International Journal Dental and Medical Sciences Research
Volume 7, Issue 5, Sept – Oct 2025 pp 317-323 www.ijdmsrjournal.com ISSN: 2582-6018

Outcome of Anemia in Pregnant Women: A Hospital Based Cross-Sectional Study

Krunali Ghodasara, Pruthvi Jalela
Department Of Community Medicine, Shantabaa Medical College ,Amreli.

Project Guide: Dr.Meet Chauhan
Associate Professor, Department of community medicine , Shantabaa medical college ,Amreli.

Date of Submission: 10-10-2025 Date of Acceptance: 20-10-2025

I. INTRODUCTION

Anemia is defined as decreased o2 carrying capacity due to qualitative and quantitative reduction in rbc count and hb level. Anemia is one of the most common nutritional deficiency disorders affecting pregnant women; the prevalence in developed countries is 14%, in developing countries 51%, and in India, it varies from 65% to 75%.among them 45.7% occur in urban area and 52.1% in rural area. (hb<11 gm/dl.)

Anemia is the second most common cause of maternal death in India and contributing to about 80% of the maternal deaths caused by anemia in South East Asia. [2,3,4,5] Anemia is also an established risk factor for intrauterine growth retardation, leading on to poor neonatal health and perinatal death.[6,7,8,9,10] The prospective observational study is undertaken to estimate the prevalence .

Maternal anemia is considered a risk factor for poor pregnancy outcomes. Studies have established that pregnant women with anemia are at increased risk of having low-birthweight (LBW) infants [6-9]. LBW is associated with poor health and nutritional outcomes later in life, such as poor growth and development, as well as increased morbidity and mortality in children [10].

Furthermore, severe iron-deficiency anemia has been associated with preterm births [11-12], poor anthropometric measures [13,14], fetal neural development [15], birth asphyxia [16], and increased maternal mortality .

We can prevent anemia in pregnant women through utilization of this data. So it is a better predictor for preventive planning, and it is a useful means to improve the quality of obstetrics care especially in our hospital.

AIM

To study outcome of anemia in pregnant women at tertiary care center at Shantabaa medical college and hospital at amreli.

OBJECTIVES

1.To study outcome of anemia in pragnant women .
2.To study associated risk factors of anemia in pragnant women .

II. METHODOLOGY

Study setting

A prospective observational analytical study was conducted at the Shantabaa Medical College and General Hospital located in the Amreli city. This hospital is the main tertiary referral center for high-complexity obstetric and neonatal care in Amreli.

Data were collected from 18 January 2023 to 23 January 2023 by the 3rd part 2 professional year's medical students of the Shantabaa Medical College as part of research project. Data was collected from the post-natal ward at civil hospital Amreli.

Study population and selection

The study population consisted of 52 pregnant women seeking treatment at the hospital during the data collection period. Among them, the patients who fulfil the WHO criteria of anemia (HB <11gm/dl)were included .The women who met the

International Journal Dental and Medical Sciences Research
Volume 7, Issue 5, Sept – Oct 2025 pp 317-323 www.ijdmsrjournal.com ISSN: 2582-6018

inclusion criteria were interviewed using pretested questionnaires, and relevant data were also collected from their medical records.

Data Collection

The data was collected through patient interviews using pre-tested, pre-validated and semi-structured questionnaire. (Annexure)The patient characteristics including age, parity, and gestational age at admission were recorded. Apart from that, the condition of the patients during admission, the mode of delivery, underlying morbidity, and the key interventions was recorded. All the cases were followed up during their hospital visit .

Statistical analysis

The statistical analysis was performed using the MS excel office version 10. Qualitative data presented information of percentage and quantitative data presented inform of frequency. Appropriate graph was also used. Study setting

A prospective observational analytical study was conducted at the Shantabaa Medical College and General Hospital located in the Amreli city. This hospital is the main tertiary referral centre for high-complexity obstetric and neonatal care in Amreli.

INCLUSION CRITERIA:

Level of hb in gm/dl	severity
14-11 gm/dl	Normal
11-9 gm/dl	Mild
9-7 gm/dl	Moderate
<7 gm/ dl	Severe

III. RESULTS

During the period of the study, a total of 65 live births were noted . Out of them 52 pregnant women were anemic and others were Normal . And total 52 cases of anemia in pregnancy were noted.

