ejpmr, 2023, 10(11), 219-224

SJIF Impact Factor 6.222

EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.ejpmr.com

Research Article

ISSN 2394-3211

EJPMR

A STUDY ON MAGNITUDE AND FACTORS ASSOCIATED WITH ANEMIA IN ANTENATALMOTHERS, TAMIL NADU, INDIA

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Article Received on 07/09/2023 **Article Revised on 27/09/2023** **Article Accepted on 17/10/2023**

ABSTRACT

Background: Anemia occurs in pregnancy when Hb level are 11 g/dl(during the first and third trimester) or less than 10.5 g/d(during the second trimester of pregnancy). Based on the degree of hemoglobin concentration, it also defines anemia in pregnancy as mild (10.0-10.9g/dl), moderate (7.09-9g/dl) and severe (lessthan 7.0g/dl). Anemia during pregnancy is a major global public health issue, particularly in developing countries where there is an inadequate diet and intake of prenatal vitamins, iron and folic acid. It affects an individual's physical and mental development, leading to low productivity and poor economic development of a nation. Anemia in the antenatal period is a common problem, which has been subject of research recently. Though, it is a common problem, it is a less researched topic in India. Hence, this study have been undertaken. The study aimed to assess the magnitude, severity, and associated factors of anemia at selected hospital in Chennai. The Objectives were to assess the magnitude of anemia in a selected hospital. **Objectives/aim:** To assess the magnitude of anemia in a selected hospital. to find associate between the magnitude of anemia in a selected hospital and risk factors of anemia and demographic variables. **Materials and Methods:** The non-experimental descriptive research design was used in this study. Quantitative approach was used in this study. The purposive Sampling technique (N=60) was used to assess the magnitude of anemia and to find associate between the magnitude of anemia and risk factors of anemia with their selected demographic variables. The data regarding demographic variables like age, educational status, social economic class, type of community, prone to communicable disease and the necessary data regarding magnitude and factors was taken from the outpatient department where antenatal mothers diagnosed with anemia like history of anemia, dietary pattern of mother, conception of iron and folic acid tablets , level of hemoglobin in mother ,chronic illness during pregnancy, stress during first trimester, was collected .The result showed that 60 Antenatal Mothers with Anemia was participated in this study. **Results:** the majority 57% of samples had moderate anemia (7-8.9g/dl) in first trimester, 57% of samples had moderate anemia (7-8.9g/dl) in second trimester and 80%of samples had mild anemia (9-10.9g/dl) in third trimester. **Conclusion:** we identified the magnitude and majority of anemia like mild, moderate and severe.The result shows that the frequency and percentage of anemic antenatal mother had moderate anemia in first trimester and second trimester and mild anemia in third trimester.

KEYWORDS: Factors associated with anemia, Anemia, Antenatal mothers.

INTRODUCTION

In women during their reproductive years, pregnancy is a normal occurrence. A woman's antepartum phase is an important time that needs proper attention and supervision. Numerous maternal medical and obstetric conditions contribute to the pregnancy's high risk status, which either directly or indirectly complicates the pregnancy's outcome. Anemia is one of the several medical variables that deserves proper emphasis and attention because it is a severe public healthissue.

Anemia affects more than 50% of expectant mothers, with iron deficiency anaemia accounting for the bulk (90%) of cases.(Pandey and Ghimire N).Pregnant women frequently develop anemia because of the increased demand for iron brought on by the physiological changes. (Bakta, Suega K, Dharmayuda T, Sutarga I) Anemia results from the failure to maintain the appropriate level as a result of food inadequacies, insufficient absorption, infection, and blood loss during pregnancy. (Sotiloye D, Mafiana CF, Idowu OA) Maternal and infant mortality and morbidity, as well as poor pregnancy outcomes (premature birth, low birth weight), are all significant health effects of anemia. It

also causes roughly 20% of all maternal deaths.(Matthew C. Hibberd)

