

**A STUDY TO ASSESS THE EFFECTIVENESS OF
STRUCTURED TEACHING PROGRAMME ON
KNOWLEDGE REGARDING IRON DEFICIENCY ANEMIA
AMONG THE MOTHERS OF PRE SCHOOL CHILDREN IN
SHAJI HOSPITAL AT DINDIGUL DISTRICT**



Registration No: 301718202.

**A DISSERTATION SUBMITTED TO THE TAMILNADU
DR. M.G.R. MEDICAL UNIVERSITY CHENNAI, IN
PARTIAL FULFILMENT FOR THE DEGREE OF
MASTER OF SCIENCE IN NURSING**

OCTOBER -2019

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Internal Examiner

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CERTIFICATE

This is to certify that the dissertation entitled **A study to assess the effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia among the mothers of pre school children in shaji hospital at dindigul district.**” is a bonafide research work done by **Mrs.G.KAVERI II year M.Sc (N).**, Jainee College of Nursing under the Guidance of **Mrs.Dr.Jayasundari M.Sc(N).**, **Ph.D., HOD of Pediatric Nursing, Dindigul district** in partial fulfillment of the requirements for the Degree of Master of Science in Nursing under Tamilnadu, Dr. M.G.R Medical University.

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ABSTRACT

A study to assess the effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia among the mothers of pre school children in Shaji hospital at dindigul district.

Quasi experimental one group pre-test post-test design was adopted and the study was conducted among mothers of pre-schooler at selected hospital at dindugal District..30 mothers of pre-schooler were selected by using purposive sampling method. pre test level of knowledge of mothers of pre-schooler regarding anemia were assessed.Structured teaching programme was given for 45 minutes and 20 minutes was given for clarification of doubts regarding management of iron deficiency anemia. after 7 days post test was conducted. the same questionnaire was used to assess the post test knowledge of mothers of preschool children. The data gathered was analysed by descriptive and inferential statistical method and interpretations were made based on the objectives of the study.

The major findings of the study was summarised;

- In pre test 21(70%) had inadequate knowledge and 9(30%) had moderate moderate knowledge. On the post test 24(80%) had adequate knowledge and 6 (20%)had moderate knowledge regarding iron deficiency anemia.
- In pre test mean score level of knowledge regarding iron deficiency anemia among mothers of pre school children were 8.3 with standard deviation 3.71and the mean score was 16.8 with standard deviation 1.7 in post test .The mean difference was 8.5.The obtained paired 't' test value was 11.47 which is significant at $p < 0.05$ level. Hence the stated H1 hypothesis was accepted. It was inferred that structured teaching programme is highly effective to increase the level of knowledge regarding iron deficiency among mothers of preschool children.

- The study findings shows that there was Significant association between the level of knowledge with type of family and there is no significant association between the level of knowledge with age , religion, education, occupation, residence, family income, previous knowledge on anemia and source of information.

CONCLUSION

The present study assessed the effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia among the mothers of pre school children in Shaji hospital at dindugal district. Based on statistical findings, it is evident that, In pre test 21(70%) had inadequate knowledge and 9(30%) had moderate moderate knowledge .On the post test 24(80%) had adequate knowledge and 6 (20%)had moderate knowledge. The mean score level of knowledge regarding iron deficiency anemia among mothers of pre school children were 8.3 in pre test and 16.8 in post test and the standard deviation score is 3.71 in pre test and 1.7 in post test .The mean difference was 8.5.The obtained paired t test value was 11.47 which is significant at $p < 0.05$ level. Hence the stated H_1 hypothesis was accepted. Therefore the investigator concluded that structured teaching programme had significantly increase the level of knowledge on anemia among mothers of preschool children.

CHAPTER - I

INTRODUCTION

CHAPTER – I

INTRODUCTION

“Teach a mother about health and she will teach rest of mankind”

Anemia is a major health problem throughout the world, in that iron deficiency anemia is one of the commonest forms of anemia. The prevalence of iron deficiency anemia is higher in developing countries like India, especially affecting toddler, preschooler, school age, adolescents and women of childbearing age.

WHO defines anemia as a condition in which the Hb content of the blood is lower than normal as a result of a deficiency of one or more essential nutrients. The Cut off point off Hb levels recommended by WHO to diagnose anemia are <13g/dl for adult men, <12g/dl for adult non pregnant women, <11g/dl for pregnant women and children from 6 months to 6 years and <12 for children from 6years to 14 years.

Iron deficiency anemia is a state of inadequate amount of iron (below 12g/dl in women) to synthesis the hemoglobin in the body. This affects the oxygen transport throughout the body cells. It is because of lack of iron content in the daily diet (due to poverty, illiteracy), impaired absorption of iron (due to metabolic disorders), increased requirement of iron (due to menstruation or pregnancy), and chronic blood loss (due to parasitic infestation, hemorrhagic gastritis etc.) .

Anemia is the most common nutritional deficiency disorder in the world. It is a condition that occurs when the red blood cells do not carry enough oxygen to the tissues of the body. **WHO(2008)** defines anemia as a condition in which the Haemoglobin (Hb) content of blood is lower than normal as a result of deficiency of one or more essential nutrients. Most of the anemias are due to inadequate supply of

nutrients like iron, folic acid and vitamin B12, proteins, amino acids, vitamins A, C, and other vitamins of B-complex group i.e., niacin and pantothenic acid are also involved in the maintenance of haemoglobin level.

Anemia is one of the most widespread nutritional deficiency diseases and a major public health concern all over the world affecting 1.62 billion people, which corresponds to 24.8% of the population. It is one of the most prevalent health issues among women within reproductive age group, that is, it has affected 41.8% of the pregnant women. Among women, anemia may become the underlying cause of maternal mortality and perinatal mortality. **The National Family Health Survey (2005-06)** reported that more than 55% of the women in India were anemic. WHO estimated that the prevalence of anemia among the reproductive age group of women was 14% in developed countries and 51% in developing countries, while it was 65-75% in India (**Mishra, Kalaivani, Barbara, and Rosenwei, 2012**).

Iron deficiency anemia is one of the commonest forms of anemia and highly prevalent among the reproductive age group of women, as a result of excessive loss of iron or demand of iron associated with menstruation and child birth. It is a critical health concern as it affects growth, energy levels and also leads to various health problems. It is one of the main causes of morbidity and mortality in reproductive age and a key factor to low birth weight. Inadequate knowledge on anemia, poverty, inadequate diet, pregnancy, lactation, poor educational level and poor access to health services predispose women to get anemia (**Bhanushali, Kanani and Poojara, 2011**).

The reason for the high morbidity and mortality rates among women can be that the manifestations of anemia among women in reproductive age may not be evidenced easily in the beginning as it is like an ice berg. But Paleness, fatigue and low blood

pressure can be manifested later. In severe cases, there will be shortness of breath and chest pain, which is an evidence of inadequate perfusion and oxygenation of the major organs. These factors can worsen the health conditions of women and lead to various secondary health problems such as lung diseases, cardiovascular diseases and heart attack, ultimately to death. Severe anemia is closely related to the risk of high mortality among reproductive age group of women, and mild anemia carries health risks and reduces capacity to work. **(Khatry, et al., 2008).**

Anemia is not a specific disease state, but a sign of an underlying disorder. It is so far a most common hematology condition. It is a condition in which Hemoglobin concentration is lower than normal, reflects presence of fewer than normal RBCs within circulation of oxygen delivered to body tissues **(NFHS-3, 2005-06, Park and Umeta, 2009).**

Anemia results from defective red cell production or increased red cell destruction or blood loss. Iron is necessary for synthesis of hemoglobin. Iron deficiency is thought to be the most common cause of anemia globally, but other nutritional deficiencies (including folate, vitamin B12 and vitamin A), acute and chronic inflammation, parasitic infections, and inherited or acquired disorders that affect Hb synthesis, red blood cell production or red blood cell survival can cause anemia.

The function of the RBCs is to deliver oxygen from the lungs to the tissues and carbon dioxide from the tissues to the lungs. This is accomplished by using hemoglobin (Hb), a tetramer protein composed of haemoglobin. Anemia impairs the body's ability to exchange gas by decreasing the number of RBCs transporting oxygen and carbon dioxide.

Magnitude of the Problem

A Systematic Analysis of Global Anemia Burden (1990 to 2010) aimed to produce the first complete account of global anemia burden. Prevalence was higher in most of the regions among females. South Asia and Central, West, and East sub-Saharan Africa had the highest burden, while East, Southeast Asia saw the greatest reductions.

WHO data base (1995-2005) Micronutrient Deficiency Information System (MDIS) estimated the prevalence of iron deficiency anemia among the industrialized and non-industrialized countries. In non-industrialized countries, 30% to 60% of non-pregnant women were anemic with the highest rates in Asia and Africa. Iron deficiency was the main cause of anemia in industrialized countries, whereas in the non-industrialized countries the other factors such as malaria and parasitic infections (hookworm) played a role. According to the WHO database, in the industrialized countries, the most affected groups were pregnant women (18% anemic), school children (17 % anemic), non-pregnant women and the elderly, (both 12% anemic). In the non-industrialized countries, the most affected population groups were pregnant women and school-aged children (both 53% anemic), non-pregnant women (44% anemic), preschool children (42% anemic) and the elderly (51% anemic). The prevalence of anemia was low among the adult males in industrialized countries (4.7% anemic), but in non-industrialized countries, not less than 1/3 of the adult males were anemic.

National Family Health Survey (NFHS) (2011) estimated that about 20%-40% of maternal deaths in India are due to anemia. India contributed to about 50% of global maternal deaths due to anemia.

Iron is used for formation of hemoglobin, oxygen transportation, brain development, regulation of body temperature and muscle activity. When the haemoglobin level is decreased in human body, it is called as iron deficiency anemia. Iron deficiency is the most common etiological factor in causing anemia (**Park,2007**).

Anemia is a serious public health problem, which affects the mental and physical development, as well as health maintenance and work performance. Iron deficiency is by far the most common cause of anemia worldwide. About 2 billion people suffer from varying degrees of anemia in developing countries. Iron deficiency occurs when insufficient iron is absorbed to meet the body's needs. This may be due to inadequate iron intake, poor iron absorption, increased iron need or chronic blood loss. Prolonged iron deficiency leads to iron deficiency anemia (IDA).

Iron Deficiency Anemia

WHO (2015) defined Iron-deficiency anemia (IDA) as the most common type of nutritional anemia which results from long-term negative iron balance and is responsible for approximately 50% of all anemia. It is a severe stage of iron shortage in which hemoglobin falls below the normal range (Hb 12.0 mg/dL or haematocrit below 36%).

Iron deficiency anemia affecting both developing and developed countries with major consequences for human health as well as social and economic development. It occurs at all stages of the life cycle, but is more prevalent in women during the reproductive age and among the young children. In **WHO(2002)**, Iron Deficiency Anemia (IDA) was considered to be among the most important contributing factors to the global burden of anemia.

Stages of Anemia

According to **Herbert (1992)** deviations from normal iron status have been summarized as follows:

Stages I negative iron balance (i.e. iron depletion)-In these stages, iron storage are low, and there is no dysfunction. In this stage there is reduced iron absorption and has moderately depleted iron storage.

Stage II negative iron balance is characterized by severely depleted iron storage. When persons in these two stages are treated with iron, they never develop dysfunction or disease.

Stages III & IV negative iron balance (i.e. iron deficiency) Iron deficiency is characterized by inadequate body iron, causing dysfunction and disease. In stage III negative iron balance, dysfunction is not accompanied by Anemia; however, Anemia does occur in stage IV negative iron balance.

The National Family Health Survey , conducted in 2005-06, presents the statistics that mark a growth in cases pertaining to anemia. Most of the anemic patients, especially women, suffer from mild to severe deficiency of iron. The hemoglobin count in most of the adolescent girls in India is less than the standard 12 g/decilitre, the standard accepted worldwide.

In Uttar Pradesh alone, 85 percent of children under the age of three years suffer from deficiency of iron, a leap of 11.3percent from the figures in NFHS 2, conducted in 1998-99. According to WHO estimates, India is one of the countries in the world that has highest prevalence of anemia.

A study on the prevalence of anaemia was conducted among Jenukuruba primitive tribal children of Mysore district, Karnataka state. For the present study 175 children ranging in age group 6-10 years were selected and estimated the haemoglobin level by cyanmethaemoglobin method. The study revealed that, 36.57% of children were moderately anaemic, 26.29percent were mildly anaemic and 14.86 percent severely anaemic. On the whole 77.71% were suffering from different forms of anaemia. Prevalence of anaemia was more among the girls than boys.

A study was conducted to estimate the prevalence of anaemia among adolescent females and to study the socio-demographic factors associated with anaemia. A cross-sectional survey was conducted in an urban area under Urban Health Training Centre, Department of Preventive and Social Medicine, Government Medical College and Hospital, Nagpur. A total of 296 adolescent females were included in this study. The Results shows the prevalence of anaemia was found to be 35.1%. It was seen that anemia affects the overall nutritional status of adolescent females

NEED FOR THE STUDY

“I wish you could realize that

The destiny of our beloved land lies

Not in us the parents but in our children”

Iron deficiency anemia is the most common form of malnutrition in the world, being most prevalent and severe in young children (6-24 months) and women of reproductive age. Evidences suggest high prevalence of iron deficiency anemia among antenatal mothers, in India. Iron deficiency anemia is associated with developmental delays, behavioral disorders and poor baby development. In animal model intrauterine and early life latent iron deficiency induced irreversible neurotransmitter alteration For

the pregnant women, anemia can be particularly devastating, if she is severely anemic (< 7g/dl), it can mean still birth or low birth weight for the baby and death for the women if she suffers another maternal complication. It usually results from a nutritional deficiency of iron folate and Vit-B12.

Now a days Iron deficiency anemia is one of the world most prevalent nutritional problems. Several studies concerning anemia prevalence were carried out For children under 5 years and for mothers, an allied nutritional deficiency identified nationally is iron deficiency anemia. 30% infants and children between age of 6 months to 5 years of age were found to be anemia with the highest prevalence rate of 57% being among the youngest children aged 6-11 months attributer to the poor maternal nutrition status. Failure to correct iron deficiency in infancy can result in lasting cognitive damage.Gaps in health education programs, poor monitoring and, inadequate food supplies, have been identified as primary cause for the issue. Health education programmed for mothers of children suffering from iron deficiency anemia in United Arab Emirates.

Anemia continues to be a major public health problem in developing countries including India. It is the most common cause of malnutrition in the world and is the eighth leading cause of diseases in girls and women in developing countries **WHO(2010)**. In India, two third of women of childbearing age were estimated to suffer from iron deficiency anemia. Report from National Nutrition Monitoring Bureau 2002 indicated that 15% of all maternal deaths were attributed to anemia. The highest prevalence of anemia among women in India was a burden to their families, and for the economic development and productivity of the country.

Prevalence of anemia in all the groups is higher in India than in other developing countries (**Kalaivani, 2009**). In India, anemia affects an estimated 50% of the population. The problem becomes more severe as more women are affected with it as compared to men (**Malhotra, et al., 2004**). It is estimated that about (20%-40%) of maternal deaths in India are due to anemia and one in every two Indian women (56%) suffers from some form of anemia (**District Level Household Survey, DLHS (2008)** surveys have shown that prevalence of anemia is very high ranging between (80->90%) in preschool children, pregnant and lactating women and adolescent girls. Low birth weight infants, young children and women of childbearing age are particularly at risk of anemia. That way Anemia begins in childhood, worsens during adolescence in girls and gets aggravated during pregnancy.

Traditionally, the Indian housewife eats last, after all male members and children have eaten. Even though the food prepared for the family is the same, women are more prone to develop Iron deficiency anemia than other members of the family because of less intake. In recent decades, important changes in lifestyle habits and dietary patterns occurred among the Inuit population, contributing to the decreased consumption of country foods that are good sources of iron.

