

Assess the Knowledge on Iron Deficiency Anemia among Pregnant Women Attending Antenatal Clinic at Primary Health Centre of Rural District Bengaluru, Karnataka

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Abstract: *The present study was undertaken by the investigator to assess the knowledge on iron deficiency anemia among pregnant women attending antenatal clinic at Primary Health Centre of Rural District Bengaluru, Karnataka. The objectives of the study were to assess the knowledge on iron deficiency anemia among pregnant women attending antenatal clinic and to associate the knowledge scores on iron deficiency anemia among pregnant women with their demographic variables. A non-experimental approach with descriptive design was adopted for the study. The study was conducted among pregnant women attending antenatal clinic at Ardesanahalli primary health centre of rural district Bengaluru, Karnataka. The sample size was 90 pregnant women. Sampling technique chosen was convenient sampling technique. Structured interview schedule was used for collecting the data such as demographic variables, information regarding iron deficiency anemia among pregnant women. Conceptual model of the present study was based on Modified Pender's Health Behavior Model. The tool was prepared and pretested for validity and reliability. Pilot study was done on 24-08-10 to check feasibility and practicability of the study. Main study was done in the month of September. Analysis and interpretation was done by Descriptive and inferential statistics. The conclusion of the study was that Majority of the pregnant women were in the age group of 18-21 and 22-25 years, most of the pregnant women had no formal education, majority were unemployed, most of them had income below Rs.1000, many of them belong to nuclear family and were Hindus. Almost all of them were vegetarian; most of the pregnant women were in first trimester. Majority of pregnant women belong to Primigravida and Nulli para. The frequency and Percentage distribution of overall knowledge of pregnant women showed that 74.4% of the pregnant women had inadequate knowledge on iron deficiency anemia whereas none of them had adequate knowledge. However, 25.6% of the pregnant women had moderately adequate knowledge on iron deficiency anemia. Association between knowledge score and demographic variable of pregnant women revealed that there is significant association of knowledge score with education, occupation, monthly income, dietary pattern, source of information, gravida, trimester and parity. However, no significant association of knowledge score with age in years, religion and type of family were found. On the basis of findings the investigator concluded that majority of pregnant women had inadequate knowledge related to iron deficiency anemia and similar study can be undertaken for a large sample size to generalize the findings, a similar type of study can also be conducted for adolescent girl in different settings and comparative study can be conducted between urban and rural pregnant women.*

Keywords: Iron Deficiency, Anemia

1. Introduction

The well being of societies is directly linked to the health and survival of mothers and children. When mothers survive and thrive, their children survive and thrive. When both mothers and children survive and thrive, the societies in which they live prosper. The survival and well being of mothers and children are not only important in their own right, but are also central to solving much broader economic, social and developmental challenges. When mothers and children die or a sick, their families, communities and nations suffer as well.¹

Million of mothers are dying each year in pregnancy and during childbirth. Even more are suffering from ill health and under nutrition. Pregnancy makes considerable demands on the mother. As a consequence anemia is a very common. Particularly when consecutive pregnancies are not well spaced, the presence of anemia increases morbidity, the risk of infection and the hazards of post partum hemorrhage.²

Anemia is the commonest medical disorder in pregnancy that has varied prevalence, etiology and degree of severity in different populations. Amongst anemia iron deficiency is the most common. Nutritional deficiency is the commonest cause for Iron deficiency anemia, especially in developing

country like India. Iron deficiency anemia occurs when the dietary intake or absorption of iron is insufficient and haemoglobin, which contains iron cannot be formed. It occurs at all the stages of the life cycle, but is more prevalent in pregnant women and young children. In 2008, Iron deficiency anemia was considered to be among the most important contributing factors to the global burden of disease.³

It is a worldwide problem with the highest prevalence in developing countries, particularly among pregnant women. Iron deficiency anemia affect ≥ 3.5 billion people in the developing world. Approximate 12-14% of women of child bearing age suffer from anemia in developed countries.⁴

A World Bank report (2002) indicates that 88% of all pregnant women in India are anemic, compared with 60% of pregnant women in other parts of Asia. Recent surveys indicate that in rural India anemia is much more widespread than men. In developed, market economy countries, only 15% of pregnant women experience iron deficiency anemia.⁵

