



A STUDY TO ASSESS THE KNOWLEDGE ON ANEMIA AND ADHERENCE TO IRON FOLATE SUPPLEMENTATION AMONG ANTENATAL WOMEN IN AMALA INSTITUTE OF MEDICAL SCIENCES, THRISSUR.

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Anemia is a common nutritional deficiency disorder and global public health problem which affects both developing and developed countries with major consequences for human health and their social and economic development (WHO 2005). According to WHO (2018) reports, one third of the global populations (over 2 billion) are anemic due to imbalance in their nutritious food intake. Among pregnant women, iron deficiency anemia is associated with adverse reproductive outcomes such as preterm delivery, low- birth-weight infants, and decreased iron stores for the baby, which may lead to impaired development².

Anemia is a global public health problem affecting two billion people worldwide. The primary cause of anemia is iron deficiency, a condition caused by inadequate intake or low absorption of iron, the increased demands during pregnancy, and loss of iron through menstruation. Pregnant women are the most prone groups for iron deficiency anemia (IDA). During pregnancy, physiological iron requirements are the highest and the amount of iron absorbed from the diet is not sufficient to meet requirements during pregnancy. However, plasma expansion being increased in the second trimesters, the dietary intake of the two elements cannot meet the increased need during pregnancy which leads to IDA. Anemia during pregnancy leads to low birth weight, lowered resistance to infection, poor cognitive development, and reduced work capacity¹. Iron and folic acid supplementation have been the preferred intervention to prevent IDA among pregnant women that may help to

improve maternal and fetal outcomes because it is essential to the normal development of the spine, brain, and skull of the fetus. Folate also supports the pregnant woman's expanding blood volume and growing maternal and fetal tissues⁵.

WHO recommends that in the first four weeks of pregnancy all pregnant women should be receive a standard dose of 30–60 mg iron and 400 μ g folic acid beginning as soon as possible during the first trimester of pregnancy. Iron-folic acid (IFA) adherence is the extent to which patients take medication or condition of sticking to dose and time for taking iron/folate supplements as prescribed by their healthcare providers or per recommendations. Women are said to adhere to an iron/folic acid supplement if they took 65% or more of the supplement, equivalent to taking the supplement at least 4 days a week. However, oral iron-folate supplementation is hindered by different factors such as poor adherence to regimens, frequency of side effects, gastrointestinal side effects, inadequate supply of tablets, lack of counseling of pregnant women by health care providers concerning to the utilization of tablets and possible side-effects of the supplementation, poor utilization of antenatal care services services, lack of knowledge on the IFA tablet, and lack of knowledge on anemia, but experts suggest that 1000 mg of iron is needed for mother and fetus during pregnancy⁷.

According to WHO (2019), global anemia prevalence was 29.9% in women of reproductive age, equivalent to over half a billion women aged 15-49 years. Prevalence was 29.6% in non-pregnant women of reproductive age, and 36.5% in pregnant women. As antenatal women are one of the vulnerable population which may be badly affected by the deficiency of iron there is a need for systematic and longitudinal assessment of knowledge of anemia and adherence to iron and folate supplementation among these population⁶.

The present study was aimed to assess the knowledge regarding anemia and adherence to iron and folate supplementation among antenatal women in selected hospital, Thrissur. The objectives of the study were to assess the level of knowledge on anemia and adherence to iron folate supplementation among antenatal women, find the association between the level of knowledge on anemia and adherence to iron folate supplementation with selected baseline variables and to prepare an information leaflet on anemia and iron folate supplementation. The research approach was quantitative and the research design adopted was descriptive design. One fifty antenatal women were selected by convenience sampling technique. Data was collected using structured questionnaire to assess the knowledge on anemia and adherence to iron folate supplementation and the baseline line variables. The results showed that out of total 150 samples, had excellent knowledge level, had very good knowledge level, had good knowledge level, 18 (12%) had average knowledge level, had poor knowledge level.

Keywords: assess, knowledge, anemia, adherence to iron folate supplementation, antenatal women

INTRODUCTION

Iron-folic acid deficiency anemia is a public health concern worldwide, especially in low and middle-income countries. Iron with folic acid is an important micronutrient for physiological function, growth, and development as well as maintenance of life for the mother and her fetus during pregnancy and in later life. Similar to other nutrients, the demand, and constraint of iron and folic acid increases during pregnancy to meet the daily requirement for life development and growth of the fetus during pregnancy⁸.

Non-adherence to iron-folic acid supplementation during pregnancy has a potential negative impact on the health of the mother and the fetus. Increased adherence to iron-folic acid supplementation during pregnancy was associated with reduced risk of anemia for the mother and hemorrhagic newborn disease and congenital anomalies for the fetus. Iron deficiency anemia is the commonest hematological disorder in pregnant women and children worldwide, particularly in low and middle-income countries¹⁰.

