemia among adolescent girls in **India**. The study analyzed by using data from the **Comprehensive National Nutrition Survey (CNNS, 2016–2018)** revealed that **31.3% of adolescent girls** suffered from iron deficiency, significantly higher than the **11.5% observed in boys**. The result shows that anemia was more prevalent in the **15–19 age group** compared to younger adolescents aged 10–14. Key contributing factors included **poor dietary intake**, **low consumption of vitamin C**, **inadequate hygiene practices**, and **limited awareness** about anemia and nutrition. The authors recommended enhancing **nutrition education**, promoting

dietary diversity, and focusing interventions on **high-risk adolescent groups** to effectively reduce anaemia prevalence.[27]

A study is a descriptive cross-sectional analysis conducted in Dev Bhumi Dwarka district, Gujarat, India in 2021 assessing the nutritional status of adolescent girls. They conducted **face-to-face interviews** using a structured questionnaire. Mean age of the study population was 13.82±2.31. Of the total, around 34% of the adolescent girls were out-of-school. The prevalence of underweight (<-2SD) was 19.6%, 8.9% were overweight, and 2.6% were obese. The mean BMI was 19.77±2.42 kg/m^2, and height was 149.15 ($2.23m^2$). In terms of knowledge, almost 79.6% were unaware of iron-deficiency anemia, about 70% were not aware of hemoglobin test, and 44% did not know the benefit of using sanitary napkins. In addition, uptake of nutritional and health services was limited. The study found a statistically significant association of age ($p = 0.00$), the number of family members ($p = 0.016$), knowledge ($p = 0.05$), and use of toilet (0.041) with low-BMI.[28]

A Descriptive Community based study Uttar Pradesh, India in 2008 by using **Structured questionnaires & interviews,** used to collect information on **compliance with weekly iron–folic acid supplementation**, counselling exposure, and awareness of anaemia. Result of the study in 4 years, the overall prevalence of anaemia was reduced from 73.3% to 25.4%. Haemoglobin levels and anaemia prevalence were influenced significantly at 6 months. No difference in the impact on hemoglobin or anaemia prevalence was observed between supervised and unsupervised girls. Counselling on the positive effects of regular weekly iron–folic acid intake contributed to a high compliance rate of over 85%. The cost of implementation was US$0.36 per beneficiary per year.[29]

The study is a large-scale *community-based effectiveness study* (quasi-experimental design) conducted in a large district in Uttar Pradesh, India in 2008.The purpose of the study was to assess the effectiveness of weekly iron–folic acid supplementation, combined with counseling and deworming, in reducing the prevalence of anemia among adolescent girls in a large-scale, real-world setting in Uttar Pradesh, India. Structured questionnaires and counselling records are used to collecting data. Result of the Prevalence of anemia was found to be very high (90.1%) among adolescent girls. Majority of the girls were having mild or moderate anemia (88.6%). A significant association was found between adolescent girl's education, mother's occupation and anemia. No association was found between menstrual factors and anemia.[30]

A cross-sectional, questionnaire-based study conducted in Bhopal, India in 2008 to evaluate the impact of Family Life Education sessions on adolescent schoolgirls' knowledge and perceptions about menstruation, hygiene, nutrition, reproduction, and related health issues. The main tool of the study was hemoglobin estimation using Sahli's haemoglobinometer, supported by structured questionnaires and program monitoring records. The Result of the study in anemia among adolescent girls: prevalence dropped from 73.3% at baseline to 25.4% after 4 years of weekly iron–folic acid supplementation with counseling and deworming.[31]

Literature related to National Anemia Prophylaxis Programme.

A **programmatic implementation study** conducted by the **Ministry of Health and Family Welfare (2025)** assessed the scale-up of the **Anemia Mukt Bharat (AMB)** strategy in India. Using government records and digital monitoring tools, the study focused on children, adolescents, and women through six core interventions,

including **weekly Iron-Folic Acid supplementation** and **fortified food distribution**. With **805.91 crores allocated** for FY 2024–25, the program expanded nationwide. Introduction of **fortified rice** under TPDS, ICDS, and PM POSHAN aimed to address micronutrient deficiencies. The study recommended **real-time tracking**, **consistent supply**, and **data-driven implementation** to reduce anemia prevalence.[32]

A programmatic evaluation was conducted in **India** around **2011** to assess the effectiveness of the **National Anemia Prophylaxis Programme** and the scale-up of the **Adolescent Girls Anemia Control Programme**. The study focused on **27.6 million adolescent girls—16.3 million school-going** and **11.3 million out-of-school**—across **13 states**. Data was collected from government reports and implementation records, and analyzed using a **five-phase knowledge-centered approach**: Evidence, Innovation, Evaluation, Replication, and Universalization. The results showed successful expansion and intersectoral collaboration. Based on these findings, the **Weekly Iron and Folic Acid Supplementation (WIFS)** programme was launched nationally in **2012** to extend anemia control to all adolescents.[33]

A program evaluation study was conducted in **Andhra Pradesh** to assess the **National Nutrition Anemia Prophylaxis Program**, involving interviews with **8,000 respondents from 5,754 households** and **haemoglobin testing of 487 pregnant women and adolescent girls** across six districts. Only **19% of women and girls** received folifer tablets, and just **1% of child beneficiaries** were covered. While community acceptance was satisfactory, coverage was hindered by **irregular supply** and **poor orientation of health workers**, many of whom were unaware of all eligible beneficiaries. **Chemical analysis** showed that **30% of tablets had low iron content**,

and none met folic acid standards. The study recommended improving supply consistency**,** tablet quality**,** and training for health functionaries.[34]

A community based interventional study with a quasi- experimental design was conducted in Nashik district, Maharashtra, to assess the knowledge regarding baseline and the mid-term assessments were done using the cluster-sampling techniques. The study involved 10 and 12 adolescent girls from each cluster. The Data was estimated haemoglobin using the HemoCue system. Data were analyzed using the Epi Info software (version 6.04). The Results revealed that prevalence of anaemia came down significantly to 54.3% from 65.3%. The decline was statistically significant ($p<0.001$) in tribal girls (48.6% from 68.9%) and among rural girls (51.6% from 62.8%). Considering the biological and operational feasibility and the effectiveness of the intervention, weekly supplementation of iron to adolescent girls should be universally started to correct the iron stores of a woman before she becomes pregnant.[35]

A **cross-sectional observational study** using **secondary data analysis was conducted in Korea (**2008-2011) to assess the nutrional parameters among national. The study involved Examination Survey 1312 girls, age 10–18 years. The Data were collected using a survey included demographic, anthropometric, biochemical and nutritional parameters. The Results revealed that the prevalences of anemia and IDA in Korean girls were 5.3 and 4.2%, respectively. Girls with anemia were older, taller, weighed more, had higher BMI, had higher portion of menarche experience and consumed less red meat than girls without anemia. Girls with higher income had lower anemia prevalence and consumed more iron and vitamins. Logistic regression analysis showed a decreasing trend in anemia prevalence as household income

increased. Correlation analysis demonstrated that there is a relationship between household income and serum haemoglobin and ferritin levels (P=0.003 and P=0.026, respectively). To Higher SES leads to lower prevalence of anemia and IDA in Korean adolescent girls. This may be due to the fact that higher SES individuals consume more iron and vitamin C.[36]

A **large-scale community-based interventional study** with a **longitudinal design** was conducted in a **district in India** with a total population of **3,647,834**. The data was collected using Haemoglobin levels were assessed in a random sample of non-schoolgirls at 6 and 12 months and schoolgirls at 6 months. The effect of supplementation on the prevalence of anemia and the compliance rate were assessed over a 4-year period. The Results revealed that in 4 years, the overall prevalence of anemia was reduced from 73.3% to 25.4%. Haemoglobin levels and anemia prevalence were influenced significantly at 6 months. No difference in the impact on hemoglobin or anemia prevalence was observed between supervised and unsupervised girls. Counselling on the positive effects of regular weekly iron–folic acid intake contributed to a high compliance rate of over 85%. The cost of implementation was US$0.36 per beneficiary per year.[37]

A cross-sectional study conducted in a rural area of Coimbatore, Tamil Nadu, India in 2016.The purpose of the study to identify anemia and the factors influencing it among nonpregnant reproductive-aged women (15–49 years) in a rural area of Coimbatore. Predesigned semi-structured questionnaire: Used to gather information on factors influencing anemia, including dietary habits, socioeconomic status, literacy, menstrual history, and knowledge about anemia. The result of anemia was estimated as 64.8%

(95% confidence interval: 60%–69%). Significant predictors for anemia among the study participants were less frequent intake of green leafy vegetables (adjusted odds ratio [AOR] = 3.65, confidence interval [CI]: 2.17–6.12), low socioeconomic status (AOR = 3.36, CI: 1.93–5.84), illiteracy (AOR = 3.09, CI: 1.09–5.24), birth spacing <2 years (AOR = 2.49, CI: 1.19–5.25), excessive menstrual bleeding (AOR = 2.27, CI: 1.09–4.76), and inadequate knowledge regarding anemia.[38]

A cross-sectional study described is a longitudinal cohort study based on secondary data analysis conducted in Malaysia in 2012. The purpose of the study determines its longitudinal association with nutritional status and lifestyle factors among Malaysian adolescent girls. Full Blood Count is used to measure hemoglobin levels and determine anemia status. The result of the study to increased significantly across the age group (7.9%; 95% CI: 2.3-11.1, 13.9%; 95% CI: 10.8-15.7 and 15.8%; 95% CI: 3.8-23.1) at 13, 15 and 17 years, respectively, especially among females. The trend of anemia prevalence among females, also increased significantly across the age group (11.1%;95% CI:6.7-17.8, 15.7%;95% CI:11.4-21.3, 23.1%;95% CI:16.8-31.0). A similar trend was noted for the prevalence of IDA among those who were anemic (66.5%; 95% CI: 40.4-85.3, 72.2%;95% CI: 54.8-85.4, 76.3%; 95% CI: 59.2-87.7). A longitudinal analysis using GEE revealed that adolescents who did not meet the Recommended Nutrient Intake (RNI) for total iron intake per day were significantly associated with anaemia.[39]

The cross-sectional analytical study conducted in Bangalore, India in 2007. The purpose of the study was to relative importance of various factors contributing to anemia and iron deficiency among young women of low socioeconomic status in

Bangalore, India. the tool used for the study was Demographic and socioeconomic questionnaire. The result of the study, anemia and iron deficiency were 39% and 62%, respectively; 95% of the anaemic women were iron deficient. The mean dietary iron intake was 9.5 mg per day, predominantly from the consumption of cereals, pulses, and vegetables (77%). The estimated bioavailability of nonheme iron in this diet was 2.8%. Dietary intakes were suboptimal for several nutrients. Blood hemoglobin was significantly correlated with dietary intake of fat, riboflavin, milk and yogurt, and coffee. Serum ferritin was significantly correlated with intake of niacin, vitamin B12, and selenium. Parasitic infestation was low.[40]

A cross-sectional study was conducted in 13 countries in 1996 and February 2010. The purpose of the study to Characterize the global prevalence, severity, and etiology of anemia in indigenous peoples by systematically reviewing original research published between 1996 and February 2010.the systematic review tool used in the study. The result of the study was Anemia rates ranged from moderate (20–39.9%) to severe (≥40%), indicating a serious public health concern.[41]

RESEARCH METHODOLOGY

CHAPTER - III

RESEARCH METHODOLOGY

Research methodology is a systematic way to solve a problem. It is a science of studying how research is to be carried out. Essentially, the procedure by which research go about their work of describing, explaining and predicting phenomenon are called research methodology. It is also defined as the study of methods by which knowledge is gained. Its aim is to give the work plan of research.

The methodology of this study include the research approach and research design setting of the study, description and testing of the tool, method of data collection and plan for data analysis

SOURCE OF DATA

The source of data for this study was adolescent girls aging between 10-19 years coming under Kolar district

RESEARCH APPROACH AND DESIGN

In this study, quantitative research approach and non-experimental descriptive survey design was used.

VARIABLES

Variables are questions, properties or characteristics of persons, things or situations that change or vary.

- **Dependent**: Dependent Variable in this study are Knowledge & Utilization.
- **Independent**: Independent Variable in this study are National Anemia Prophylaxis Programme.

