



A STUDY TO ASSESS THE PREVALENCE OF ANAEMIA AMONG RURAL MOTHERS AGE (18 TO 45 YEARS) GROUP AND TO SEEK ITS ASSOCIATION WITH SELECTED DEMOGRAPHIC VARIABLES IN TRIPURA.

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ABSTRACT

Background: The prevalence of anaemia remains high globally, particularly in low-income settings, where a significant proportion of young children and women of childbearing age can be assumed to be anaemic **WHO.**

Materials and Methods: The descriptive approach was thought to be most appropriate for the present study. The study period was from March' 2021 to July' 2019. **Results:** Majority 319(63.8%) participants are having mild anaemia, 145(29%) no anaemia, 22(4.4%) moderate and 14(2.8%) severe anaemia. There is a significant association between the prevalence of anaemia and selected socio-demographic variables except caste (8.13). Hence, the null hypothesis rejected and research hypothesis accepted. There is a significant comparison between the prevalence of anaemia among the pregnant and post-natal mother at 0.05 levels. **Conclusions:** The present study revealed the prevalence of anaemia is mild among rural mothers age (18 to 45years). So, effective intervention can be undertaken for supplementary iron distribution among the pregnant women during their ante-natal visit which may reduce the prevalence of mild anaemia among the reproductive age group rural mothers

Keywords: Rural mother, mild, moderate and severe.

BACKGROUND OF THE STUDY:

Anaemia is a condition in which the number of red blood cells or the haemoglobin concentration within them is lower than normal. The most common causes of anaemia include nutritional deficiencies, particularly iron deficiency, though deficiencies in folate, vitamins B12 and A are also important causes; haemoglobinopathies; and infectious diseases, such as malaria, tuberculosis, HIV and parasitic infections [1].

The prevalence of anaemia remains high globally, particularly in low-income settings, where a significant proportion of young children and women of childbearing age can be assumed to be anaemic WHO [2].

In the world women among 15-49 years, 288.4 million (35% of non-pregnant and 43.9 million [51%] of pregnant) women are anaemic. In India, 20-40% of maternal deaths are due to anaemia [3].

Iron deficiency is the most common nutritional disorder in the world. During the reproductive years, women are at risk of iron deficiency due to blood loss from menstruation [4].

Aim: The present study aimed at identification of prevalence of anaemia among the rural women (18 to 45 years) residing in existence of Tripura.

Objectives:

1. To find out the prevalence rate of anaemia among the rural women.
2. To seek association between the prevalence of anaemia and selected socio-demographic variables.
3. To compare the prevalence of anaemia between pregnant women, post-natal mothers and non-pregnant women.

Hypothesis:

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H₁. There is an association between prevalence of anaemia among the rural mothers with the selected demographic variables at 0.05 level of significant.

H₀- There is no association between prevalence of anaemia among the rural mothers with the selected demographic variables at 0.05 level of significant.

Variables

Dependent variable: The socio-economic variables are the dependent variable in this study.

Independent variable: The main dependent variables in this study are the level of haemoglobin concentration.

ASSUMPTIONS:

The study assumes that: -

1. The rural will cooperate and willingly participate in the study.
2. The information provided by the women is accurate to accomplish objectives.

LIMITATIONS OF THE STUDY:

The study has following limitations:

- i. Small Sample size may be difficult to find significant relationship.
- ii. The study participants hesitate to express the accurate information.

DELIMITATION: The study is delimited to rural mothers residing in existence of Tripura.

Materials and Methods

Research design:

Considering the objectives of the study which centred on the comparison between knowledge and practice of rural mothers regarding new-borne care and child health care, the descriptive approach was thought to be most appropriate for the present study.

This was a community based descriptive study of the prevalence of anaemia among the rural women age (18-45 years) group residing in existence of Tripura.

Data collection technique:

On the basis of objectives of the study, it was decided to derive the information directly from the rural mothers. Since the present study aimed at obtaining objective information as far as possible, it was felt necessary to conduct the investigation with the help of a structured interview schedule.

Development of the tool:

The tool has been developed based on the related literature and relevant to the sample subjects and present study. The item for the tool was also drawn from the: Consultation with nursing experts, Discussion with colleagues, Investigators personal experience.

To ensure the content validity of the tool it was validated by 5(five) nursing experts.