Low intake of iron-folic acid during pregnancy has been associated with increased risk of adverse birth outcomes such as; neural tube defects, cardiac defect, and endocrine disorders. Iron-folic acid supplementation is currently the aforementioned and recommended strategies to prevent adverse birth outcomes and hematologic complications during pregnancy¹¹.

Increased adherence to iron-folic acid for pregnant women enhance productivity and reduces iron deficiency anemia during pregnancy which minimizes the risk of hemorrhage, sepsis and maternal mortality and morbidity. Low adherence hurts levels of energy, productivity, cognitive and physical development, and immune function. Besides, inadequate intake of iron and folic acid during pregnancy has adverse neonatal outcomes such as; miscarriage, stillbirth, prematurity, low birth weight, congenital anomalies and perinatal morbidity and mortality⁷.

Nivedita et al., (2016) conducted a cross sectional, descriptive institution based study at Sri Manakula Vinayagar medical college hospital, Puducherry, India. Assessment of knowledge revealed that only 39.87% of the participants were aware of and understood the term anemia. 53.8% of the participants accepted that pregnant women were more vulnerable to anemia and 66.1% responded correctly that the fetus will be affected by severe anemia. Only 32.6% gave the correct response that pregnant women should take iron supplementation in spite of taking a healthy diet. Only 44.62% of the participants were aware of their hemoglobin level in the current pregnancy. Knowledge about food rich in iron was poor among the participants. At least 1/5th of the participants have not received educational information regarding anemia from any source. The overall attitude towards antenatal check-up, healthy diet and the benefits of iron supplementation was generally good among the participants 49.36% of the participants were taking only the

usual diet during their pregnancy 74.36% claimed to have taken iron supplementation regularly whereas 9.8% had not taken iron supplementation

The investigators themselves has seen that there is lack of knowledge and awareness regarding anemia and adherence to iron folate supplementation among antenatal women from obstetrics and gynecology outpatient and inpatient departments. So these facts, motivated the investigators to conduct a study that would assess the knowledge regarding anemia and adherence to iron folate supplementation among antenatal among women.

REVIEW OF LITERATURE

A Descriptive study was conducted by G Aruna, on Knowledge regarding anemia during pregnancy among antenatal mothers at NMCH, Nellore.. This study is aimed to assess the knowledge regarding anemia during pregnancy among antenatal mothers. A Quantitative research approach and descriptive design were adopted to conduct the study among 50 antenatal mothers selected by non-probability convenient sampling technique. Data was collected by using structured questionnaire. The study revealed that majority of antenatal mothers 54% had satisfactory knowledge, 38% had poor and 8% had good knowledge score. Study concluded that mothers should to be educated regarding anemia and its management.

A descriptive study aimed to assess the effect of knowledge and perception of pregnant women on adherence to iron/folate supplementation in Paropakar Maternity and Women's Hospital in Kathmandu, Nepal. Systematic random sampling was used to select 406 persons who were either given a self-administered questionnaire or interviewed. 73.2% of the respondents showed good adherence. Bivariate analysis revealed significant associations between adherence and both knowledge and perception ($p < 0.05$). Study concluded that adherence to iron/folate supplementation among women during pregnancy needs continuous improvement by minimizing the perception of constraints (side-effects and forgetfulness) and enhancing availability and family support.

STATEMENT OF THE PROBLEM

A study to assess the knowledge on anemia and adherence to iron folate supplementation among antenatal women in Amala Institute of Medical Sciences, Thrissur.

OBJECTIVES

1. To assess the level of knowledge on anemia and adherence to iron folate supplementation among antenatal women
2. To find the association between the level of knowledge on anemia and adherence to iron folate supplementation with selected baseline variables
3. To prepare an information leaflet on anemia and iron folate supplementation.

HYPOTHESIS

There will be significant association between level of knowledge on anemia and adherence to iron folate supplementation and baseline variables

METHODOLOGY

Research approach: Quantitative research approach.

Research design: Descriptive design.

Setting: Amala Institute of Medical Sciences, Thrissur.

Sample: Antenatal women who come for routine antenatal check up in Obstetrics and Gynecology OPD and admitted in antenatal wards who meet the inclusion criteria in Amala Institute of Medical Sciences, Thrissur.

Sample size : 150 samples.

Sampling technique: Convenience sampling technique.

Inclusion Criteria:

Antenatal women who are

- Irrespective of gestational age and willing to participate in the study.
- Available at the time of data collection

Exclusion Criteria:

- Antenatal women with mental disorders
- Those who are not able to understand English or Malayalam

TOOLS AND TECHNIQUE

Tool I : Consists of two sections

Section A: Baseline variables.