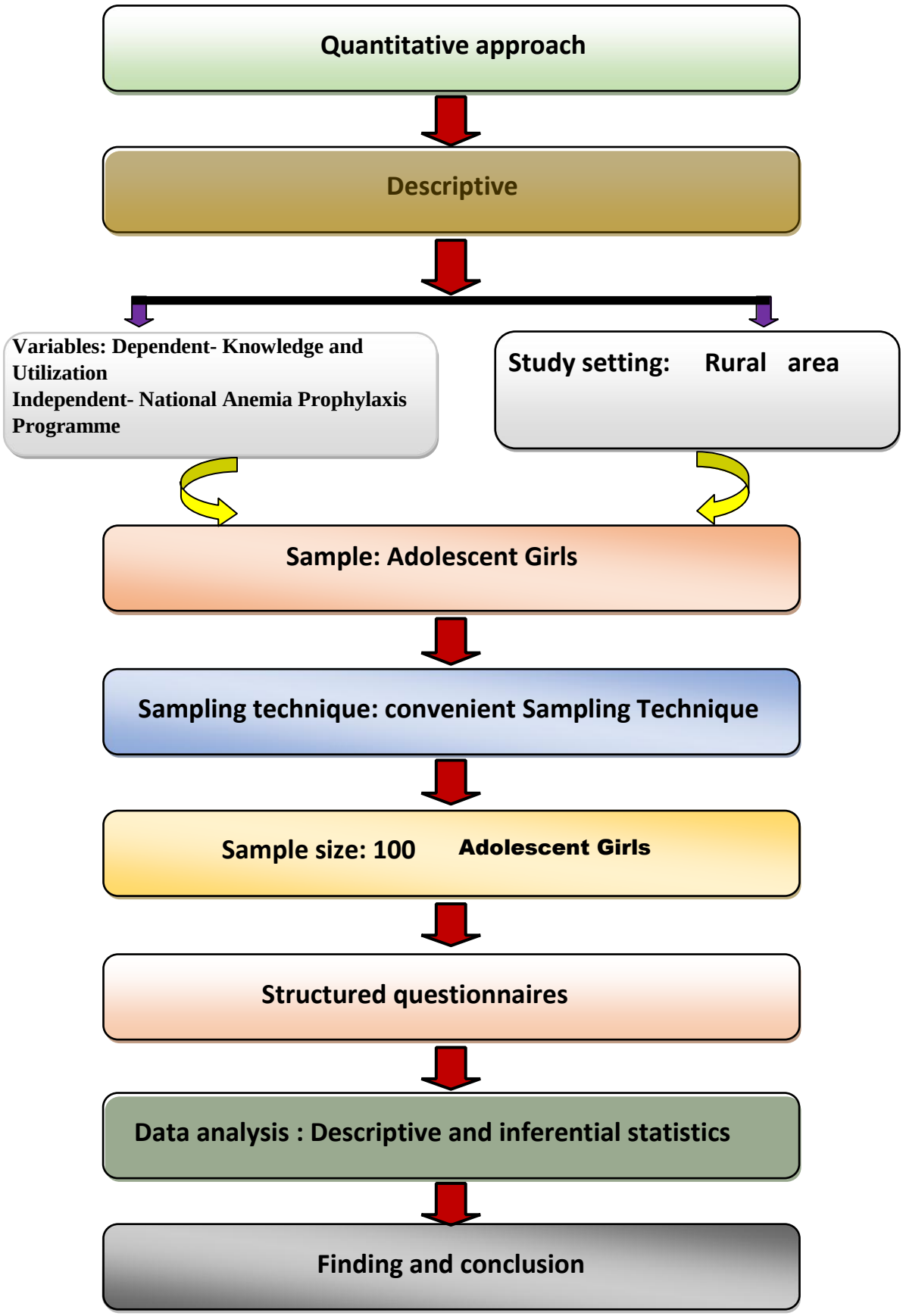


Fig. 1 SCHEMATIC REPRESENTATION OF RESEARCH METHODOLOGY

SETTING OF THE STUDY

Setting in the location where a study is conducted. For the present study the setting is rural area coming under kolar district. Because of availability of sample and feasibility for conducting study.

POPULATION

Population is referred as the target population which represents the entire group of the all the element like individuals, objective that need certain criteria for the study. In the present study, the target population are the adolescent girls.

SAMPLE AND SAMPLE SIZE

A sample is subject or proportion of the population that has been selected to represent the population of interest. For the study, a sample of 100 adolescent girls between 13-19 years of age residing in selected rural community area of Kolar district will be selected. Using a 95% confidence level, 5% margin of error, and an estimated proportion of 0.5 for maximum variability, the initial sample size calculated is 384. Adjusting for the finite population yields a revised sample size of around 278. However, considering logistical constraints and the exploratory nature of the study, a sample size of 100 is proposed.

SAMPLING TECHNIQUE:

Sampling is the process of selecting a portion of population to represent the entire population. In the present study convenient sampling technique will be used.

SAMPLING CRITERIA

Inclusion criteria:

1. Adolescent girls13-19 years of age.
2. Willing to participate in the study.
3. Those who are available at the time of data collection.
4. Able to understand English and Kannada

Exclusion criteria:

1. Those who are not available at the time of data collection.
2. Those who are not willing to participate.
3. Those who do not understand Kannada and English

DEVELOPMENT AND DESCRIPTION OF THE TOOL

Research instruments are the tools or devices used by researchers to collect, measure, and analyze data relevant to their study objectives. These instruments can be quantitative or qualitative. The investigators used following steps to develop study instruments/ tools for the study.

- **Search** of Theoretical basis to develop items through reviewing various literatures.
- **Designing** the individual items and preparation of blue print.
- **Development** of checklist for assessing Knowledge and Utilization of National Anemia Prophylaxis Programme.
- **Establishing** content validity of the tool through the subject experts.

- **Pretesting** of the tool for reliability and validity of data collection tools.
- **Finalization** of the tool for the data collection process.

DESCRIPTION OF THE TOOL

The sections included in the tool are

SECTION -1: It consists of Socio Demographic data like age, education, religion, place of residence, type of diet, weight of Yours, Age of Menarche attained, Pattern of Menstrual Cycle, Duration of Menstrual cycle, Gap between two menstrual cycles, how many times you will change the pad per day.

SCORE INTERPRETATION

The tool consisted of three sections – Socio demographic data, structured knowledge questionnaire on nutritional anemia prophylaxis programme practice and checklist on utilization of services. The Interpretation of the level of Knowledge and Utilization is graded as below:

Overall Knowledge score on National Anemia Prophylaxis Programme

Knowledge	Frequency	Percentage
Inadequate	< 15 score	1%
Moderately Adequate	16-18 score	2%
Adequate	>18 score	97%

ESTABLISHING CONTENT VALIDITY AND RELIABILITY OF THE TOOL

VALIDITY

Drafted data collection tools/ instruments were submitted to around five experts for validation, along with the statement of the problem, objectives, operational definitions, blueprint and criteria rating scale. Experts suggested modifications in a few of the items in the questionnaire. Based on the expert's suggestion, tool was modified and finalized. Validated tools were pretested to six Adolescent girls in order to assess the clarity of items and the time required to complete the survey. Appropriate responses were evident for all the items and the subjects had taken around 10-20 minutes to complete the survey**.**

RELIABILITY

The tool's reliability was confirmed through the test-retest method, yielding a Karl Pearson's correlation coefficient of $r = 0.97$. This high value indicates strong stability and consistency. Therefore, the instrument was found to be both feasible and acceptable for use in the study.

ETHICAL CONSIDERATION

Ethical clearance was obtained from the Institutional Ethical committee, Sri Devaraj Urs College of Nursing, to conduct the study. Permission was obtained from the principal of college of nursing Kolar. Informed consent was taken from participants before the study.

PILOT STUDY

A pilot study was conducted to assess the feasibility and effectiveness of the research tools and procedures for the main study on adolescent girls aged 13–19 years residing in a selected rural community of Kolar district. A small subset of 10–15 participants will be selected using the same inclusion criteria as the main study. The pilot will help evaluate the clarity, reliability, and cultural appropriateness of the data collection instruments, such as questionnaires or interview guides. It will also test the logistics of participant recruitment, consent procedures, and data recording methods. Feedback from participants and field investigators will be used to refine the tools and methodology.

METHOD OF DATA COLLECTION

Data was collected in the following steps:

STEP -1: The ethical clearance was obtained from Research Ethical Committee of the institution.

STEP-2: The sample was selected based on the inclusion criteria by obtaining the informed consent from the study participants.

STEP-3: Self-administered structured knowledge questionnaire was distributed to study participant and collected back after 15 minutes including rating scale.

STEP-4: By using tables and excel sheets master data sheet was prepared.

PLAN FOR DATA ANALYSIS

- Socio Demographic data were analysed by frequency and percentage.
- Inferential statistics like paired ‘t’ tests were used to determine the effectiveness

of a competency- based Nursing Curriculum implementation,

- The chi-square test for association between the selected socio demographic variables with knowledge and utilization level with socio demographic variables was calculated.

SUMMARY

This chapter of methodology has dealt on research approach, research design, setting, population, sample and sample technique, development and description of the tool and plan for analysis.

DATA ANALYSIS AND INTERPRETATION

CHAPTER-IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of data where the data is collected through structured questionnaires from 100 Adolescent girls in order to assess the level of Knowledge and utilization of National Anemia Prophylaxis Programme.

Data analysis is the process of systematically applying statistical and logical techniques to describe, summarize, organize, and interpret collected data. It helps researchers identify patterns, relationships, and trends, enabling them to draw meaningful conclusions and support decision-making based on empirical evidence.

Based on the objectives of the study, the data collected were tabulated, organized and presented under the following sections:

Section I: Distribution of sample characteristics according to Socio Demographic Variables with Adolescent girls

Table 1: Frequency and Percentage Distribution of subjects according to Socio Demographic variables

SL.NO	Variables	Frequency	Percentage
1.	**Age (in Years)**		
	10-12 years	05	05%
	13-15 years	84	84%
	16-18 years	11	11%
	more than 19 years	0	0%
2.	**Studying in**		
	5th standard	0	0
	6th standard	2	2
	7th standard	0	0
	Higher primary education	98	98
	PUC	0	0
3.	**Socioeconomic Group**		
	a) APL	08	08 %
	b) BPL	92	92%
4.	**Type of Diet**		
	Vegetarian	82	82%
	Non-Vegetarian	18	18%

5.	**Weight of Yours**		
	25-35kg	43	43
	36-46kg	49	49
	47-57kg	06	06
	more than 57 kg	02	02
6.	**Age at Menarche attained**		
	10 years	2	2%
	11 years	17	17%
	12 years	33	33%
	more than 12 years	46	46%
7.	**Patterns of Menstrual Cycle**		
	a) Regular	86	86%
	b) Irregular	14	14%
8.	**Duration of Menstrual Cycle**		
	0-3 days	15	15%
	4-5days	60	60%
	6-7days	22	22%
	more than 7 days	3	03%
9.	**Gap between two Menstrual Cycle**		
	22days	06	06%
	25days	13	13%
	28days	46	46%
	more than 28 days	35	35%

10.	**How many times you will change your pads per day** 3 times 4 times 5 times more than 5 times	 49 26 18 07	 49% 26% 18% 07%

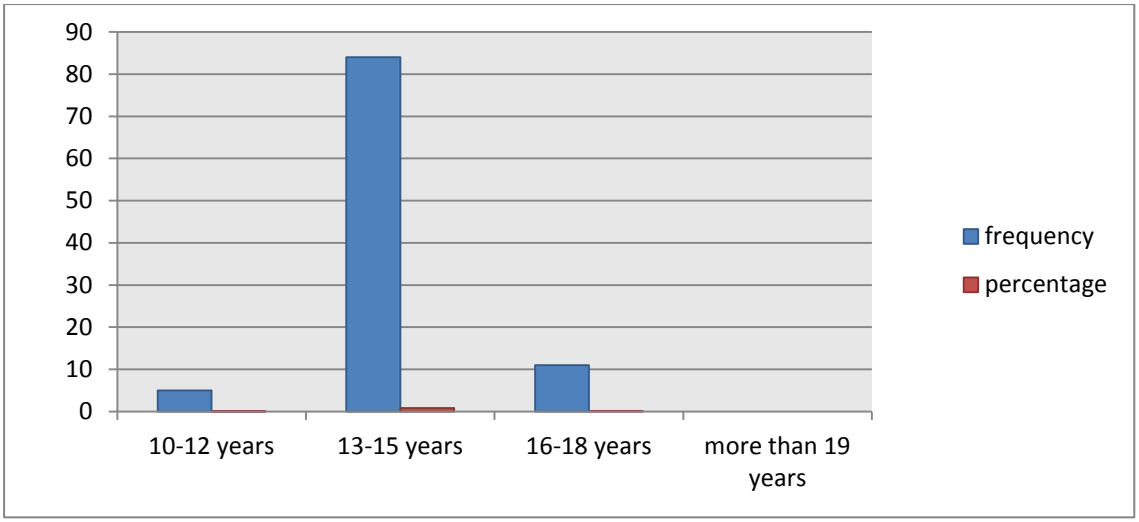


Figure No 2: Distribution of participants according to age in years.

The graph shows most participants (around 85%) were aged 13-15 years, making them the key group for Anaemia awareness and intervention. Fewer were in the 10-12 and 16-18 age groups, with very few above 19 years.

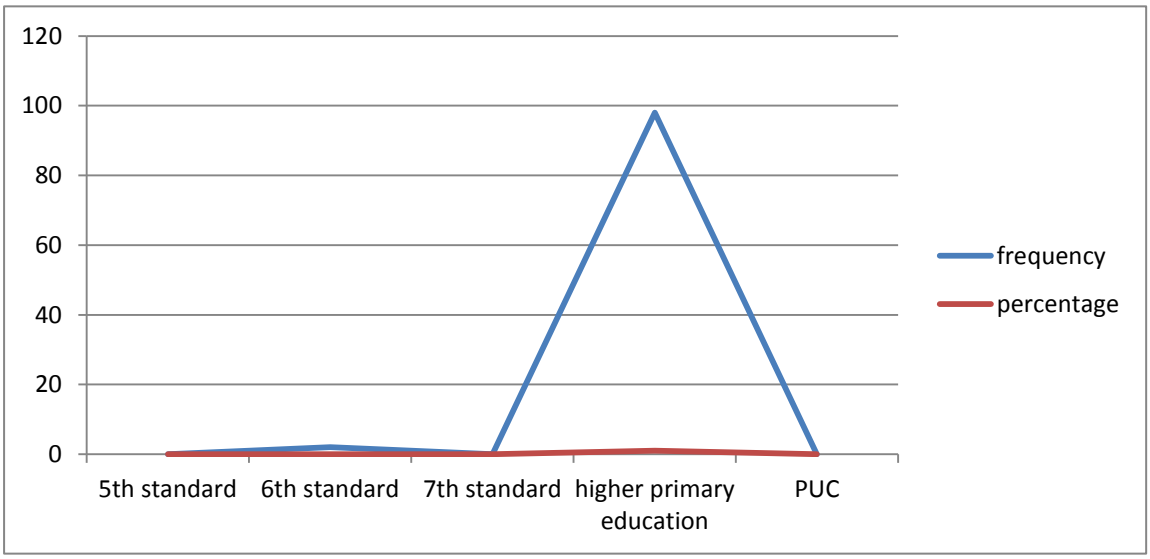


Figure No:3 Distribution of participants according to educational level.