Poverty in India is widespread. Among the nations. India is estimated to have one third of the world's poor people. In 2010, the World Bank reported that 32.7% of the totals Indian people fall below the international poverty line of US\$ 1.25 per day (PPP), while 68.7% live on less than US\$ 2 per day. Most of them belong to low socio-economic class with lack of proper education, employment and a low quality lifestyle and diet. In such conditions it is very difficult for them to fulfill their daily iron/nutritional requirements.

D'souza and Rangarajan (2007) reported that the occurrence of restless leg syndrome was significantly higher among those who had iron deficiency anemia. The initial symptoms of iron deficiency anemia are unnoticeable. In severe cases there will be inadequate oxygen supply to major organs in the body. This will cause various health problems such as kidney failure, lung diseases, and cardiovascular diseases and ultimately it leads to death.

India falls in the category where use of simple chapatti, rice and tea is very common. These food servings contain phytate and tannin which inhibit absorption of iron. Iron deficiency anemia is frequently observed in women from south-Asia region because of vegetative diet. Studies have also revealed that food rich in proteins like beef, chicken and fish are very expensive in our country, due to low income and the daily wages of laborers in India and many are unable to afford to purchase non-vegetarian foods frequently and eat.

Meghendra Banerjee and Gop Ngosh (2005) reported on examples of studies seeking to understand the high incidence of Anemia among the fisher community. Although coastal communities are mainly non-vegetarian and receive a good amount of micro nutrient supplement as part of their diet, the reason for high incidences of anemia among them, could be to low consumption of green and leafy vegetables, poor sanitary conditions, which leads to worm (largely hookworm) infestation, ignorance about anemia, its consequences and prevention strategies, and misconceptions regarding the iron and folic acid supplements, resulting in a high incidence of anemia.

Devi (2014) did a study on "prevalence of anemia among children age 10 to 15 years in urban at Chidambaram". A total of 500 children were included in the study to obtain an almost equal sample of pre and post menarcheal girls. The total students in

the Government girls higher secondary school were 3078. Out of total (500) students surveyed, 292 students (58.4%) were found to be anemic. Majority were in the age group of 11 years (39.6%) and 14 years (33.6%) and 74.2% were from joint family. Most of them belong to upper lower class (66.6%). None of the girls had any symptom of anemia, except for 5.4% had loss of appetite. 26.8% was found with pale conjunctiva. There was no statistically significant association between anemia and variables such as birth order, socio-economic status of the family, family type and age at onset of menarche and usage of sanitary latrine. There was a statistically significant association between anemia and variables such as age, personal hygiene, body mass index and menarche status.

There are numerous nutritional programs existing for children, school age adolescents as well as for pregnant and lactating mothers to create awareness and to decrease the prevalence of iron deficiency anemia among them. When compared with women in reproductive age, very less effort has been put forward to create an awareness regarding iron deficiency anemia among the women.

The researcher, during her clinical practice observed multiple cases of anemia in childrens and discovered lack of appropriate knowledge on anemia and its prevention as one of the main causes for its high prevalence. Also many of the women do not utilize the available health facilities and they were ignorant about their health status. So the present study is an attempt to explore their knowledge and create awareness by structured teaching programme regarding iron deficiency anemia its management and its prevention which will help the women change their attitude towards their health.

STATEMENT OF THE PROBLEM

“A study to assess the effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia among the mothers of pre school children in Shaji hospital at dindigul district.”

OBJECTIVES OF THE STUDY

- To assess the pre test and post test level of Knowledge regarding Iron deficiency anemia among the mothers of pre school children.
- To evaluate the effectiveness of structured teaching program on knowledge regarding Iron deficiency anemia among the mothers of pre school children.
- To find out the association between the pretest level of knowledge regarding Iron deficiency anemia among the mothers of pre school children with their selected demographic variables.

HYPOTHESIS

- **H₁:** There will be significant difference between the pre test and post test level of knowledge regarding iron deficiency anemia among mothers of preschool children.
- **H₂:** There will be a significant association between the pre test level of knowledge regarding iron deficiency anemia among mothers of preschool children with their selected demographic variables.

OPERATIONAL DEFINITIONS

➤ **Assess:**

It refers to the statistical estimation of knowledge regarding anemia among mothers of preschool children by using structured knowledge questionnaire.

➤ **Effectiveness:**

It refers to the gain in knowledge as determined by the significant difference in pre-test and post-test knowledge scores as elicited through structured knowledge questionnaire.

➤ **Knowledge:**

It refers to the awareness of mothers of preschool children regarding iron deficiency anemia as measured by the correct response to items of the knowledge questionnaire.

➤ **Structured teaching program:**

It refers to systematically organized planned teaching programme to provide information to mothers of preschool children regarding iron deficiency anemia.

➤ **Mothers :**

It refers to the female Guardian of pre school children.

➤ **Iron deficiency anemia:**

It refers to a metallic Element, Present in the body in small quantities and essential to life. A deficiency of iron element may produce anemia.

ASSUMPTIONS

- The mothers of preschool children may not have adequate knowledge regarding iron deficiency anemia.
- Teaching strategy regarding iron deficiency anemia may have to improve knowledge among mothers of preschool children.

LIMITATION

- The sample size of 30 subjects.
- The study period of 1 week.
- The study is limited to mothers of preschool children.

CONCEPTUAL FRAME WORK

A conceptual framework is a group of concept and a set of proportions that spell out the relationship between them. Conceptual work is a framework through which the overall idea is gained to proceed the research in an organized manner.

Good researcher generally integrates research into an orderly, coherent system such as integration typically includes linking new research and existing knowledge by performing a thorough review of the prior research on a topic and by identifying or developing an appropriate answer. It provides rich context for a research project and helps the reader to define and delimit the problem to be suited

For the present study **Rosen Stock and Beckers health belief model (1978)** adopted. Rosen Stock assumed that objective of the people to have good health added “positive health motivation” this model proposes that people will not attempt to adopt the preventive practices unless the complications are threatening to some aspect of their lives.

Application of the Rosen Stock and Beckers health belief model based on Bekers theory, the investigator divided the person's behavior under three main categories:

1. Individual perception.
2. Modifying factors
3. Likelihood action.

Individual perception:

In the individual perception includes the perceived knowledge on mothers of preschool children regarding iron deficiency which influences the perceived threats that is lack of knowledge regarding anemia .

Modifying factors:

Here the modifying factors includes Assessing the demographic variables, assessing the knowledge on mothers of preschool children regarding iron deficiency anemia barriers can be overcome by cues of action by friends, relatives, family members, mass media and health care providers.

Likelihood action:

Evaluating the level of knowledge by the structured questionnaires through statistical analysis. The outcome may be inadequate, moderately adequate and adequate level of knowledge. Positive benefits may be enhanced and reinforce their level of knowledge regarding iron deficiency anemia by Structured teaching program on anemia.

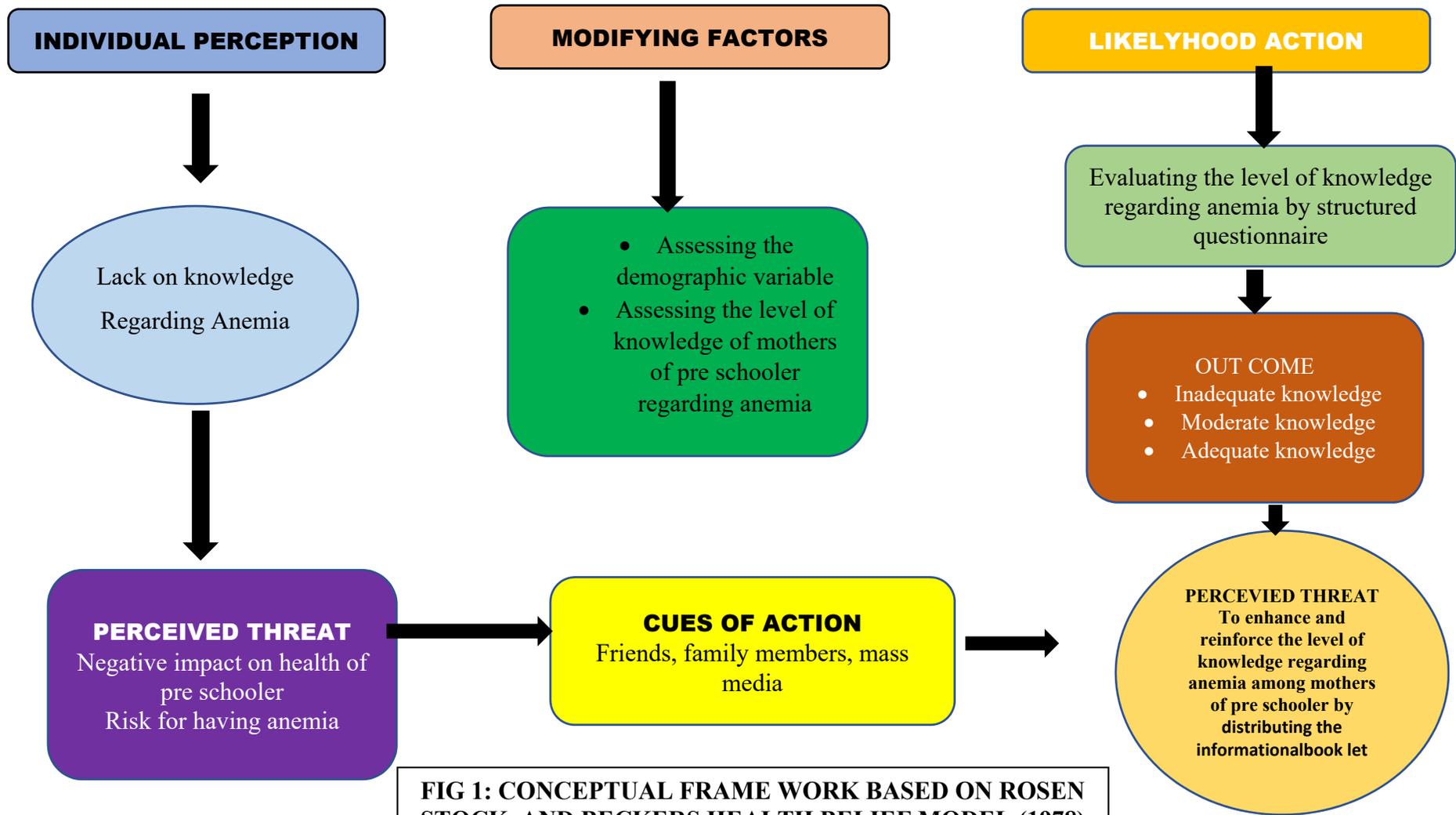


FIG 1: CONCEPTUAL FRAME WORK BASED ON ROSEN STOCK AND BECKERS HEALTH BELIEF MODEL (1978)

CHAPTER - II

REVIEW OF LITERATURE

CHAPTER – II

REVIEW OF LITERATURE

The review of literature is a summary of previous research topic. Literature reviews can be either a part of larger report of a research project, a thesis or bibliographic essay that is published separately in a scholarly journal. The purpose of literature review is to the reader what knowledge and ideas have been established on a topic and what are the strength and weakness According to Polit and Hungler the task of reviewing research literature involves the Identification, Selection, Critical analysis and Written description of existing information related literature which one received is described under the following headings

In this study the reviews of various studies are presented under the following headings

- **Studies related to the prevalence of iron deficiency anemia.**
- **Studies related to effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia.**

STUDIES RELATED TO THE PREVALENCE OF IRON DEFICIENCY ANEMIA

Marques, et al., (2015) assessed the prevalence of anemia among women attending universities. The risk of developing anemia was almost threefold higher among the students attending the public university (OR 2.71; p = .0248). The results revealed that prevalence of anemia was much higher than in the overall female

population (79%). The higher education was not a protective factor for anemia in women when analyzed separately from the total population of women.

Shrinivasa, et al., (2014) estimated the prevalence of anemia among tribal women of 15-45 years of age of Wayanad District of Kerala. Anemia was diagnosed by estimating the hemoglobin. Prevalence of anemia was found to be 96.5%. Mild anemia (Hemoglobin = 10-11.9 gm %) was found to be 30.5%. About 55.9% had moderate degree anemia (Hb 7-9.9 gm %). Prevalence of severe anemia (<7 gm %) was found to be 10.1%. The study findings concluded that the prevalence of anemia was substantially high among women of reproductive age group of Wayanad.

Kamath, et al., (2013) investigated the prevalence of anemia among tribal women, aged 15 to 49 years in Udupitaluk, Udupi district, Karnataka. The study findings revealed that in the sample of tribal women in the age group of 15-49 years, the prevalence of anemia was 55.9%. Among the subjects, 6 (3.5%) were severely anemic, 33 (19.4%) had moderate anemia and 56 (32.9%) were mildly anemic.

Malhotra, et al., (2004) An epidemiological survey was undertaken to assess the prevalence of anemia among adult male and non pregnant women aged between 16-70years. Out of 2559 individuals 78 males and 136 females were selected by using randomization sampling technique. Direct cyanmethemoglobin method was used to estimate Hemoglobin levels. The study results showed that the prevalence of anemia was higher among females than males (50% vs. 44.3%, $p>0.05$). Especially in females those who were under 30 years had higher prevalence (55, $p>0.05$) than the males

Majid Sadeghiann, et al., (2013) identified that low socioeconomic status and high parity index were associated with higher prevalence of anemia. A descriptive, cross sectional study was conducted to determine the frequency and nutritional risk

factors of iron deficiency among women of childbearing age (15- 45 years) in Karachi. 200 hundred non pregnant women of childbearing age were selected using probability and purposive sampling technique. A questionnaire was used to collect the demographic and socioeconomic information and information about dietary habits, diagnosis of iron deficiency anemia was done on the basis of red cell morphology, peripheral blood smear, serum ferritin level, and stool examinations. The study findings revealed that the 89 (44.5%) out of 200 women were having iron deficiency and the dietary history revealed that 75 (84.26%) patients were having more than 4 cups of tea per day, and indicated that the dietary habits of patients was one of the causative factors leading to iron deficiency anemia

Sinha (2013) carried a hospital based study to determine the prevalence of anemia in difference groups among women of reproductive age population. Out of 3,859 subjects, 2,597(67.3%) women amongst reproductive age group were diagnosed as anemic. The highest prevalence of anemia (13.7%) was found at the age group of 25-29 years and the second highest prevalence of anemia 13.1% was at the age of above >40 years of the study population. Mainly the study was focused to examine the various socio- demographic aspects related to consumption of micro- nutrition –rich food like green leafy vegetables, modify dietary habits and to make a strategy for prevention of anemia. A field tested structured questionnaire was administrated to obtain personal information, obstetric history, and dietary recall. Cyanmeth hemoglobin method was used to estimate the Hemoglobin level. The study findings revealed that 77% of the women were anemic out of which 28% of them had iron deficiency anemia. Multiple logistic regression analysis showed significant ($p<0.05$) association between prevalence of iron deficiency anemia and socio-demographic, maternal parameters. Suggested to develop action programs to improve nutritional

knowledge and awareness leading to enhanced consumption of iron rich foods for preventing anemia in India.

Kalpana (2012) estimated the prevalence of iron deficiency anemia among adolescent school girls in the age group of 13-17 years in Chennai. A cross-sectional survey was executed among 400 female school students in the age group of 13-17 years in Chennai. Socio-demographic details and anthropometric measurements were obtained. The results revealed that the prevalence of anemia was found to be 78.75% among school students in the age group of 13-17 years in Chennai.

Mishra (2012) reported that 96.8% of the subjects were anemic and majority of anemic women were in the category of mild to moderate anemia. Manmeet and Kamaljit (2009) also conducted a similar kind of study in an urban area of Chandigarh and as per their result, the overall prevalence of anemia among reproductive age women was 73.3%. Another study carried out in Karnataka (NFHS 3-2005-06) also showed that prevalence of anemia among rural reproductive age women was about 52.7%.

Premalatha (2012) stressed the need to investigate the factors associated with the prevalence of anemia. During adolescence anemia is more prevalent in both sexes due to growth spurt especially in girls where they are exposed to the risk of onset of menarche. Prevalence of anemia is very high in vulnerable groups even in higher socioeconomic status. Prevention of anemia is effective when the strategy is focused right from adolescence for their future reproductive life and this will contribute to achieve Millennium Development Goals (MDG).

