



A Descriptive Study To Assess The Prevalence And Risk Factors Of Anaemia Among Pregnant Women At Selected Urban Primary Health Centers, Coimbatore

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ABSTRACT

Anaemia is a major health problem which adversely affects the health of the women globally caused by iron deficiency. WHO has estimated that prevalence of anaemia in developed and developing countries in pregnant women is 14% in developed countries and 51 percent in developing countries and 65-75% in India. Various programmes regarding anaemia prophylaxis and maternal health have been implemented but still the prevalence of anaemia related complications among pregnant women continues to be high. (7). Hence the present study was conducted to study the prevalence and risk factors of anemia among pregnant women at selected urban primary health centers of Coimbatore. Methods: Descriptive research design was used to collect the data on prevalence and risk factors of anemia among pregnant women at selected urban primary health centers of Coimbatore. Simple random sampling technique was used to collect the data. Frequency table was used to categorize the variables and chi square test was used to find the association between anemia and selected demographic variables. Results: Most of the women in the age group between 20 to 30 yrs. 73% of women were belonged to Hindu religion. 44% of women were under graduated. 54% of women were primigravida. 70% of pregnant women taken their iron tablets along with meals and 46% of women had an one serving of vegetables and fruits daily in their diet Discussion: 38% , 47% and 50% of women had anemia during first, second and third trimester respectively. Conclusion: Age and religion had an association with anemia and education was not associated with anemia.

Key words: Prevalence, Risk factors, Anemia and pregnancy

I.INTRODUCTION:

Anemia is the most common nutritional deficiency disorders affecting the pregnant women, from 65% to 75%. Anemia is the most common cause of maternal death in India and contributing to about 80% of the maternal deaths caused by anemia in South East Asia.(1)

Anemia refers to a condition in which the hemoglobin (Hb) content of the blood is lower than normal for a person's age, gender and environment, resulting in the oxygen carrying capacity of the blood being reduced. During the pregnancy plasma volume expands (maximum around 32 weeks) resulting in haemoglobin dilution. For this reason, haemoglobin level below 10gm/dl at any time during pregnancy is considered anaemia. Hb level at below 9gm/dl requires detailed investigation and appropriate treatment. (3).

The main causes of anemia in developing countries include: inadequate intake and poor absorption of iron, malaria, hookworm infestation, diarrhoea, HIV/AIDS, genetic disorders (e.g., sickle cell anaemia and thalassemia), blood loss during labor and closely spaced pregnancies. Among these etiologic factors, iron deficiency is often identified as the primary contributor to anemia in pregnancy. In developing countries, demographic, cultural, and socioeconomic factors could affect the occurrence of anemia in pregnancy. (2, 3)

Maternal anemia leads to many adverse effects on the fetuses. Fetal complications such as low birth weight, preterm deliveries, developmental anomalies and even neonatal death are some of them. (4)

II.OBJECTIVES:

- To estimate the prevalence of anemia among pregnant women
- To identify the risk factors of anemia among pregnant women
- To associate the anemia with selected demographic variables of pregnant women.

III.METHODOLOGY OF THE STUDY:

Study Design: A descriptive research design was used to assess the prevalence, risk factors of anemia among pregnant women.

Settings: Selected urban primary health centers of Coimbatore.

Study population: All pregnant women in Coimbatore

Sampling Method: Simple random technique was used to select the sample.

Sample size: 207 pregnant women were selected for the study.

Sources of data: Primary and secondary sources were used to collect the data.

Sources of Primary data: Primary data were collected from respondents directly.

Sources of secondary data: Records and reports available from respondents and urban primary health centers were used as a secondary source.

Tools for data collection: Self structured questionnaire were used to collect the data.