The table presents the educational level of the participants. None of them were studying in the 5th or 7th standard, while only 2 participants (2%) were in the 6th standard. The overwhelming majority, 98 participants (98%), were pursuing higher primary education, and none were enrolled in PUC. This indicates that the study group was predominantly composed of students in higher primary education.

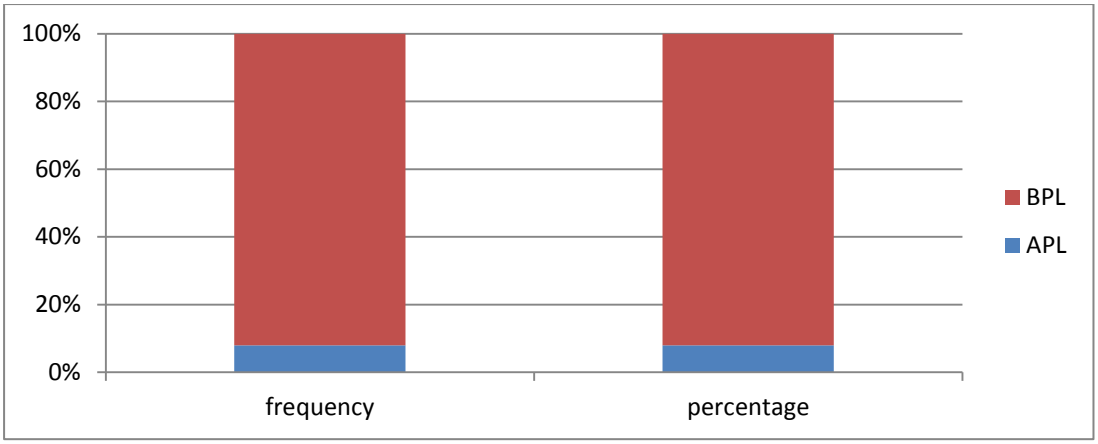


Figure No:4 Distribution of the sample based on Socioeconomic Distribution.

The Figure shows the socioeconomic distribution of the participants.92 individuals (92%), belonged to the Below Poverty Line (BPL) group, while only 8 individuals (8%) were from the Above Poverty Line (APL) group. This indicates that the study population was predominantly composed of participants from lower socioeconomic backgrounds.

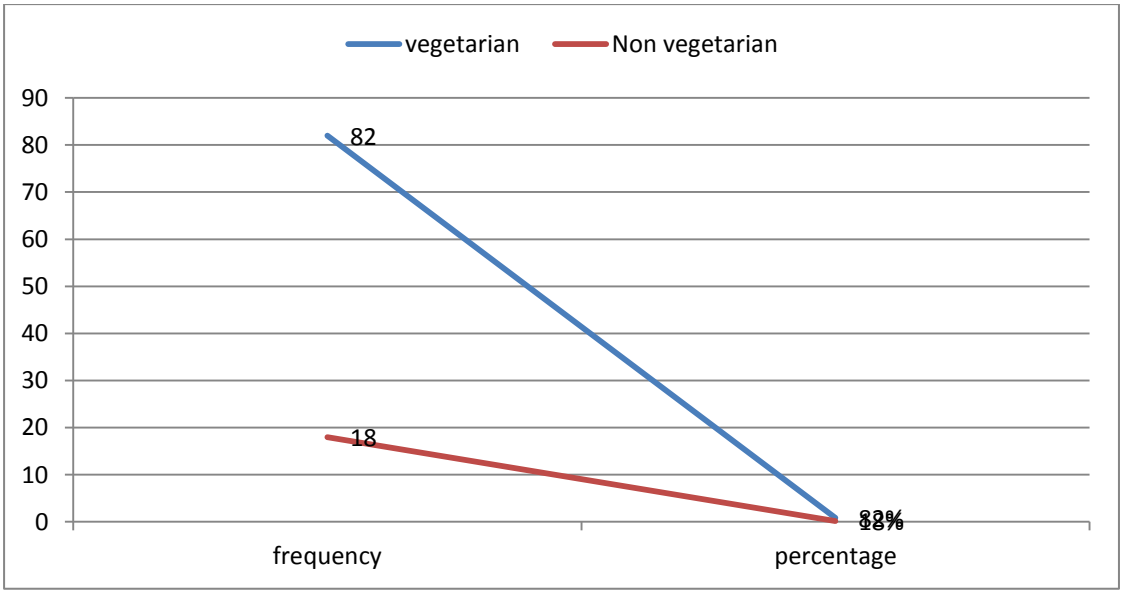


Figure No :5 Distribution of the sample based on the type of Diet.

The Figure highlights the dietary preferences of the participants. A large majority, 82 individuals (82%), reported following a vegetarian diet, while only 18 individuals (18%) consumed a non-vegetarian diet. This indicates that vegetarianism was the predominant dietary pattern among the study population.

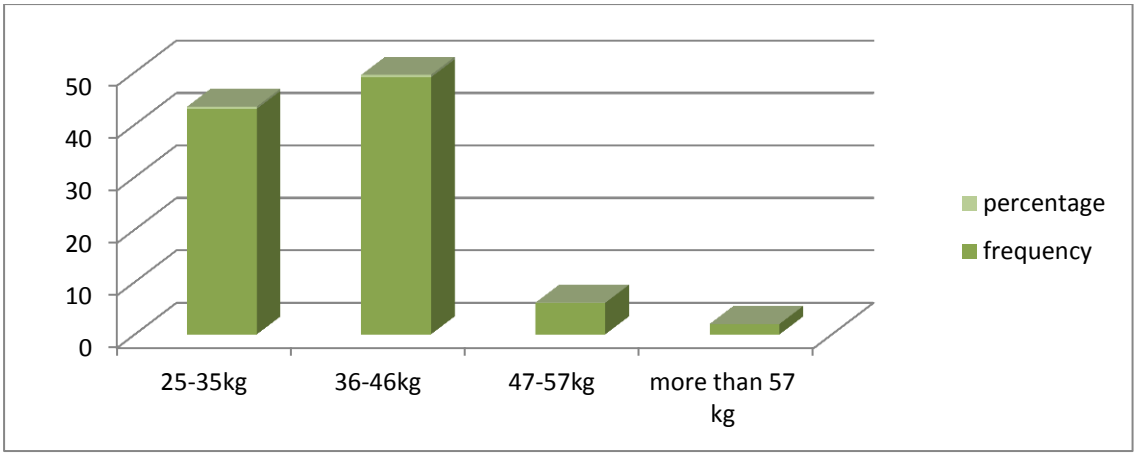


Figure No:6 Distribution of sample based on the weight

The figure show that most participant fall within the 36-46 kg and 25-35kg weight ranges, indicating these are the most common categories. Very few respondents fall within the 47-57kg and more than 57 kg groups. Overall, the majority of the sample has body weight below 46kg.

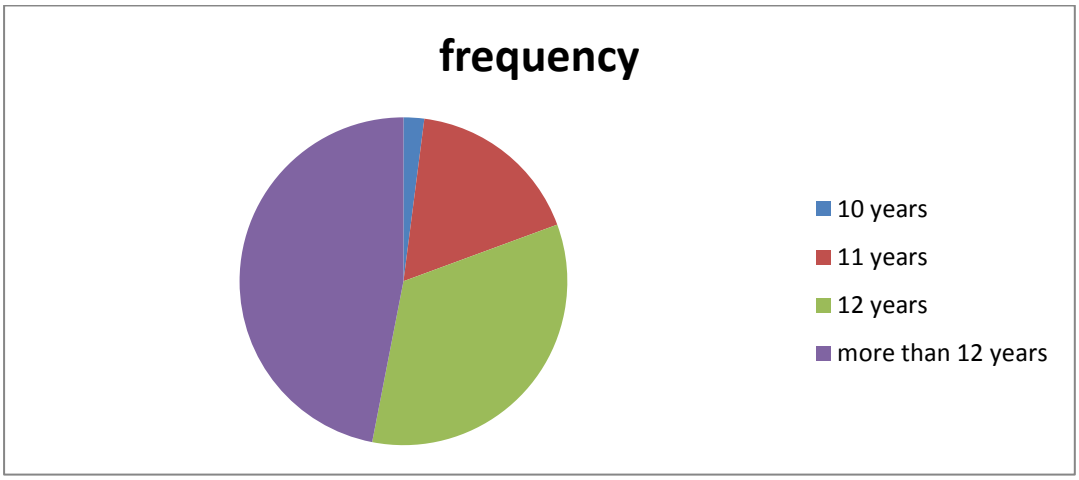


Figure No: 7 Distribution of Sample according to the Age at menarche attained by the participants.

The Figure shows the distribution of age at menarche among the study group. Only 2% attained menarche at 10 years, while 17% did so at 11 years. A larger proportion, 33%, experienced menarche at 12 years. The majority, 46%, attained menarche after 12 years, indicating that later onset was most common in this population.

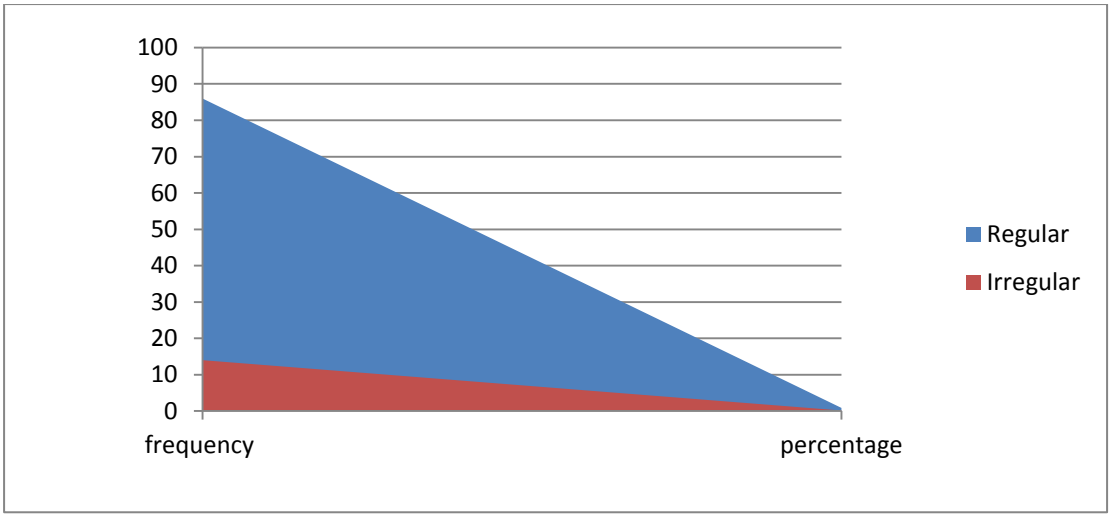


Figure No:8 Distribution of Sample according to the patterns of menstrual cycles.

The Figure depicts the patterns of menstrual cycles among the study group. A large majority, 86 participants (86%), reported having a regular cycle, while only 14 participants (14%) experienced an irregular cycle.

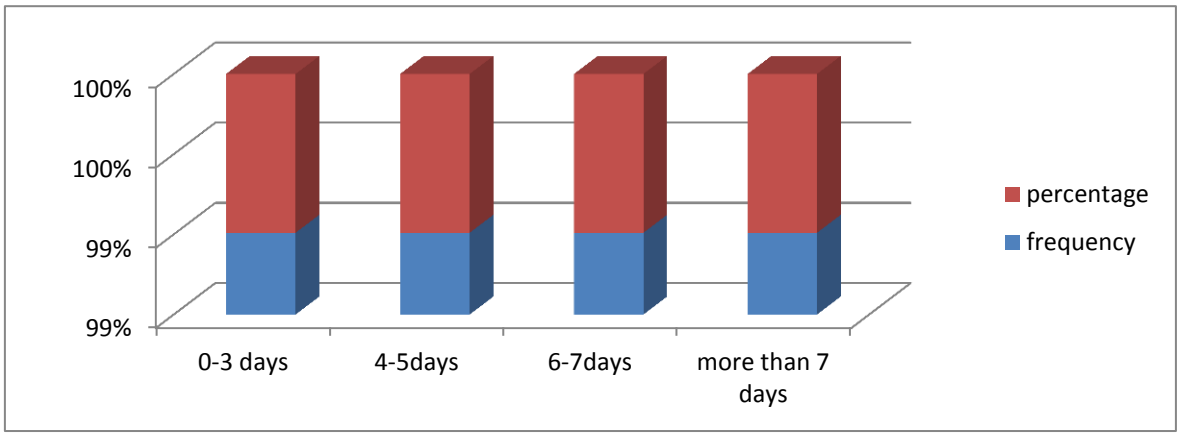


Figure No:9 Distribution of sample according to the duration of Menstrual cycles.

The Figure illustrates the duration of Menstrual cycles among participants. The majority (60 women, 60%) reported cycles lasting 4–5 days, followed by 22 women (22%) with cycles of 6–7 days. Shorter cycles of 0–3 days were observed in 15 women (15%), while only 3 women (3%) experienced cycles lasting more than 7 days.