Panigrahi and Sahoo (2011) correlated Nutritional anemia with epidemiological indices among women of reproductive age in an urban slum of Bhubaneswar, Orissa. The prevalence of anemia was found to be 60.8%, of which 39.6,

20.0 and 1.2% women had mild, moderate and severe anemia, respectively. Statistical analyses have shown that epidemiological factors like age, education of respondents, socioeconomic status, history of excessive menstrual bleeding and inadequate intake of green leafy vegetables and pulses were found to be significantly associated with anemia.

Ansari and Nagina (2010) examined the frequency and nutritional risk factors of iron deficiency anemia among 200 women of reproductive age of 15-45 years in Karachi, Pakistan. The study findings indicated that 44.5% of them were found to be anemic. Community based program to monitor the severely anemic cases will help to overcome iron deficiency anemia.

Karkada (2010) reported that anemia is a silent emergency among the women of reproductive age group (15-45). As per prevalence of anemia among the reproductive age group was very high (72.6%) in India. The overall prevalence of anemia in India increased from 74.2% (1998-99) to 79.2% (2005-06). Nagaland had the lowest prevalence (44.3%), then Goa (49.3%) & Mizoram (51.7%). Bihar had the highest prevalence (87.6%) followed closely by Rajasthan (85.1%), and Karnataka (82.7%). As per statistical rate in 2006, the incidence rate of anemia among women aged 15-49 years in India was 55.3% and in Karnataka 51.5%.

Pala and Dundar (2008) addressed the prevalence of anemia and risk factors in women of reproductive age group in Public Health Training and Research Area, Bursa, Turkey. The prevalence of anemia was 32.8 percent (hemoglobin level < 12 g/dl). Usage of more than 2 sanitary pads in a day was found to be risk factors for anemia.

Shobha Rao, et al., (2010) examined the prevalence of anemia. A field tested structured questionnaire was administered to obtain personal information, obstetric history, and dietary recall. The study findings revealed that 77% of the women were anemic out of which 28% of them had iron deficiency anemia.

Varun Arora, et al., (2010) examined the patterns of social inequalities in prevalence of anemia among women of reproductive age in India. The study was conducted using national representative data from National Family Health Surveys of India (1998/1999 and 2005/2006). A total of 1,64,600 married women aged 15-49 years from 25 Indian states were included in the study. Over the 7-year period, anemia prevalence increased significantly from 51.3% to 56.1% among Indian women. This corresponded to a 1.11-fold increase in anemia prevalence.

Haidar and Pobocik (2009) conducted a community based cross sectional study on iron deficiency anemia among women of reproductive age in Ethiopia. About 970 representative samples were selected systematically from the age group of 15 to 49 years. Hemoglobin was measured from capillary blood and for serum ferritin; venous blood from antecubital veins. The result showed that overall prevalence rate of iron deficiency anemia was 48.0%. Prevalence of anemia, iron deficiency, and iron deficiency anemia was highest among 31-49 years old

Mei Ciu Chang, et al., (2009) highlighted the prevalence of anemia in healthy adolescent girls and a reproductive age group of adult women residing in an urban area. A total of 441 individuals comprising healthy, non-pregnant, non-lactating, reproductive age women (aged 13 to 50 years) participated in the study. Prevalence of anemia amongst adults (41.7%) was higher than adolescents (28.3%). Nutrient intake of anemic adolescents was lower than non- anemic adolescents. The results highlighted

on the prevalence of anemia among the adolescent girls and reproductive-age group of women, which may be helpful in combating this common disorder in the urban population.

Negi, et al., (2009) conducted a study to assess the prevalence of anemia among the women of reproductive age group (15-45) in Dehradun district. Two villages from each of the ten subcentres were selected for the study. From every village 10 women of reproductive age were randomly covered from different households. The results showed that the prevalence of anemia was found to be 65.5% and 66.0% among the subjects respectively. Age and occupation of the women did not significantly affect the prevalence of anemia. An inverse relation emerged between the prevalence of anemia and literacy status.

Sanjeev (2008) estimated the prevalence of anemia among adolescent females and studied the socio-demographic factors associated with anemia. A total of 296 adolescent females (10-19 years old) were included in this study. The prevalence of anemia was found to be 35.1%. A high prevalence of anemia among adolescent females was found, which was higher in the lower socio- economic strata and among those whose parents were less educated. It was seen that anemia affects the overall nutritional status of adolescent females.

Tupe, et al., (2008) explored the influence of dietary factors of iron bioavailability and socio-demographic conditions prevalence of anemia among married women. The study included 173 married women (15-39 years old) from urban slums near Pune city. Diet was assessed by two random 24-hour recalls. The age, weight, height, education, family size, income, physical work, and number of days of menstrual loss were recorded. Fasting blood was analyzed for hemoglobin and serum ferritin. The

prevalence of iron deficiency was 25.1%, and anemia was seen in 46.4% among married women.

Melaku, et al., (2005) estimated the magnitude of iron deficiency anemia among reproductive age group women. A total of 22,861 women of reproductive age group (15-49 years) were examined clinically. The majority of anemia in women was in the category of mild (19.3%), moderate (10.3%) and severe (0.9%) Most affected respondents were in the age of 36-49 years.

Jolly Rajaratnam, et al., (2000) did a survey on the prevalence of anemia among adolescent girls was conducted by the Christian Medical College and Hospital. The respondents include 155 women of reproductive age group from the K.V. Kuppam block and 161 from the Gudiyatham block. Results indicated that prevalence of anemia among girls was 44%. Of these, 2.1% was severe, 6.3% moderate, and 36.5% mild anemia. Prevalence of anemia exists in 40.7% of pre- and 45.2% in post-menarchial girls.

STUDIES RELATED TO EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING IRON DEFICIENCY ANEMIA.

Kala and Christopher (2014) implemented the structured teaching program on knowledge and attitude of post-adolescent girls in prevention of iron and folic acid deficiency anemia at a selected corporation school, Coimbatore. Major findings of the study revealed that during pretest 90% of them were had inadequate knowledge and 65% of them had unfavorable attitude towards iron and folic acid deficiency anemia. After the structured teaching program, the knowledge and attitude was improved (73% had adequate knowledge and 79% of them had most favorable attitude).

Minakshi (2008) addressed the effectiveness of structured teaching program on knowledge regarding iron deficiency anemia and its prevention among mothers in selected hospital of Bhavnagar District. The overall pre -test mean knowledge score of mothers was 13.81 ± 3.67 and posttest mean knowledge score of was 22.71 ± 2.35 . The posttest mean knowledge score is significantly greater than the pretest mean knowledge score. It infers that structure teaching programme was effective.

Kakunte (2008) demonstrated the knowledge and nutrition education as a long term approach to combat iron deficiency anemia. A folder was developed consisting of brief information regarding iron, anemia, sources, enhancers, inhibitors, consequences of anemia and fortification. The knowledge assessment tool was tested thrice during the study period initially before the education, soon after the nutrition education and one month later and the subjects were classified on the scores obtained. Assessment of the knowledge immediately after the education programme revealed that 97.44 per cent of subjects scored high (>23) whereas 2.56 per cent scored medium (17-23) and one month later, the knowledge level revealed that 95.51 per cent scored high (>23) and 4.49 per cent scored medium (17-23), reflecting that the retention of knowledge is quite satisfactory during follow up assessment. The response improved after education intervention that could help to combat micronutrient malnutrition.

Greiner (2009) measured how communication proceeded among health workers and women in Southern India. Participants included 5 nurses, 10 health aides, and 10 (traditional birth attendants) TBAs working with maternal health care and education, as well as 32 women seeking reproductive health care. Those women who received health education where they lived, from health workers they knew, and together with participants familiar to them learned more about anemia prevention than others.

Manmeet and Kamaljit (2009) assessed the effect of health education on the KAP of women for prevention of anemia in a village of Chandigarh. Interpersonal and group communication approaches were used to communicate messages on anemia. The results revealed that 93.3% and 96.6% could specify at least one correct cause of anemia and identified a sign or symptom of anemia. The knowledge about methods of anemia prevention was significantly higher; 93% women were in favor of including green leafy vegetables in their diet. Hence, from the study it was concluded that nutrition education is one of the appropriate, effective and sustainable approaches to combat iron deficiency anemia.

Yusoff (2009) compared the effectiveness between multimedia nutrition education intervention and non-nutrition education intervention in improving awareness level regarding iron deficiency among anemic adolescents. The awareness components assessed include the causes, symptoms and preventive measures of iron deficiency. Both interventions were implemented for 3 months. The changes in awareness among respondents of both groups were evaluated using multi-choices questionnaire. Multimedia nutrition education program conducted at school setting was in fact practical and effective in improving awareness on iron deficiency among anaemic adolescents.

Sajjan (2008) concentrated on the impact of nutrition education on hemoglobin status of rural adolescent girls in Dharwad. A total of 300 women of reproductive age group were selected. Specific information on the consumption pattern of green leafy vegetables indicated that the adequacy of green leafy vegetable was less than ten percent. Nutrition education intervention resulted in significant increase in the mean knowledge scores. The mean pretest knowledge score was 13.70 and was increased to

24.43 after intervention. The study concluded that nutrition education is one of the appropriate, effective and sustainable approaches to combat iron deficiency anemia.

Werner and Bower (2004) measured the impact of teaching programme on their level of knowledge of pre-university students. There was a significant improvement in the level of knowledge at the end of the programme, with the greatest improvement in those who attended most sessions. The low scores recorded for questionnaire administered before the teaching programme suggest that there is a critical need for improved in education.

Imunticha (2015) correlated the relationship between knowledge and practice on prevention of Iron deficiency anemia among the women of reproductive age. Knowledge analysis revealed that 55.8% had inadequate knowledge with regard to iron deficiency anemia and its prevention.

Mamtal and Tamphasana (2014) evaluated the knowledge of anemia among women of reproductive age group (15-49 years) residing in rural Punjab. The result illustrated that 52.5% were having average knowledge regarding anemia (causes, sign & symptoms & treatment). The overall mean score was 6.92. Age, education and working status of the females were found to have statistically significant association with the knowledge score related to anemia.

Maj and Laxmipriya (2013) correlated the knowledge and practice level with selected variables such as age, educational qualification, occupation, and obstetrical score. The result revealed that 69% had good knowledge about prevention of anemia. 59.5% women were following good practices to prevent anemia. There is a significant positive correlation between knowledge and practice.

Ghimire (2013) associated the knowledge and practice of women of reproductive age group (15-45yrs) regarding the prevention of anemia. The result showed that there was significant association in level of knowledge to the educational status regarding prevention of anemia. Furthermore, there was significant association between the level of knowledge and the practice of women of reproductive age group on prevention of anemia.

Ahmad (2013) A cross-sectional study was carried out to determine the factors affecting knowledge of secondary school girls concerning Iron deficiency anemia, in Quazvin city. The study population consists of 218 Students who were randomly selected from ten secondary schools in a selected area. A questionnaire was prepared to collect the data and statistical tests of χ^2 and regression were employed to analyze the data. The results of the study indicated that 57.3 percent of students had poor knowledge on iron deficiency anemia. The results also showed that the field of education, the level of education, age, father's job and mothers, job had a significant relation with knowledge.

Fredanna, et al., (2012) evaluated the knowledge, attitudes and behaviors anemia among women. The participants responded to questions related to causes, prevention, treatment and complications stemming from anemia. Participants scored less than 50% on a ten-item scale assessing their anemia. A ceiling effect was observed for three items that were answered correctly by a high proportion of participants: does malaria cause anemia (n=149, 87%), does poor diet cause anemia (n=150, 88%), and blood loss due to menstruation cause anemia (n=152, 89%). Conversely, the following items had the lowest number of correct responses: does receiving a blood transfusion cause anemia (n=91, 53%), does HIV/AIDS cause anemia (n=85, 50%), does the

common cold cause anemia (n=75, 44%), and does coughing cause anemia (n=55, 32%).

Mishra, et al., (2012) reported that educational qualification is a key determinant which affects the knowledge of women regarding nutrition and anemia. Working women has an opportunity to explore their knowledge outside home. It will give them an opportunity to interact with others, to increase their knowledge regarding anemia.

Wan Daud (2011) A cross-sectional study was conducted to assess the nutritional status of rural hill women and to study the knowledge of hill women regarding nutritional anemia the study was confined to the women of reproductive age group (18-45 years). A total of 223 women were selected randomly. The knowledge of the samples were tested using a questionnaire. The study results showed that as high as 66.32% of subjects were having low knowledge score, 4.56% of the subjects were having a high level of knowledge and the rest of them were having a medium level of knowledge. The study suggested that to eradicate the problem of nutritional anemia a more intense awareness campaign is required

Shweta and Rita (2011) studied the knowledge of women residing in hilly area of Uttarakhand regarding anemia. The study was confined to the women of age group of 18-45 years. A total of 223 women were selected randomly. From the outcome of the study, it was observed that mean percent knowledge score of subjects was 23.28. Knowledge scores were found to be increasing with decreasing age and they were significantly associated with educational status.

Singh (2011) described that as per the relationship of knowledge score anemia with selected socio-demographic variables is concerned some of the variables were

found to have significant relation with knowledge regarding anemia. The most striking factor, which came out to affect the knowledge of subjects on anemia, was age, educational qualification and working status. All the categories of age were found to have statistically significant relationship with knowledge. The subjects falling under the age group as 15-25 years have more access to books and educational materials related to anemia which increase their knowledge.

Mello, et al., (2010) A cross-sectional study was conducted to assess the level of awareness about causes, prevention and treatment of iron deficiency anemia among women of reproductive aged between 18-45years. The random sampling technique was used to select 385 women from 7 villages in China. A self-designed open ended pretested questionnaire was used to collect the data. The questionnaire was divided into 2 sections, 1st section had information of age, number of children, 2nd section regarding knowledge regarding iron deficiency anemia. The study findings revealed that, 49.1% had no knowledge about iron rich diet and 42.7% had some knowledge that worm infestation can be a cause of iron deficiency.

Pandey (2010) scrutinized the knowledge on causes, sources, prevention of anemia, among the mothers of reproductive age group. It was observed that 98% stated inadequate iron containing diet as the cause of anemia. Regarding the knowledge on sources of iron rich foods, 47.5% stated green leafy vegetables, meat, fish, egg as important source of iron. About the preventive measures, 76.7% answered that iron containing foods should be taken, 72.1% stated the use of iron drug, 21.8% stated increase in birth interval, 10.2% stated treatment of worm infestation and 9.0% stated regular visit to physician as the preventive measures of anemia.

Tabish and Li Yu (2010) appraised the level of awareness about causes, prevention and treatment of iron deficiency anemia among women of reproductive age in Hubei province, a south eastern province of China. Women aged 18-45 years without any previous history of medical or gynecological problems were recruited. A total 385 women were surveyed for Iron Deficiency Anemia (IDA). Among them 77.9% women (n=300) were aware of the term IDA, with the highest proportion of 88.1% falling in the age group 25-35 years. Most of the women were aware of the fact that their diet contains iron and its importance in health. Women who have children and belong to working class have greater knowledge about iron deficiency anemia.

Chatterjee (2008) reported that normally women are not aware of their tendency of being anemic. They don't have any complaints otherwise. It is only when they come for blood test for some disease Lower maternal education will lead to higher rates of anemia in the mother in rural areas. Though there are various programs started by the government of India, the prevalence of anemia remains higher especially among the rural population. The ignorance of rural women about anemia and lack of knowledge on preventive practices may still contribute to poor health conditions.

CHAPTER - III

RESEARCH METHODOLOGY

CHAPTER - III

RESEARCH METHODOLOGY

Research methodology is the research designed to develop or refine methods of obtaining, organizing or analysing data. **(Polit,2011)**

This chapter deals with research approach, the research design, variables under study, the settings, population, sample, sampling technique, criteria for sample selection, data collection tool and technique, description of the tool, validity, reliability, scoring interpretation, pilot study, method of data collection, plan for data analysis and ethical consideration.

