"A Study To Assess The Knowledge Regarding Anemia Among Antenatal Mothers Attending Antenatal Clinic In Selected Hospitals Of Kamrup, Assam"

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Abstract
A Descriptive study was conducted to assess the knowledge regarding Anaemia among antenatal mothers attending antenatal clinic in selected hospitals of Kamrup Assam. The objectives of the study is to assess the assess the knowledge regarding anemia among antenatal mothers attending antenatal clinic in selected hospitals of Kamrup, Assam.To determind the association between knowledge regarding anemia with selected demographic variables among antenatal mothers attending antenatal clinic in selected hospitals of Kamrup Assam . A total of 60 samples from Bezera Community Health Centre (FRU) and Tolaram Bafna civil Hospital were selected using non-probability multi-stage sampling technique. Self- structured knowledge questionnaire was used to collect data and analyzed according to the objectives of the study. Using both descriptive and inferential statistics, the study findings showed that the majority respondents i.e., 37(61.67%) belong to the age group of 20-25 years, 17(28.33%) belong to the age group of 25-30 years ,3(5%) belong to the age group of <20 years and 3(5%) belong to the age group of >20 years respectively. Majority of the respondents i.e., 33 (55%) followed Hinduism, 27(45%) followed Islam. Majority i.e., 32(53.33%) of respondents were high school passed, 15(25%) of respondents were primary School passed, 12(20%) of respondents were Graduate/Diploma and 1(1.67%) of respondents were illiterate. Majority i.e., 51(85%) of respondents were unemployed, 4(6.67%) of respondents were business and private service and 1(1.67%) of respondents were Government service. Majority i.e., 38(63.33%) of respondents were belongs to nuclear family, 21(35%) of respondents were belongs to joint family and 1(1.67%) of respondents were belongs to extended family. Majority i.e., 4(40%) of respondents were of Rs10,000 to 19,999, 16(26.66%) of respondents were of Rs7,500 to 9,999, 12(20%) of respondents were of Rs20,000 and above and 8(13.34%) of respondents were of less than Rs5,000. Majority i.e., 35(58.34%) of respondents were mixed dietary pattern, 19(31.66%) of respondents were non-vegetarian and 6(10%) of respondents were vegetarian. Majority i.e., 41(68.34%) of respondents have previous knowledge regarding anemia and 19(31.66%) of respondents do not have previous knowledge regarding anemia. Findings of the study revealed that out of 60 participants majority i.e., 41(68.33%) of the antenatal mothers had moderate knowledge followed by 12(20%) had adequate knowledge and 7(11.67%) had inadequate knowledge regarding Anemia. Chi-square shows that there there was no statistically significant association between knowledge with religion, level of education, occupation, type of family, family income per month, dietary pattern, and previous knowledge regarding anemia among antenatal mothers in selected hospitals of Kamrup Assam. There was statistically significant association between knowledge regarding anemia among antenatal mothers in selected hospitals of Kamrup Assam with age.
Keywords: *Knowledge, Anaemia, Antenatal Mother*

I.   Introduction
"Every human being is the author of his own health or disease."
- BUDDHA

Anemia is a condition in which number of red blood cells (RBCs) is insufficient to meet the body's physiologic needs. Specific physiologic needs vary with a person's age gender altitude, smoking behavior, and different stages of pregnancy. Based on the level of hemoglobin (Hb), World Health Organization(WHO) cut-off points for Anemia varies by age, sex and pregnancy status. Anemia is the commonest hematological disorder that may occur in pregnancy. It is a reduction in the oxygen carrying capacity of the blood, which may be due to a reduced number of red blood cells, a low concentration of hemoglobin, a combination of both

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causing unusual tiredness for the mothers. In India, incidence of anemia in pregnancy has been noted as high 40-80%. About 4-16% of maternal deaths are due to anemia. It also increases maternal morbidity, fetal and neonatal mortality and morbidity significantly. Anemia in pregnancy is defined by World Health Organization (WHO) as a hemoglobin level below 11g/dL. More than two thirds of the pregnant women in India are anemic and most of the times it is due to deficiency of Iron and Folic acid. Globally, anemia affects 1.62 billion people (24.8%), among which 56 million (41.8%) are pregnant women. It is a major public health problem particularly among poorer segments of the population in developing countries where 95% of the world anemia pregnant women are residing.