Methods of data collection: Face to face interview was used to collect the primary data and records and reports were reviewed to collect the secondary data. All the pregnant women were studied in detail regarding age, age at marriage, and religion, education, gravida and hemoglobin level during their antenatal visit. Hemoglobin estimation by Sahli's method .Anemia was classified according to WHO, in case of mild anemia hemoglobin level is between 10.0 to 10.9g/dl, in moderate anemia hemoglobin level is between 7.0 to 9.9g/dl and in severe anemia hemoglobin level is <7.0g/dl

Inclusion criteria: All pregnant women attending OPD at PHC from first to third trimester were included in the study.

Exclusion criteria: Pregnant women who were not willing to participate were excluded from the study.

Analysis of data: Descriptive and Inferential statistics were used to analyze the data. Frequency table was used to assess the prevalence and risk factors and chi square test was used to find the association between variables.

IV.RESULTS OF THE STUDY:

4.1 Distribution of demographic and obstetric data:

Table1. Distribution of pregnant women according to age

| Age (yrs) | No. of Sample | Percentage (%) |
|--------------|---------------|----------------|
| Below 20 | 10 | 5 |
| 20-30 | 148 | 71 |
| 30-40 | 47 | 23 |
| More than 40 | 1 | 0.4 |

71% of pregnant women were in the age group of 20-30yrs and only 0.4% was in the age group of more than 40yrs.

Table2. Distribution of pregnant women according to age at marriage

| Age group in yrs | No. of Sample | Percentage (%) |
|------------------|---------------|----------------|
| 15-20 | 40 | 19 |
| 21-25 | 110 | 53 |
| 26-30 | 46 | 22 |
| 31- 35 | 6 | 3 |
| 36-40 | 1 | 0.4 |
| Above 40 | 7 | 3 |

Most of the pregnant women (53%) were in the age group of 21-25 yrs at the time marriage and only 0.4% of women were in the age group of 36-40 yrs.

Table 3.Distribution of pregnant women according to Religion

| Religion | No. of Sample | Percentage (%) |
|-----------|---------------|----------------|
| Hindu | 151 | 73 |
| Muslim | 50 | 24 |
| Christian | 6 | 3 |

Most of the pregnant women were (73%) belonged to Hindu religion.

Table 4: Distribution of Pregnant Women according to Education

| Education | No. of Sample | Percentage (%) |
|------------------|---------------|----------------|
| Primary | 12 | 6 |
| Secondary | 36 | 17 |
| Higher secondary | 35 | 17 |
| Under graduation | 92 | 44 |
| Post graduation | 28 | 14 |

Most of the pregnant women (44%) had their under graduation level of education.

Table 5. Distribution of pregnant women according to gravidity

| Gravidity | No. of Sample | Percentage (%) |
|---------------|---------------|----------------|
| Primi gravida | 112 | 54 |
| Multi gravida | 95 | 46 |

54% of pregnant women were primi gravid and 46% were multigravid women.

4.2 Estimation of prevalence of Anemia

Table 6: Distribution of pregnant women according to Severity of Anemia

| Severity | Ist trimester | | IInd trimester | | IIIrd trimester | |
|-------------|----------------|---------------|----------------|---------------|-----------------|---------------|
| | No. of samples | Frequency (%) | No. of samples | Frequency (%) | No. of samples | Frequency (%) |
| Mild | 48 | 23 | 65 | 31 | 64 | 31 |
| Moderate | 28 | 14 | 34 | 16 | 35 | 17 |
| Severe | 3 | 1 | 1 | 0.4 | 4 | 2 |
| Not anaemic | 128 | 62 | 107 | 52 | 104 | 50 |

23% of women had mild anemia and 14% had moderate anaemia during first trimester, 31% had presented with mild anemia and 16% had moderate anaemia in second trimester and 31% had mild anaemia and 17% had moderate during third trimester.