RESEARCH APPROACH

Quantitative approach is the powerful approach for testing hypothesis of causal relationship among variables. **(Polit,2011)**

In this study, quantitative research approach was adopted.

RESEARCH DESIGN

Research design is the overall plan for obtaining answer to the questions being studied for handling some of the difficulties encountered during research process. **(Polit, 2011)**

In this study, Quasi experimental one group pre test post test design was adopted to determine structured teaching programme on knowledge regarding prevention of iron deficiency anaemia among the mothers of pre school children in selected hospitals

The diagrammatic representation of this design is as follows,

Group	Pre test	Intervention	Post test
Experimental Group	O ₁	X	O ₂

O₁ - Represent the pre-test scoring on knowledge regarding iron deficiency anaemia among the mothers of pre school children by using structured knowledge questionnaire.

X - Represent administering the intervention structured teaching programme.

O₂ - Represent the post-test scoring on knowledge regarding iron deficiency anaemia among the mothers of pre school children by using structured knowledge questionnaire.

VARIABLES

- **Independent Variable** :- structured teaching programme on iron deficiency anemia
- **Dependent Variable** :- Knowledge among mothers of preschool children regarding iron deficiency anemia

SETTING OF THE STUDY

Setting is the physical location and condition in which data collection takes place in the study. (Polit, 2011)

In this study will be conducted in Shaji hospital at Dindugal district.

POPULATION

Population is the entire set of individual or object having some common defining characteristics **(Polit, 2011)**

In the present study, population comprised of mothers of pre-school children in selected hospitals

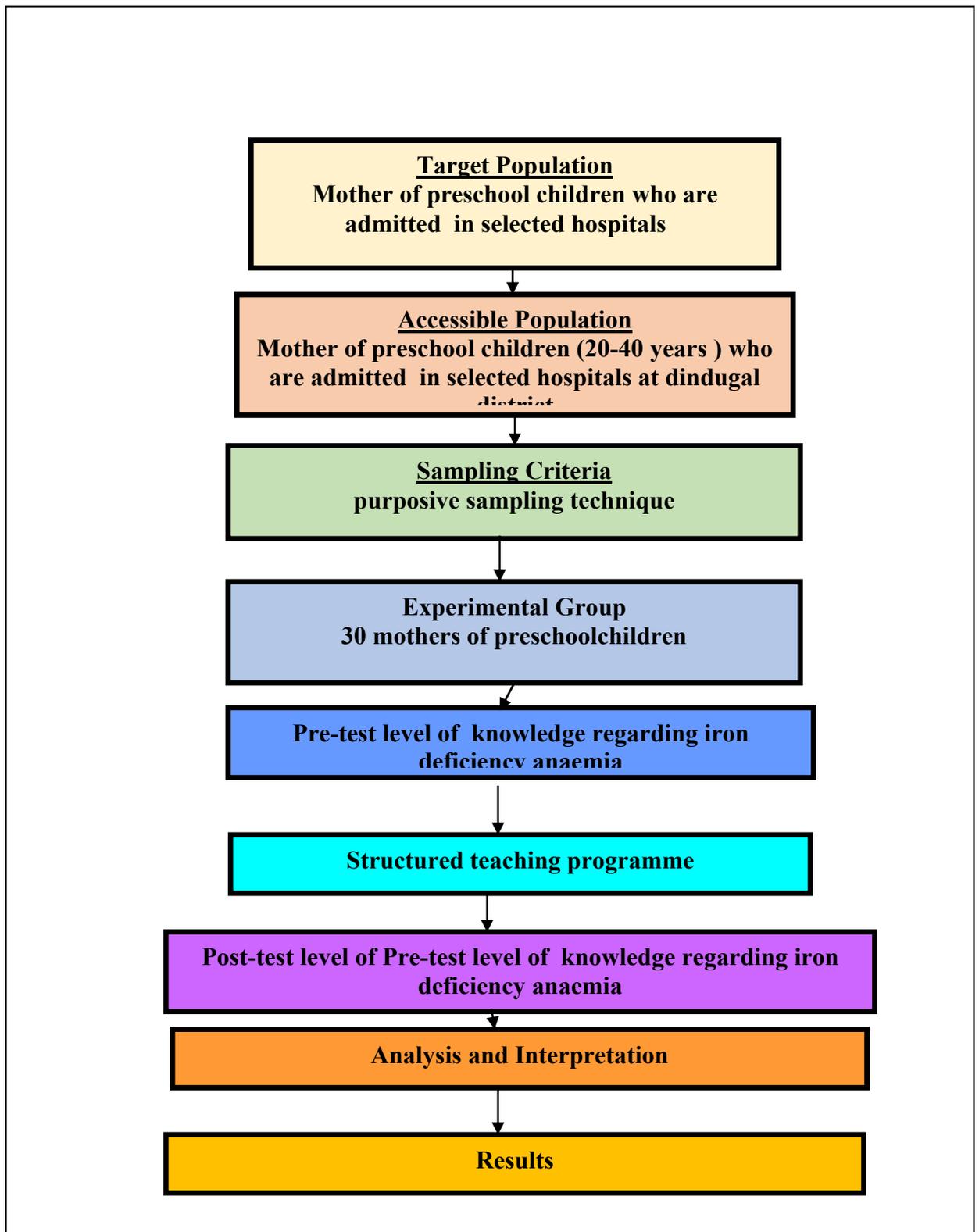


Figure :2 SCHEMATIC REPRESENTATION OF RESEARCH DESIGN

TARGET POPULATION

A target population is defined as the entire population in which a researcher is interested and to which he or she would like to generalize the study result.

(Polit, 2011)

In the present study, target population comprised of mothers of pre school children in selected hospitals.

ACCESSIBLE POPULATION

An accessible population is defined as the population of people available for a particular study-often a non-random subset of the target population.

(Polit, 2011)

In the present study, accessible population comprised of mothers of pre school children on knowledge regarding iron deficiency anaemia in government hospitals at dindugal district.

SAMPLE

Sample refers to a fraction or portion of the element in a universe drawn out deliberately in a planned representative manner for studying interested characteristics of a large group of population. **(Polit, 2011)**

In this study, the sample consists of mothers of pre school children who are admitted in selected hospitals who fulfilled the inclusion criteria

SAMPLE SIZE

Sample size was the total number of sample participating in a study (**Polit, 2011**).

In this study, the sample comprised of 30 of mothers of pre school children who are between the age group of 20- 40 years & admitted in selected hospital.

SAMPLING TECHNIQUE

It refers to the process of selecting a portion of the population to represent the entire population (**Polit, 2011**).

In this study, purposive sampling technique was used to select the samples

CRITERIA FOR SAMPLE SELECTION

Sampling Criteria involves selecting cases that meet some predetermined criterion of importance. The criteria for sample selection are mainly depicted under two heading, which includes the inclusive criteria and exclusive criteria.

Inclusion criteria

The study includes:

- Mothers of pre school children who are between the age group of 20- 40 years.
- Mothers of pre school children who are willing to participate in the study.
- Mothers of pre school Children who can understand Tamil or English.

Exclusion criteria

The study excludes:

- Mothers of pre school children who are not willing to participate in the study.
- Mothers of pre school children those who were not available at the time of data collection.

DEVELOPMENT OF THE TOOL

Tool development is a complex and time consuming process. It consists of defining the construct to be measured, formulating the items, assessing the items for content validity developing instructions for respondents, pre-testing, estimating the reliability and conducting pilot-study. **(Polit, 2011)**

DESCRIPTION OF THE TOOLS:-

The tool used for the study was demographic variables and structured knowledge questionnaire based on the objectives of the study and with the guidance of experts in the field of medical experts.

SECTION:A Demographic variables

It consists of demographic variables such as age, religion, education, occupation, residence, type of family, family income, previous knowledge on anaemia, source of information on anaemia.

SECTION B:

It consists of 25 iron deficiency anaemia related questions including causes, symptoms, diagnosis, treatment, management of anemia .each question has 4 options in which one is correct answer which is scored 1 . maximum score is 20.

SCORING INTERPRETATION

- ❖ 0 – 40% -Inadequate knowledge
- ❖ 41 – 70% - Moderate knowledge
- ❖ 71 – 100% - Adequate knowledge

VALIDITY

Validity is a degree to which an instrument measures what is intended to measure. **(Polit, 2011).**

The validity of the tool was established in consultation with four experts in the field of nursing and one medical expert. Modifications were done as per suggestion of the experts in the tool.

RELIABILITY

Reliability is the degree of consistency of dependability with which an instrument measures the attribute it is designed to measure. **(Polit, 2011)**

The reliability of the tool was established by using test retest method (Karl-pearson formula). Reliability of the tool was $r = 0.86$, so the tool was found to be reliable.

PILOT STUDY

Pilot study is a small scale version or trial seen designed to test the method to be used in a large, more vigorous study which is sometimes referred to as the pretest study **(Polit, 2011).**

In order to test the feasibility, relevance and practicability of the study, a pilot study was conducted among mothers of preschool children. The data collection period was one week. Before starting the study the researcher obtained oral and written permission from the hospitals. The data collected were amenable to statistical analysis and thus study was found to be feasible.

METHOD OF DATA COLLECTION/ DATA COLLECTION PROCEDURE:-

After formal written permission obtained from principal of Jainee College of Nursing and Dean of Shaji Hospital dindugal. 30 samples were selected as per inclusion criteria. Rapport was established with the mothers of primary school children and brief introduction about the study. Knowledge questionnaire used to assess the pretest knowledge of mothers of pre school children regarding iron deficiency anaemia. Followed by the pre test structured teaching programme was given for 45 minutes and 20 minutes was given for clarification of doubts. The contents includes introduction, definition, incidence, causes, signs and symptoms, diagnostic evaluation, treatment management of iron deficiency anaemia. After 7 days post test was conducted. The same questionnaire was used to assess the post test knowledge of mothers of preschool children. Mothers are co-operative, attentive, interested and clarified doubts during structure teaching programme.

Plan for data analysis:-

The data collected will be analyzed by means of descriptive statistics and inferential statistics.

Descriptive statistics:-

1. Frequency and percentage distribution will be used to describe demographic variable.
2. Mean and standard deviation will be used to analyze the pre test and post test level of knowledge regarding iron deficiency anaemia among mothers of pre school children.

Inferential statistics:-

1. Paired t-test will be used to compare the pre test and post test level knowledge regarding iron deficiency anaemia.
2. Chi- square test will be used to associate pre test level of knowledge regarding iron deficiency anaemia with their selected demographic variable.

ETHICAL CONSIDERATION

The proposed study was conducted after the approval of the dissertation committee of Jainee College of Nursing. Permission was obtained from the dean/medical officer from the selected hospitals. The oral consent was obtained before starting data collection. Assurance was given to the study subject that anonymity of each individual would be maintained. This was done for maintaining the moral and ethical as well as for the legal safety of the investigator.

CHAPTER - IV

DATA ANALYSIS AND INTERPRETATION

CHAPTER -IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the statistical analysis and interpretations of the data to assess the effectiveness of structured teaching programme on knowledge regarding iron deficiency anaemia among the mothers of pre school children in government hospital at dindigul district.”

The data were collected from 30 mothers of preschool children on knowledge regarding iron deficiency anaemia. The data obtained was analyzed according to the objectives and hypothesis of the study. Data analysis was computed after transferring the collected data into a coding sheet. The data was analysed, tabulated and interpreted using descriptive and inferential statistics.

ORGANIZATION OF DATA

The data has been tabulated and organized as follows,

- SECTION A : Frequency & percentage distribution of sample according to the demographic variables
- SECTION B : Assess the pre test and post test level of knowledge regarding iron deficiency anemia among the mothers of pre school children.
- SECTION C : Assess the effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia among the mothers of pre school children.
- SECTION D : Association between pre test level on knowledge regarding iron deficiency anemia among the mothers of pre school children with their selected demographic variables.

SECTION - A

DATA ON DEMOGRAPHIC VARIABLES AMONG MOTHERS OF PRESCHOOL CHILDREN

TABLE 1: Frequency and percentage distribution of demographic variables among mothers of preschool children.

N=30			
S. No	Demographic Variables	f	%
1.	Age a) 21-25 years b) 26-30 years c) 31-35 years d) 36-40 years	6 5 17 2	20 16.67 56.67 6.67
2.	Religion a) Hindu b) Christian c) Muslim d) Others	22 6 2 0	73.33 20 6.67 0
3.	Educational qualification a) Illiterate b) School education c) Diploma/under graduate d) Post graduate	1 16 9 4	3.33 53.33 30 13.33
4.	Occupation a) House wife b) Government employee c) Private employee d) coolie	9 6 13 2	30 20 43.33 6.67
5.	Residence a) rural b) urban	1 29	3.33 96.67
6.	Type of family a) nuclear b) joint	13 17	43.33 56.67
7.	Family income a) < Rs5000 b) Rs 5001-Rs 10000 c) Rs10001-Rs 15000 d) >Rs 15001	4 7 13 6	13.33 23.33 43.33 20

8.	Previous knowledge on anemia a) Yes b) No	6 24	20 80
9.	Source of information a) Friends b) Family members c) Mass media d) Nil	2 1 3 24	6.67 3.33 10 80

Table 1: Regarding age, majority of mothers of preschool children majority 17(56.67%) belongs to the age of 31-35 years, 6(20%) belongs to the age of 21 -25 years ,5 (16.67%) belongs to the age of 26-30 years and 2 (6.67%) belongs to the age of 36-40 years.

Regarding religion, majority 22(73.33%) of them were hindu and 6 (20%) of them were Christian and 2(6.67) of them were muslims.

With regard to education, majority of mothers of preschool children 16(53.33%) belongs to school education, 9(30%) belongs to diploma/undergraduate, 4(13.33%) belongs to post graduate and least 1(3.33%) belongs to illiterate.

Regarding occupation, majority of the mothers of preschool children 13(43.33%) were private employee, 9(30%) were house wife, 6(20%) government employee and 2 (6.67%) were coolie.

With regard to residence, 29(96.67%) belongs to urban area and 1(3.33%) belongs to rural area.

Regarding type of family, 17(56.67%) belongs to joint family and 13(43.33%) belongs to nuclear family.

Regarding family income majority, 13(43.33%) were belongs to rs.10001-rs 15000,7 (23.33%) belongs to rs 5001-rs 10000.

With regard to previous knowledge on anemia, 24(80%) had prior knowledge about anemia, 6(20%) did not have prior knowledge on anemia.

Regarding source of information, 24(80%) were not receiving any information about anemia,3(10%) were gained information from mass media,2(6.67%) were gained information from friends,1(3.33%) were gained information from family members.