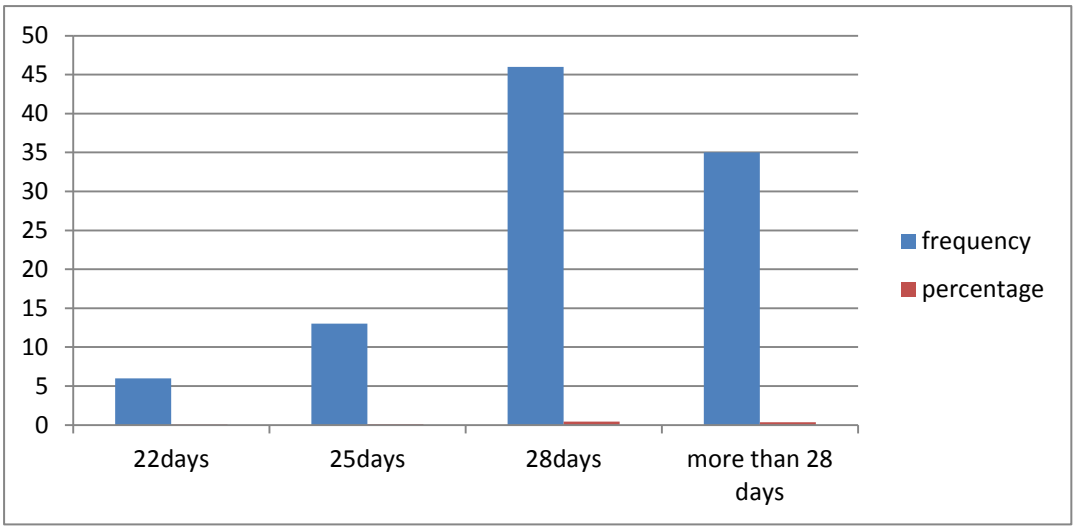


Figure No:10 Distribution of Sample according to the gap between two cycles.

For the gap between two cycles, the most common interval was 28 days, reported by 46 women (46%), while 35 women (35%) had gaps longer than 28 days. Shorter gaps of 25 days and 22 days were noted in 13 women (13%) and 6 women (6%), respectively.

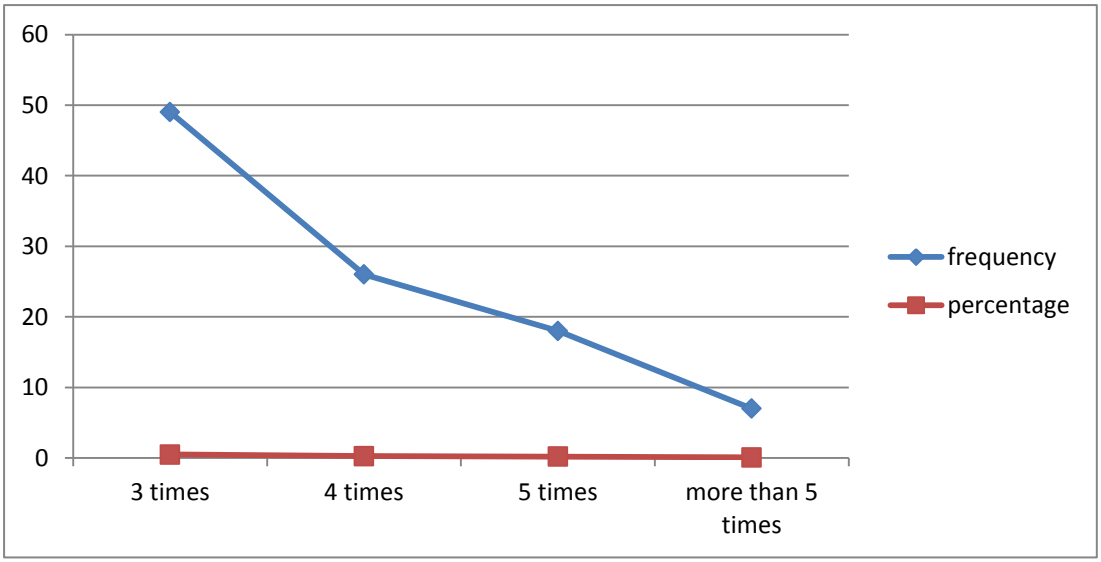


Figure No:11 Distribution of Sample according to the frequency of pad changes per day.

The Figure shows the frequency of pad changes per day among participants. Nearly half of them, 49 women (49%), reported changing pads three times daily, while 26 women (26%) changed pads four times. A smaller proportion, 18 women (18%), changed pads five times, and only 7 women (7%) reported changing pads more than five times per day.

TABLE – 2

PERCENTAGE DISTRIBUTION OF STUDY PARTICIPANTS ACCORDING TO OVERALL KNOWLEDGE

Knowledge	Frequency	Percentage
Inadequate (<50%)	< 15 score	1%
Moderately Adequate (51-75%)	16-18 score	2%
Adequate (>76%)	>18 score	97%
Total	100	100%

Table -2 reveals overall knowledge score of study participants out of 100 sample 1% of them are having inadequate, 2% of them are having moderate, 97% of them are having adequate knowledge on NAPP.

TABLE-3

PERCENTAGE DISTRIBUTION OF STUDY PARTICIPANTS ACCORDING TO UTILIZATION OF NATIONAL ANEMIA PROPHYLAXIS PROGRAMME

SL. NO.	FREQUENCY		PERCENTAGE	
	YES	NO	YES	NO
1.	01	99	01%	99%
2.	46	54	46%	54%
3.	90	10	90%	10%
4.	11	89	11%	89%
5.	45	55	45%	55%
6.	69	31	69%	31%
7.	26	74	26%	74%
8.	76	24	76%	24%
9.	68	32	68%	32%
10.	13	87	13%	87%
11.	87	13	87%	13%
12.	10	90	10%	90%
13.	11	89	11%	89%
14.	58	42	58%	42%
15.	29	71	29%	71%
16.	75	25	75%	25%
17.	10	90	10%	90%
18.	52	48	52%	48%
19.	66	34	66%	34%

Table -3 reveals that overall data on utilization of NAPP among study participant or adolescent girls, in checklist total 19 items were there which reveals the knowledge and utilization of NAPP services as Iron and folic acid tablet.

DISCUSSION

CHAPTER V

DISCUSSION

The main aim of the study was to assess the knowledge and utilization of national anemia prophylaxis programme among adolescent girls in selected community area of Kolar district.

The present study was conducted at Yeldur village, Srinivaspura taluk & Kolar district. The sample technique is convenient sampling technique was used for this study. The total sample size was 100. Assessment of knowledge levels were done by using structured knowledge questionnaires and checklist.

The study findings discussed in this chapter according to the objectives of the study conceptual frame work and on related literatures.

OBJECTIVE OF THE STUDY

1. To assess the knowledge of National Anemia Prophylaxis programme among adolescent girls.
2. To assess the utilization of National Anemia Prophylaxis Programme among adolescent girls.
3. To find out the association between the knowledge and utilization in selected socio demographic variables.

Hypothesis

Null Hypothesis (H_0)

There is no significant relationship between the knowledge and utilization of the national anemia prophylaxis programme among adolescent girls in the selected community area of Kolar district.

Alternative Hypothesis (H_1)

There is a significant relationship between the knowledge and utilization of the national anemia prophylaxis programme among adolescent girls in the selected community area of Kolar district.

MAJOR FININDINGS OF THE STUDY

SECTION A: Description about the demographic variables

Age

The most participant (84%) were aged 13-15 yrs, (5%) were 10-12 yrs, (11%) were 16-18 yrs and None were above 19 yrs.

Studied (Education)

The most participants are (100%) had higher primary education and non were there from 5^{th},6^{th},7^{th} standard or from PUC levels

Socioeconomic group

The most participant are (92%) belonged to the BPL group, while (8%) were belongs to APL group.4

Type of diet

The data shows that (82%) follow a vegetarian diet and (18%) follow a non-vegetarian diet.

Weight of yours

The data shows that (43%) weight belongs to 25-35kg, (49%) weight belongs to 36-46kg, (6%) weight belongs to 47-57 kg and (2%) weight above 57kg.

Age at menarche attained

The data shows that (2%) attained menarche at 10yrs, (17%) at 11yrs, (33%) at 12yrs and (46%) after 12 yrs.

Patterns of menstrual cycle

The data shows that (86%) had regular menstrual cycles, while (14%) had irregular cycles.

Duration of menstrual cycles

The data shows that (15%) had cycles of 0-3days, (60%) had 4-5days, (22%) had 6-7 days and (3%) had cycles longer than 7 days.

Gap between two menstrual cycles

The data shows that (6%) had a 22 days gap, (13%) had 25 days, (46%) had 28 days and (35%) had gaps over 28 days.

Changing of the pads per day

The data shows that (49%) change 3times, (26%) change 4 times, (18%) change 5 times and (7%) change more than 5 times.

SECTION: B Assess the level of aspect wise knowledge score

The first objective is to assess the knowledge of the adolescent girls by using the structure knowledge questionnaires.

The study revealed that among 100 samples, majority of the 97% are adequate knowledge ,2% are moderate, 1% is Inadequate knowledge

Hence study reveals that there was a 50% knowledge was improved through the planned teaching program.

A descriptive study was conducted to assess the knowledge score of adolescent girls regarding national anemia prophylaxis programme. Material and Methods the sample of this comprised of 100 adolescent girls. Convenient sampling technique is used to draw the samples for this study. Collected data were analyzed by using description and inferential statistics. Results The mean value for the anemia is 8.94 with the mean percentage of 894%. The mean value of the NAPP is 7 with the mean percentage of 7%. The mean value of the iron and folic acid supplementation is 7.82 with the mean percentage of 782%. The analysis revealed that there is significant association between age, education, occupation and religion and remaining variable were found to be non-significant. Conclusion The study revealed that adolescent girls residing in community area have adequate knowledge regarding national anemia prophylaxis programme.

SECTION: C Utilization of National Anemia Prophylaxis Programme among adolescent girls.

The study revealed that among 100 samples the utilization will be conducted by using checklist.

The full form of NAPP is known by 1 member with (1%) and not known by 99 members with (99%),Aware of NAPP only 46 members aware with (46%) and 54 members not aware with (54%), utilizing of NAPP only 90 members with (90%) of them utilizing and 10 members with (10%) are not utilizing ,Service included in NAPP 11 members are aware with (11%) and 89 members with (89%) are not aware, Normal Hb level 45 members with (45%) are known and 55 members with (55%) are not known ,Regular menstrual cycles 69 members with (69%) pf them getting regular cycles and 31 members with (31%) of them not getting regular cycles, Pads change every 2 hours once 26 members with (26%) are changing pads and 74 members with (74%) are not changing pads .

Maintaining personal hygiene 76 members with (76%) of them are maintaining and 24 members with (24%) of them not maintaining ,eating junk foods 68 members with 68% of them have habit to eat and 32 members with (32%) of them not have habit to eat , aware about the supplements used in NAPP 13 members with (13%) are aware and 87 members with (87%) of them not aware, full form of IFA 87 members with (87%) of them known and 13 members with (13%) of them not known , aware on iron and folic acid tablets giving 10 members with (10%) of them are aware and 90 members with (90%) of them are not aware.

Distribution of sample responses regarding awareness and perceptions of the NAPP program show varied findings. Only 11% of participants reported using calcium tablets, while the majority (89%) did not. Knowledge about pomegranate as a rich source of iron was moderate, with 58% agreeing and 42% disagreeing. When asked if the program is useful for pregnant women, 29% responded positively, whereas 71% did not. A larger proportion (75%) acknowledged that the program is conducted in schools and PHCs, compared to 25% who denied it. Awareness about anemic adolescent girls taking daily tablets was low, with only 10% agreeing and 90% disagreeing. Regarding anemia causing tiredness and weakness, 52% recognized this link, while 48% did not. Finally, 66% believed the program helps in curing anemia, whereas 34% did not. Overall, the responses indicate limited awareness and mixed perceptions, with stronger recognition of program presence and anemia-related symptoms compared to specific interventions like calcium or iron supplementation.

SUMMARY

CHAPTER – VI

SUMMARY

A study to assess the knowledge and utilization of National Anemia Prophylaxis programme among adolescent girl

Anemia is a major public health problem in India, especially among adolescent girls due to rapid growth, poor dietary intake, and menstrual blood loss. The Government of India launched the National Anemia Prophylaxis programme (NAPP), now integrated into the Weekly Iron and Folic Acid Supplementation (WIFS) programme, to prevent and control anemia among vulnerable groups, including adolescents. However, the level of awareness and actual utilization of the programme among adolescent girls in rural areas.

Objectives of this study

1. To assess the knowledge of adolescent girls regarding the National Anemia Prophylaxis Programme.

2. To assess the utilization of iron and folic acid tablets under the programme.

3. To find the association between knowledge and utilization levels with selected demographic variables.

Hypothesis

Null Hypothesis(H0)

There is no significant relationship between the knowledge and utilization of the national anemia prophylaxis programme among adolescents' girls in the selected community area of kolar district.

Alternative hypothesis

There is a significant relationship between the knowledge and utilization of the national anemia prophylaxis programme among adolescents' girls in the selected community area of kolar district.

Methodology

A community-based descriptive study was conducted among adolescent girls (aged 10–19 years) in a selected community area of Kolar district. A total of 100 participants were selected using a purposive sampling technique. Data were collected using a structured questionnaire covering demographic details, knowledge, and utilization aspects. The data were analyzed using descriptive and inferential statistics.