WHO has estimated that prevalence of anemia in developed and developing countries in pregnant women is 14 per cent in developed and 51 per cent in developing countries and 65-75 per cent in India. Prevalence of anemia in South Asian countries is among the highest in the world. WHO estimates

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that even among the South Asian countries, India has the highest prevalence of anemia. It is the fact that about half of the global maternal deaths due to anemia occur in South Asian countries; India contributes to about 80 per cent of the maternal deaths due to anemia in South Asia.⁶

Oral iron therapy is the most effective way of iron supplementation but program of anemia prophylaxis based on oral iron supplementation still remains a failure. Eighty percent of pregnant women were never offered Folifer tablets, 4% out of 20% who received the pills refuse to take them and 25% discontinued them because of side effects like dyspepsia, constipation, diarrhea, vomiting, generalized rashes and itching. Use of parenteral iron has been limited till now to conditions in which oral supplementation of iron is not possible or fails.⁹

Early detection and effective management of anemia in pregnancy can contribute substantially to reduction in maternal mortality as it continues to be a major health problem in the developing world. A key component of safe motherhood is the eradication of anemia during pregnancy, and an effective approach to curb the incidence of anemia in pregnancy would be to counter the underlying factors.⁹

The world health organization is committed to achieving the MDG of reducing women deaths during pregnancy and childbirth by three quarters between 1990-2015.¹

So realizing the magnitude of the problem, the present study was planned to assess the knowledge of pregnant women regarding iron deficiency anemia. Improving the survival and well being of mothers and children will not only increase the health of societies, it will also decrease inequity and poverty.¹

2. Need of the Study

Women's health is central to the survival of the society. They are pivot of the family, the nurtures of the next generation and care givers for elderly. Apart from their familiar duties, women are first and foremost free human beings who have a primary responsibilities towards their own health and happiness. Women's lives have to be seen as continuum and culmination.¹⁰

As iron-rich diet is the cornerstone of any approach to prevention or treatment of iron deficiency and diet is a cheaper, safer and much more palatable option than iron supplementation, it is essential that physician or other health professionals must pay more attention to teach pregnant woman good long-term dietary habits as a part of an overall approach to health promotion.¹²

During my experience in the community, I observed that iron deficiency anemia is prevalent more in the rural areas among pregnant women and they did not have sufficient knowledge regarding iron deficiency anemia. It is a silent epidemic which is a critical health concern. The treatment and preventive measures are cheap and easy to follow by the pregnant women.²¹

Statement of the problem

Assess the knowledge on iron deficiency anemia among pregnant women attending antenatal clinic at Primary health centre of rural district Bengaluru, Karnataka.

Objectives of the study

- 1) To assess the knowledge on iron deficiency anemia among pregnant women attending antenatal clinic.
- 2) To associate the knowledge scores on iron deficiency anemia among pregnant women with their demographic variables.

Assumptions

Pregnant women attending antenatal clinic may have some knowledge on iron deficiency anemia.

Delimitations

The study is limited to pregnant women:

- 1) Between the age of 18 to 45 years .
- 2) Attending antenatal clinic at Primary Health Centre of rural district, Bengaluru, Karnataka.

Operational Definitions:

Assess:

It refers to statistical measurement of knowledge from the scores obtained from structured interview schedule on iron deficiency anemia among pregnant women attending antenatal clinic at primary health centre of rural district, Bengaluru.

Knowledge:

It is a correct verbal response of pregnant women to the items on structured interview schedule related to Iron deficiency anemia.

Iron deficiency anemia:

It refers to hemoglobin level ≤ 11 gms/dl as per WHO classification among pregnant women attending antenatal clinic.

Pregnant women:

It refers to antenatal mothers between the age of 18 to 45 years of age attending antenatal clinic for antenatal checkup at Primary health centre of rural district, Bengaluru.

Antenatal clinic:

A place in the primary health centre where antenatal care will be provided to pregnant women on every Thursday as per Central Government Norms.