II. Need Of The Study

According to WHO (2023); Anemia is estimated to affect half a billion women 15-49 years of age whereas 37% (32 million) of pregnant women aged 15-49 years were affected by anemia. 1,15,000 maternal deaths globally are attributable to iron- deficiency anemia annually. According to statistics from the National Family Health Survey(NFHS-5) 2023, 52.2% of pregnant women in the country between the ages of 15-49 years are considered anemia. The states with the highest prevalence are Ladakh(78.1%), Bihar (63.1%), Gujarat(62.6%), West Bengal(62.3%), and Odisha (61.8%).

We are conducting this study in antenatal mothers attending antenatal clinic in selected Hospitals of Kamrup, Assam in order to assess the knowledge and imparting the awareness is quite necessary to bridge the gap between lacks of knowledge regarding anemia. Hence, we believe that the problem related to inadequate knowledge regarding anemia and due to high prevalence cases of anemia during antenatal period is one of the leading factors in antenatal mothers. Therefore, we felt a need to study the knowledge of anemia among antenatal mothers.

III. Problem Statement

"A study to assess the knowledge regarding anemia among antenatal mothers attending antenatal clinic in selected hospitals of Kamrup, Assam.".

IV. Objectives

I. To assess the knowledge regarding anemia among antenatal mothers attending antenatal clinic in selected hospitals of Kamrup, Assam.

II. To determine the association between knowledge regarding anemia with selected demographic variables among antenatal mothers attending antenatal clinic in selected hospitals of Kamrup, Assam.

V. Research Methodology

Research approach: A quantitative research approach

Research Design: Non-experimental descriptive research design

Variables:
1. **Research variables:** Knowledge regarding Anemia
2. **Demographic variables**:
- Age
- Religion
- Dietary pattern
- Educational qualification
- Type of family
- Occupation
- Monthly Family Income
- Previous knowledge regarding anemia.

Setting: The study was conducted at Bezera Community Health Centre (FRU) and Tolaram Bafna civil Hospital, Kamrup, Assam.

Population
The population for the study was Antenatal mothers, Kamrup , Assam

Sample and Sampling technique
In this study the sample was Primi Antenatal mothers who have fulfill the inclusive criteria.

The sampling technique used for this study was non-probability multistage sampling technique.
Sample size
The sample size for the present study was 60 Antenatal mothers of Kamrup, Assam.

Sampling criteria
Inclusion Criteria
1. Those Primi antenatal mothers who are attending antenatal clinic.
2. Those who are able to read and write English or Assamese.
3. Those who are available at the time of data collection.

Exclusion Criteria
1. Those antenatal mothers who are at high risk.
2. Those who are not willing to participate.

Data collection tool and technique
TOOL: Tools used in this study was self-structured knowledge questionnaire.
TECHNIQUE: Technique used in this study was self-report.

VI. Content Validity
To ensure the content validity the content was given to 5 experts from different departments along with the blue print of the study containing questionnaire to assess the knowledge of anemia and the answer keys.

VII. Data Collection
Step 1: A written permission was obtained from the Director of Health Services, Assam, Joint Director of Health Services, Kamrup, Assam and Superintendent of the selected hospitals of Kamrup, Assam prior to the data collection.
Step 2: Informed consent were taken before administration of research tool.
Step 3: Explanation of the procedure prior to the data collection.
Step 4: A Self-structured Questionnaires were distributed among the subjects along with pen for ticking the correct answer.
Step 5: The data were collected for 6 days, started from 20/01/2025 – 25/01/225. Everyday 10 samples were collected. After 15-20 min the questionnaires were collected back.
Step 6: Collected data were tabulated, analyzed, and statistically calculated.

VIII. Plan For Data Analysis
1. Socio-demographic variables were analyzed by using frequency and percentage.
2. The knowledge scores were calculated by using mean and standard deviation.
3. Association between knowledge score with selected demographic variables was analyzed by using chi-square**.**

IX. Organization Of The Study Findings
SECTION A: Frequency and percentage distribution of samples according to their demographic variables.
SECTION B: Frequency and percentage distribution of knowledge regarding Anemia.
SECTION C: Chi square analysis to find out the association of the knowledge score on anaemia with selected demographic variables.