4.3 Identification of risk factors of anaemia among pregnant women:

| S.No | Risk factors | Number of Samples | | | |
|------|---|-------------------|---------------|-----|---------------|
| | | Yes | Frequency (%) | No | Frequency (%) |
| 1. | History of abortion | 42 | 20 | 165 | 78 |
| 2. | Pregnancy closeness less than 2yrs | 14 | 7 | 193 | 93 |
| 3. | Pre pregnancy heavy menstrual blood flow | 10 | 5 | 197 | 95 |
| 4. | History of anaemia before pregnancy | 16 | 8 | 191 | 92 |
| 5. | Is pregnancy planned? | 122 | 59 | 85 | 41 |
| 6. | Is pregnancy booked? | 207 | 100 | - | - |
| 7. | Is it teenage pregnancy? | 10 | 5 | 197 | 95 |
| 8. | Whether it is multiple pregnancy? | 13 | 6 | 194 | 94 |
| 9. | History of vaginal bleeding during pregnancy | 19 | 9 | 188 | 91 |
| 10. | History of Hyper emesis gravidarum | 49 | 24 | 158 | 76 |
| 11. | Family history of genetic disorders | 1 | 0.5 | 206 | 99.5 |
| 12. | History of smoking | 0 | - | 207 | 100 |
| 13. | History of alcohol intake | 0 | - | 207 | 100 |
| 14. | Intake of folic acid tablets during pregnancy | 193 | 93 | 14 | 7 |
| 15. | Intake of any vitamin or nutritional supplements during pregnancy | 186 | 90 | 21 | 10 |
| 16. | History of taking medication for stomach ulcer | 11 | 5 | 196 | 95 |
| 17. | History of taking iron tablet along with tea/coffee/milk | 29 | 14 | 178 | 86 |
| 18. | Number of meals | 3+ | 183 | 88 | |
| | | 2+ | 2 | | |
| | | 1+ | 22 | 1 | |
| | | | | 11 | |
| 19. | Number of fruits or vegetables | 3+ | 44 | 21 | |
| | | 2+ | 67 | | |
| | | 1 | 96 | 32 | |
| | | | | 46 | |

| | | | | | |
|-----|--|-----------|----------|--|--|
| 20. | How will you take iron tablet? In between meals Along with meals | 63 144 | 30 70 | | |
| 21. | Are you Vegetarian or Non vegetarian? Vegetarian Non -vegetarian | 7 200 | 3 97 | | |

20% of pregnant women had a history of abortion, 59% of pregnancy is planned and 24% of pregnant women had a hyper emesis. 93% and 90% of women taken their iron tablets and nutrition and vitamin supplements during their pregnancy respectively. 70% of pregnant women had taken their iron tablets along with meals. Most (97%) of the women were non vegetarian and 46% of pregnant women had 1 serving of fruits and vegetables daily in their diet.

4.5 Association between selected demographic variable of pregnant women and anemia:

Calculated chi square value for age is 7.5 at 0.05 level of significant. Since it is higher than table value, there is an association between age and anemia.

Calculated value for religion is 17.4 at 0.05 level of significant. Since it is higher than table value, results found that there is an association between religion and anemia.

Calculated value for education is 2.2 at 0.05 level of significant. Since it is lower than table value, it found that there is no association between education and anemia.

V. DISCUSSION OF THE STUDY:

In the present study, 38% of pregnant women were anemic during first trimester, 47% were anaemic during second trimester and 50% of women had anaemia in third trimester. Majority of the women belonged to the age group of 20 to 30yrs (71%). Most of the women belonged to Hindu religion (73%) and 44% of women were educated up to under graduation. Most of the pregnant women were primigravida (54%). 70% of pregnant women taken their iron tablets along with meals and 46% of women had one serving of vegetables and fruits daily in their diet. 20% of women had a history of abortion and 24% had hyperemesis during their pregnancy. Anemia the most preventable cause of maternal mortality should be eradicated from the female population in the coming years that will ensure better maternal and perinatal health.

VI. CONCLUSION:

High prevalence of anemia in pregnant women (50%) in the present study indicates that anemia continues to be a major public health problem in India. It adversely affects the maternal and fetal outcome. To improve maternal and fetal outcome, it is recommended that the primary health care has to be strengthened and high priority has to be given to aspects such as prevention, early diagnosis, and treatment of anemia in pregnancy. (1)

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