Table 1-Age wise distribution:

Age	Frequency	Percentage
15-20	10	19.23%
20-25	21	40.38%
25-30	16	30.76%
30-35	4	7.69%
35-40	1	1.93%
total	52	100%

Anemia is mainly seen in age age group of 20-30 year

Table 2- Resident wise distribution

Resident	Frequency	Percentage
Urban	8	15.38%
Rural	44	84.61%
Total	52	100%

There are more women from rural area .

Table 3-BPL status

BPL status	Frequency	Percentage
yes	27	51.92%
no	25	48.076%
total	52	100%

There are 51.92% women came from below poverty line .

Table 4-Education

Education	Frequency	Percentage
illiterate	17	32.69%
literate	35	67.30%
total	52	100%

There are 67.30% women out of 100% are illiterate .

Table 5-Number of family member

Member	Frequency	Percentage
1-5	31	59.61%

International Journal Dental and Medical Sciences Research
Volume 7, Issue 5, Sept – Oct 2025 pp 317-323 www.ijdmsrjournal.com ISSN: 2582-6018

5-10	19	36.53%
10-15	2	3.84%
Total	52	100%

Almost half have a 1 to 10 family members in their family.

Table 6-occupation

Occupation	Frequency	Percentage
Housewife	25	48.07%
Farming	19	36.53%
Labour	8	15.38%
Total	52	100%

Out of 52 women there are 25 housewife .

Table 7-Addiction

Addiction	Frequency	Percentage
Yes	2	3.84%
No	50	96.15%
total	52	100%

Majority of women have no addiction.

Table 8-Type of delivery

Type of delivery	Frequency	Percentage
Normal	29	55.76%
C section	20	38.46%
LSCS	3	5.76%
Total	52	100%

There were almost 55.67% are normal deliveries out of 100% .

Table 9 - ANC received

ANC received	Frequency	percentage
Yes	50	96.15%
No	2	3.84%
Total	52	100%

Table 10-Age at marriage

age at marriage	Frequency	Percentage
15-20	35	67.30%
20-25	14	26.92%
25-30	3	5.76%
total	52	100%

Majority of women married at their 15-20 year.

Table 11-Age at first pregnancy

age at 1st pregannacy	Frequency	percentage
15-20	24	46.15%
20-25	23	44.23%
25-30	5	9.61%
total	52	100%

Majority of women conceive their first pregnancy at 15 to 20 year age .

Table 12-Birth spacing

Birth spacing (in year)	Frequency	Percentage
1-3	21	40.38%
3-6	8	15.38%
6-9	1	1.92%
Nill	23	44.23%
total	52	100%

Table 13- Severity of anemia

Severity of anemia (hb <11 gm/dl)	Frequency	Percentage
mild (11-9gm/dl)	40	76.92%
moderate (9-7gm/dl)	11	21.15%

International Journal Dental and Medical Sciences Research
Volume 7, Issue 5, Sept – Oct 2025 pp 317-323 www.ijdmsrjournal.com ISSN: 2582-6018

severe (<7gm/dl)	1	1.92%
total	52	100%

There were almost 76.92% women having mild anemia and rest 21.15 % women having modearate anemia .