Section B: Structured questionnaire to assess the knowledge on anemia and adherence to iron folate supplementation among antenatal women.

Data collection process

Data collection is the gathering of information to address a research problem. Data collection is the gathering of information from the sample unit. A formal permission was obtained from the Director, Amala Institute of Medical Sciences to conduct the study. The samples were collected according to the inclusion criteria using convenience sampling technique. 150 samples were selected. The data was collected by using a structured questionnaire from antenatal women come for routine antenatal check up in Obstetrics and Gynaecology OPD and got admitted in antenatal wards. The self introduction and need of study was explained to the samples. The subjects took around 15-20 minutes to answer questions. The entire subjects co-operated well with investigators. The subjects were comfortable and cooperated well during the study. At the end of the data collection the investigators expressed their sincere gratitude for their co-operation and given an information leaflet on anemia and adherence to iron folate supplementation.

Results:

The major findings of the study are as follows:

1. Findings related to baseline variables of the study population

- Among 150 subjects 30 % belongs to the age group 19 – 24, 50 % belongs to the age group 25-30 and 20% belongs to age group greater than 30 years.
- Majority (60%) are graduates among antenatal women.
- Among 150 subjects, 39.3% were having private job, 35.3% were homemakers, 8.6% were having government job, and 7.3% were self employed.
- Regarding the dietary pattern, 95.3 % belonged to Non-vegetarian and 4.6 % belonged to vegetarian.
- Among 150 subjects, 79.33 % have normal haemoglobin level ($>11\text{mg/dl}$), 15.3% have haemoglobin level

between 10-10.9 mg/dl and 5.3 % have haemoglobin level between 7- 10 mg / dl.

- Out of 150 subjects, 84% lives in Panchayath, 11.3% lives in municipality and 4.6 % lives in corporation.
- Among 150 subjects, 66% belongs to APL and 34 % belongs to BPL.
- Out of 150 subjects, 54 % were primigravida and 46% were multigravida.
- Among 150 subjects, 15.4 % had abortion and 84.6% had no abortion.

2. Findings related to Knowledge level on anemia and adherence to iron folate supplementation among antenatal women.

This section shows the analysis of level of knowledge on anemia and adherence to iron folate supplementation among antenatal women. Structured knowledge questionnaire was used to assess level of knowledge on menopause management which consisted of 25 questions. The score obtained was graded as excellent, very good, good, poor and very poor knowledge.

Figure 1 : Frequency and distribution of antenatal women according to level of knowledge on anemia and adherence to iron folate supplementation

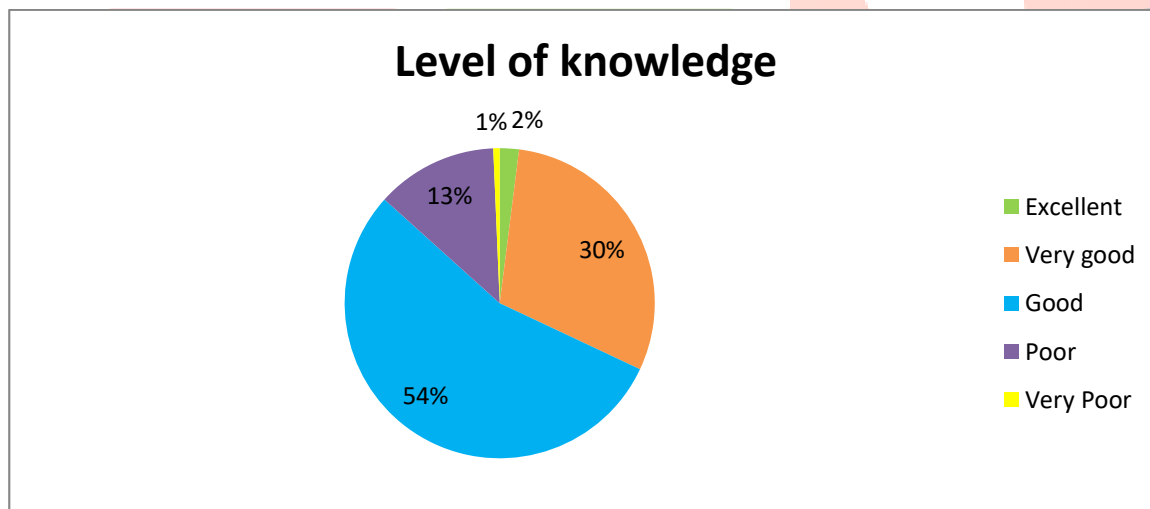


Figure 1 shows that out of 150 samples 3(2%) had excellent knowledge, 45(30 %) had very good knowledge, 82(54%) had good knowledge, 19(13%) had poor and 1(1%) had very poor knowledge.