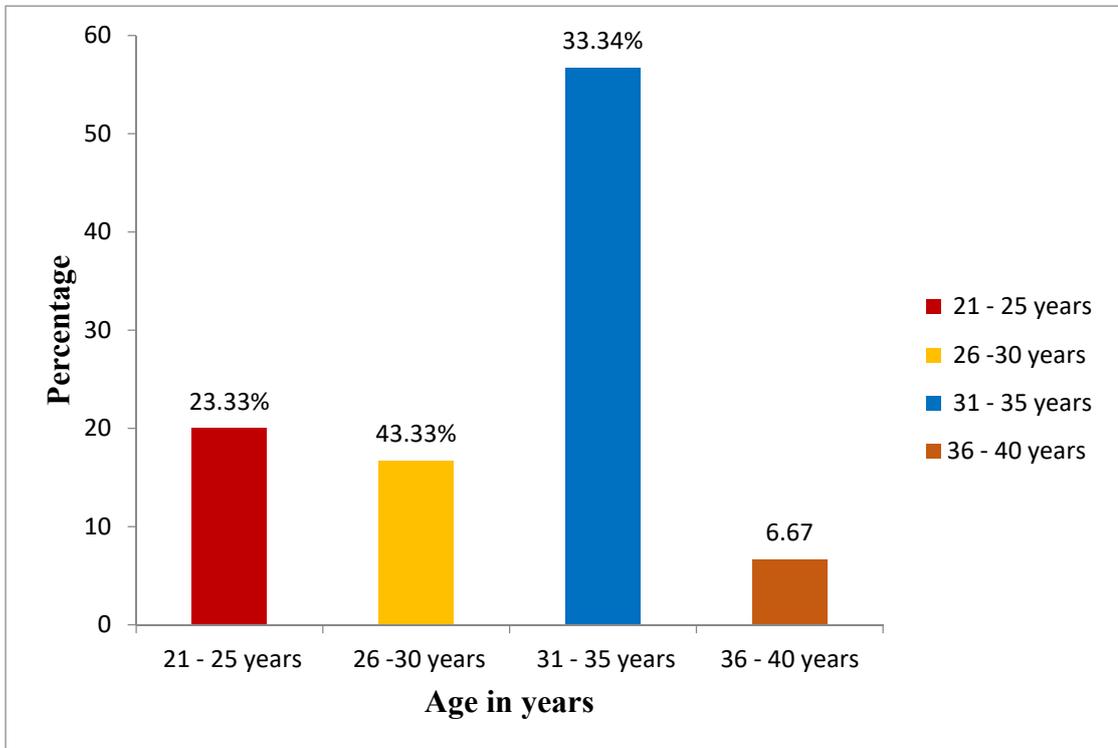


Fig 4.1 : Percentage distribution of mothers of pre-schooler according to age in years

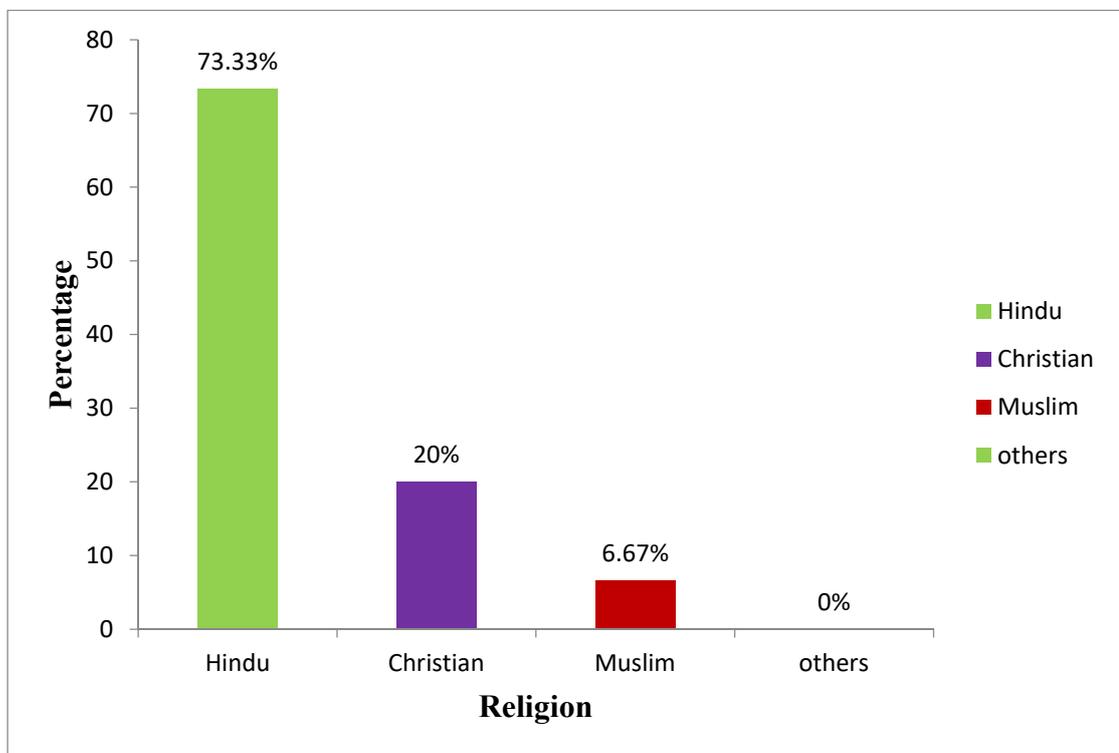


Fig 4.2 : Percentage distribution of mothers of pre-schooler according to religion

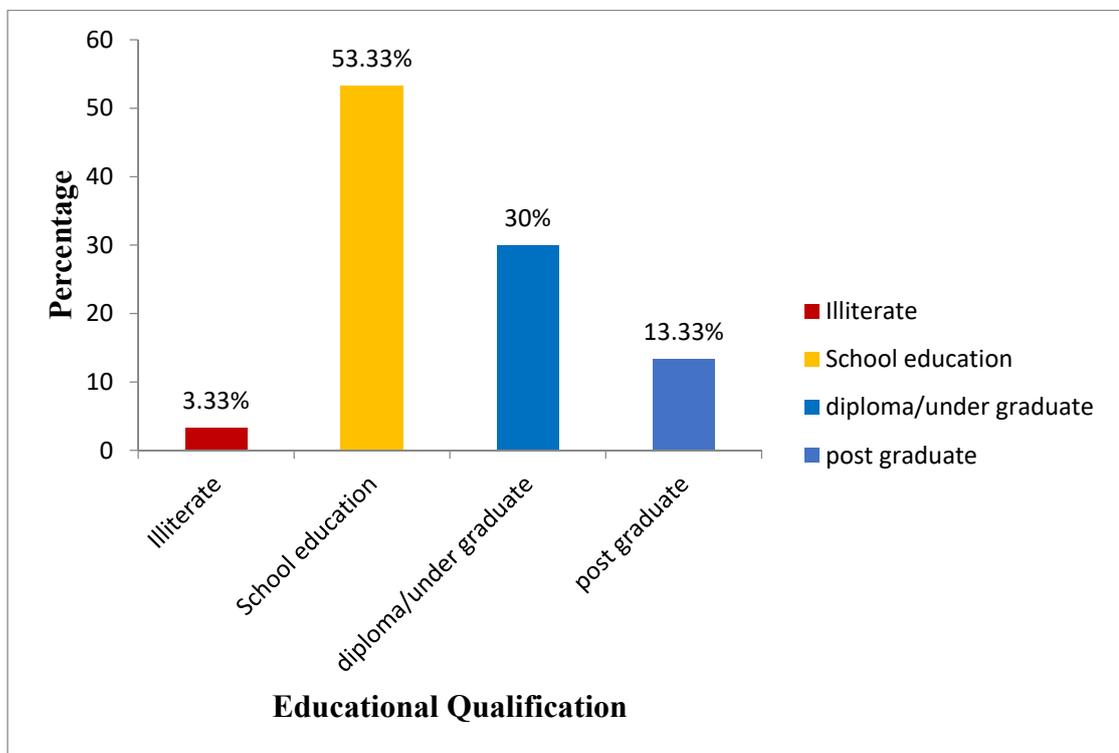


Fig 4.3 : Percentage distribution of mothers of pre-schooler according to educational qualification

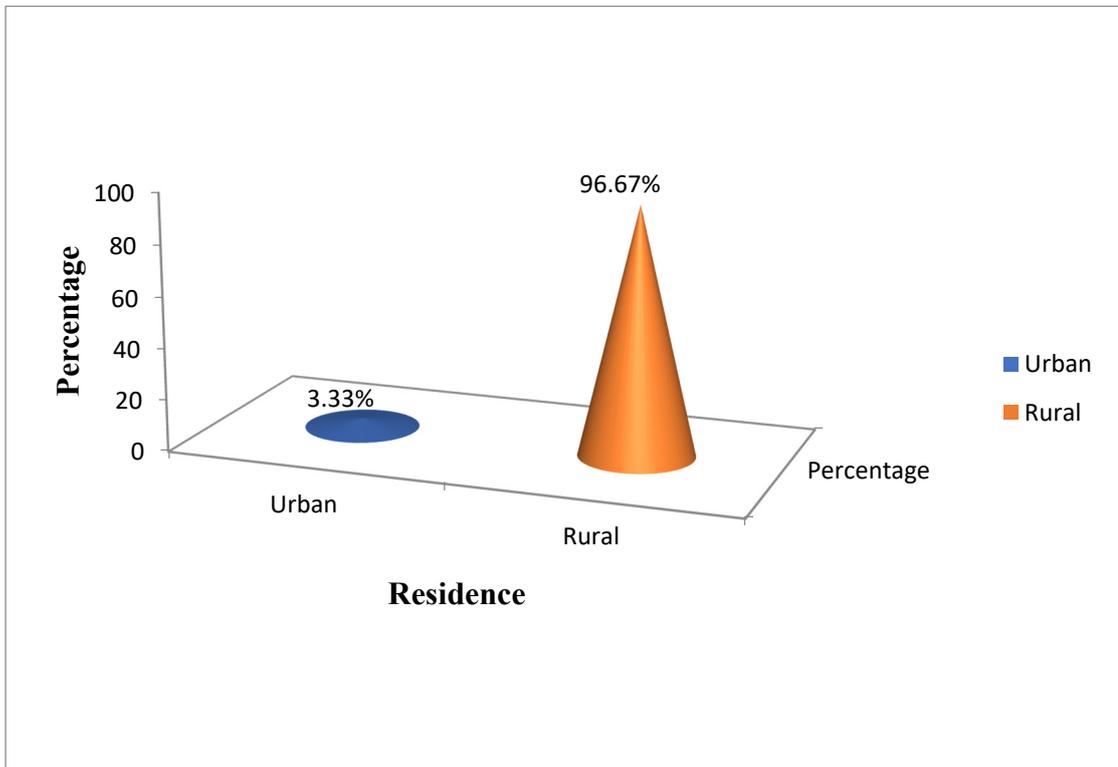


Fig 4.4: Percentage distribution of mothers of pre-schooler according to residence

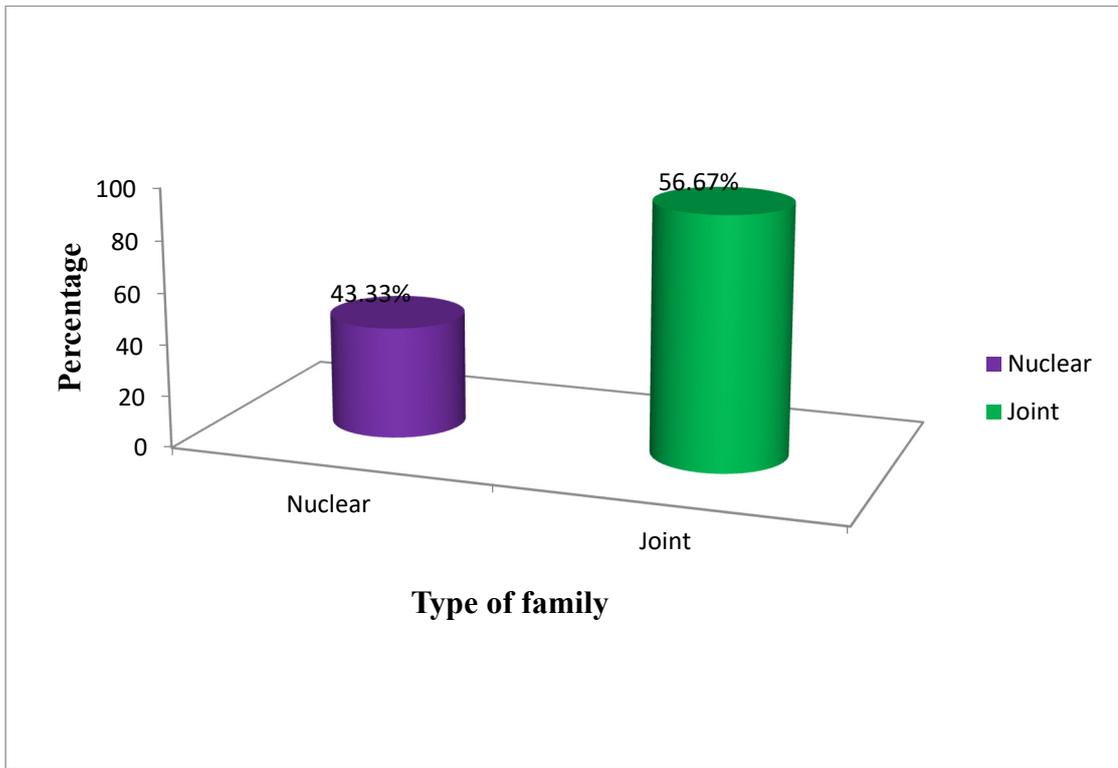


Fig 4.5 : Percentage distribution of mothers of pre-schooler according to type of family

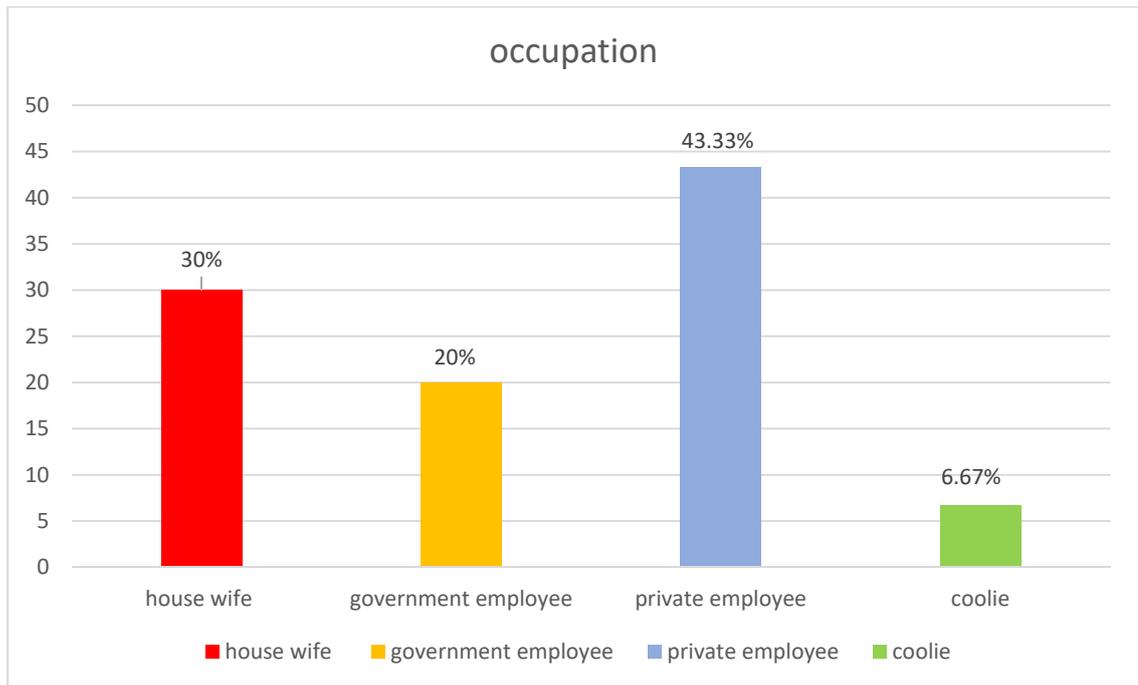


Fig 4.6 : Percentage distribution of mothers of pre-schooler according to occupation