Criteria for Selection of Sample

Inclusion Criteria

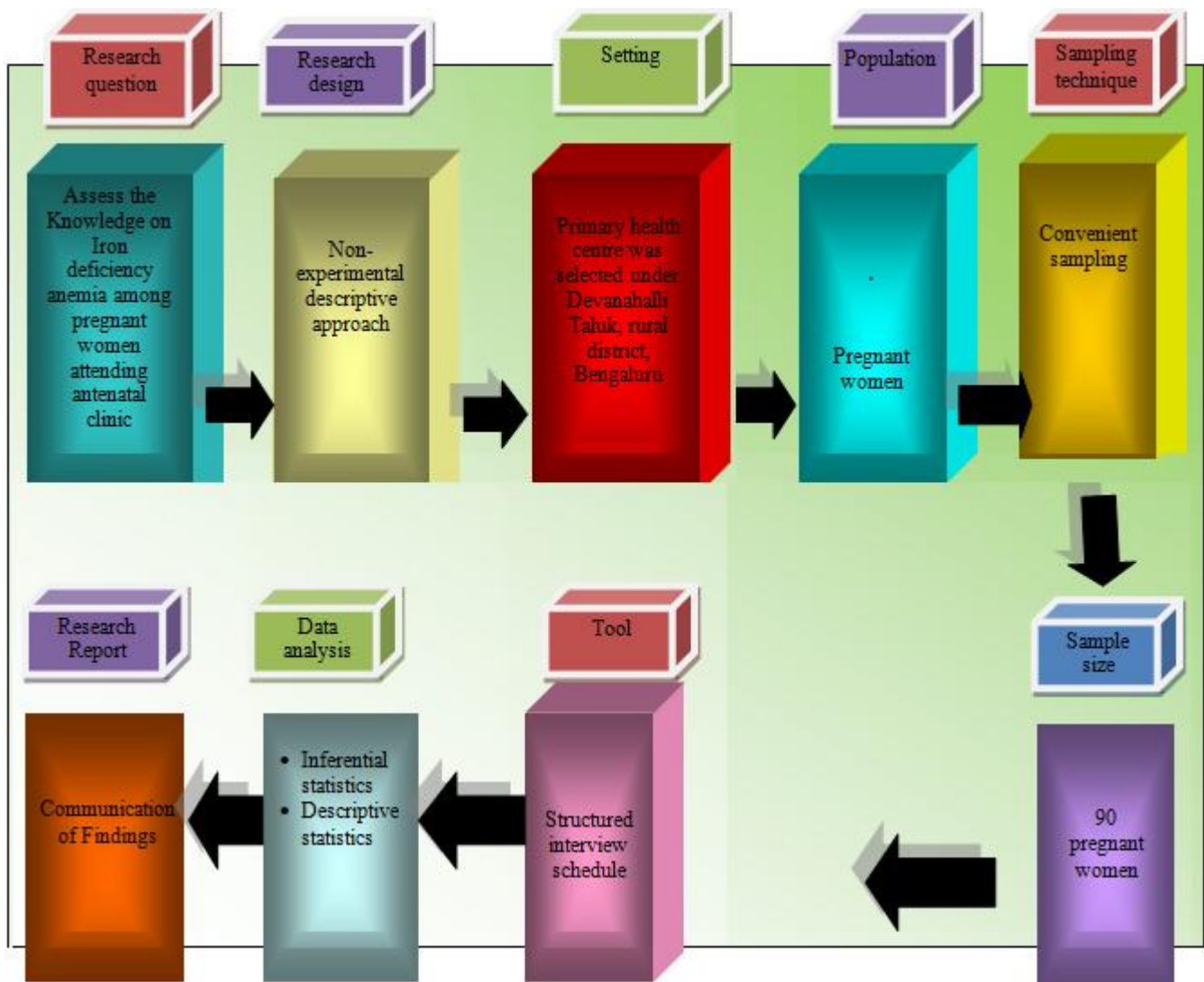
The study includes pregnant women who

- 1) were between 18-45 years of age
- 2) were able to understand kannada
- 3) were available at the time of data collection
- 4) were willing to participate in the study

Exclusion Criteria

The study excludes pregnant women

- 1) who were undergoing treatment for Iron deficiency anemia. 2) who were having any obstetric and medical complications.