Major findings of the study

Section A

1. **Findings related to the socio demographic variables of the participants**

The major findings reveals that the majority of the participants belongs to age group 84%in between 13-15years .most of the participants studying in higher primary education 100% most of the participants belongs to BPL card and 82%of are vegetarian diet 49%of members belongs to 36-46kg weight and 46%members are participants attained menarche after 12years and 86%of them are regular cycle and

60%them are participants are 4-5 days of duration in menestrual cycle 46%them have 28days of gap between 2menarche cycle and 49%of them members changing 3 times pad per day.

Section B

2. Overall knowledge related to NAPP

The study revealed that among 100 samples majority of age 97% are having adequate knowledge 2% of them are having moderate knowledge ,1% of them having inadequate knowledge regarding to NAPP.

Results

The study revealed that the majority of adolescent girls had moderate knowledge regarding the National Anemia Prophylaxis Programme, while a smaller proportion demonstrated good knowledge. Utilization of iron and folic acid tablets was found to be low, primarily due to lack of awareness, irregular supply, and misconceptions about side effects. A positive correlation was found between knowledge levels and utilization of the programme

Conclusion

The findings highlight the need for enhanced health education and effective implementation of the National Anemia Prophylaxis Programme at the community level. Strengthening school-based health programme, ensuring consistent supply of supplements, and involving parents and teachers can improve awareness and compliance among adolescent girls.

Summary

This chapter provides an overview of the study findings. analysis and implications showcasing the planned teaching programme effectiveness is enhancing the adolescent girls' knowledge about anemia prophylaxis programme among adolescents' girls.

CONCLUSION

CHAPTER – VII

CONCLUSION

This chapter deals with conclusion, limitations and recommendations of the study to assess the knowledge and utilization of national Anemia prophylaxis program among adolescent girls. This experimental research design uses for the study The data was collected from the 100 Adolescent girls

Major Findings of the study

Section A: - Findings related to the socio demographic variables of the participants

The major findings reveals that the majority of the participants belongs to age group (84%)in between 13_15years .(92%)most of the participants studying in higher primary education (100%)most of t the participate belongs to BPL card and (82%) of are vegetarian diet (49%)of members belongs to 36-46kg and (46%)members are participated are attained menarche after 12years .and (86%)of them as regular cycle and (60%) them are participated as 4 to 5 days of duration in menstrual cycle (48%)them have 28days of gap between menstrual cycle and 49%of members changing 3 time pads per day.

Section B: - Findings related to the overall knowledge related to NAPP

The study related that among 100samples majority of the 97%are adequate knowledge 21% are moderate 1% is inadequate knowledge regarding to NAPP.

"A study to assess the knowledge and utilization of National Anemia Prophylaxis Programme among adolescent girls in a selected community area in Kolar district."

Nursing Implications

1. Nursing Practice

- Community health nurses play a vital role in identifying anemia among adolescent girls through regular screening and hemoglobin assessment during school health visits and community outreach programs.
- Nurses can provide iron and folic acid supplementation as per the National Iron Plus Initiative (NIPI) guidelines and ensure proper follow-up and compliance.
- They can integrate anemia prevention activities into routine adolescent health services, emphasizing nutrition education and hygienic practices.

2. Nursing Education

- Nursing curricula should strengthen the component of community-based health promotion, especially focusing on national programmes like the Anemia Mukt Bharat and National Anemia Prophylaxis Programme.
- Training sessions and workshops can be organized for nursing students on communication and counselling skills to effectively educate adolescents and parents.

3. Nursing Administration

- Nurse administrators should plan and coordinate health education sessions in schools and communities to raise awareness about anemia prevention.
- They can ensure the availability of iron and folic acid tablets in schools and community health centers by coordinating with the district health authorities.

- Monitoring and evaluation systems can be implemented to track programme utilization and adherence among adolescent girls.

4. Nursing Research

- Further research can be conducted to evaluate the effectiveness of various health education strategies on improving knowledge and compliance with the anemia prophylaxis programme.
- Comparative studies between rural and urban areas can be done to identify gaps and challenges in programme implementation.

5. Community Health Nursing

- Nurses can act as a link between the health system and the community by motivating parents, teachers, and local leaders to support the anemia prophylaxis initiative.
- They can promote healthy dietary practices and awareness about iron-rich foods using culturally appropriate health education materials.

Conclusion

The study findings highlight the need for continuous health education and effective implementation of the National Anemia Prophylaxis Programme among adolescent girls. Community health nurses have a key role in improving awareness, promoting utilization of the programme, and reducing the burden of anemias in the community. Strengthening nursing practice, education, and administration in this area will contribute significantly to achieving national health goals related to adolescent health and nutrition.

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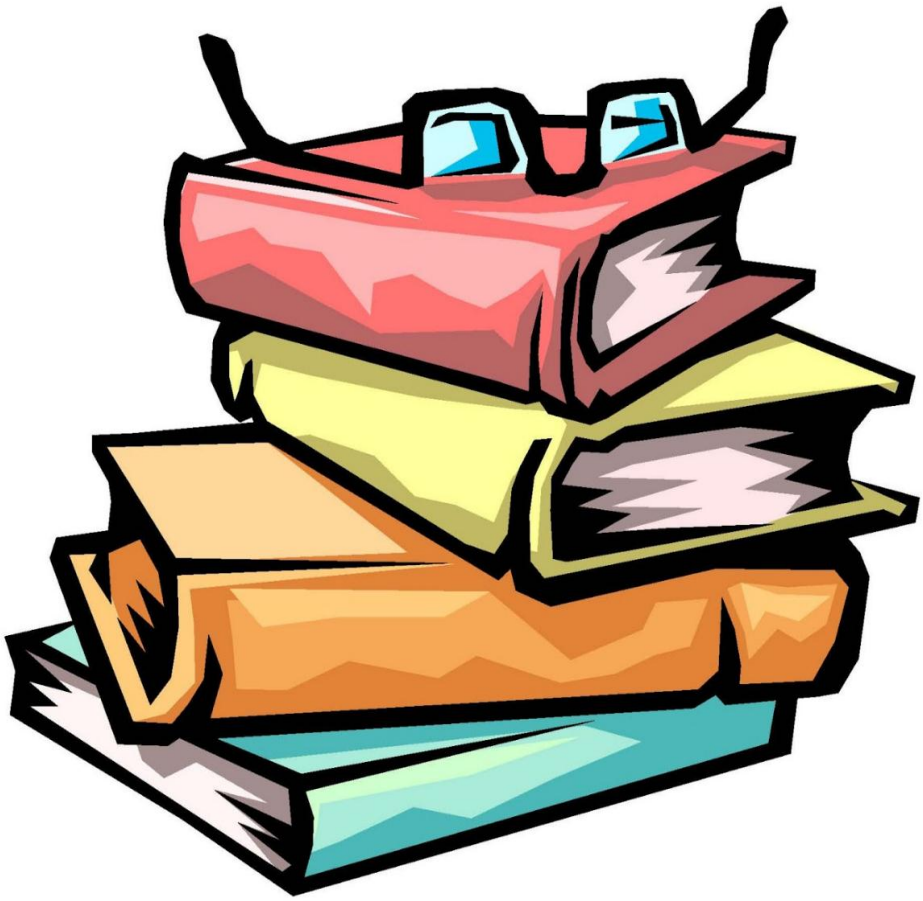

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481;aulast=Verma] (https://www.jfmpc.com/article.asp?issn=2249-4863;year=2023;volume=12;issue=3;spage=1474;epage=1481;aulast=Verma)

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ANNEXURE

ANNEXURE-I

Ethical Committee Clearance Certificate

	SRI DEVARAJ URS COLLEGE OF NURSING TAMAKA, KOLAR-563103	Format No.	IEC 01
		Issue No.	02
	INSTITUTIONAL ETHICS COMMITTEE	Rev. No.	00
		Date:	01-09-18

Ref.:No. SDUCON/IEC/159/ 2023-2024 Date: 09-05-2024

From,
The Institutional Ethics Committee
Sri Devaraj Urs College Of Nursing
Tamaka, Kolar-563103

To
Group –VI
III B.Sc.(N) Students
Sri Devaraj Urs College Of Nursing
Tamaka, Kolar-563103

This is to certify that the Institutional Ethics Committee of Sri Devaraj Urs College of Nursing, Tamaka, Kolar has examined and unanimously approved the B.Sc. (N) **Group: VI** Topic **on "A study to assess the knowledge and Utilization of national anaemia prophylaxis Programme among adolescent girls in selected Community area of kolar district with view to develop the information pamphlet** of, Ms. Aleena P.B Ms.Chandana. K Ms.Cen Elsa Baby, Ms.Devika B Pillai, Ms.Devika S Nair, Ms.Devibala S Mr.Mujahid Khan Ms.Nagajyothi Bai.G under the guidance of **Dr. Malathi K.V**, Associate professor Dept. Community Health Nursing of Sri Devaraj Urs College of Nursing, Kolar.

Member secretary

Chairperson

ANNEXURE-II

Letter seeking permission to conduct study

SRI DEVARAJ URS COLLEGE OF NURSING
TAMAKA, KOLAR - 563101
A unit of Sri Devaraj Urs Academy of Higher Education And Research Center
[Recognized by KNC Bangalore & INC New Delhi ISO 9001-2015 certified]

PERMISSION LETTER

FROM

Research Group -06
Sri Devaraj Urs College Of Nursing
Tamaka,Kolar
To
Mr Manjunatha Devegowda (Head Master)
National High School,Yeldur
Srinivaspura taluk,Kolar district

Through The Research Guide
Respected Sir

Subject :-Requesting Permission to collect the data for research project

We the III year Bsc Nursing students of Sri DevarajUrs College Of Nursing ,Tamaka,Kolar has selected the below mentioned topic for our research project as a partial fulfillment for III year Bachelor Of Nursing

TITLE FOR THE TOPIC:-" A STUDY TO ASSESS THE KNOWLEDGE AND UTILIZATION OF NATIONAL ANEMIA PROPHYLAXIS PROGRAMME AMONG ADOLESCENT GIRLS IN A SELECTED COMMUNITY AREA OF KOLAR DISTRICT."

OBJECTIVES OF THE STUDY

1) To assess the knowledge of national anemia prophylaxis programme among adolescent girls
2) To assess the utilization of national anemia prophylaxis programme among adolescent girls.
3) To find out the association between the knowledge with selected socio demographic variables.

With regard to above we request you to grant permission to collect data from 8th standard to 10th standard students in National High School ,yeldur srinivaspura taluk, kolar district.we assure you that without describing school routine we collect the information from selected students and maintain the confidentiality.
Hence we request your self to kindly consider for needful approval

Thanking you

Your's Sincerely

Research Group -06

Forwarded to Head master, NHS, Yeldur with a request to permit our students to collect data.

Principal
Sri Devaraj Urs College of Nursing
Tamaka, Kolar-563103

ಮುಖ್ಯೋಪಾಧ್ಯಾಯರು
ನ್ಯಾಷನಲ್ ಹೈಸ್ಕೂಲ್, ಯಲ್ಲೂರು-563138
ಶ್ರೀನಿವಾಸಪುರ ತಾಲ್ಲೂಕು, ಕೋಲಾರ ಜಿಲ್ಲೆ

ANNEXURE-III

INFORMED CONSENT FORM

Study Title: "A STUDY TO ASSESS THE KNOWLEDGE AND UTILIZATION OF NATIONAL ANAEMIA PROPHYLAXIS PROGRAMME AMONG ADOLESCENT GIRLS IN SELECTED COMMUNITY AREA OF KOLAR DISTRICT"

Code Number:

a)I confirm that I have read and understood the information given to me about this study and my role in it. I had opportunities to ask questions and my questions have been answered to my satisfaction.

Or

I confirm that all information about this study and my role in it has been read / explained to me by a member of the investigating team in a language that I understand. I had opportunities to ask questions and my questions have been answered to my satisfaction.

b) I understand that my participation in this study is voluntary and that I am free to withdraw from the study at any time, without giving any reason and legal rights being affected.

c) I understand that my identity will not be revealed in any document or publication.

d) I agree not to restrict the use/publication of any data or results that arise from this study provided such use is only for scientific purposes.

e) I am aware that by agreeing to my participation in this investigation, I will have to give more time for training and assessments by the investigating team and that these assessments will not interfere with the benefits that I am entitled to or my daily routine.

f) I give my consent, voluntarily to take part in this study. I also agree for the investigator to record the observation/interview sessions whenever they are held.

Signature (or thumb impression) of the study participants /Legally Acceptable Representative:

Study participant signature/Thumb impression:

_____

Signature/Thumb impression of Witnesses:

_____

Study Investigator's Signature: _____

ANNEXURE-IV

LETTER REQUESTING OPINION & SUGGESTION OF EXPERTS FOR ESTABLISHING CONTENT VALIDITY OF RESEARCH TOOL

From,
III[rd] Year Bsc(N)
Dept. Community Health Nursing
Sri Devaraj Urs College of Nursing,
Tamaka, Kolar

To,
The principal
Sri Devaraj Urs College of Nursing

Subject: Request for opinion and suggestion of experts for establishing content validity of research tool and information.

Respected Sir/Madam,

We, the III[rd] Year BSC(N) of Sri Devaraj Urs College of Nursing, Tamaka, Kolar have selected below mentioned topic for research project for the fulfillment of the requirements of nursing research subject for BSC(N) Degree.

