Original Research Paper

Volume - 15 | Issue - 12 | December - 2025 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

Obstetrics & Gynaecology

STUDY OF SOCIO DEMOGRAPHIC FACTORS ASSOCIATED WITH ANAEMIA IN PREGNANCY A HOSPITAL BASED STUDY

Dr. Pratishtha Dubey — Senior Consultant, Department of Obstetrics and Gynaecology, Chandan Hospital, Lucknow Uttar Pradesh India

Dr. Kusum Lata* — Assistant Professor, Department of Obstetrics and Gynaecology, Autonomous State Medical College, Hardoi *Corresponding Author

Dr. Kanchan Singh — Senior Resident, Specialist, Veerangan Avanti Bai Mahila Chikitsalaya, Lucknow 226001

ABSTRACT **Background:** Anaemia in pregnancy poses significant public health challenges, especially in low- and middle-income countries, primarily due to nutritional deficiencies and socioeconomic inequalities. Women face heightened risk due to increased iron and micronutrient needs, exacerbated by insufficient dietary intake. Socio-demographic factors such as maternal age, education, and healthcare access are critical, with disadvantaged women often having limited dietary diversity, delayed antenatal care, and higher infection rates. Cultural practices further restrict access to nutritious foods. Addressing these issues is vital for effective maternal health interventions to reduce anaemia-related complications. Aim of this study was to investigate the prevalence of anaemia in pregnant women, along with its morphological characterization and associated sociodemographic characteristics. **Methods:** This was a cross-sectional study Over a one year period, total 290 pregnant women at Department of Obstetrics and Gynaecology, Autonomous state medical college, Hardoi, antenatal clinic were studied to assess the prevalence and severity of anemia, after excluding 40 with specific medical conditions. Demographic data, health histories, and dietary habits were collected, along with physical examinations and blood samples for hematological assessments. Informed consent was obtained from all participants. **Results:** Total of 290 cases were analyzed; 55.2% of subjects showed varying levels of anaemia: mild (22.1%), moderate (29.0%), severe (3.4%), and very severe (0.7%). Women aged 30 and older were more common in the anaemic group. Although BMI distributions varied, most women lived in urban areas. More anaemic women had secondary education or higher, and their employment rates were higher. The non-anaemic group largely consisted of primigravida, while multigravida was more frequent in the anaemic group. Non-anaemic women used oral contraceptives long-term more often. Prenatal visit attendance varied, with no significant link to anaemia. Work status and dietary preference impacted anaemia severity, while ethnicity, education, and socioeconomic status did not. Dietary intake was similar between groups, but iron supplementation was more frequent in non-anaemic women. Anaemia severity varied by trimester, but no significant association with trimester was found. **Conclusions:** This study highlights that socio-demographic factors such as education, socioeconomic status, parity, age, and dietary habits significantly influence the prevalence of anaemia during pregnancy. Disadvantaged women are more vulnerable due to nutritional gaps, lack of awareness, and limited access to antenatal care. It recommends focused interventions, enhanced health education, and adherence to supplementation programs to effectively reduce anaemia and improve maternal and neonatal health outcomes.

KEYWORDS : Anemia, Pregnant Women, Sociodemographic, Women`s Health

INTRODUCTION

During pregnancy, women undergo significant physiological changes affecting nutrient reserves, particularly haemoglobin levels, which are crucial for health. Anaemia, defined as a haemoglobin level below 11 g/dL, is highly prevalent in South Asia, particularly India, contributing to high maternal death rates due to nutritional deficiencies. This condition poses major risks for both mother and fetus, including increased maternal morbidity and adverse birth outcomes.[1,2] The WHO estimates that around 40% of pregnant women globally are anaemic, with South Asia and Sub-Saharan Africa bearing a disproportionate burden. Socio-demographic factors, such as maternal age and education, significantly influence anaemia prevalence; adolescent mothers often face higher rates due to inadequate nutrition and limited healthcare access, while older women may suffer from multiparity or chronic diseases. Educational status also plays a critical role, as lower awareness of dietary and healthcare needs increases susceptibility to anaemia.[3-5]

The relationship between anaemia and sociodemographic characteristics has been the subject of extensive research, primarily because anaemia is recognized as a nutritional deficiency. However, findings regarding this association have not consistently yielded statistically significant results.[6] A recent study in a South Indian community discovered no significant correlation between anaemia and sociodemographic factors. Conversely, considerable evidence indicates that anaemia during pregnancy correlates with various sociodemographic parameters such as maternal occupation, unemployment, living in rural areas, low socioeconomic status, illiteracy, and limited education.[7,8] Additional factors include age, parity, gravidity, single parenthood or divorce, short gestational intervals, among others. Notably, diverse studies conducted in various locations and across different ethnic groups have shown variations in the types and severity of sociodemographic parameters linked to anaemia during pregnancy [9].