Research Approach

Selection of research approach is the basic procedure for the conduct of the research enquiry; research approach helps the researcher to determine what data to collect and how to analyze it. It also suggests possible conclusions to be drawn for the data. In view of the nature of the problem selected and objectives to be accomplished, a descriptive approach was considered appropriate for the present study.⁷²

Research Design

The research design refers to the plan for a scientific investigation. The selection of research design is an important and essential step in research as it is concerned with the overall framework for conducting the study by giving a plan, structure and strategy for the investigation. Non-experimental research design was adopted for the present study.

Setting of the Study

Setting refers to the area where the study is conducted. It may be natural setting or laboratory setting depending upon the study topic and researchers' choice.

The study was conducted at Aradesanahalli, primary health centre under Devanahalli Taluk of rural district, Bengaluru. It covers population of 10,500. The primary health centre is situated at 27 kilometers away from Diana college of Nursing. It consists of labor room, minor operation theatre, antenatal and postnatal wards, antenatal clinic and laboratory facilities. The antenatal clinic functions on every Thursday as per central government norms. Approximately 16-18 antenatal mothers attend antenatal clinic between 9am-5pm.

The selection of setting was done on the basis of: -
Feasibility of conducting the study.
Availability of samples.

Population

Population is the total number of people who met the criteria that the researcher has established for a study from whom the subjects will be selected and to whom the findings will be generalized.²⁴

The population for the study was pregnant women.

Sample

The sample is the small portion of the population for observation and analysis which represents the entire population.

In this present study sample consist of pregnant women attending antenatal clinic at Aradesanahalli primary health centre of rural district, Bengaluru.

Sample Size

Sample size is the number of elements of the population to be selected. In this present study the sample size consist of 90 pregnant women.

Sampling Technique

Sampling refers to the process of selecting a portion of population to represent the entire population.²⁴

In the present study, non- probability convenient sampling technique was used to select the antenatal mothers attending antenatal clinic at Aradesanahalli primary health centre of rural district, Bengaluru.

Development of Tool

Data collection tools are the procedures or instruments used by the researcher to observe or measure key variables in the research problem.

Structured interview schedule was prepared after the extensive review of literature as a tool to collect the data regarding iron deficiency anemia among pregnant women.

Description of the Tool

The structured interview schedule was used to collect the data on iron deficiency anemia among pregnant women .The tool has two sections.

Section A: Seeks information on demographic variables of pregnant women attending antenatal clinic at primary health centre of rural district, Bengaluru. It includes age, education, occupation, monthly income, religion, type of family, dietary pattern, sources of information, gravida, trimester and parity.

Section B: This section consist of 40 multiple choice questions on iron deficiency anemia. It includes:

- 1) General information -4 items
- 2) Causes -4 items
- 3) Sign and Symptoms and Diagnosis -3 items
- 4) Primary prevention -19 items
- 5) Secondary prevention -3 items
- 6) Tertiary prevention -2 items
- 7) Complications -3 items
- 8) Follow up care -2 items

Scoring Technique

Inadequate knowledge	0-49%
Moderately adequate knowledge	50-75%
Adequate knowledge	76-100%

Section A: The scoring key was prepared by coding the demographic variables to assess the background of samples and thereby subject to statistical analysis.

Section B: All questions were multiple choice questions with a one correct answer. The score for each correct response was 1 and incorrect response was 0 .The maximum score on knowledge questionnaire was 40.A scoring key was prepared showing item numbers and correct responses.

Further, the knowledge of antenatal mothers on iron deficiency anemia was categorized as follows:

Validity

Content validity refers to the degree to which an instrument measures what is intended to measure. The content validity of the tool was established by 9 experts in the field of Community Health Nursing, 1 Community Medicine, 1 Obstetrics and Gynecological Nursing and 1 Biostatistics. However, the tool was modified according to the recommendations and suggestions of experts. Further, the tool was prepared in regional kannada version and retranslated to English version to ensure the correctness of the tool.

Reliability

Reliability of the research instrument is defined to which the instrument yields the same results on repeated measures. It is then concerned with consistency, accuracy, precision, stability, equivalence and homogeneity.

The tool was implemented among 10 antenatal mothers attending antenatal clinic at primary health centre of rural district, Bengaluru and Split half method with spearman's brown prophecy formula was used to test the reliability of the tool.