Table 14-Details of treatment

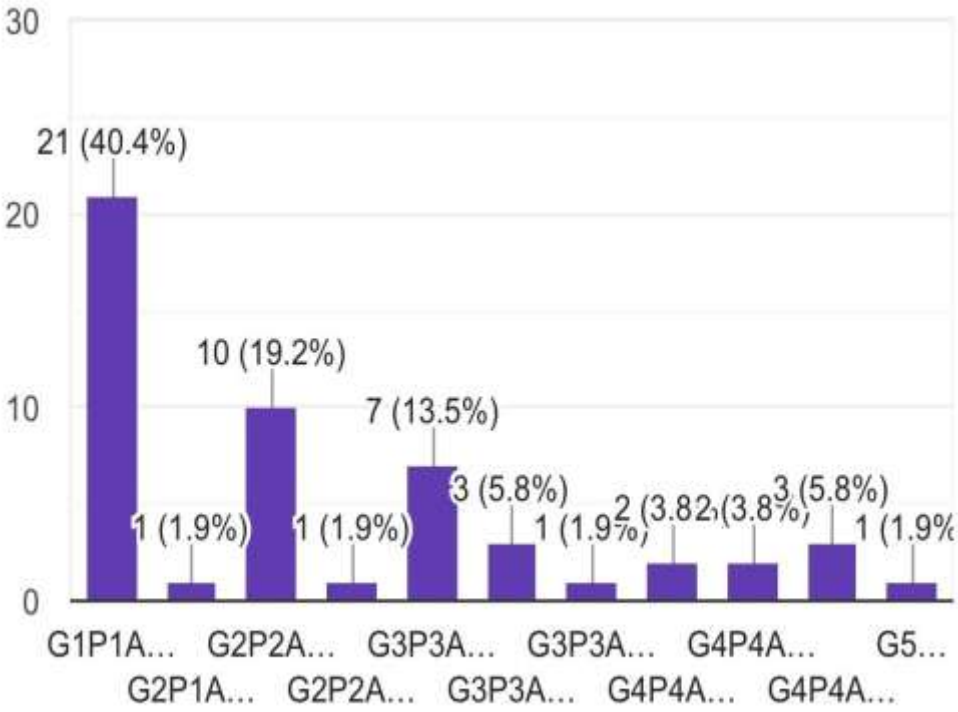
Details of treatment	Frequency	Percentage
iron +folic acid	32	61.53%
blood transfusion	16	30.76%
No	4	7.69%
total	52	100%

Out of 52 women 61.53% took iron + folic acid tabs and 30.76% had blood transfusion.

Table 15-Details of pregnancy outcomes

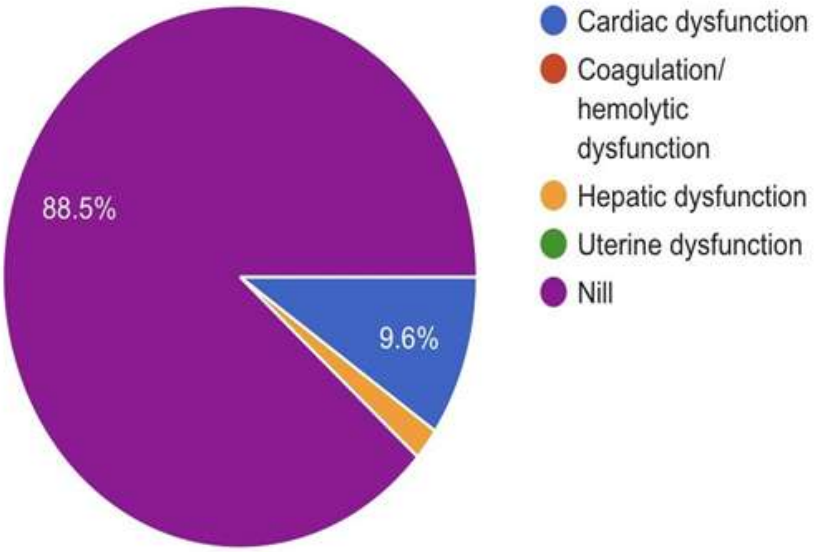
details of pregnancy outcome	Frequency	Percentage
Term	48	92.30%
Preterm	4	7.69%
Postterm	0	0%
total	52	100%

Out of 100% there were 92.30% were term pregnancy .