Studies indicate that enhancing awareness regarding anaemia, alongside the implementation of suitable preventative measures, could potentially lower the frequency of anaemia cases during pregnancy. [10] It is essential to identify and stratify the target population for strategic interventions aimed at raising awareness and preventing anaemia in pregnancy. Addressing this issue within a regional context is crucial for policymakers, as the sociodemographic profiles and associated risk factors for anaemia vary significantly across different regions of India. The study analyzes socio-demographic factors related to anaemia in pregnancy at a tertiary care institution.

METHODS

Pregnant women attending the antenatal clinic and/or admitted for delivery in the Department of Obstetrics and Gynaecology, Autonomous state medical college, Hardoi, over a period of one year. Total of 290 pregnant women were enrolled in the study assessing the prevalence and severity of anaemia, after excluding 40 women with specific medical conditions such as recent blood transfusions, gastrointestinal diseases affecting iron absorption, anaemia from acute haemorrhage, bleeding disorders, chronic illnesses, or previous parenteral iron administration.

Each women written informed consent were taken. Demographic data regarding age, residence, religion, education, employment, housing, socioeconomic status, and drinking water sources were collected. Participants underwent general and physical examinations, including anthropometric measurements for weight and height, leading to body mass index calculations. Obstetric, medical, contraceptive histories, and deworming data were gathered, along with gestational age at presentation. Dietary habits and average food intake were assessed, determining dietary adequacy by comparing nutrient intakes against standard requirements for pregnancy trimesters. Iron supplement use and personal habits such as smoking and alcohol consumption were recorded. A 2-ml blood sample was taken for hematologic assessment, with anemia and severity evaluated per WHO criteria.

The collected data were processed using Microsoft Excel, with categorical data represented in tables showing frequencies and percentages, and continuous data summarized by mean and standard deviation. Statistical comparisons between anaemic and nonanaemic groups, as well as different anaemia severities, utilized the chi-square test for proportions and the independent-samples t-test (ANOVA) for continuous variables, with a significance level set at $p < 0.05$.

RESULTS

Total 290 cases were included in the study, revealing that 160 (55.2%) subjects were diagnosed with anaemia. The breakdown included mild (22.1%), moderate (29.0%), severe (3.4%), and very severe (0.7%) anaemia. (Table 1) Women aged 30 years were significantly more prevalent in the anaemic group compared to the nonanemic group. The mean ages were similar for both groups. BMI distributions differed, with a significant difference in profiles among women, particularly in the proportion of underweight and overweight individuals. Most women in both groups resided in urban areas; however, a higher percentage of anaemic women had secondary education or higher compared to nonanaemic women. Employment rates were higher in the anaemic group, while non-anaemic women predominantly identified as non-working housewives. Living conditions varied slightly, with a higher percentage of anaemic women living in kachcha houses. No significant differences in socioeconomic status, addiction, or drinking water sources were noted, but a vegetarian diet was favored more in the anaemic group.(Table 2)

The study found that the majority of nonanemic women were primigravida (53.5%), while anaemic women were mostly multigravida (54.7%), with no significant association between anaemia and gravidastatic status. There was a notable higher proportion of women using oral contraceptives for over 3 months in the nonanemic group (23.3%) compared to the anaemic group (9.3%). Most anaemic women (42.2%) attended prenatal visits in the 14-27 weeks gestation range, while most nonanemic women (42.6%) attended within the 0-13 weeks range, with lowest attendance recorded between 28 and 41 weeks. There was also no significant association found between anaemia prevalence and adequacy of antenatal care (ANC) visits in either group. (table 3)

Work status, type of housing, and dietary preference significantly influence the severity of anaemia, while place of residence, religion, educational status, and socioeconomic status do not. (Table 4).

There was no significant difference between the two groups regarding the intake of green leafy vegetables, post-meal tea/coffee, PICA, total calories, and protein. However, the history of iron supplementation was significantly higher in the non-anaemic group (76.7%) compared to the anaemic group (49.1%). (Table 5).