The criteria for selection of experts were:

- Those who possess a PhD degree in nursing
- Those who have been conducted specialization in community health nursing, and Medical Surgical nursing.

Experts were requested to judge the items of the standardized tool for relatedness and meaningfulness.

To test the utility and feasibility of the tool, a trial study was conducted on 10(ten) rural mothers in West Tripura. The trial study was done: i) to find out relatedness of questions.

Tools and Description of the tool:

1. Standardised socio-economic status scale “rural” UDAI PAREEK revised scale has been used to obtain information regarding caste, religion, education, occupation, level of education, family type and type of house.
2. **Standardized scale anthropometric measurements of height and weight of the participants.**

The study setting: Community-Based Study in all 8 district of Tripura. **Population:** In the present study population comprised of all rural mother in age (18 – 45 years) residing in existence of Tripura.

The Sample: Rural mothers in age group (18 – 45 year).

Sample size: 500

Sampling technique: Multistage sampling technique is used for accomplishing the aim and objectives of the present study.

At first, the entire (Total-8) District has been selected with permission obtained from the State Government. 48 household of Reproductive age group women be selected by simple random system from each sub-centre under each PHC of each District.

Data collection procedure:

The study period was from March' 2021 to July' 2019. Standardised socio-economic status scale "rural" UDAI PAREEK revised scale has been used to obtain information regarding caste, religion, education, occupation, level of education, family type and type of house.

And a Standardized scale for anthropometric measurements of height and weight of the participants. Adult Weighing scale has been used to check the weight of study participants and instruction were given to wear light clothing, removing shoes and extra cloths.

Measuring Tape has been used to measure the standing height of the study participants by asking them to stand against a straight wall.

Reading of both the observation were recorded in the study tool.

Written informed consent was obtained from each subject for their participation after the nature of the study was fully explained to them in their local languages. From all the participants, haemoglobin concentration was measured using Sahli's Haemoglobin meter method. Estimating the amount of haemoglobin, a conjugated protein present inside the RBC by using a haemoglobin meter, expressed in gram percentage (gm %).

- **Normal values:** The value of Hb% in blood is expressed in gm per 100 ml of blood, i.e, in gm%.
- **In male:** 14gm% – 17 gm%, **In Female:** 12gm% – 16 gm% [5]

Anaemia was defined as **For Pregnant and lactating women (Hb level between 9-11gm/dl), Hb level 7 – 9gm/dl and below 7gm/dl being mild moderate and severe, <12 gm/dl for non-pregnant and >12gm/dl no anaemia [6].**

PLAN FOR DATA ANALYSIS:

The data obtained was analyzed by both descriptive and inferential statistics.

1. The socio demographic information related to the study participants was analyzed in relation to age, educational level, type of family, religion and type of residence. The responses were summarized in frequencies and percentages.
2. The prevalence rate of anaemia among the rural women (18 to 45 years) was calculated and shows in percentage.
3. Chi-square test was carried out to seek association between the prevalence of anaemia and selected socio-demographic variables.
4. Independents' test was computed to compare the prevalence of anaemia between pregnant women, post-natal mothers and non-pregnant women.

RESULTS: A total of 500 study sample were interviewed.

TABLE 1

Frequency and percentage distribution of the reproductive age (18 – 45 years) group women according to their Background information. N=500

Sl. No.	Variables	Categories	Frequency	
			Values	Percentage
1	Age	18-27	288	57.6
		27-36	188	37.6
		36-45	24	4.8
2	Gravida	Gravida-0	56	11.2
		Gravida -1	303	60.6
		Gravid-2	105	21
		Gravid-3	36	7.2
3	Parity	Parity-0	218	43.6
		Parity-1	207	41.4
		Parity-2	56	11.2
		Above parity-2	19	3.8
4	Number of living children	0	230	46
		1	207	41.4
		2 and above	66	13.2
5	Height (ft)	4-5	188	37.6
		5-6	309	61.8
		Above 6	03	0.6
6	Weight (kg)	Below 40	167	33.4
		40-50	270	54
		Above 50	63	12.6
7	Hemoglobin	Below 10	244	48.8
		10-11	152	30.4
		11-12	82	16.4
		Above 12	22	4.4