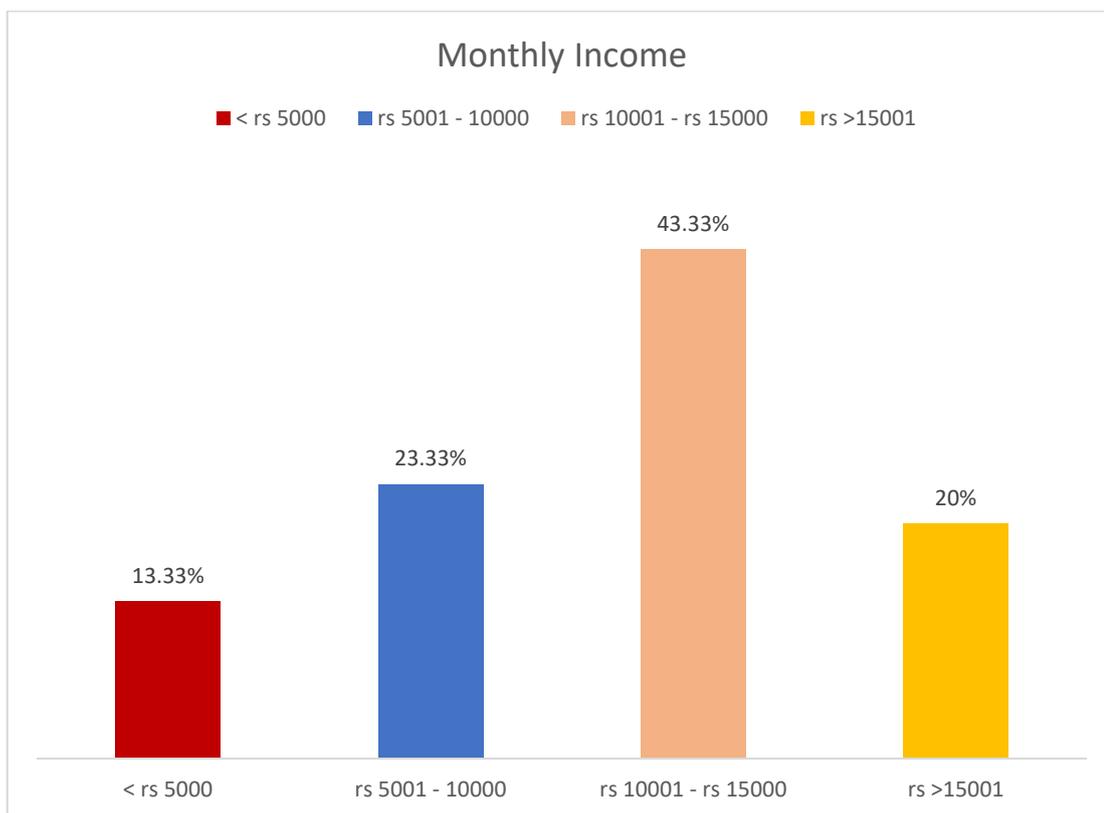


Fig 4.7 : Percentage distribution of mothers of pre-schooler according to family income

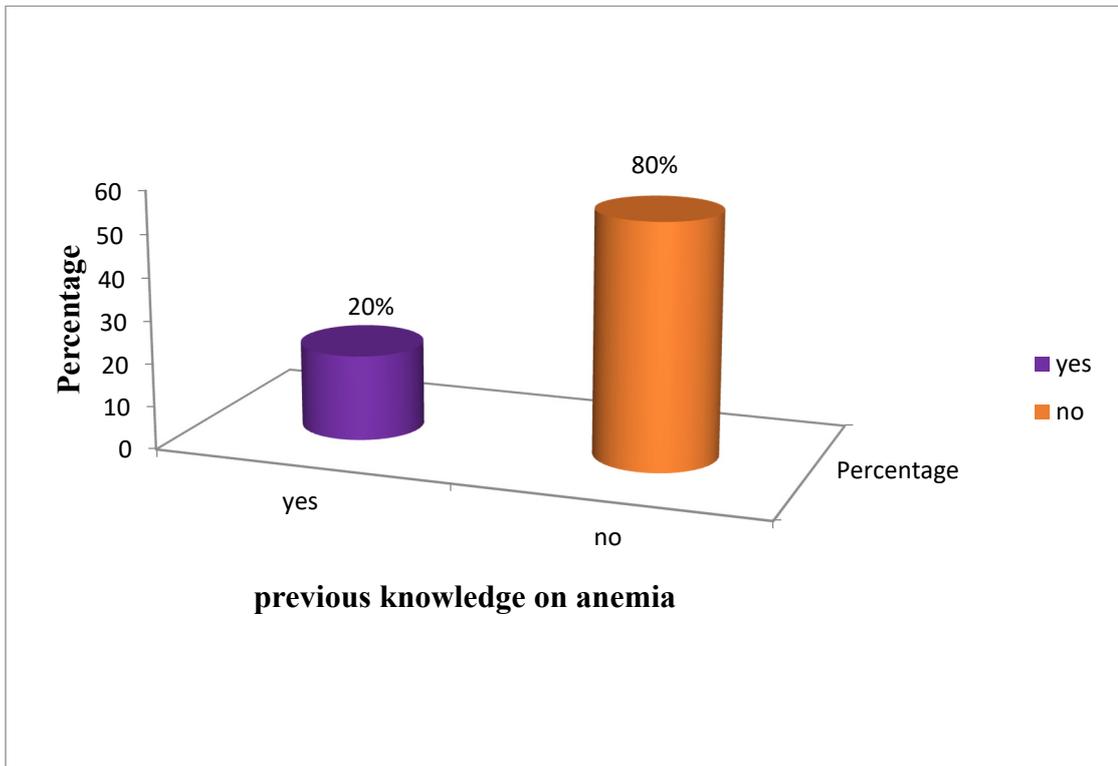


Fig 4.8 : Percentage distribution of mothers of pre-schooler according to previous knowledge on anemia

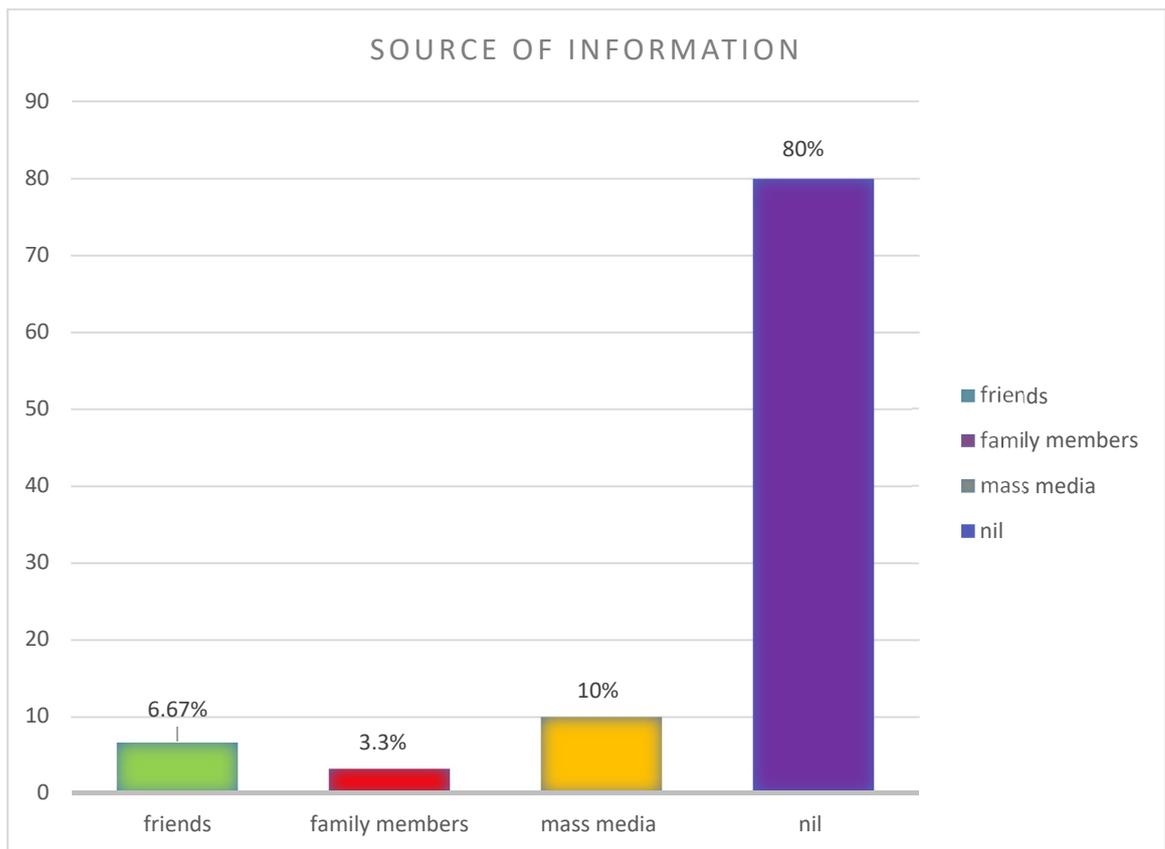


Fig 4.9: Percentage distribution of mothers of pre-schooler according to source of information

SECTION - B

Table:2: Assess the pre test and post test level knowledge regarding iron deficiency anemia among mothers of pre school children

S.NO	Level of Knowledge	Pre test		Post test	
		f	%	f	%
1	Inadequate knowledge	21	70	0	0.00
2	Moderate knowledge	9	30	6	20
3	Adequate knowledge	0	0.00	24	80

Table: 2 shows that majority 21 (70%) had inadequate knowledge and 9(30%) had moderate moderate knowledge in the pretest.

On the post test 24 (80%) had adequate knowledge and 6 (20%) had moderate knowledge regarding iron deficiency anemia.

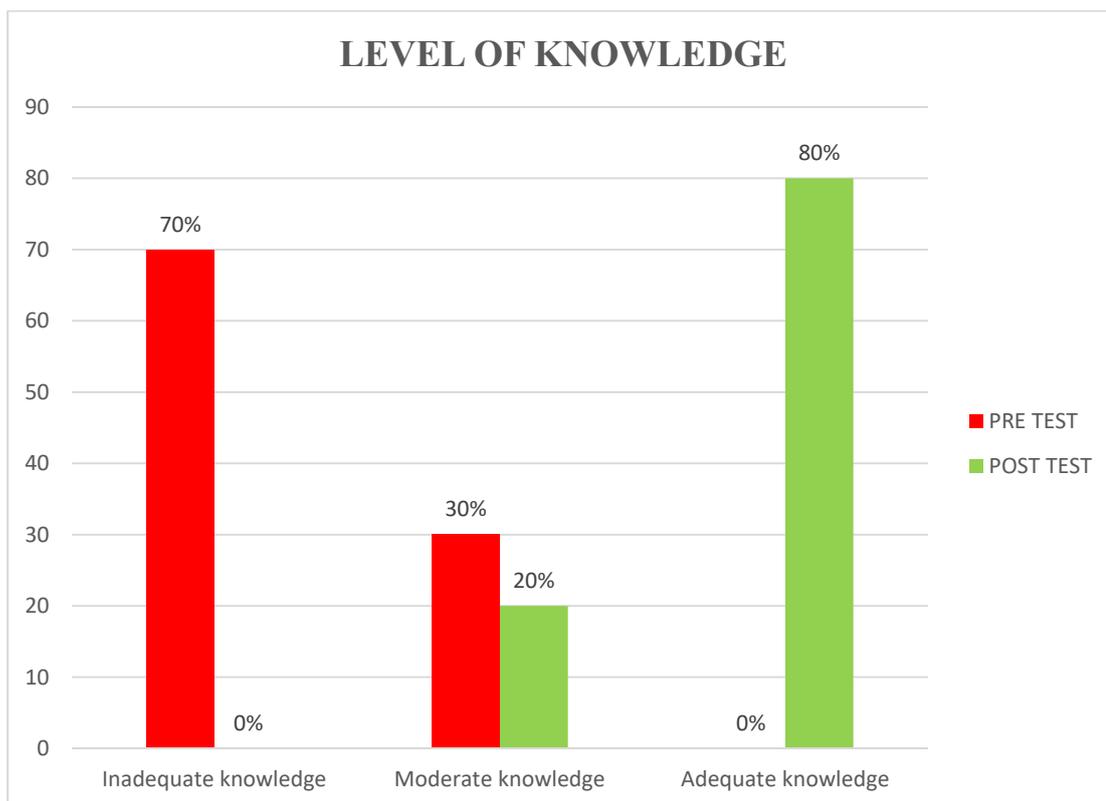


Fig 4.10 : Percentage distribution of mothers of pre-schooler according to the level of knowledge regarding anemia

SECTION - C

Table 3: Assess the effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia among mothers of pre school children

N=30

S.no	Test	Mean	SD	Mean Difference	Paired t-test	Significance at 0.05 level
1	Pretest	8.3	3.71	8.5	11.47*	29 df
	Post test	16.8	1.7			2.042

***significant at p<0.05 level**

Table:3 shows that the mean score level of knowledge regarding iron deficiency anemia among mothers of pre school children were 8.3 in pre test and 16.8 in post test and the standard deviation score is 3.71 in pre test and 1.7 in post test .The mean difference was 8.5.The obtained paired t test value was 11.47 which is significant at p<0.05 level .Hence the stated H₁ hypothesis was accepted.

It was inferred that structured teaching programme is highly effective to increase the level of knowledge regarding iron deficiency among mothers of preschool children.

SECTION -D

Association between pre test level knowledge regarding iron deficiency anemia among mothers of pre school children with their selected demographic variables.

N=30

Sl.No	Demographic variable	Level of knowledge		X ²	Table Value
		Inadequate	Moderate		
1.	Age a)21-25 years b)26-30 years c)31-35 years d)36-40 years	4 3 13 1	2 2 4 1	0.99 #	3df 7.89
2.	Religion a)Hindu b)Christian c)Muslim d)Others	15 4 2 0	7 2 0 0	0.92 #	3df 7.89
3.	Educational qualification a)Illiterate b)School education c)Diploma/under graduate d)Post graduate	1 11 8 1	0 5 1 3	5.82 #	3df 7.89
4.	Occupation a)House wife b)Government employee c)Private employee d)coolie	7 2 10 2	2 4 3 0	5.24 #	3 df 7.89
5.	Residence a)rural b)urban	1 20	0 9	0.44 #	1 df 3.84
6.	Type of family a)nuclear b)joint	1 20	5 4	10.15 *	1 df 3.84
7.	Family income a)< Rs5000 b)Rs 5001-Rs 10000 c)Rs10001-Rs 15000 d)>Rs 15001	1 0 2 18	1 1 1 6	3.01 #	3df 7.89
8.	Previous knowledge on anemia a)Yes b)No	9 12	4 5	0.006 #	1 df 3.84

9.	Source of information				
	a)Friends	2	2		
	b)Family members	6	1	3.02	3 df
	c)Mass media	10	3	#	7.89
	d)Nil	3	3		

#NS-Non significant

* S- Significant

Table:4 depicts that, Chi-square was calculated to find out the association between the level of knowledge on mothers of preschool children regarding anemia with their selected demographic variables. There was Significant association between the level of knowledge with type of family and there is no significant association between the level of knowledge with age, religion, education, occupation, residence, family income, previous knowledge on anemia and source of information

CHAPTER -V

DISCUSSION

CHAPTER – V

DISCUSSION

The discussion chapter deals with sample characteristics and objectives of the study. The aim of this present study was to assess the effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia among the mothers of pre school children in Shaji hospital at dindigul district.

OBJECTIVES OF THE STUDY

- To assess the pre test and post test level of knowledge regarding Iron deficiency anemia among the mothers of pre school children.
- To evaluate the effectiveness of structured teaching program on knowledge regarding Iron deficiency anemia among the mothers of pre school children.
- To find out the association between the pretest level of knowledge regarding Iron deficiency anemia among the mothers of pre school children with their selected demographic variables.

DESCRIPTION OF DEMOGRAPHIC VARIABLES

Regarding age, majority of mothers of pre school children majority 17(56.67%) belongs to the age of 31-35 years, 6(20%) belongs to the age of 21 -25 years, 5 (16.67%) belongs to the age of 26-30 years and 2 (6.67%) belongs to the age of 36-40 years.

Regarding religion, majority 22(73.33%) of them were hindu and 6 (20%) of them were Christian and 2(6.67) of them were muslims.

With regard to education, majority of mothers of preschool children 16(53.33%) belongs to school education, 9(30%) belongs to diploma/undergraduate, 4(13.33%) belongs to post graduate and least 1(3.33%) belongs to illiterate.

Regarding occupation, majority of the mothers of preschool children 13(43.33%) were private employee, 9(30%) were house wife, 6(20%) government employee and 2 (6.67%) were coolie.

With regard to residence, 29(96.67%) belongs to urban area and 1(3.33%) belongs to rural area.

Regarding type of family, 17(56.67%) belongs to joint family and 13(43.33%) belongs to nuclear family.

Regarding family income majority, 13(43.33%) were belongs to Rs.10001-Rs.15000, 7 (23.33%) belongs to Rs.5001-Rs.10000.