The distribution of anaemia severity varies slightly across trimesters, with more moderate and severe cases noted in the second trimester. However, the chi-square test shows no statistically significant association between trimester and anaemia severity (χ^2=14.247, df=8, p=0.55). Thus, trimester does not significantly influence anaemia severity.(Table 6)

DISCUSSION

The high prevalence of anaemia (55.2%) in this study highlights a substantial public health concern among pregnant women. The predominance of moderate and mild anaemia suggests chronic nutritional deficiencies and possible gaps in antenatal supplementation. Although severe forms were uncommon, their presence indicates delayed detection and inadequate preventive measures. Strengthening early screening, dietary counselling, and iron–folic acid compliance is essential to reduce maternal risks and improve pregnancy outcomes.

In this study, the mean age of women was 25.7±4.6 years, with a range from 17 to 30 years. A majority (80.4%) were aged 21 to 30. The study participation was divided by trimester: 41% in the first, 40.7% in the second, and 18.3% in the third. Previous research also indicates a similar age predominance during the fertile phase of a woman's life. The average age of pregnant women diagnosed with anaemia in the present study was between 25 and 30 years, consistent with findings from previous studies. Some studies reported younger ages, under 25, while others noted averages over 30. Overall, the age profile aligns with the trend of increasing average age at childbearing observed in recent decades.[11-14]

In the study, the prevalence of anaemia in pregnancy was found to be 55.5%. Among the pregnant women, 22.1% had mild anaemia, 29% moderate anaemia, 3.4% severe anaemia, and 0.7% very severe anaemia. The majority (52.3%) experienced moderate anaemia, followed by 39.8% with mild anaemia, and 8.1% with severe or very severe anaemia. Reported prevalence of anaemia during pregnancy varies between 10% and 91.3%, with most studies in India indicating a prevalence of 50% to 70%. Mild and moderate anaemia are most common, while severe anaemia occurs in only about 5% of cases.[15-19] In various studies, severe anaemia prevalence was noted to exceed 10%, with an Indian study indicating 6.9% among anaemic women and an overall anaemia prevalence of 85.3%. The current study observed slightly higher rates of severe and very severe anaemia, possibly due to the participants being from a lower socioeconomic background, lacking iron supplementation, not attending antenatal care in early trimesters, and differing dietary habits. These findings highlight that the prevalence and severity of anaemia vary regionally, influenced by environmental, sociocultural, dietary, and climatic factors.[16-20]

In the study, several factors were significantly associated with higher prevalence of anaemia, including maternal age (<20 or >30 years), lower BMI, education level, occupational status, kaccha living conditions, vegetarian diet, lack of oral contraceptive use for over three months, and absence of iron supplements. The severity of anaemia was also linked to working status, living in kaccha accommodation, limited non-vegetarian diet, reduced intake of green leafy vegetables, and poor dietary habits associated with higher education, such as junk food consumption and lack of timely healthy meals. However, education alone wasn't a definitive factor, as many educated women faced socioeconomic challenges, contributing to energy deficits and dietary inadequacies. Giboreet et al. found a link between higher education and anemia, whereas other studies linked lower education to anemia.[12]

The study found no significant link between endemic infections and anaemia, despite previous research indicating such a connection. Notably, women's age and low prenatal visits were associated with anaemia. Additionally, women's labour status correlated with anaemia risk, aligning with Grover et al.'s findings. Work commitments may negatively impact nutrition and time for health maintenance, contributing to anaemia. In contrast, housewives with better financial stability can visit clinics more easily and manage their health better.[13]

Most anaemic women in this study were multigravida, making them more vulnerable to malnutrition due to depleted iron reserves from blood loss during multiple deliveries. In this study, a majority of anaemia patients were in their second trimester. Additionally, 64% of women with a pregnancy interval longer than 2 years were found to be anaemic, compared to only 36% of those with shorter intervals, consistent with findings by Bansal et al.[2]

No statistically significant association was found between the trimester of pregnancy and the severity of anaemia ($\chi^2 = 14.247$, df = 8; $p = 0.55$). While anaemia prevalence varied, mild and moderate cases were more common in the first and second trimesters, with severe anaemia occurring sporadically. This pattern corresponds with physiological haemodilution, which peaks in the second trimester, but may not lead to clinically significant differences.

The absence of statistical significance in anaemia severity may indicate effective antenatal screening and timely iron supplementation, which help prevent severe anaemia regardless of gestational age. Previous studies have shown that trimester is not a strong predictor of anaemia severity in populations with consistent antenatal care and iron–folic acid supplementation. Although some research indicates increased anaemia rates in later pregnancy due to nutritional deficiencies and fetal demands, this trend was not observed in the current dataset.[2,21,22]

Pregnancy-related anaemia severity appears to be more influenced by maternal characteristics—like nutritional status, BMI, socioeconomic status, and supplementation adherence—than gestational age. Continuous monitoring and early correction of haemoglobin deficits in all trimesters are crucial to prevent negative maternal and neonatal outcomes.