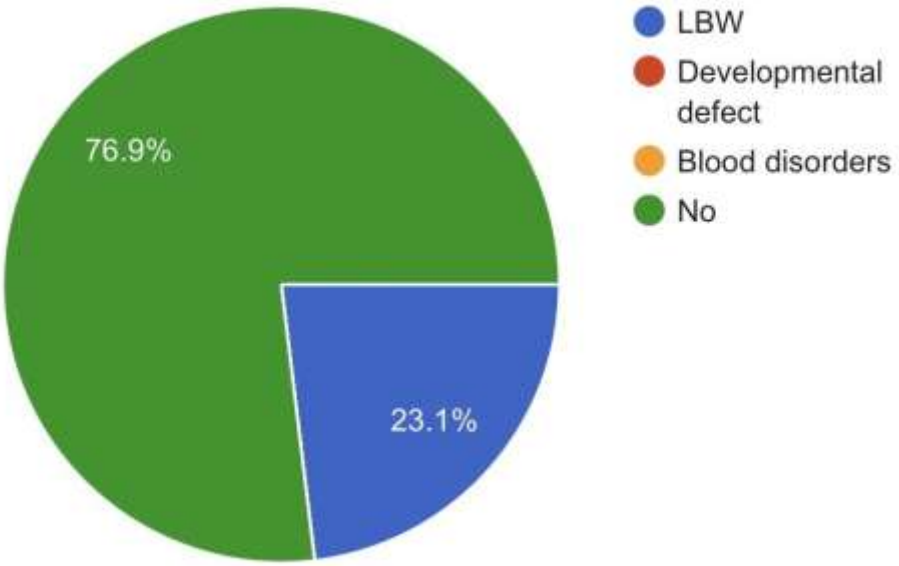


Graph 1- status at admission

International Journal Dental and Medical Sciences Research
Volume 7, Issue 5, Sept – Oct 2025 pp 317-323 www.ijdmsrjournal.com ISSN: 2582-6018



Graph 2



Graph 3-Abnormality found in baby

IV. CONCLUSION

- This study shows that out of 65 women there were 52 who were anemic . So the incidence of anemia is nearly 80% .
- Hence evaluation of circumstances and the outcome of anemia in pregnant women gives us an idea to know the exact etiology to treat it in an early stage and prevent complications .
- Some other causes of anemia in pregnant women are associated with (<1-3 year - 40.38%) birth spacing and pregnancy at teenage ,and marriage at early age ,and with more family members .
- Poor knowledge of the risk of warning sign of anemia and lower socioeconomic class plays a major part in the delay of management.

- Out of 100%, 76.92% women are mild anemic ,21.50% having moderate anemia and 1.92% having severe anemia .
- Moderate and severe anemia in mothers can lead to high incidence of preterm and low birth weight baby.

V. ACKNOWLEDGEMENT

It was a great pleasure to associate ourselves with this project. We have gained prodigious experience during this project and are thankful to the Department of Community Medicine for giving us such an opportunity.

We would like to thank Dr.Meet Chauhan , project in charge and guide. He has been very helpful during the project.

We are also thankful to the Department of Community Medicine for providing us with the permission and required guidance to study the case histories of the required sample pop koi ulation for the study.

We are also thankful to all the participants of the project for their valuable contribution of time and knowledge during these unprecedented times.

Last but not the least, we are thankful to all those who have directly or indirectly helped us in the project.

REFERENCES

[1]. Marahatta R. Study of anaemia in pregnancy and its outcome in Nepal medical college teaching hospital, Kathmandu, Nepal. Nepal Med Coll J. 2007;9:270–4. [PubMed] [Google Scholar]

[2]. Kalaivani K. Prevalence and consequences of anaemia in pregnancy. Indian J Med Res. 2009;130:627–33. [PubMed] [Google Scholar]

[3]. Mbule MA, Byaruhanga YB, Kabahenda M, Lubowa A. Determinants of anaemia among pregnant women in rural Uganda. Rural Remote Health. 2013;13:2259. [PubMed] [Google Scholar]

[4]. Viveki RG, Halappanavar AB, Viveki PR, Halki SB, Maled VS. Prevalence of anaemia and its epidemiological determinants in pregnant women. Al Ameen J Med Sci. 2012;5:216–23. [Google Scholar]

[5]. Ahmad N. The prevalence of anaemia and associated factors in rural Indian community. Australas Med J. 2010;1:276–80. [Google Scholar]

[6]. Sangeetha VB, Pushpalatha S. Severe maternal anemia and neonatal outcome. Sch J Appl Med Sci. 2014;2:303–9. [Google Scholar]

[7]. Gautam VP, Bansal Y, Taneja DK, Saha R, Shah B, Marg Z, et al. Prevalence of anaemia amongst pregnant women and its socio-demographic associates in a rural area of Delhi. IJCM. 2002;27:157–60. [Google Scholar]