According to estimates from the World Health Organisation, the prevalence of anaemia during pregnancy is between 35 and 100% worldwide, ranging from 14% in wealthy nations to 56% in impoverished nations.James B. Tidwell and Justin Lee, along with Gautam VP, Bansal Y, TanejaDK, and Saha R.Anaemia prevalence varies significantly between environments, and accurate statistics among expectant moms is frequently absent. It is estimated that every second pregnant woman in underdeveloped nations is anaemic.(Mohd Nazri S, Nik Rosmawati NH, Mohd Ismail I) The frequency of anaemia is highest in South Asian countries, with India having the highest prevalence (84%) among all South Asian nations.(Kalita MC, Agarwal KN, DK, Sharma A, Sharma K, Prasad K).

In India, 74.6% of pregnant women had anaemia, according to National Nutrition Monitoring Bureau Technical Report No. 2, published in 2003. Karnataka had 79.8% of the population, followed by Tamil Nadu (69%) and Andhra Pradesh (73.8%). Kerala has the lowest prevalenceof anaemia (50.2%).Inkabi Zeswe. The more significant statistic is that South Asian nations account for roughly half of all maternal fatalities worldwide caused by anaemia, with India alone accounting for about 80% of maternal deaths in South Asia and 50% of all maternal deaths worldwide. (K. Kalaivani).

The issue of anemia during pregnancy still exists in India despite numerous intervention measures. The main issue here is a lack of adequate data and enumeration. There aren't many research done after NFHS-3 that can be used to determine regional prevalence. Approximately 55.3% of pregnant women in India were anaemic, according to NFHS 3 (2005-2006). The key to implementing any programme is having sufficient knowledge about the problem's scope. Developing solutions for the early detection and efficient management of anaemia in pregnancy will also be aided by this.

Statement of the Problem

A Study on magnitude and factors associated with anemia in antenatal mothers, Tamil Nadu, India.

MATERIALS AND METHODS

Research Approach

Quantitative research approach was adopted for the study.

Research Design: Non experimental descriptive design was used to conduct the study.

Ethical clearance

1. Departmental clearance was obtained from HOD, Department of Obstetric Gynecology atCCN.
2. UG committee clearance was obtained from CARE.
3. Permission from the college principal was obtained.
4. The information was collected about the participants from this research was used for the specific purpose only. All the data obtained were maintained with confidently.

Settings of the Study

Present study was conducted in obstetrics and gynaecological out patient department at selected hospital.

Population

All the antenatal mothers who were visiting Antenatal OPD in the selected hospital.

Sample

In present study the sample was collected from antenatal mothers with anemia.

Sample Size

60 antenatal mothers were selected who were visiting outpatient department. The data was collected from Obstetrics and gynecological outpatient department in a selected hospital (Chettinad Hospital and Research Institute).

Sample Technique

A purposive sampling technique was used to select the samples.

Selection Criteria

Inclusion criteria

1. The mothers who all were willed to participate.
2. The mothers who had attended Antenatal OPD with HB level less than 11g/dl.
3. antenatal mother who had anemia with comorbid problems

Exclusion criteria

1. The mother who doesn’t understand Tamil& English.
2. The mothers who were medical and obstetrical complication.

Data collection procedure

After obtaining ethical committee clearance and written permission from the Dean and medical superintendent, the main study was conducted in gynecological outpatient department. The sample had been selected through purposive sampling technique, the necessary data regarding magnitude and factors was from the outpatient department where antenatal mothers diagnosed with anemia like history of anemia, dietary pattern of mother, conception of iron and folic acid tablets, level of hemoglobin in mother, chronic illness during pregnancy, stress during first trimester, were collected. Gynecological data and antenatal features also collected. The sample per day was 10-12. The duration of data collection was for one week at Gynecological outpatientdepartment.

RESULTS

SECTION A

Table 1: Frequency and percentage distribution of the demographic variables of samples based on age, educational status,social economic class,type of community, prone to communicable disease N=60.