Table 2

Frequency and percentage distribution of the reproductive age (18 – 45 years) group women according to their Socio-economic Characteristics

Sl no	Social economic variables	Socio economic categories	Frequency	
			Values	Percentage
1	Caste	UR	49	9.8
		OBC	45	9
		SC	162	32.4
		ST	149	29.8
		Minority	95	19
2	Occupation	Labourer	05	01
		Caste occupation	00	00
		Business	26	5.2
		Independent profession	449	89.8
		Cultivation	07	1.4
3	Education	Service	13	2.6
		Illiterate	01	0.2
		Primary	18	3.6
		Middle	116	23.2
		High school	306	61.2
4	Type of house	Graduate and above	59	11.8
		Kutcha house	78	15.6
		Mixed house	249	49.8
5	Types of family	Pucca house	178	35.6
		Nuclear	220	44
6	Family members	joint	280	56
		Below 5	394	78.8
		Above 5	106	21.2

N=500

Table 3. The prevalence rate of anaemia among the rural mother

Grade anaemia	of	HB% (concentration in g/dl)	Frequency	
			values	Percentage
Severe		0-7	14	2.8
Moderate		7-9	22	4.4
Mild		9-11	319	63.8
No anaemia		Above 11	145	29

N=500

Table 4**Association between prevalence of anaemia and selected socio demography variables**

N=500

Sl no	Socio economic variables	Degree of Freedom	Chi-square test		P value	Remarks
			Calculated	Tabulated		
1	Caste	12	8.13	21.03	0.52	NS
2	Occupation	12	57.68	21.03	00	*S
3	Education	9	21.81	16.92	0.04	*S
4	Type of house	6	46.06	12.59	00	*S
5	Types of family	3	18.4	7.81	0.02	*S
6	Types of family members	3	12.20	7.81	0.03	*S

*S=Significant at 0.05 level, NS=Not Significant.

Table 5**Mean, median and SD of prevalence of anaemia among pregnant women, post natal mothers and non-pregnant women. N=500**

Anemia	Mean	Median	SD
Pregnant women	10.94	11	1.35
Post natal mother	11.27	11	1.10
Non pregnant women	11.10	11	1.25

Table 6**Comparison of the prevalence of anaemia among pregnant women, post natal mothers and non-pregnant women. N=500**

Compare	Test	Calculated value	Tabulated value	P value	Remarks
Pregnant and post natal mother	Independent t test	2.05	2.01	0.04	Significant
Pregnant and non-pregnant women	Independent t test	1.14		0.25	Not significant
Post natal and non-pregnant women	Independent t test	1.21		0.22	Not significant
Pregnant, post natal and non-pregnant women	ANOVA	2.10	3.01	0.12	Not significant

MAJOR FINDINGS AND DISCUSSION:

57.6% of the reproductive women were in the age group of 18-27years.

Majority 60.6% rural mothers (18 – 45years) belongs to Gravida- 1 [Table 1].

Out of total participants majority 162(32.4%) are belongs to scheduled caste and 449(89.8%) of the participants were engaged in independent profession. Majority 306(61.2%) out of total participants were undergone up to high school level of education. Majority 280(56%) participants were belongs to the joint family and 394(78.8%) of the study participants were having the family size of below 5 members category [Table 2]. Majority 319(63.8%) participants are having mild anaemia, 145(29%) no anaemia, 22(4.4%) moderate and 14(2.8%) severe anaemia [Table 3]. There is a significant association between the prevalence of anaemia and selected socio-demographic variables except caste (8.13). Hence, the null hypothesis rejected and research hypothesis accepted [Table 4]. There is a significant comparison between the prevalence of anaemia among the pregnant and post-natal mother at 0.05 levels [Table 6]. This was evident from the research studies **Shekhawat R, Sharma N et. al(2017), Sunuwar DR, Singh DR, Chaudhary NK, Pradhan PMS, Rai P, Tiwari K (2020).**

CONCLUSION: The study findings revealed majority 319(63.8%) of rural mothers are having mild anaemia and there is a significant comparison between the prevalence of anaemia among the pregnant and post-natal mother. So, effective intervention can be undertaken for supplementary iron distribution among the pregnant women during their ante-natal visit which may reduce the prevalence of mild anaemia among the reproductive age group rural mothers.

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