With regard to previous knowledge on anemia, 24(80%) had prior knowledge about anemia, 6(20%) did not have prior knowledge on anemia.

Regarding source of information, 24(80%) were not receiving any information about anemia, 3(10%) were gained information from mass media, 2(6.67%) were gained information from friends,1(3.33%) were gained information from family members.

THE FINDINGS OF THE STUDY WERE DISCUSSED ACCORDING TO THE OBJECTIVES AS FOLLOWS

The first objective to assess the pre test and post test level of knowledge regarding Iron deficiency anemia among the mothers of pre school children.

In pre test 21 (70%) had inadequate knowledge and 9(30%) had moderate knowledge. On the post test 24 (80%) had adequate knowledge and 6 (20%) had moderate knowledge regarding iron deficiency anemia.

The study findings were consistent with the findings of **Kala and Christopher (2014)** implemented the structured teaching program on knowledge and attitude of post-adolescent girls in prevention of iron and folic acid deficiency anemia at a selected corporation school, Coimbatore. Major findings of the study revealed that during pretest 90% of them were had inadequate knowledge and 65% of them had unfavorable attitude towards iron and folic acid deficiency anemia. After the structured teaching program, the knowledge and attitude was improved (73% had adequate knowledge and 79% of them had most favorable attitude

The second objective to evaluate the effectiveness of structured teaching program on knowledge regarding Iron deficiency anemia among the mothers of pre school children.

In pre test mean score level of knowledge regarding iron deficiency anemia among mothers of pre school children were 8.3 with standard deviation 3.71 and the mean score was 16.8 with standard deviation 1.7 in post test .The mean difference was 8.5. The obtained paired t test value was 11.47 which is significant at $p < 0.05$ level .Hence the stated H1 hypothesis was accepted. It was inferred that structured teaching programme is highly effective to increase the level of knowledge regarding iron deficiency among mothers of preschool children.

The study findings were consistent with the findings of **Minakshi (2008)** addressed the effectiveness of structured teaching program on knowledge regarding iron deficiency anemia and its prevention among mothers in selected hospital of

Bhavnagar District. The overall pre -test mean knowledge score of mothers was 13.81 ± 3.67 and posttest mean knowledge score of was 22.71 ± 2.35 . The posttest mean knowledge score is significantly greater than the pretest mean knowledge score. It infers that structure teaching programme was effective.

The third objective to find out the association between the pretest level of knowledge regarding Iron deficiency anemia among the mothers of pre school children with their selected demographic variables.

The study findings shows that there was Significant association between the level of knowledge with type of family and there is no significant association between the level of knowledge with age, religion, education, occupation, residence, family income, previous knowledge on anemia and source of information.

The study findings were consistent with the findings by **Mamtal and Tamphasana (2014)** evaluated the knowledge of anemia among women of reproductive age group (15-49 years) residing in rural Punjab. The result illustrated that 52.5% were having average knowledge regarding anemia (causes, sign & symptoms & treatment). The overall mean score was 6.92. Age, education and working status of the females were found to have statistically significant association with the knowledge score related to anemia.

CHAPTER - VI

***SUMMARY, CONCLUSION,
IMPLICATIONS,
LIMITATION AND
RECOMMENDATIONS***

CHAPTER – VI

SUMMARY, CONCLUSION, IMPLICATION

RECOMMENDATIONS AND LIMITATIONS

The heart of the research project lies in reporting the findings. This is the most creative and demanding part of the study. This chapter gives a brief account of the present study including the conclusion drawn from the recommendations.

The findings of the study has implications in the different branches of nursing profession. By assessing effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia among the mothers of pre school children .This is the most creative and demanding part of the study. This chapter gives a brief account of the present study including the conclusion drawn from the findings, nursing implications of the study and recommendations.

This chapter deals with

- Summary of the study
- Conclusion
- Implication of nursing
- Recommendations
- Limitations

SUMMARY OF THE STUDY

The study was done to evaluate the effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia among the mothers of pre school children.

The research design used for this study was quasi experimental one group pre test and post test design. The research approach used for the study was quantitative research approach which was conducted in Shaji hospital at dindugal district. Conceptual frame work adopted in the present study was Rosen Stock and Beckers health belief model (1978) .The sample size was 30 mothers of pre school children.

The investigator gave brief introduction to the mothers of preschool children and who met inclusion criteria and were selected by using purposive sampling within the age of 20 to 40 years. Demographic variables were collected and Pre test was done for both by using structured knowledge questionnaire on iron deficiency anemia. Then the intervention of structured teaching programme was taught to mother of preschool children. Post test was assessed by using structured knowledge questionnaire. The instructional module was distributed to the mother of preschool children to follow it at home.

The data was analyzed and tabulated using descriptive and inferential statistics. The effectiveness of structured teaching programme was assessed by frequency, percentage, paired 't' test and chi-square test was used to find out the association between the level of knowledge with their selected demographic variables .

Objectives of the study

- To assess the pre test and post test level of knowledge regarding Iron deficiency anemia among the mothers of pre school children.
- To evaluate the effectiveness of structured teaching program on knowledge regarding Iron deficiency anemia among the mothers of pre school children.
- To find out the association between the pretest level of knowledge regarding Iron deficiency anemia among the mothers of pre school children with their selected demographic variables.

Major findings of the study

- Regarding age, majority of mothers of pre school children majority 17(56.67%) belongs to the age of 31-35 years, 6(20%) belongs to the age of 21 -25 years ,5 (16.67%) belongs to the age of 26-30 years and 2 (6.67%) belongs to the age of 36-40 years. Regarding religion, majority 22(73.33%) of them were hindu and 6 (20%) of them were Christian and 2(6.67) of them were muslims. With regard to education, majority of mothers of preschool children 16(53.33%) belongs to school education, 9(30%) belongs to diploma/undergraduate, 4(13.33%) belongs to post graduate and least 1(3.33%) belongs to illiterate. Regarding occupation, majority of the mothers of preschool children 13(43.33%) were private employee, 9(30%) were house wife, 6(20%) government employee and 2 (6.67%) were coolie. With regard to residence, 29(96.67%) belongs to urban area and 1(3.33%) belongs to rural area. Regarding type of family, 17(56.67%) belongs to joint family and 13(43.33%) belongs to nuclear family. Regarding family income majority, 13(43.33%) were belongs to Rs.10001-Rs 15000, 7(23.33%) belongs to Rs .5001-Rs 10000. With regard to previous knowledge on anemia, 24(80%) had

prior knowledge about anemia, 6(20%) did not have prior knowledge on anemia. Regarding source of information, 24(80%) were not receiving any information about anemia, 3(10%) were gained information from mass media, 2(6.67%) were gained information from friends, 1(3.33%) were gained information from family members.

- In pre test 21 (70%) had inadequate knowledge and 9(30%) had moderate knowledge. On the post test 24 (80%) had adequate knowledge and 6 (20%) had moderate knowledge regarding iron deficiency anemia.
- In pre test mean score level of knowledge regarding iron deficiency anemia among mothers of pre school children were 8.3 with standard deviation 3.71 and the mean score was 16.8 with standard deviation 1.7 in post test .The mean difference was 8.5. The obtained paired t test value was 11.47 which is significant at $p < 0.05$ level .Hence the stated H1 hypothesis was accepted. It was inferred that structured teaching programme is highly effective to increase the level of knowledge regarding iron deficiency among mothers of preschool children.
- The study findings shows that there was Significant association between the level of knowledge with type of family and there is no significant association between the level of knowledge with age , religion, education, occupation, residence, family income, previous knowledge on anemia and source of information.

CONCLUSION

The present study assessed the effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia among the mothers of pre school children in Shaji hospital at dindugal district . Based on statistical findings, it is evident that, in pre test 21(70%) had inadequate knowledge and 9(30%) had moderate moderate knowledge. On the post test 24(80%) had adequate knowledge and 6(20%)had moderate knowledge. Therefore the investigator concluded that structured teaching programme had significantly increase the level of knowledge on anemia among mothers of preschool children.

IMPLICATIONS FOR NURSING

The implication of the parents study has been discussed under the heading as

- Nursing Practice
- Nursing Education
- Nursing Administration
- Nursing Research

Nursing Practice:

- Nurses have greater responsibility to protect the health of people prevent illness promote and maintain the health. Therefore community health nurse can focus on these aspect in the community.
- Screening camps can be arranged and early detection can be done through mass education system to treat and prevent anemia.
- Self-instructional modules regarding prevention of anemia can be distributed to the people in the community
- Regular health education programme during the women's check up in all the health centres and hospitals should be made monthly.

Nursing Education

- Nurses should be periodically trained to provide better health education with special emphasis on women with anemia and diet during programme through nursing students to develop skill in identifying risk groups and prevent the complication.
- As today's nursing students are tomorrow's staff nurses, educationists, administrators and supervisors nursing teachers should emphasize on health

education and various methods of imparting education during student's training period.

- Nursing education should emphasize more on preparing prospective nurses to impart information and support government programme on prevention of anemia its causes, sign and symptoms, treatment and control.

Nursing Research

- The study also reveals that there is knowledge deficit regarding anemia and diet. It emphasizes a great need for further research on awareness regarding anemia and diet among women.
- The study will be a valuable reference material for further research.
- This study is a preliminary setup for exploring the concept of knowledge, attitude and practice in prevention of anemia.
- The result of the study can encourage women to adopt healthy life styles.
- Further studies can be regarding anemia in large scale.

Nursing administration

- The concept of extended and expanded role of nurse offers many opportunities for a nurse administrator to improve the quality of life of women.
- The nurse administrator should co-ordinate her work along with the preventive, creative and rehabilitative aspect of care.
- The nursing administrators at various levels of health care delivery system should focus their attention on make public to be conscious of anemia prevention.
- Nursing personnel should be prepared to take leadership role in educating other health personnel in the prevention of anemia.

RECOMMENDATIONS

- A study can also be conducted among the other age groups and also among the urban community.
- The study can be replicated in large samples in different settings.
- The study can be conducted in different hospital settings with large a sample.
- Comparative study can be conducted between urban and rural women.
- An experimental study on iron supplementation can be conducted for the women in different settings.
- Regular screening for iron deficiency should be conducted among high risk groups including adolescents and pregnant women.

LIMITATIONS

- ❖ The sample size of 30 subjects.
- ❖ The study period of 1 week.
- ❖ The study is limited to mothers of preschool children.

SUMMARY

This chapter dealt with summary, conclusion, implications for nursing practice and recommendations.

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APPENDICES

APPENDICES: I

LETTER SEEKING PERMISSION TO CONDUCT THE STUDY

To,

The Medical Director,
Shaji Hospital,
Dindigul.

Subject: Permission to conduct a study in selected hospitals of Dindigul.

Sir/Madam,

This is to introduce Mrs. G.Kaveri a final year student in our college. She has to conduct a research project which is to be submitted to the Dr. MGR Medical University, Chennai in partial fulfillment of University requirement for the award of M.Sc., (N) Degree.

Topic: "A study to assess the effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia among the mothers of pre school children in shaji hospital at dindigul district."

The student is in need of your esteemed help and co-operation as she is interested in conducting her study in your hospital. Hence, I request you to kindly grant permission and do the needful.

Place: Dindigul
Date:

Prof.K.Thilakavathi, M.Sc.(N), Ph.D., (N),
Principal,
Jainee College of Nursing,
Dindigul District

APPENDICES: II

LETTER GRANTING PERMISSION TO CONDUCT THE STUDY



SHAJI HOSPITAL
3A / 27 LPG COMPOUND OPP TO BUSTAND
DINDUGAL-624 001

Dr.NISHA M.D., D.G.O
GYNAECOLOGIST

ph.+91 8608395335

Date:02.03.19

To

The Principal
Jainee College of Nursing
Veerakkalpirivu
Dindugal.

TO WHOM IT MAY CONCERN

This is to certify Mrs.G. Kaveri II Year M.Sc(Nursing) Student, Jainee College of Nursing Dindugal has conducted A study to assess the effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia among the mothers of pre school children.

As a part of a study she has collected the data from 20.02.2019 to 02.03.2019


DR. C. NISHA M.D., DGO.,
REGD. NO 40308
STAR CLINIC
3A/27 LGB COMPOUND
NEAR BUS STAND
DINDIGUL

APPENDICES : III

Letter requesting opinion and suggestion of experts for content validity of the tool

Certified that the dissertation paper titled “A study to assess the effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia among the mothers of pre school children in shaji hospital at dindigul district.” Done by Mrs.G.Kaveri, has been checked for the accuracy in statistical analysis and interpretation and was apt for the purpose


Signature
Dr. G. IMMANUEL
Assistant Professor
Centre for Marine Science & Technology
Manonmaniam Sundaranar University
Rajakkamangalam - 629 502
K. K. District, Tamilnadu, India

CERTIFICATE OF STATISTICAL ANALYSIS

TO WHOMSOEVER IT MAY CONCERN

Certified that the dissertation paper titled **“A study to assess the effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia among the mothers of pre school children in shaji hospital at dindigul district.”** done by **Mrs.G.Kaveri**, has been checked for the accuracy in statistical analysis and interpretation and was apt for the purpose



Signature

**Dr. M.K. Franklin Shaju, M.P.T.,
MSPT., PG Dip (Bio-Stat), Ph.D.
Professor in Physiotherapy
R.V.S. College of Physiotherapy
Sulur, Coimbatore - 641 402**

FROM:

Mrs.G.Kaveri
M.Sc Nursing II-Year
Jainee College of Nursing
Dindigul

To

Ms. Agnes mary M.A., B.Ed,(English)
Mother Teresa women's university
Kodikanal

Content Validity for questionnaire for English

This is to certify that the Questionnaire formed by **Mrs.G.Kaveri** among mother of knowledge regarding in selected hospital dindigul checked and corrected by me.

 M.A.B.E
Signature

CERTIFICATE OF CONTENT VALIDITY

Certified that the dissertation paper titled “**A study to assess the effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia among the mothers of pre school children in shaji hospital at dindigul district.**” done by **Mrs.G.Kaveri**, has been checked for the accuracy in statistical analysis and interpretation and was apt for the purpose

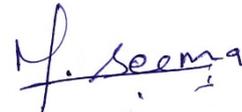


Signature

PRINCIPAL
Thasiah College of Nursing
Marthandam - 629 165

CERTIFICATE OF CONTENT VALIDITY

Certified that the dissertation paper titled “**A study to assess the effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia among the mothers of pre school children in shaji hospital at dindigul district.**” done by **Mrs.G.Kaveri**, has been checked for the accuracy in statistical analysis and interpretation and was apt for the purpose



Mrs.Seema, M.Sc.,(N)

Asst. Professor

Annai dora Nursing College

Andipatti

LETTER TO EXPERTS FOR THE CONTENT VALIDITY OF THE TOOL

FROM

Mrs.G.Kaveri
II year MSC N,
Jainee College of Nursing,
Dindigal.

TO

Mrs.Seema, M.Sc., Pediatrics
Asst. Professor
Annai dora Nursing College
Andipatti

[Through the Principal, Jainee College of Nursing, Dindigul.]

Respected Madam,

SUB: Requesting the opinion and suggestion of experts for establishing the content validity of the tool.

I am **Mrs.G.Kaveri** II year M.Sc N student of Jainee College of Nursing Dindigul, humbly request you madam to go through the tool which is to be used for data collection for **“A study to assess the effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia among the mothers of pre school children in shaji hospital at dindigul district.”** in selected hospital in dindigul for further study.

The objective of the study of the following

1. To assess the knowledge recording prevalence iron deficiency anemia.
2. To find out the effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia.

Here with I am sending a copy of

- a. Pretest questionnaire
- b. Posttest questionnaire
- c. Content validity certificate
- d. Evaluation criteria

I request you to kindly give your valuable suggestion regarding the appropriateness of the tool, which I have enclosed.

I also request you to kindly sign the certificate static that you have validated the tool your kind co-operation and your experts judgement will be very much appreciated.