S.no	Demographic Variable	Frequency	Percentage
1	Age group		
	a) 18 to 23 years	10	16
	b) 23 to 28 years	16	26
	c) 28 to 33years	14	23
	d) 33 to 40years	20	33
2	Education of the mother	60	100
3	Education of the spouse	60	100
4	Socio - economic class		
	a) Upper	1	2
	b) Upper middle	7	12
	c) Lower	30	50
	d) Lower middle	21	34
	e) Upper lower	1	2
5	Type of community. she lives in		
	a) Urban	28	46
	b) Rural	32	53
6	Prone to Communicable diseases		
	a)Yes	5	8
	b)No	55	92

Table 1.1 shows that the frequency and distribution of samples with reference of age,education,socio economic class, residential area , and prone cases of communicable disease with total sample of N - 60 from this the majority (20%) of them belonged to the age group of 32-40 years , all mothers and husbands are educated ,the majority (30%) of socio economic class is lower class peoples majority (32%)them resides in rural area, majority (55%) not prone to anycommunicable disease.

SECTION: B GYANECOLOGICAL DATA

Table 2: Frequency and percentage distribution of gyanecological data.

SL.NO	GYANECOLOGICAL DATA	FREQUENCY	PERCENTAGE
1	Gestational age	60	100
2	Gravida	30	50
	a)Primib)Multi	30	50
3	Birth spacing		
	a)>2years	9	15
	b)<2years	21	35
	c)none	30	50
4	Is this pregnancy registered ?	60	100
5	Number of live children	30	100
6	Number of stillbirth		
	a) None	56	93
	b) one or more	4	7
7	Previous history of abortions	0	0
8	medical complications in current pregnancy		
	a)Yes	36	60
	b)No	24	40
9	Mode of delivery in multi gravida		
	a)Normal	52	86
	b)Cesarean section	4	7
	c)Instrumental delivery	4	7
10	complications in previous delivery		
	a)Yes	3	5
	b)No	57	95

Table 2 shows that out of 60 antenatal mothers 30 (50%) is primi mothers and other 50%is multi mothers. Majority (50%) of mother have not chosen any birth spacing. All mothers have registered their pregnancy in hospital, majority 93% had no still birth. Majority (60%) of them had medical complication and 40% is not having any medical complications in current pregnancy. mode of delivery in multi gravida 86% was normal vaginal delivery. Majority (95%) was not having any complications in previous delivery

SECTION C

Table 3: Factors Associated With Anemia In Pregnancy.

SL.NO	FATORS ASSOCIATED	FREQUENCY	PERCENTAGE
1	Family history of anemia a) Yes b) No	 41 19	 68 32
2	Dietary pattern of mother a) vegetarian b Non vegetarian	 5 55	 8 92
3	Consumption of iron and folic acid tablet a) Yes b) No	 56 4	 93 7
5	Chronic illness during pregnancy a) Yes b) No	 57 3	 95 5
6	Disturbance in sleep wake cycle a) Yes b)No	 14 46	 23 77

Table 3 shows that majority 68% of samples having family history of anemia, most of 92% mothers dietary pattern was non vegetarian, consumption of iron and folic acid tablets were taken by all mothers, there was 95%of chronic illness during pregnancy, majority (77%) have no disturbance in sleep wake cycle.

SECTION D

Table 4: ANTENATAL FEATURES.