Title of the Topic:

"**A Study to assess the knowledge and utilization of National Anemia Prophylaxis Programme among adolescent girls in a selected community area of Kolar district''**

With regard to the above matter, we kindly request you to validate the tool for its appropriateness and relevancy we are hereby enclosing the objectives of the study and the knowledge questionnaire for your reference. We will be highly obliged and thankful for your great help.

Thanking You,
Yours Faithfully

ANNEXURE-V

CONTENT VALIDITY CERTIFICATE

I hereby certify that I have validated the tool and content of information pamphlet of 13th batch of 3rd year BSc Nursing, students of Sri Devaraj Urs College of Nursing, Tamaka, Kolar, who are undertaking a research project as a partial fulfillment of Bachelor of Science in Nursing Degree.

"**A Study to assess the knowledge and utilization of National Anemia Prophylaxis Programme among adolescent girls in a selected community area of Kolar district''**

Date: **Signature of the validator**

Place:

ANNEXURE- VI

LIST OF VALIDATORS

1.Dr.Zeanath C.J

Professor & HOD

MSN/CNO,RLJH&RC,

Tamaka, kolar

2.Dr.G Vijayalakshmi

Principal & Professor

Department of Nursing Foundation

SDUCON , Tamaka, Kolar

3.Dr.Lavanya Subhashini

HOD of Pediatrics

SDUCON,Tamaka,Kolar

4.Mrs.Jairakini Aruna

Professor & HOD

Department of psychiatry

5.Dr.Malathi K.V

Professor & HOD

Department of Community Health Nursing

6.Mrs.Punitha.M

Professor & HOD

Department of OBG

SDUCON Tamaka Kolar

ANNEXURE- VII

CERTIFICATE OF KANNADA EDITING

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Ms. Aleena P.B , Ms.Chandana. K, Ms.Cen Elsa Baby, Ms.Devika B Pillai , Ms.Devika S Nair , Ms.Devibala S, Mr.Mujahid Khan, Ms.Nagajyothi Bai.G from IIIrd yesr BSc Nursing students of Sri Devaraj Urs College of Nursing ,Tamaka, Kolar ,has done a project study interest **"A STUDY TO ASSESS THE KNOWLEDGE AND UTILIZATION OF NATIONAL ANEMIA PROPHYLAXIS PROGRAMME AMONG ADOLESCENT GIRLS IN A SELECTED COMMUNITY AREA OF KOLAR DISTRICT."**

This study was edited for kannada language appropriateness by:

Date:

Place: Tamaka, Kolar

(Dr.) Shobha. K.N. 20/11/2025
ಮುಖ್ಯೋಪಾಧ್ಯಾಯರು
ಜಿಎಂಶ್ರೀ ಸರ್ಕಾರಿ ಉನ್ನತೀಕರಿಸಿದ ಹಿರಿಯ ಪ್ರಾಥಮಿಕ ಶಾ
ಕೆಂಬೋಡಿ, ಕೋಲಾರ ತಾಲ್ಲೂಕು

Signature with Designation

ANNEXURE-VIII

Data Collection Tool

SECTION: -1

1. **Name of the adolescent girl: -_____**

2. **Place of residence: - _____**

3. **Age in years _____**

    a) 10-12years
    b) 13-15years
    c) 16-18years
    d) More than 19 years

4. **Standard is _____**

    a) Fifth standard
    b) Sixth standard
    c) Seventh standard
    d) Higher primary education
    e) PUC
    f) Degree

5. **Socioeconomic group is _____**

    a) Low-income group
    b) Middle income group
    c) High income group

6. **Type of diet _____**

    a) Vegetarian
    b) Non vegetarian
    c) Mixed

7. . Weight _____

a) 25-35 kg
b) 36-46 kg
c) 47-57 kg
d) More than 57 kg

8. Age at menarche _____

a) 10 years
b) 11 years
c) 12 years

9. Pattern of menstrual cycle _____

a) Regular
b) Irregular

10. Duration of menstrual cycle _____

a) 0-3days
b) 4-5days
c) 6-7days
d) More than 7 days

11. Gap between two menstrual cycle_____

a) 22 days
b) 25 days
c) 28 days
d) More than 28 days

12. How many times you change your pads _____

a) 3pads/day
b) 4pads/day
c) 5pads/day
d) More than 5 pads/day

13. Eating of Jung foods _____

a) Yes
b) No

14. Personal hygiene practices _____

a) Neatness of sanitary pads.
b) 4 hours once changing pads
c) Regular bath and hand wash
d) All the above

Structured knowledge questionnaires

Section: -A

1. Anemia is _____

a) Increase RBC Count /Hb concentration
b) Decrease WBC Count /Hb concentration
c) Increase WBC Count
d) Decrease WBC Count

2. Normal range of hemoglobin in adolescents girls is_____

a) 6.0-8.0gm/dL
b) 5-11.0gm/dL
c) 12.0-15.0gm /dL
d) 15.0-18.5gm /dL

3. Common symptoms of anemia is _____

a) Pale skin
b) Tiredness
c) Both a and b
d) Icterus

4. Common cause of anemia is _____

a) Too little sleep
b) Too much sugar
c) Too little iron in the blood
d) Exposure to X-ray radiation

5. Anemia is a _____type of disease

a) Communicable disease
b) Non communicable disease

6. _____ blood cells decreased in anemia

a) RBC
b) WBC
c) Platelets
d) None

7. In anemia blood produces _____ than normal

a) Lower
b) Higher

8. _____ foods helps in increasing blood.

a) Iron rich food
b) Mineral rich food
c) Vitamin rich food
d) None

9. Anemia is a particularly serious problem in _____

a) Children
b) Pregnant women
c) Men's
d) Old age

10. Prevention of anemia is by _____

a) Intake of iron rich foods
b) Consumption of caffeine products
c) Intake of vitamin C and folic acid rich foods
d) Both a and c

Section: -B

11.Ever heard about national anemia prophylaxis programme _____

a) Yes
b) No

12.NAPP is given to _____

a) 1-5 years of age
b) Pregnant women and nursing mother
c) Both a and b
d) None

13.Full form of NAPP _____

a) National anemia prophylaxis programme
b) National anemia prevalence programme
c) Nutritional anemia prophylaxis programme
d) National anemic prevention programmme

14.Heamoglobin assessment is usually done among _____

a) Boys
b) Beneficiaries(Girls, pregnant women)
c) Old age
d) None

15. Programme focuses on regular consumption pf foods which is _____

a) Rich in iron
b) Rich in calcium
c) Rich in sodium
d) Rich in chloride

16. Programme is implemented by _____

a) PHC
b) Primary health centres and sub centres
c) College and schools
d) Panchayath area

17. _____ cases are given in the treatment of anemia

a) Severly anemic
b) Severly pain
c) Obesity
d) Malnutrition

18. _____ months once assessing the Hb levels in pregnant women.

a) Weekly
b) Monthly once
c) Three months once
d) None

19. Severe anemia value _____

a) 2-4 gm /dl
b) 5-8 gm/dl
c) 8 gm/dl
d) Less than 8 gm/dl

20. _____ women is beneficiaries in NAPP

a) Pregnant
b) Working
c) Educated
d) None

Section :-C

21. Food rich in iron content is _____

a) Banana
b) Pomegranate
c) Honey
d) All the above

22. _____ number of tablets will be provided for a week in anemic cases .

a) 2 tablets
b) 3 tablets
c) 4 tablets
d) 5 tablets

23. Iron tablets were predominantly obtained from _____

a) Schools
b) Anganwadi centres
c) PHC/CHC
d) All the above

24. Duration of tablets in a week is _____

a) Once a week
b) Twice a week
c) Thrice a week
d) None

25. Full form of IFA is _____

a) Iron and ferric acid
b) Iron and folic acid
c) Iron and fluoride acid
d) Iron and fe acid

26. Distribution of _____ tablets

a) Iron and folic acid
b) Calcium
c) Sodium
d) Vitamin

27. _____ element is used to increase heamoglobin

a) Calcium
b) Magnesium
c) Iron
d) Phosphorous

28. Symbol of iron is _____

a) I
b) Fe
c) IFe
d) None

29. Deficiency of iron leads to _____

a) Mal nutrition
b) Anemia
c) Swelling
d) Headache

30. _____ one is contain more iron rich food.

a) Green leafy vegetables
b) Watermelon
c) Ground nut
d) Orange

CHECK LIST

SL NO	CONTENT	YES	NO
1.	Is it full form of NAPP is National Anemia Prevalence Programme?		
2.	Are you aware of National Anemia Prophylaxis Programme?		
3.	Are you utilizing the National Anemia Prophylaxis Programme?		
4.	Are you aware of service included in National Anemia Prophylaxis Programme?		
5.	Do you know about Normal Hemoglobin level in adolescent girls?		
6.	Are your menstrual cycles regular?		
7.	Do you change pads every two hours once ?		
8.	Are you maintaining personal hygiene like bathing everyday and washing hands before eating food?		
9.	Are you eating jung foods daily?		
10.	Are you aware of supplemants provided for adolescent girls through National Anemia Prophylaxis Programme?		
11.	Do you know the full form IFA?		
12.	Are you aware of how many iron folic acid tablets are provided for adolescent girls?		
13.	Are you aware for how many iron folic acid tablets are giving for a week for adolescent girls ?		
14.	Is it calcium tablets used in National Anemia Prophylaxis Programme?		
15.	Is pomegranate is a rich source of iron?		
16.	Is this programme useful for pregnant women?		

17.	Is it the programme will conducting in schools, primary health centers?		
18.	Do you know that anemic adolescent girls can take daily one tablet?		
19.	Do you know that anemia causes tiredness and weakness?		
20.	Is this programme help in curing anemia or not ?		

ವಿಭಾಗ–1

1. ಕಿಶೋರಿಯರ ಹೆಸರು:_____

2. ವಾಸಿಸುವ ಸ್ಥಳ:_____

3. ವಯಸ್ಸು ವರ್ಷಗಳಲ್ಲಿ:_____

a)10-12 ವರ್ಷ

b) 13-15 ವರ್ಷ

c) 16-18 ವರ್ಷ

d)19 ವರ್ಷಕ್ಕಿಂತ ಹೆಚ್ಚು

4. ವಿದ್ಯಾಭ್ಯಾಸದ ಮಟ್ಟ:_____

a) ಐದನೇ ತರಗತಿ

b)ಆರನೇ ತರಗತಿ

c)ಏಳನೇ ತರಗತಿ

d)ಹೈದರ್ ಪ್ರೈಮರಿ ಶಿಕ್ಷಣ

e) ಪಿಯುಸಿ

f)ಪದವಿ

5. ಸಾಮಾಜಿಕ –ಆರ್ಥಿಕ ವರ್ಗ:_____

a)ಕಡಿಮೆ ಆದಾಯ ಗುಂಪು

b)ಮಧ್ಯಮ ಆದಾಯ ಗುಂಪು

c) ಹೆಚ್ಚಿನ ಆದಾಯ ಗುಂಪು

6.ಆಹಾರದ ಪ್ರಕಾರ:_____

a)ಸಸ್ಯಹಾರಿ

b)ಮಾಂಸಾಹಾರಿ

c)ಮಿಶ್ರಾಹಾರಿ

7. ತೂಕ:_____

a) 25–35 ಕೆ.ಜಿ.

b) 36–46 ಕೆ.ಜಿ.

c) 47–57 ಕೆ.ಜಿ. .

d) 57–ಕೆ.ಜಿ. ಕ್ಕಿಂತ ಹೆಚ್ಚು

8. ಮಾಸಿಕ ಮಾತುರಾಗುವ ವಯಸ್ಸು: _____

a)10 ವರ್ಷ

b)11 ವರ್ಷ

c)12 ವರ್ಷ

d)12 ವರ್ಷಕ್ಕಿಂತ ಹೆಚ್ಚು

9. ಮಾಸಿಕ ಚಕ್ರದ ಮಾದರಿ _____

a)ನಿಯಮಿತ

b)ಅನಿಯಮಿತ

10. ಮಾಸಿಕ ಚಕ್ರದ ಅವಧಿ: _____

a)0–3 ದಿನ

b)4–5 ದಿನ

c)6–7 ದಿನ

d)7 ದಿನಕ್ಕಿಂತ ಹೆಚ್ಚು

11. ಎರಡು ಮಾಸಿನ ಚಕ್ರಗಳ ನಡುವಿನ ಅಂತರ _____

a)22 ದಿನ

b)25 ದಿನ

c)28 ದಿನ

d)28 ದಿನಕ್ಕಿಂತ ಹೆಚ

12. ಒಂದು ದಿನದಲ್ಲಿ ನೀವು ಎಷ್ಟು ಬಾರಿ ಪ್ಯಾಡ್ ಬದಲಿಸುತ್ತೀರಿ?_____

a)3 ಪ್ಯಾಡ್ /ದಿನ

b) 4 ಪ್ಯಾಡ್ /ದಿನ

c) 5 ಪ್ಯಾಡ್ /ದಿನ

d) 5 ಕ್ಕಿಂತ ಹೆಚ್ಚು ಪ್ಯಾಡ್ /ದಿನ

13.** ಜಂಕ್ ಫುಡ್ ಸೇವನೆ** _____

a)ಹೌದು

b)ಇಲ್ಲ

14. ವೈಯುಕ್ತಿಕ ಸ್ವಚ್ಚತಾ ಅಭ್ಯಾಸಗಳು: _____

a)ಸ್ಯಾನಿಟರಿ ಪ್ಯಾಡ್‌ಗಳ ಸ್ವಚ್ಚತೆ

b) ಪ್ರತೀ 4 ಗಂಟೆಗೆ ಪ್ಯಾಡ್ ಬದಲಿಸುವುದು

c)ನಿಯಮಿತ ಸ್ನಾನ ಮತ್ತು ಕೈ ತೊಳೆಯುವುದು

d)ಮೇಲಿನ ಎಲ್ಲವು ---

ರಚಿತ ಜ್ಞಾನ ಪ್ರಶ್ನಾವಳಿ

ವಿಭಾಗ–A

1.** ಅನಿಮಿಯಾ ಎಂದರೆ:**

a)ರಕ್ತದ ಕೆಂಪು ರಕ್ತ ಕಣಗಳು /Hb ಪ್ರಮಾಣ ಹೆಚ್ಚಾಗುವುದು

b) ಶ್ವೇತ ರಕ್ತಕಣಗಳು /Hb ಪ್ರಮಾಣ ಕಡಿಮೆಯಾಗುವುದು

c) ಶ್ವೇತ ರಕ್ತಕಣಗಳು ಹೆಚ್ಚಾಗುವುದು

d) ಶ್ವೇತ ರಕ್ತಕಣಗಳು ಕಡಿಮೆಯಾಗುವುದು

2. **ಕಿಶೋರಿಯಲ್ಲಿ ಸಾಮಾನ್ಯ ಹೆಮೋಗ್ಲೋಬಿನ್ ಪ್ರಮಾಣ:**_____

a) 6.0–8.0 ಗ್ರಾಂ/dl

b)5-11.0 ಗ್ರಾಂ/dl

c) 12.0–15.0 ಗ್ರಾಂ/dl

d) 15.0–18.5 ಗ್ರಾಂ/dl

3.**ಅನಿಮಿಯಾದ ಸಾಮಾನ್ಯ ಲಕ್ಷಣಗಳು**_____

a)ಒಣಗಿದ /ಪಲೇ ಚರ್ಮ

b)ದಣಿವು

c) a ಮತ್ತು b ಎರಡೂ

d)ಕಮಲಾರೋ (ಐಕ್ಟೆರಸ್)