Section – A
Table 1: Frequency and percentage distribution of samples according to their demographic variables.
n=60

Characteristics	Frequency	Percentage (%)
Age in yrs.		
Less than 20 years	3	5%
20-25 years	37	61.67%
25- 30 years	17	28.33%
More than 30 years	3	5%
Religion		
Hinduism	33	55%
Islam	27	45%
Level of Education		
Graduate/Diploma	12	20%
High School	32	53.33%

Primary School	15	25%
Illiterate	1	1.67%
Occupation		
Government Service	1	1.66%
Private Service	4	6.67%
Business	4	6.67%
Unemployed	51	85%
Type of Family		
Nuclear Family	38	63.33%
Joint Family	21	35%
Extended	1	1.67%
Family Income		
Rs 20,000 and above	12	20%
Rs 10,000 to 19,999	24	40%
Rs 7,500 to 9,999	16	26.66%
Less than Rs 5,000	8	13.34%
Dietery Pattern		
Vegetarian	6	10%
Non-vegetarian	19	31.66%
Mixed	35	58.34%
Previous Knowledge regarding anemia		
Yes	41	68.34%
No	19	31.66%

From Table 1, it observed that 61.67% of respondents belonged to age group (20-25 Yrs)., 28.33% respondents belonged to age group (25-30Yrs), 5% respondents belongs to age group of (< 20 yrs) and 5% respondents belonged to age group (>30 Yrs). The table also showed that 55% of respondents were Hindu and 45% respondents were Islam Religion . The table also depicted that 53.33% of respondents were high school passed, 25% were primary school passed,20% were Graduate/Diploma passed and only 1.67% respondents were illiterate. The table also showed that regarding occupation, 85% respondents were unemployed, 6.67% were business, 6.67% were private service and only 1.67% were government service. The table also depicted that 63.33% respondents were belongs to nuclear family, 35% were belongs to joint family and only 1.67% respondent were were belongs to extended family. Regarding Family income 40% respondent had (10,000-19,999), 26.66% had between (7,500- 9,999), 20% had between (20,000 and above) and only 13.34% had (<5000). The table also showd that 58.34% respondent were mixed dietary pattern, 31.66% were non-vegetarian and 10% were vegetarian. Regarding previous knowledge 68.34% of the respondents had previous knowledge and only 31.66% of the respondent do not had previous knowledge regarding anemia .

Section – B
Table 2 Frequency and percentage distribution of the respondents knowledge score regarding anemia.

n=60

LEVEL OF KNOWLEDGE	FREQUENCY	PERCENTAGE
Inadequate <7.74	7	11.67%
Moderate 7.74-14.96	41	68.33%
Adequate >14.96	12	20%

From Table 2, it was observed that out of 60 respondents, majority i.e., 41(68.33%) had moderately adequate knowledge, 12(20%) had adequate knowledge and 7(11.67%) had inadequate knowledge on anemia.

Section – C
Table 3 Chi square analysis to find out the association of the pre-test knowledge score on anemia with selected demographic variables.

n=60

Demographic variables	Moderate knowledge	Adequate knowledge	Total	Cal value	Tab.value	df	Remarks
AGE IN YEARS							
<25 years	29	11	40	7.37	3.84	1	S
>25 years	19	1	20				
RELIGION							
Hindu	26	7	33	0.04	3.84	1	NS
Islam	22	5	27				

LEVEL OF EDUCATION							
Graduate and above	8	4	12	2	7.82	3	NS
High school	26	6	32				
Primary school	13	2	15				
Illiterate	1	0	1				
OCCUPATION							
Business years	2	2	4	2.4	3.84	1	NS
Unemployed	46	10	56				
FAMILY INCOME							
>20.000	8	4	12	3.72	5.99	2	NS
10,000-1999	18	6	24				
<10,000	22	2	24				
DIETARY PATTERN							
Vegetarian	6	0	6	2.41	5.99	2	NS
Non -vegetarian	16	3	19				
Mix	26	9	35				
PRWVIOUS KNOWLEDGE							
Yes	30	11	41	3.75	3.84	1	NS
No	18	1	19				

S= significant at 0.05 level   NS= non – significant at 0.05 level

From the above Table 3, Chi-square in religion (X^2= 0.04), level of education (X^2=2), occupation (X^2=2.4), family income (X^2=3.72), dietary pattern (X^2=2.41), previous Knowledge (X^2=3.75) are less than tabulated value (3.841, 7.82, 3.841, 5.99, 5.99, 3.841 respectively), so there is no significant association between religion, level of education, occupation, family income, dietary pattern and previous Knowledge.