[8]. Iyengar K. Early postpartum maternal morbidity among rural women of Rajasthan, India: A community-based study. J Health Popul Nutr. 2012;30:213–25. [PMC free article] [PubMed] [Google Scholar]

[9]. Ivan EA, Mangaiarkkarasi A. Evaluation of anaemia in booked antenatal mothers during the last trimester. J Clin Diagn Res. 2013;7:2487–90. [PMC free article] [PubMed] [Google Scholar]

[10]. Allen LH. Anaemia and iron deficiency: Effects on pregnancy outcome. Am J Clin Nutr. 2000;7:1280–4. [PubMed] [Google Scholar]

[11]. Agarwal KN, Agarwal DK, Sharma A, Sharma K, Prasad K, Kalita MC, et al. Prevalence of anaemia in pregnant & lactating women in India. Indian J Med Res. 2006;124:173–84. [PubMed] [Google Scholar]

[12]. Totega GS. Prevalence of anaemia among pregnant women and adolescent girls in 16 districts of India. Food Nut Bull. 2006;27:311–5. [PubMed] [Google Scholar]

[13]. Kapil U, Sareen N. Prevalence of anemia amongst overweight and obese children in NCT of Delhi. IJCH. 2014;26:295–7. [Google Scholar]

[14]. Vemulapalli B, Rao KK. Prevalence of anaemia among pregnant women of rural community in Vizianagaram, North Coastal Andhra Pradesh, India. Asian J Med Sci. 2013;5:21–5. [Google Scholar]

[15]. Singh R, Chauhan R, Nandan D, Singh H, Gupata SC, Bhatnagar M. Morbidity profile of women during pregnancy: A hospital record based study in Western UP. IJCH. 2012;24:342–6. [Google Scholar]

[16]. Chowdhury HA, Ahmed KR, Jebunessa F, Akter J, Hossain S, Shahjahan M. Factors associated with maternal anaemia among pregnant women in Dhaka city. BMC

International Journal Dental and Medical Sciences Research
Volume 7, Issue 5, Sept – Oct 2025 pp 317-323 www.ijdmsrjournal.com ISSN: 2582-6018

Women Health. 2015;15:77. [PMC free article] [PubMed] [Google Scholar]

ANNEXURE
QUESTIONNAIRE:
1.age :
2.Hight :
3.Weight:
4.occupation
- **House wife**
- **Job**
- **Business**
- **Farming**
- **Labour**

5.Education :
6.no. Of family members:
7.addiction
- **Smoking**
- **Alcohol**
- **Smokeless**
- ~~**No**~~

8.BPL status :
9.status at admission
- **G**
- **P**
- **A**
- **L**

10.Age at marriage :
11.Age at first pregnancy :
12.birth spacing :
13.underlying disorders at admission
- **Cardiac dysfunction**
- **Coagulation /hemolytic dysfunction**
- **Hepatic dysfunction**
- **Uterine dysfunction**
- **Nill**

14.ANC receive or not ;if
- **YES**

15.HOW MANY ANC VISITS ?:
16.ANC registered or not ,
- **Yes**
- **No**

17 place of ANC registration
18.any complication during delivery
- **Severe PPH**
- **RUPTURED UTERUS**
- **INFECTION AND INFESTATION**
- **ANY UTERINE ANOMALIES**
- **Nill**

19.severity of anemia according to WHO criteria :
- **14-11 gm/dl (normal)**
- **11-9 gm/dl (mild)**
- **9-7 gm/dl (moderate)**
- **<7 gm/dl (severe)**

20.details of treatment :
- **Iron/folic acid tab +calcium**
- **Parentral iron +tab**
- **Blood transfusions/component transfusion**
- **No**

21.TT taken or not :
22.abnormality found in baby :
- **LBW baby**
- **Developmental defect**
- **Blood disorders**
- **None**

23.Delivery details :
Type of delivery :
- **Normal**
- **C section**
- **LACS**

24. Details of current pregnancy outcome:
- **Term**
- **Preterm**
- **Postterm**

25.weight of baby :
26.Gender of baby :
27.Month of registration after conception :