The reliability co-efficient of knowledge was found to be 0.93. Hence, the tool was considered reliable for proceeding with the pilot study.

Pilot Study

Pilot study is a small scale version, or trial run, done in preparation for a major study. Pilot study is the mini version of the actual study in order to find out the feasibility of the study. It is designed to acquaint the researcher with the problem that can be corrected in preparation for a large project.

The pilot study was conducted among 10 antenatal mothers attending antenatal clinic at Bettahalsur, primary health centre of rural district, Bengaluru to find out the feasibility and applicability of the structured interview schedule on iron deficiency anemia among pregnant women. The study was conducted from 24-08-10 to 29-08-10 after obtaining legal permission from concerned authorities. The pilot study was found to be feasible to proceed with major study.

Data Collection Procedure

Data collection is gathering of information from the sampling units. After obtaining formal written permission from Medical officer of Aradesanahalli, primary health centre, Bengaluru, the main study was conducted from 30/09/10 to 04/11/10. The pregnant women were made comfortable before interview. Investigator personally visited each respondent, introduced herself, to the pregnant women

and explained the purpose of the study and ascertained the willingness of the participants. Thereby respondents were assured anonymity and confidentiality of the information provided by them and structured interview schedule was administered during their leisure time. The questions were posed one by one to the pregnant women regarding iron deficiency anemia. Each response of the pregnant women was recorded immediately. The average time taken for administration of the each tool was 20-30 minutes. Around 16-18 pregnant women were interviewed every Thursday.

Plan for Data Analysis

The data were analyzed in terms of objectives of the study using descriptive statistics and inferential statistics.

The plan of data analysis was as follows

- 1) The collected data was coded and transformed to a master sheet for statistical analysis.
- 2) The response to items in sections-A socio-demographic profile was planned to be summarized in frequency and percentages.
- 3) The knowledge of iron deficiency anemia analyzed in terms of frequency, percentage, mean and standard deviation.
- 4) Inferential statistics especially chi-square test is used to assess the relationship between the knowledge of pregnant women regarding iron deficiency anemia with their selected socio-demographic variables.

The findings can be summarized as follows

- Majority of the pregnant women were in the age group of 18-21 years and 22-25 years.
- Most of the pregnant women had no formal education.
- Majority of the pregnant women were unemployed.
- Most of the pregnant women were Hindus
- Majority of the pregnant women were from nuclear family.
- Almost all of the pregnant women were vegetarian
- Highest percentage of the pregnant women had source of information through mass media.
- Most of the pregnant women were primi gravida.
- Most of the pregnant women were in first trimester.
- Most of the pregnant women were Nulli para.

Statement of the Problem

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Objectives of the Study

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Criteria for Selection of Sample

Inclusion Criteria

The study includes pregnant women who

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The study excludes pregnant women,

- 1) Who were undergoing treatment for Iron deficiency anemia.
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3. Operational Definitions

Assess:

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Implications

Based on the findings following are the implications of the study

Community Nursing Practice

- Survey can be conducted to identify the risk group antenatal mothers.
- Screening camps can be arranged and early detection can be done to treat and prevent iron deficiency anemia.

Nursing Education

Conferences, workshops and seminars can be held for nurses to impart, update the knowledge and promote positive attitudes towards iron deficiency anemia.

Nursing Administration

The administrator can organize conference, workshop and seminars for nurses working in the community.

Nursing Research

The findings can be utilized for conducting research to assess the knowledge on iron deficiency anemia.

4. Recommendation

The following recommendations are made based on findings:

- A similar study can be undertaken for a large sample size to generalize the findings.
- A study need to be carried out to assess the knowledge of the other age groups.
- A Similar type of study can be conducted for adolescent girl in different settings.
- A study can be conducted by including additional and related demographic variables.
- A Similar type of study can be conducted for mothers who have under five children in different settings.
- Studies can be conducted in metropolitan cities to find out the difference.
- A comparative study can be conducted between urban and rural pregnant women.
- An experimental study of iron supplementation can be conducted for pregnant women in different settings.
- Mass media program on iron deficiency anemia to be evaluated and modified to increase the knowledge and awareness.

Health education module can be prepared and tested for its application.

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