SL.NO	ANTENATAL FEATURES	FREQUENCY	PERCENTAGE
1	Type of treatment a) Oral therapy b) Parenteral iron (iron sucrose /iron injection) c) blood transfusion	 2 25 33	 3 42 55
2	Clinical features of the mother (Generalized weakness, Fatigue, Dizziness, Anxiety, Breathlessness)	 60	 100
3	Severity of anemia based on HB level in first trimester (a) Mild:9-10.9gm (b) Moderate:7-8.9gm (c) severe:4-7gm	 17 38 5	 28 63 8
4	Severity of anemia based on HB level in second trimester (a) Mild:9-10.9gm (b) Moderate:7-8.9gm (c) severe:4-7gm	 28 31 1	 46 52 2
5	Severity of anemia based on HB level in third trimester (a) Mild:9-10.9gm (b) Moderate:7-8.9gm (c) severe:4-7gm	 51 6 3	 85 10 5

Table 4 shows that the type of treatment taken for anemic mother 55% is blood transfusion, majority 100% have clinical features like generalized weakness, fatigue dizziness, anxiety, breathlessness. in first trimester majority 57% have moderate anemia (i.e 7-8.9 gm), In second trimester majority 52% have moderate (7-8.9gm), In third trimester severity of anemia based on HB level is 80% mild anemia (9-10.9gm).

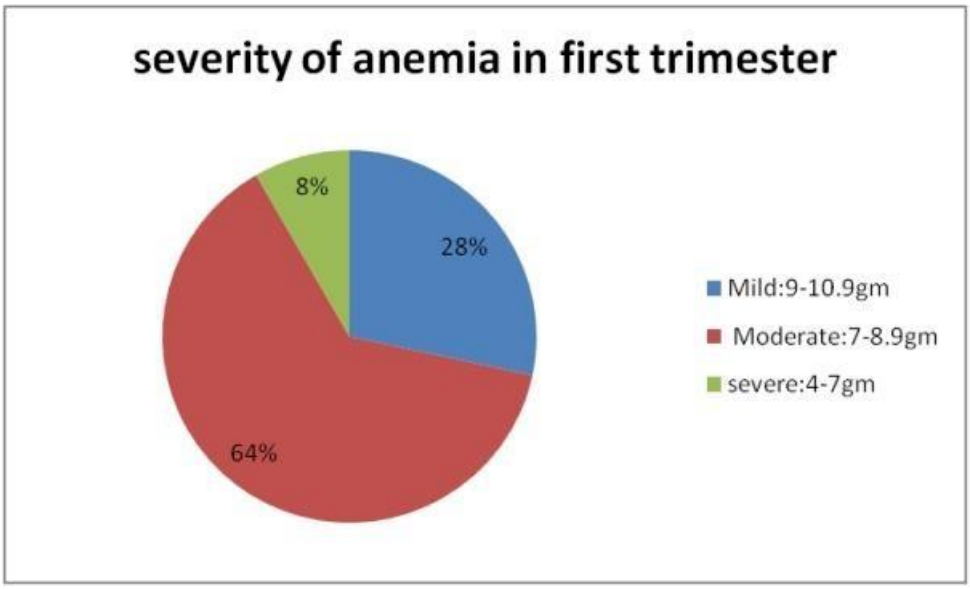

Figure 1: Shows the frequency distribution and percentage of severity of anemia in first trimester.