Thanking you

Place:

Yours sincerely

Date:

Mrs.G.Kaveri

APPENDICES :IV

EVALUATION CRITERIA CHECK LIST FOR VALIDATION

Introduction

The expert is requested to go through the following criteria for evaluation. Three columns are given for responses and a column for remarks. Kindly place tick mark in the appropriate column and give remarks.

Interpretation of column

Column I : Meets the criteria

Column II : Partially meet the criteria

Column III : Does not meet the criteria

Serial No	Criteria	1	2	3	Remarks
1	Scoring - Adequacy - Clarity - Simplicity				
2	Content - Logical sequence - Adequacy - Relevance				
3	Language - Appropriate - Clarity - Simplicity				
4	Practicability - It is easy to score - Does it precisely - Utility				

Name :

Signature

Designation :

Address :

APPENDICES : V

LIST OF EXPERTS FOR TOOL VALIDATION

1. Nisha, M.D, DGO
Gynaecologist
Shaji Hospital.
Dindugal.

2. Dr. Siva kumar
Consultant Pediatrician
Mullai Hospital
Karaikudi

3. Mr.Malichijah, M.Sc.,(N)
Reeder
Christian College of Nursing
Neyyoor

4. Mrs.Vani M.Sc.,(N)
Professor
JJ College of Nursing
Pudhukkottai

5. Mrs.Sofy Stanly, M.Sc(N)
Assistant Professor
Karpakam College of Nursing
Coinbatore

APPENDICES : VI

INFORMED CONSENT

I the mothers of pre schooler children in selected hospital. I am willing to be a participant to involve in the study to assess the effectiveness of structured teaching programme on knowledge regarding anemia without any compulsion through the Researcher, I came to know the advantages of on structured teaching programme .It is easier to follow and can be done in any location.

Yours Sincerely,

APPENDICES : VII
TOOL FOR DATA COLLECTION

SECTION -A
DEMOGRAPHIC VARIABLES

1.Age

- a) 21-25 years
- b) 26-30 years
- c) 31-35 years
- d) 36-40 years

2. Religion

- a) Hindu
- b) Christian
- c) Muslim
- d) Others

3.Educational qualification

- a) Illiterate
- b) School education
- c) Diploma/under graduate
- d) Post graduate

4.Occupation

- a) House wife
- b) Government employee

c) Private employee

d) coolie

5.Residence

a) rural

b) urban

6.Type of family

a) nuclear

b) joint

7.Family income

a) < Rs5000

b) Rs 5001-Rs 10000

c) Rs10001-Rs 15000

d) >Rs 15001

8. Previous knowledge on anemia

a) Yes

b) No

9. Source of information

a) Friends

b) Family members

c) Mass media

d) Nil

SECTION-B

QUESTIONNAIRE TO ASSESS KNOWLEDGE ABOUT ANEMIA

1. Which of the following will cause iron deficiency Anaemia?
 - a. Poor iron absorption
 - b. Infection
 - c. Hereditary
 - d. Inadequate rest

2. Which is the major clinical feature of Anaemia?
 - a. Pale conjunctive, skin, nail
 - b. Face puffiness
 - c. Bone Degeneration
 - d. Diarrhea

3. What is the major physical finding of iron deficiency Anaemia?
 - a. Decreased pulse rate
 - b. Edema
 - c. Musculospasm
 - d. Pallor conjunctive and brittle nails

4. What is the colour of conjunctiva in iron deficiency Anaemia?
 - a. Pink
 - b. Red
 - c. Yellow
 - d. Pale

5. Which vitamin promotes iron absorption?
 - a. Vit A
 - b. Vit B
 - c. Vit C
 - d. Vit D

6. Which is the common diagnostic finding for detecting Anaemia?
 - a. Stool examination
 - b. Haemoglobin estimation
 - c. Urine analysis
 - d. X ray

7. What is the main complication of iron deficiency Anaemia?
 - a. Organomegaly
 - b. Heart failure
 - c. Lymphadenopathy
 - d. Leukemia

8. Which food will inhibit iron absorption?
 - a. Tea and coffee
 - b. Fish
 - c. Honey
 - d. Liver

9. Which food is rich in heam iron?
 - a. Liver
 - b. Jiggery
 - c. Dried fruit
 - d. Green leafy vegetable

10. Which food is rich in non-heam iron?
 - a. Jaggery
 - b. Banana
 - c. Milk
 - d. Egg

11. Which is the daily iron requirement for adolescent girls?
 - a. 2-4 mg/dl
 - b. 5-8 mg/dl
 - c. 12-16 mg/dl
 - d. 10-14 mg/dl

12. What is the main role of folic acid?
- Synthesis of nuclear acid
 - Formation of iron
 - Synthesis of haemoglobin
 - Body building
13. Which of the following diet is rich in folic acid?
- Green leafy vegetables
 - Plumbs
 - Tomato
 - Brinjal
14. Which of the following diet is rich in vit- C?
- Citrus fruits
 - Apple
 - Banana
 - Mango
15. Which is the medical management for iron deficiency Anaemia?
- Iron supplementation
 - Antibiotics
 - Painkiller
 - IV infusions
16. Which of the following disease can cause Anaemia?
- Cancer
 - Hypertension
 - Diabetes
 - Asthma
17. What is the way to prevent iron deficiency Anaemia?
- Consuming iron rich diet
 - Cooking in iron vessels
 - a and b
 - Consuming more eggs

18. Which mineral is necessary for the formation of haemoglobin?
- Iron
 - Zinc
 - Magnesium
 - Phosphate
19. What is the treatment of choice in severe Anaemia?
- Blood transfusion
 - Dialysis
 - Antibiotics
 - Chemotherapy
20. What is the way to increase the risk for developing Anaemia?
- Cooking in iron vessels
 - Increase the boiling time
 - Consume half cooked food
 - Eat uncooked food
21. What is the normal haemoglobin count?
- 12-16 g/dl
 - 8-10 g/dl
 - 12-18 g/dl
 - 10-12 g/dl
22. Which category is at risk for developing Anaemia?
- Children
 - Adolescent
 - Adult
 - Old age
23. What is the complication of folic acid deficiency?
- Cardiac problem
 - Diabetes
 - Infertility
 - Delirium

24. Which time is better to take iron supplements?

- a. After breakfast
- b. Before lunch
- c. Empty stomach
- d. After dinner

25. What is the common side effect of taking iron supplements?

- a. Headache
- b. Hemorrhage
- c. Constipation
- d. Breathing difficulty

**இரும்பு மற்றும்போலிக் ஆசிட் அமிலம் குறைப்பாட்டால் ஏற்படும்
இரத்தசோகை குறித்த அறிவுத்திறனை ஆராயும் கருவு.**

1. இவற்றில் எது இரும்புச்சத்து குறைவால் இரத்தசோகையை ஏற்படுத்துகிறது?

- அ) இரும்புச்சத்து
- ஆ) தொற்று
- இ) பரம்பரை
- ஈ) ஓய்வின்மை

2. இரத்தசோகைக்கான முக்கிய அறிகுறி யாது?

- அ) வெளிறிய தோல், நகம்,கண்
- ஆ) முக வீச்சம்
- இ) எலும்புத் தேய்வு
- ஈ) வயிற்றுப்போக்கு

3. இரத்ததோகைக்கான முக்கிய உடல்பரிசோதனை குறி யாது?

- அ) நாடித்துடிப்பு குறைதல்
- ஆ) வீக்கம்
- இ) தசை பிடிப்பு
- ஈ) வெளிறிய உள்ளகை மற்றும் உடையும் நகம்

4. இரத்த சோகையின் போது கண்ணின் கீர்பகுதியின் நிறம் என்ன?

- அ) இளம் சிவப்பு நிறம்
- ஆ) சிவப்பு
- இ) மஞ்சள்
- ஈ) வெளிறிய நிறம்

5. இருப்புச்சத்து உடலில் உறிஞ்சப்பட்ட தேவையான வைட்டமின் எது?

- அ) வைட்டமின் - எ
- ஆ) வைட்டமின் - பி
- இ) வைட்டமின் - சி
- ஈ) வைட்டமின் - டி

6. இரத்த சோகையை கண்டறிய பயன்படுத்தப்படும் பொதுவான பரிசோதனை முறை யாது?

- அ) மலப்பரிசோதனை
- ஆ) ஹீமோகுளோபின் பரிசோதனை
- இ) சிறுநீர்பரிசோதனை
- ஈ) நிழற்படம்

7. இரம்புச்சத்து குறைவினால் ஏற்படும் இரத்தசோகை ஏற்படுத்தும் பின்விளைவு யாது?

- அ) உடலுறுப்பு வீங்குதல்
- ஆ) மாரடைப்பு
- இ) நிண்நீர் வீக்கம்
- ஈ) இரத்தபுற்று நோய்

8. இருப்புச் சத்து உடலில் உறிஞ்சப்படுவதை தடுக்கும் உணவு எது?

- அ. தேனீர் மற்றும் காபி
- ஆ. மீன்
- இ. தேன்
- ஈ. ஈரல்

9. எந்த உணவில் ஹீம் இருப்புச்சத்து அதிகம் உள்ளது?

- அ. ஈரல்
- ஆ. சர்க்கரை
- இ. உலர்ந்த பழங்கள்
- ஈ. இலை காய்கறிகள்

10. ஹீம் அற்ற இரும்புச்சத்து எந்த உணவில் உள்ளது?

- அ. சர்க்கரை
- ஆ. வாழைப்பழம்
- இ. பால்
- ஈ. முட்டை

11. வளரிளம் பெண்களுக்கான தினசரி இரும்புச்சத்து தேவை எவ்வளவு?

- அ. 2-4 மி.கி/ நாள்
- ஆ. 5-8 மி.கி/ நாள்
- இ. 12-16 மி.கி/ நாள்
- ஈ. 10-14 மி.கி/ நாள்

12. போலிக் அமிலத்தின் முக்கிய பங்கு என்ன?

- அ. நியூக்ளிக் அமிலம்
- ஆ. இரும்புச் சத்து உருவாக்குதல்
- இ. ஹீமோகுளோபின் உருவாக்குதல்
- ஈ. உடம்பு கட்டுக் கோப்பாதல்

13. இவற்றில் போலிக் அமிலம் நிறைந்துள்ள உணவு யாது?

- அ. கீரை மற்றும் காய்கறிகள்
- ஆ. ப்ளம்ஸ்
- இ. தக்காளி
- ஈ. கத்தரிக்காய்

14. வைட்டமின் - சி நிறைந்துள்ள உணவு யாது?

- அ. புளிப்புள்ள பழவகைகள்
- ஆ. ஆப்பிள்
- இ. வாழைப்பழம்

ஈ. மாம்பழம்

15. இரும்புச்சத்து குறைவால் ஏற்படும் இரத்த சோகைக்கான மருத்துவ பராமரிப்பு யாது?

அ.இரும்புச்சத்துள்ள மருந்துகள்

ஆ. ஆண்டிபயாட்டிக்

இ.வலி நிவாரணி

ஈ.நரம்பில் ஊசி போடுதல்

16. இவற்றில் எந்த நோய் இரத்த சோகையை உருவாக்கும்?

அ. புற்று நோய்

ஆ. உயர் இரத்த அழுத்தம்

இ. நீரிழிவு

ஈ. ஆஸ்துமா

17. இரும்புச்சத்து குறைவால் ஏற்படும் இரத்த சோகையை தடுக்கும் முறை யாது?

அ. இரும்புச்சத்து நிறைந்த உணவை உட்கொள்ளுதல்

ஆ. இரும்புப்பாத்திரத்தில் சமைத்தல்

இ. அ மற்றும் ஆ

ஈ. அதிக முட்டை உண்ணுதல்

18. ஹீமோகுளோபின் உருவாக தேவைப்படும் தாது உப்பு எது??

அ. இரும்பு

ஆ. ஜிங்க்

இ. மெக்னசியம்

ஈ. பாஸ்பேட்

19.கடுமையான இரத்த சோகைக்கான சிகிட்டுதல் முறை என்ன?

அ.இரத்தம் செலுத்துதல்

ஆ.டயாலிசிஸ்

இ.ஆண்டிபயாட்டிக்

ஈ. ஹீமோதெராபி

20. சமைக்கும் உணவில் இரும்புச்சத்தை அதிகப்படுத்தம் முறை யாது?

அ. இரும்பு பாத்திரத்தில் சமைத்தல்

ஆ. உணவின் கொதி நேரத்தை அதிகப்படுத்துதல்

இ. அரைவேக்காடு உணவு

ஈ. சமைக்காத உணவை உண்ணுதல்

21. உடலின் ஹீமோகுளோபின் அளவு என்ன?

அ. 12-16 கி/ டெலி

ஆ. 8-10 கி/ டெலி

இ. 12-18 கி/ டெலி

ஈ. 10-12 கி/ டெலி

22. இரத்த சோகையால் அதிகம் பாதிக்கப்படும் பிரிவனர் யார்?

அ. குழந்தைகள்

ஆ. வளரிளம் பருவத்தினர்

இ. கர்ப்பினி பெண்

ஈ. முதியவர்கள்

23. போலிக் அமிலக் குறைவின் பின்விளைவிகள் யாவை?

அ. இதயப்பிரச்சனைகள்

ஆ. நீரழிவ் நோய்

இ. மலட்டுத்தன்மை

ஈ. மனப்பிதற்றுநோய்

24. மருந்துகளை எடுப்பதற்கான தகுந்த சமயம் எது?

அ. சாப்பிட்ட பிறகு

ஆ. சாப்பிடுவதற்கு முன்பு

இ. வெறும் வயிறு

ஈ. இரவு உணவிற்கு பிறகு

25. இரும்புச்சத்து மாத்திரைகளை சாப்பிடுவதால் ஏற்படும் விளைவு எது?

அ. தலைவலி

ஆ. மலசிக்கல்

இ. இரத்தப்போக்கு

ஈ. மூச்சுதிணறல்

ANNEXURE XIII

FORMULAS USED FOR DATA ANALYSIS

DESCRIPTIVE STATISTICS

Mean $\bar{x} = \frac{\sum x}{N}$

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

INFERENCEAL STATISTICS

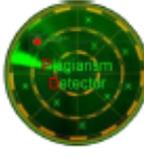
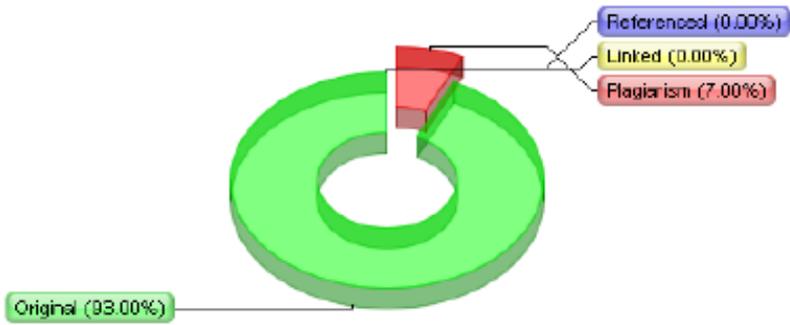
Paired 't' test $t = \frac{\bar{d}\sqrt{n}}{s}$

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

Chi-Square test $\chi^2 = \sum \frac{(o-e)^2}{e}$

APPENDIX -IX

CERTIFICATE PLAGIARISM

	<h3>Plagiarism Detector – Originality Report</h3>
Plagiarism Detector project: [http:// plagiarism-detector.com] Application core version : 622	
Originality Report Details	
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CERTIFICATE II

This is to certify that this dissertaion work titled “A study to assess the effectiveness of structured teaching programme on knowledge regarding iron deficiency anemia among the mothers of pre school children in shaji hospital at dindigul district.” of the candidate Kaveri.G with registration Number 301718202 for the award of M.Sc(N) in the branch of Child health Nursing I personally verified the urkund.com website for the purpose of plagiarism Check. I found that the uploaded thesis file contains from introduction to conclusion pages and result shows original-93% / 7% of plasgiarism in the dissertation.

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PHOTO GALLERY

APPENDIX- X
PHOTO GALLERY



The above picture shows the investigator collecting anemia knowledge among the mother of pre school children