3. Findings related to analysis of association between level of knowledge on anemia and selected demographic variables.

There is significant association between the level of knowledge with age in years and dietary pattern. There is no significant association between level of knowledge with religion, educational status, occupation, economic status, area of residence and parity.

DISCUSSION

The findings of the present study were discussed in relation to the observations made by other studies which the investigators reviewed. The findings of the present study showed that 50% of antenatal women belonged to the mean age group of 25-30 years. The study results were consistent with a study conducted to assess awareness of anemia among 600 pregnant women and impact of demographic factors on their hemoglobin status. It showed that, the majority of the women (72%) were in the mean age of 20-29 years.

CONCLUSION

Anemia in pregnancy can lead to complications in mother and baby, so adequate antenatal check up and management with iron and folate supplementation is very essential. It is very important to provide adequate knowledge to antenatal mothers in order to have a healthy mother and healthy newborn.

NURSING IMPLICATIONS

The findings of the study have implications to nursing practice, nursing education, nursing administration and nursing research.

Nursing Practice

This study helps the nurse to assess the knowledge level regarding anemia among antenatal women and to stay updated and offer better patient care. The present study offered the nurses to improve clinical outcomes, to provide scientific accountability and a foundation for evidence based practice.

Nursing Education

Nurse educators can guide the students to provide health education to antenatal women regarding anemia in pregnancy. They can provide in-service education to staff nurses.

Nursing administration

Nurse administrators can motivate the staff nurses to arrange health awareness programmes on management and prevention of anemia during pregnancy.

Nursing research

- Utilization of research findings helps nurses to focus on evidence based practice.
- Further research on anemia during pregnancy will help to reduce the incidence of anemia during the antenatal period.

Limitations

- Study was limited to antenatal women in a selected study setting
- The study period was limited to 3 weeks.
- Study questionnaire was limited to literate antenatal women.

Recommendations

- Similar study can be conducted on large sample in different study setting.
- More research can be done in the future, focusing on practice aspects.
- Sample size can be increased and findings can be generalized.

REFERENCES

1. Assefa H, Abebe SM, Sisay M. Magnitude and factors associated with adherence to Iron and folic acid supplementation among pregnant women in Aykel town, Northwest Ethiopia. *BMC Pregnancy Childbirth*. 2019;19(1):296
2. S. Shewasinad and S. Negash, “Adherence and Associated Factors of Prenatal Iron Folic Acid Supplementation among Pregnant Women Who Attend Ante Natal Care in Health Facility at Mizan-Aman Town, Bench Maji Zone, Ethiopia” *Journal of Pregnancy and Child Health*, vol. 04, no. 03, 2017.
3. S. Siabani et al., “Determinants of Adherence to Iron and Folate Supplementation among Pregnant Women in West Iran: A Population Based Cross-Sectional Study,” *Quality in Primary Care*, vol. 25, no. 3, pp. 157–163, 2017
4. Raksha M, Shameem VP Knowledge, attitude and practice study regarding anemia in antenatal women DOI: <http://dx.doi.org/10.18203/2320-1770.ijrcog20161856>
5. T. W. Brhanie. “Prevalence of Iron Deficiency Anemia and Determinants among Pregnant Women Attending Antenatal Care” *Journal of Nutritional Disorders & Therapy*, vol. 6, no. 4, 2016.
6. Nair M, Choudhury et al., Webster P, et al. Association between maternal anaemia and pregnancy outcomes: A cohort study in Assam, India. *BMJ Glob Health*. 2016;1:e000026
7. Raksha M, Shameem VP Knowledge, attitude and practice study regarding anemia in antenatal women DOI: <http://dx.doi.org/10.18203/2320-1770.ijrcog20161856>
8. Taye B, Abeje G, Mekonen A. Factors associated with compliance of prenatal iron folate supplementation among women in Mecha district, Western Amhara: a cross-sectional study. *Pan African Medical Journal*. 2015;20(1)
9. Sivapriya SM, Parida L. A study to assess the knowledge and practices regarding prevention of anemia among antenatal women attending a tertiary level hospital in Pune. *IJSR NET*. 2015;4(3):1210-14
10. Sangeetha V B, Pushpalatha S. Severe maternal anemia and neonatal outcome. *Sch J Appl Med Sci*. 2014;2:303–9
11. WHO .Essential nutrition actions: improving maternal, newborn, infant and young child health and nutrition. Geneva: World Health Organization; 2013
12. Iyengar K. Early postpartum maternal morbidity among rural women of Rajasthan, India: A community-based study. *J Health Popul Nutr*. 2012;30:213–25