4.**ಅನಿಮಿಯಾದ ಸಾಮಾನ್ಯ ಕಾರಣ** _____

a)ಕಡಿಮೆ ನಿದ್ರ

b)ಹೆಚ್ಚು ಸಕ್ಕರೆ ಸೇವನೆ

c) ರಕ್ತದಲ್ಲಿ ಕಬ್ಬಿಣದ ಕೊರತೆ

d)ಎಕ್ಸ್ –ರೇ ಕಿರಣಗಳ ಸಂಪರ್ಕ

5.**ಅನಿಮಿಯಾ ಒಂದು ____ರೋಗ:**

a)ಸಾಂಕ್ರಾಮಿಕ ರೋಗ

b)ಅಸಾಂಕ್ರಾಮಿಕ ರೋಗ

6.**ಅನಿಮಿಯಾದಲ್ಲಿ ಕಡಿಮೆಯಾಗುವ ರಕ್ತಕಣಗಳು :**_____

a)ಕೆಂಪು ರಕ್ತಕಣಗಳು

b) ಶ್ವೇತ ರಕ್ತಕಣಗಳು

c)ಪ್ಲೇಟ್‌ಲೆಟ್ಸ್

d)ಯಾವುದೂ ಇಲ್ಲ

7.**ಅನಿಮಿಯಾದಲ್ಲಿ ರಕ್ತವು ಸಾಮಾನ್ಯಕ್ಕಿಂತ _____ಉತ್ಪಾದಿಸುತ್ತದೆ:**

a) ಕಡಿಮೆ

b) ಹೆಚ್ಚು

8.** ರಕ್ತವನ್ನು ಹೆಚ್ಚಿಸಲು ಸಹಾಯ ಮಾಡುವ ಆಹಾರಗಳು:**

a)ಕಬ್ಬಿಣದ ಸಮೃದ್ಧ ಆಹಾರ

b)ಖನಿಜ ಸಮೃದ್ಧ ಆಹಾರ

c) ವಿಟಮಿನ್ ಸಮೃದ್ಧ ಆಹಾರ

d) ಯಾವುದೂ ಇಲ್ಲ

9.** ಅನಿಮಿಯಾ ವಿಶೇಷವಾಗಿ ಗಂಭೀರ ಸಮಸ್ಯೆಯಾಗಿದೆ:**_____

a)ಮಕ್ಕಳಲ್ಲಿ

b) ಗರ್ಭಿಣಿಯರಲ್ಲಿ

c)ಪುರಷರಲ್ಲಿ

d)ವೃದ್ದರಲ್ಲಿ

10.**ಅನಿಮಿಯಾದ ತಡೆಗಟ್ಟುವಿಕೆ:**_____

a)ಕಬ್ಬಿಣದ ಸಮೃದ್ದ ಆಹಾರ ಸೇವನೆ

b)ಕ್ಯಾಫಿನ್ ಉತ್ಪನ್ನಗಳ ಸೇವನೆ

c) ವಿಟಮಿನ್ – C ಮತ್ತು ಪೋಸಿಕ್ ಆಸಿಡ್ ಸಮೃದ್ದ ಆಹಾರ

d) a ಮತ್ತು c ಎರಡೂ

ವಿಭಾಗ– B

11.** ರಾಷ್ಟ್ರೀಯ ಅನಿಮಿಯಾ ಪ್ರತಿಬಂಧಕ ಕಾರ್ಯಕ್ರಮದ (NAPP)ಬಗ್ಗೆ ಕೇಳಿದ್ದೀರಾ?**

a)ಹೌದು

b) ಇಲ್ಲ

12.** (NAPP)ನೀಡಲಾಗುವವರು:**_____

a) 1-5ವರ್ಷದ ಮಕ್ಕಳು

b)ಗರ್ಭಿಣಿ ಶಿಶುವಿಗೆ ದೂದುಣಿಸುವ ತಾಯಂದಿರು

c) a ಮತ್ತು b ಎರಡೂ

d) ಯಾವುದೂ ಅಲ್ಲ

13.** (NAPP)ಪೂರ್ಣ ರೂಪ:**_____

a) National Anemia Prophylaxis Programme

b) National Anemia Prevalence Programme

c) Nutritional Anemia Prophylaxis Programme

d) National Anemic Prevention Programme

14.**ಹೆಮೋಗ್ಲೋಬಿನ್ ಮೌಲ್ಯವನ್ನು ಸಾಮಾನ್ಯವಾಗಿ ಪರಿಶೀಲಿಸಲಾಗುವುದು:**_____

a)ಹುಡುಗರಲ್ಲಿ

b)ಫಲಾನುಭವಿಗಳಲ್ಲಿ (ಮಕ್ಕಳು. ಗರ್ಭಿಣಿಯರು)