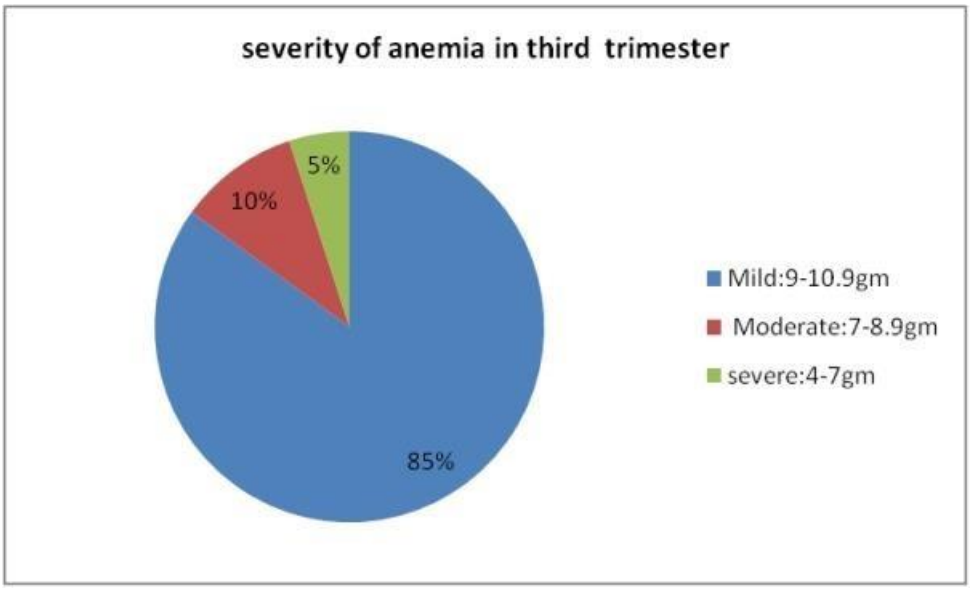

Figure 2: Shows the frequency distribution and percentage of severity of anemia in third trimester.

DISCUSSION

The study intends to assess the magnitude and factors associated with anemia in antenatal mothers in order to achieve the objectives of the study non experimental descriptive design was adopted .purposive sampling techniques was used to select samples .Data was collected from 60 antenatal mothers by using semi structured questionnaires to assess the magnitude and factors associated with anemia.

The findings of the study were discussed based on the objectives.

DESCRIPTION OF SAMPLE CHARACTERESTICS ANALYSIS OF DEMOGRAPHIC VARIABLES revealed that

- The majority (20%) of the samples belonged to the age group of 32-40 years.
- All mothers and husbands are educated
- The majority (30%) of samples are socio economic class is lower class people
- The majority (32%) of samples are resides in rural area
- The majority (55%) of samples are not prone to any communicable diseases.

Analysis of Gyanecological Data

- The majority (50%) samples are primi and other is multi mothers
- The majority (52%) samples have not chosen any birth spacing
- All mothers have registered their pregnancy in hospital
- The majority (93%) had no still birth
- The majority (60%) had medical complications in

current pregnancy
- The majority (86%) samples mode of delivery in multi gravida was normal vaginal delivery.
- The majority (95%) was not having any complications in previous delivery.

Analysis of Factors Associated With Anemia In Pregnancy
- The majority(68%) of samples having family history of anemia.
- The majority (92%) of samples were non vegetarian.
- All mothers were consumed iron and folic acid tablets.
- The majority (95%)of samples had chronic illness during pregnancy.
- The majority (77%)had no disturbance in sleep wake cycle.

Analysis of Antenatal Features
- The majority (55%) of samples were undergone the type treatment was blood transfusion.
- All samples have clinical features like generalized weakness, fatigue, dizziness, anxiety,breathlessness
- The majority (57%) of samples have moderate anemia (7-8.9 gm) in first trimester.
- The majority (57%) of samples have moderate anemia (7-8.9gm) in second trimester.
- The majority (80%)of samples have mild anemia (9-10.9 g/dl)in third trimester.
- The results of the study as per objectives are:

The first objective was to assess the magnitude of anemia in selected hospital. Table 1.4 shows that most antenatal mothers had moderate anemia in first trimester and in second trimester whereas in third trimester most mothers had mild anemia.

The findings support the necessity of treatment to prevent progressive anemic condition where the magnitude of anemia found to be high.

The second objective was to find associate between the risk factors anemia and demographic variables Table 1.1. and table 1.3 shows that age educational status of mother, gestational age, nutritional status, gravida, parity were factors significantly associated with anemia. To prevent adverse outcome of anemia, health care providers should work on these factors.

ACKNOWLEDGEMENT

First and foremost, we would like to thank God Almighty for giving us the strength, knowledge, ability, and opportunity to undertake this research study and to preserve and complete it satisfactorily. We proudly and honestly express our sincere gratitude to Principal, chettinad college of nursing, vice principal college of nursing, our guide. We are grateful to the faculty of Chettinad college of nursing, for their constant support and encouragement throughout the study.

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