The calculated value of Chi-square in age (X^2=7.37) is higher than the tabulated value (3.84 respectively), so there is a significant association between the Knowledge regarding anemia among antenatal mothers attending antenatal clinic in selected Hospitals of Kamrup with age.

X. Major Findings Of The Study:

Findings related to demographic characteristics;
- A majority 37(61.67%) of respondents belong to the age group of 20-25 years
- Most of the respondents 33(55%) belong to Hindu religion.
- Majority 32(53.33%) of respondents level of education were High School.
- Majority 51(85%) of respondents were unemployed.,
- Most of the respondents 38(63.33%) were from nuclear family.
- The majority 24(40%) of respondents' family earned between 10,000-19,999Rs per month
- Majority 35 (58.34%) of respondents dietery pattern were mixed.
- A majority 41(68.34%) of respondents have previous Knowledge about anemia.

Findings related to knowledge regarding anemia

Shows that out of 60 respondent's, majority i.e 41 (68.33%) respondent had Moderately adequate level of knowledge, 12(20%) respondents had adequate level of knowledge and seven (11.67%) of the respondent had inadequate level of knowledge.

Findings related to Association between level of Knowledge with selected demographic variables.

Result shows that there was significant association of Knowledge with Age of antenatal mothers since the calculated value of chi square is more than table value at 0.05 level of significant and there was no significant association of Knowledge with religion,level of education, occupation.family income,dietary pattern,previous knowledge regarding anemia since the calculated value of chi square is less than table value at 0.05 level of significant.

XI. Hypothesis:

H₁: There is a moderately adequate knowledge regarding anemia among antenatal mothers attending antenatal clinic in selected Hospitals of Kamrup, Assam.
H₂: There is a significant association between the knowledge regarding anemia with selected demographic variables among antenatal mothers attending antenatal clinic in selected hospitals of Kamrup, Assam.

XII. Implications

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

Nursing Education

One of the most important aspects of nursing is imparting education. Nursing education is the means through which nurses are prepared to practice in various settings.

i) Finding of the study can be used to plan new and effective interventions to deal with the anemia patients as a part of nursing curriculum which could be used by nursing students in providing need-based care to these patients.

ii) New and improved measures to deal with sign and symptoms of anemia could be included in the syllabus and taught to nursing students.

Nursing Practice

Nurse should participate in assessing needs and they should be involved in planning, organizing, administering and monitoring health attainment program. There must be a planned program to attain the health and well beings of patient with anemia. Nurses can play an important role in-

i) Providing care, support and educating patients about anemia and its treatment modalities and rehabilitation.

ii) Nurses can also educate patients caregivers to support and assist them.

iii) Nurses can plan effective interventions for these patients to cope up with the conditions.

Nursing Administration

The Nurse administrator faces challenging role these days, where he/she needs to know recent developments, newer methods and technologies. Getting in touch with the new findings will strengthen his/her position and improve his/her self confidence. This study will help the nursing administrator in-

i) Administrator should take initiative to organize such program to improve the health status of antenatal mothers.

ii) Developing policies for the care of patients with anemia especially for those who are pregnant.

iii) Imparting training program for the nurses and teaching them the effective coping strategies which could be used by patients.

Nursing Research

Practice emerges from research; evidenced based practice improved the quality of nursing care. Research adds values to the comprehensive and holistic care. The study focuses on assess the knowledge of antenatal mothers regarding anemia. Nurse researcher implement the research findings into nursing practice and encourage clinical nurses to apply the research-based evidences into their practice.

XIII. Limitations

The following limitations were observed in the study.

1. The research study was limited to 60 antenatal mothers.
2. The study is limited to Primi-antenatal mothers attending antenatal clinic in selected hospitals of Kamrup Assam.
3. The tools were self-structured questionnaire. Hence the response was limited.
4. The number of subjects in the study was small. So, this is a limitation towards generalized.
5. The sampling technique: Non-probability multistage sampling technique might give representative sample.

XIV. Recommendation

Keeping in view the findings of the present study the following recommendations were suggested:

* The finding of the present study serves as a basis for the student and professional to conduct further study on anemia.
* A similar study can be done on a larger scale for better generalization.
* An experimental study can be conducted to see the effectiveness of a structured teaching programme on anemia.

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