c)ವೃದ್ದರಲ್ಲಿ

d)ಯಾವುದೂ ಇಲ್ಲ

15.**ಕಾರ್ಯಕ್ರಮವು ಒತ್ತು ನೀಡುವ ಆಹಾರಗಳು**_____

a)ಕಬ್ಬಿಣದ ಸಮೃದ್ದ ಆಹಾರ

b)ಕ್ಯಾಲ್ಸಿಯಂ ಸಮೃದ್ದ ಆಹಾರ

c)ಸೋಡಿಯಂ ಸಮೃದ್ದ ಆಹಾರ

d) ಫ್ಲೋರೈಡ್ ಸಮೃದ್ದ ಆಹಾರ

16.**ಈ ಕಾರ್ಯಕ್ರಮವು ಜಾರಿಗೊಳಿಸುವವರು:**_____

a) PHC

b)ಪ್ರಾಥಮಿಕ ಆರೋಗ್ಯ ಕೇಂದ್ರಗಳು ಮತ್ತು ಉಪ ಕೇಂದ್ರಗಳು

c)ಕಾಲೇಜು ಮತ್ತು ಶಾಲೆಗಳು

d) ಪಂಚಾಯತ್ ಪ್ರದೇಶ

17.**ಅನಿಮಿಯಾದ ಚಿಕಿತ್ಸೆ ನೀಡಲಾಗುವವರು:**_____

a) ತೀವ್ರ ಅನಿಮಿಯಾ

b) ತೀವ್ರ ನೋವು

c) ಸ್ಥೂಲತೆ

d)ಅಪೌಷ್ಟಿಕತೆ

18** ಗರ್ಭಿಣಿಯರ ಹೆಮೋಗ್ಲೋಬಿನ್ ಮಟ್ಟವನ್ನು ಎಷ್ಟು ಅವಧಿಗೆ ಒಮ್ಮೆ ಪರಿಶೀಲಿಸುತ್ತಾರೆ?**

a) ವಾರಕ್ಕೆ ಒಮ್ಮೆ

b)ತಿಂಗಳಿಗೆ ಒಮ್ಮೆ

c)ಮೂರು ತಿಂಗಳಿಗೆ ಒಮ್ಮೆ

d)ಯಾವುದೂ ಇಲ್ಲ

19.** ತೀವ್ರ ಅನಿಮಿಯಾದ ಮೌಲ್ಯ**_____

a)2–4 ಗ್ರಾಂ/dL

b) 5–8 ಗ್ರಾಂ /dL

c) 8 ಗ್ರಾಂ/dL

d) 8 ಗ್ರಾಂ/dL ಕ್ಕಿಂತ ಕಡಿಮೆ

20. **NAPP ನಲ್ಲಿ ಫಲಾನುಭವಿಯಾಗುವ ಮಹಿಳೆ:** _____

a)ಗರ್ಭಿಣಿ

b)ಕೆಲಸ ಮಾಡುವ ಮಹಿಳೆ

c)ವಿದ್ಯಾವಂತ ಮಹಿಳೆ

d)ಯಾವುದೂ ಇಲ್ಲ

ವಿಭಾಗ– C

21.** ಕಬ್ಬಿಣ ಸಮೃದ್ದ ಆಹಾರ ಯಾವುದು?**

a) ಬಾಳೆ ಹಣ್ಣು

b)ದಾಳಿಂಬೆ

c)ಜೇನು

d)ಮೇಲಿನ ಎಲ್ಲವು 22.** ಅನಿಮಿಯಾ ಇರುವವರಿಗೆ ವಾರಕ್ಕೆ ನೀಡುವ ಗೋಳೆಯ ಸಂಖ್ಯೆ**_____

a) 2

b) 3

c) 4

d) 5

23.**ಕಬ್ಬಿಣದ ಗೋಳುಗಳನ್ನು ಹೆಚ್ಚಾಗಿ ಪಡೆಯುವ ಸ್ಥಳ:**_____

a) ಶಾಲೆಗಳು

b)ಅಂಗನವಾಡಿ ಕೇಂದ್ರಗಳು

c) PHC/CHC

d)ಮೇಲಿನ ಎಲ್ಲವು

24.**ಗೋಳು ಸೇವಿಸುವ ಅವಧಿ:**_____

a) ವಾರಕ್ಕೆ ಒಮ್ಮೆ

b)ವಾರಕ್ಕೆ ಎರಡು ಬಾರಿ

c) ವಾರಕ್ಕೆ ಮೂರು ಬಾರಿ

d)ಯಾವುದೂ ಇಲ್ಲ

25.** IFA ಪೂರ್ಣ ರೂಪ:**_____

a) Iron and Ferric Acid

b) Iron and Folic Acid

c) Iron and Fluoride Acid

d) Iron and Fe Acid

26.** ವಿತರಿಸಲಾಗುವ ಗೋಳುಗಳು:**_____

a) ಕಬ್ಬಿಣ

b)ಫೋಲಿಕ್ ಆಸಿಡ್

c)ಕ್ಯಾಲ್ಸಿಯಂ

d) ಸೋಡಿಯಂ ವಿಟಮಿನ್

27.**ಹೆಮೋಗ್ಲೋಬಿನ್ ಹೆಚ್ಚಿಸಲು ಅಗತ್ಯ ಅಂಶ:**_____

a) ಕ್ಯಾಲ್ಸಿಯಂ

b)ಮ್ಯಾಗ್ನೇಶಿಯಂ

c)ಕಬ್ಬಿಣ

d)ಫಾಸ್ಪರಸ್

28.**ಕಬ್ಬಿಣದ ರಾಸಾಯನಿಕ ಚಿಹ್ನೆ:**_____

a) I

b) Fe

c) IFe

d) ಕಬ್ಬಿಣ

29.ಕಬ್ಬಿಣದ ಕೊರತೆಯಿಂದ ಉಂಟಾಗುವ ರೋಗ_____

a)ಅಪೌಷ್ಟಿಕತೆ

b)ಅನಿಮಿಯಾ

c)ಊತ

d)ತಲೆನೋವು

30.ಎಲ್ಲಕ್ಕಿಂತ ಹೆಚ್ಚು ಕಬ್ಬಿಣದ ಹೊಂದಿರುವ ಆಹಾರ:_____

a) ಹಸಿರು ಎಲೆ ತರಕಾರಿಗಳು

b)ಕಲ್ಲಂಗಡಿ

c)ಕಡಲೆಕಾಯಿ

d)ಕಿತ್ತಳೆ

ಕನ್ಸಲ್ಟೆಂಟ್ ಫಾರ್ಮ್

ಎಸ್ಎಲ್ ನಂ	ವಿಷಯ	ಹೌದು	ಇಲ್ಲ
1.	ಇದು NAPP ಯ ಪೂರ್ಣ ರೂಪವೇ ರಾಷ್ಟ್ರೀಯ ರಕ್ತಹೀನತೆ ಹರಡುವಿಕೆ ಕಾರ್ಯಕ್ರಮವೇ?		
2.	ರಾಷ್ಟ್ರೀಯ ರಕ್ತಹೀನತೆ ರೋಗನಿರೋಧಕ ಕಾರ್ಯಕ್ರಮದ ಬಗ್ಗೆ ನಿಮಗೆ ತಿಳಿದಿದೆಯೇ?		
3.	ನೀವು ರಾಷ್ಟ್ರೀಯ ರಕ್ತಹೀನತೆ ರೋಗನಿರೋಧಕ ಕಾರ್ಯಕ್ರಮವನ್ನು ಬಳಸುತ್ತಿರುವಿರಾ?		
4.	ರಾಷ್ಟ್ರೀಯ ರಕ್ತಹೀನತೆ ರೋಗನಿರೋಧಕ ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಒಳಗೊಂಡಿರುವ ಸೇವೆಯ ಬಗ್ಗೆ ನಿಮಗೆ ತಿಳಿದಿದೆಯೇ?		
5.	ಹದಿಹರೆಯದ ಹುಡುಗಿಯರಲ್ಲಿ ಸಾಮಾನ್ಯ ಹಿಮೋಗ್ಲೋಬಿನ್ ಮಟ್ಟಗಳ ಬಗ್ಗೆ ನಿಮಗೆ ತಿಳಿದಿದೆಯೇ?		
6.	ನಿಮ್ಮ ಋತುಚಕ್ರಗಳು ನಿಯಮಿತವಾಗಿದೆಯೇ?		
7.	ನೀವು ಪ್ರತಿ ಎರಡು ಗಂಟೆಗಳಿಗೊಮ್ಮೆ ಪ್ಯಾಡ್ ಬದಲಾಯಿಸುತ್ತೀರಾ?		
8.	ಪ್ರತಿದಿನ ಸ್ನಾನ ಮಾಡುವುದು ಮತ್ತು ಆಹಾರ ಸೇವಿಸುವ ಮೊದಲು ಕೈ ತೊಳೆಯುವುದು ಮುಂತಾದ ವೈಯಕ್ತಿಕ ನೈರ್ಮಲ್ಯವನ್ನು ನೀವು ನಿರ್ವಹಿಸುತ್ತಿದ್ದೀರಾ?		

9.	ನೀವು ಪ್ರತಿದಿನ ಜಂಗ್ ಫುಡ್ ತಿನ್ನುತ್ತಿದ್ದೀರಾ?		
10.	ರಾಷ್ಟ್ರೀಯ ರಕ್ತಹೀನತೆ ರೋಗನಿರೋಧಕ ಕಾರ್ಯಕ್ರಮದ ಮೂಲಕ ಹದಿಹರೆಯದ ಹುಡುಗಿಯರಿಗೆ ಒದಗಿಸಲಾದ ಪೂರಕಗಳ ಬಗ್ಗೆ ನಿಮಗೆ ತಿಳಿದಿದೆಯೇ?		
11.	IFA ಪೂರ್ಣ ರೂಪ ನಿಮಗೆ ತಿಳಿದಿದೆಯೇ?		
12.	ಹದಿಹರೆಯದ ಹುಡುಗಿಯರಿಗೆ ಎಷ್ಟು ಕಬ್ಬಿಣದ ಫೋಲಿಕ್ ಆಸಿಡ್ ಮಾತ್ರೆಗಳನ್ನು ನೀಡಲಾಗುತ್ತದೆ ಎಂದು ನಿಮಗೆ ತಿಳಿದಿದೆಯೇ?		
13.	ಹದಿಹರೆಯದ ಹುಡುಗಿಯರಿಗೆ ವಾರಕ್ಕೆ ಎಷ್ಟು ಐರನ್ ಫೋಲಿಕ್ ಆಸಿಡ್ ಮಾತ್ರೆಗಳನ್ನು ನೀಡಲಾಗುತ್ತಿದೆ ಎಂದು ನಿಮಗೆ ತಿಳಿದಿದೆಯೇ?		
14.	ರಾಷ್ಟ್ರೀಯ ರಕ್ತಹೀನತೆ ರೋಗನಿರೋಧಕ ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಕ್ಯಾಲ್ಸಿಯಂ ಮಾತ್ರೆಗಳನ್ನು ಬಳಸಲಾಗಿದೆಯೇ?		
15.	ದಾಳಿಂಬೆ ಕಬ್ಬಿಣದ ಸಮೃದ್ಧ ಮೂಲವಾಗಿದೆಯೇ?		
16.	ಈ ಕಾರ್ಯಕ್ರಮವು ಗರ್ಭಿಣಿಯರಿಗೆ ಉಪಯುಕ್ತವಾಗಿದೆಯೇ?		
17.	ಶಾಲೆಗಳಲ್ಲಿ, ಪ್ರಾಥಮಿಕ ಆರೋಗ್ಯ ಕೇಂದ್ರಗಳಲ್ಲಿ ಕಾರ್ಯಕ್ರಮ ನಡೆಸುವುದೇ?		
18.	ರಕ್ತಹೀನತೆಯ ಹದಿಹರೆಯದ ಹುಡುಗಿಯರು ಡಯಾಲಿ ಒಂದು ಟ್ಯಾಬ್ಲೆಟ್ ಅನ್ನು ತೆಗೆದುಕೊಳ್ಳಬಹುದು ಎಂದು ನಿಮಗೆ ತಿಳಿದಿದೆಯೇ?		

19.	ರಕ್ತಹೀನತೆ ಆಯಾಸ ಮತ್ತು ದೌರ್ಬಲ್ಯವನ್ನು ಉಂಟುಮಾಡುತ್ತದೆ ಎಂದು ನಿಮಗೆ ತಿಳಿದಿದೆಯೇ?		
20.	ರಾಷ್ಟ್ರೀಯ ರಕ್ತಹೀನತೆ ರೋಗನಿರೋಧಕ ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಕ್ಯಾಲ್ಸಿಯಂ ಮಾತ್ರೆಗಳನ್ನು ಬಳಸಲಾಗಿದೆಯೇ? ಈ ಕಾರ್ಯಕ್ರಮವು ರಕ್ತಹೀನತೆಯನ್ನು ಗುಣಪಡಿಸಲು ಸಹಾಯ ಮಾಡುತ್ತದೆಯೇ ಅಥವಾ ಇಲ್ಲವೇ?		

ANNEXURE-IX

FORMULA USED

Standard deviation =

$$\sigma = \sqrt{\frac{\sum (x-\bar{x})^2}{n-1}}$$

x= Observed value

n= Number of Observations

Mean =

$$\sum X \div n$$

x= Observed value

n= Number of Observations

Median =

$$(n+1) \div 2^{th} \text{ value}$$

$$x^2 = \frac{\sum (O-E)^2}{E}$$

O = Observed Frequency

E = Expected Frequency

ANNEXURE-X

MASTER SHEET

DEMOGRAPHIC DATA										
Samples	3	4	5	6	7	8	9	10	11	12
1	b	d	b	a	A	d	a	b	d	b
2	b	d	b	b	C	c	a	c	c	a
3	b	d	b	a	B	c	a	c	b	b
4	b	d	b	a	A	c	a	c	a	a
5	b	d	b	a	A	d	a	b	c	c
6	c	d	b	a	C	d	a	c	d	a
7	b	d	b	a	A	d	b	c	c	c
8	b	b	b	a	B	b	b	b	b	a
9	b	d	a	b	B	d	a	d	d	a
10	c	d	b	a	C	b	a	c	d	b
11	b	d	b	b	A	a	b	a	c	a
12	b	d	b	a	A	b	a	a	d	a
13	b	d	b	a	A	b	a	b	c	b

14	b	d	b	a	B	b	a	b	c	b
15	b	d	b	a	A	d	a	a	c	a
16	b	d	d	a	A	d	a	b	c	a
17	b	d	b	a	A	d	a	b	c	b
18	b	d	a	b	B	c	a	c	a	a
19	b	d	b	a	B	d	a	c	d	a
20	b	d	b	a	B	d	a	c	d	a
21	b	d	b	a	B	b	a	b	a	a
22	b	d	b	b	A	d	a	b	d	c
23	b	d	b	b	B	b	a	b	c	a
24	c	d	b	b	C	c	a	a	c	a
25	b	d	b	a	B	d	a	b	c	b
26	b	d	b	b	B	d	a	b	d	a
27	b	d	b	a	B	c	a	b	b	a
28	b	d	b	a	B	c	a	a	c	a
29	b	d	b	a	A	b	a	b	c	a
30	b	d	b	a	A	b	a	b	c	a
31	b	d	b	a	A	b	a	c	c	a
32	b	d	b	a	A	d	a	b	c	b

33	b	d	b	b	A	c	a	c	b	b
34	b	d	b	b	B	d	b	d	c	b
35	b	d	b	a	B	d	b	b	d	a
36	b	d	b	a	A	b	b	b	b	c
37	b	d	a	a	B	c	a	b	c	a
38	b	d	b	a	A	d	a	b	c	a
39	b	d	b	a	B	b	a	b	a	a
40	b	d	b	a	A	d	a	c	d	d
41	b	d	b	a	B	d	a	c	d	a
42	b	d	b	a	A	c	a	a	b	a
43	b	d	b	b	B	c	b	c	d	d
44	b	d	b	a	B	b	a	b	c	a
45	b	d	b	a	B	c	b	b	d	c
46	b	d	b	a	B	d	b	c	b	c
47	b	d	a	a	A	d	a	b	d	c
48	b	d	b	a	B	c	b	c	d	d
49	b	d	b	a	B	c	a	b	d	d
50	b	d	b	a	A	d	a	b	c	b
51	b	d	b	a	B	c	a	b	d	d

52	b	d	b	a	B	d	a	b	c	c
53	b	d	d	a	B	c	a	b	d	b
54	a	d	b	a	B	b	a	b	c	a
55	c	d	b	a	b	d	a	a	c	c
56	b	d	b	a	a	c	a	b	c	a
57	b	d	d	a	b	d	a	b	c	c
58	b	d	b	a	b	d	b	c	d	d
59	c	d	b	a	b	d	a	b	d	b
60	a	d	b	a	a	c	b	b	c	a
61	b	d	b	a	b	c	a	b	c	d
62	a	d	b	a	a	c	a	b	c	a
63	b	d	b	a	b	c	a	b	b	a
64	b	d	b	a	a	c	a	b	c	d
65	b	d	a	a	a	c	a	b	c	b
66	c	d	b	a	a	d	a	b	d	c
67	b	d	a	a	a	c	c	b	c	d
68	b	d	b	b	a	c	a	c	c	b
69	c	d	b	a	a	d	a	b	d	c
70	b	d	b	a	a	d	b	b	c	a

71	a	d	a	a	a	c	a	a	c	a
72	b	d	b	a	a	d	a	a	b	a
73	b	d	b	a	b	0	a	c	c	b
74	b	d	b	a	d	c	b	c	d	b
75	b	d	b	b	b	b	a	d	d	c
76	c	d	b	a	b	c	a	b	a	b
77	b	d	b	a	b	D	0	b	d	a
78	b	d	b	b	b	d	a	b	d	a
79	b	d	b	a	a	d	a	b	c	a
80	b	d	b	a	B	c	a	b	b	a
81	b	d	b	a	B	c	a	a	d	b
82	b	d	b	b	B	d	a	a	d	a
83	b	d	b	a	A	0	a	b	c	c
84	c	d	b	a	C	d	a	c	d	a
85	b	d	b	b	C	d	a	c	d	c
86	b	d	b	a	B	c	a	a	b	b
87	a	b	d	b	A	b	d	a	c	b
88	b	d	b	a	A	d	a	b	b	c
89	b	d	b	a	B	d	a	b	c	a

90	b	d	b	a	B	c	a	b	b	a
91	c	d	b	a	A	c	a	b	d	c
92	b	d	b	b	B	b	a	b	c	a
93	b	d	b	a	A	d	a	b	d	b
94	b	d	b	a	B	d	a	b	c	a
95	c	d	a	a	D	d	a	b	c	a
96	b	d	b	a	A	d	a	b	c	a
97	b	d	b	a	A	b	a	a	b	a
98	b	d	b	a	A	d	a	b	c	a
99	b	d	b	a	B	d	a	a	d	c
100	b	d	b	a	B	a	a	b	a	b

ANNEXURE-XI

PHOTO GALLERY


GPS Map Camera
Yeldur, Karnataka, India
77jv+5f5, Yeldur, Karnataka 563138, India
Lat 13.279917° Long 78.293946°
23/01/25 12:46 PM GMT +05:30
Google

ANNEXURE-XIII

SRI DEVARAJ URS COLLEGE OF NURSING
Tamaka, Kolar 563103

Certificate of Plagiarism Check

Title of the Project	A study to assess the knowledge and utilization of the National Anemia Prophylaxis Programme among adolescent girls.
Name of the Student	1, Ms Aleena PB 2, Ms. Ann Elsa Baby 3, Ms. Chandana K 4, Ms. Devibala S 5, Ms. Devika B. Pillai 6, Ms. Devika S. Naik 7, Mr. Mujahid Khan 8. Ms. Nagayothri Bai G
Registration Number	1) 21C3842 2) 21C3898 3) 21C3899 4) 21C3902 5) 21C3903 6) 21C3904 7) 21C3928 8) 21C3929
Name of the Supervisor / Guide	Dr.Malathi K.V.
Department	Community Health Nursing
Acceptable Maximum Limit (%) of Similarity UG Project	10%
Similarity	7%
Software used	Turnitin
Paper ID	2217185407
Submission Date	19-Nov-2025 03:46PM

Signature of Student **Signature of Guide/Supervisor**

Librarian **HOD Signature**

Head of the Department
Dept. of Community Health Nursing
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