In the study, traditional sociodemographic factors such as residence, gravida status, religion, socioeconomic status, and hygiene showed no

significant correlation with anaemia severity. Prior research corroborated these findings, indicating variability in the association of sociodemographic factors with anaemia across different studies. Nonetheless, most studies recognize sociodemographic factors play a significant role in pregnancy-related anaemia. The interplay of these factors, especially regarding dietary habits, iron supplementation, and lifestyle choices, influences this relationship, highlighting their negative impact on anaemia prevalence during pregnancy. This study examines socio-demographic factors affecting anaemia during pregnancy, emphasizing determinants like maternal age, education, socioeconomic status, parity, and dietary habits. Key strengths include a robust sample size and a systematic evaluation of anaemia severity, which reveal prevalence patterns among diverse demographic groups. Standardized haemoglobin measurement and a varied participant pool enhance generalizability. However, limitations such as the inability to determine causality due to its cross-sectional nature, potential recall bias in self-reported dietary and socioeconomic data, and insufficient exploration of micronutrient intake, chronic infections, and genetic factors are acknowledged. Recommendations include enhancing antenatal screening, improving nutritional counselling, promoting iron–folic acid adherence, and implementing targeted interventions for high-risk groups to mitigate anaemia during pregnancy.

Table 1. Distribution of Cases According to Prevalence and Severity of Anaemia

Finding	No. of women (n=290)	Percentage
Non-anaemic	130	44.8%
Anaemic	160	55.2%
Mild	64	22.1%
Moderate	84	29.0%
Severe	10	3.4%
Very severe	2	0.7%

Table 2: Socio-demographic Characteristics in Between Anaemia and Non Anaemia

		Anaemia (n=160)		Non Anaemia (n=130)	
		n	%	n	%
Age (years)	20 Years	17	10.6	4	3.07
	21-25 Years	47	29.2	53	41.1
	26-30 Years	69	43.12	63	48.8
	>30 Years	27	16.8	10	7.8
	Mean±SD	25.7±4.6		26.65±3.5	
BMI (kg/m2)	<18.5 kg/m2	9	5.6	9	6.9
	18.5-24.9 kg/m2	116	72.5	75	58.1
	25.0-29.9 kg/m2	34	21.1	43	33.3
	≥30 kg/m2	1	0.6	3	2.3
	Mean±SD	21.35±3.21		22.71±3.45	
Residence	Rural	43	26.7	30	23.07
	Urban	117	73.12	100	77.5
Religion	Hindu	95	59.0	67	51.9
	Muslim	65	40.0	63	48.4
Education	Illiterate	11	6.8	10	7.6
	Primary	2	1.2	1	0.8
	Junior	34	21.1	38	29.5
	High school	16	9.9	21	16.3
	Secondary	44	27.3	39	30.2
	Graduation or above	53	32.9	19	14.7
Occupation	Working	13	8.1	4	3.07
	Non-working Homemaker	147	91.8	126	97.7
Type of housing	Kachcha	10	6.2	2	1.5
	Pakka	150	93.7	128	99.2
Socio-economic status	Lower	28	17.50	20	15.38
	Upper lower	11	6.8	13	10.1
	Lower Middle	73	45.3	46	35.7
	Upper middle	42	26.1	45	34.9
	Upper	6	3.7	6	4.7
	G3	25	15.5	18	14.0
	G4	14	8.7	8	6.2
	G5 or above	11	6.8	8	6.2
Dietary Preference	Mixed	117	73.12	110	85.3
	Non-Veg	6	3.7	16	12.4
	Veg	37	23.0	4	3.07
Addictions	-	12	7.5	5	3.9
Drinking water other than tap water	-	17	10.6	9	7.0
Deworming	-	11	6.8	17	13.2

Table 3: Comparison on Socio-demographic Characteristics Between Anaemia and Non Anaemia

		Anaemia (n=160)		Non Anaemia (n=130)		t	p-Value
		n	%	n	%		
Gravida	G1	73	45.3	69	53.5	2.11	0.716
	G2	38	23.6	26	20.2		
	G3	25	15.5	18	14.0		
	G4	14	8.7	8	6.2		
	G5 or above	11	6.8	8	6.2		
COC>3 months	Yes	15	9.3	30	23.3	10.62	0.001
	No	146	90.7	99	76.7		
Trimester of pregnancy	0-13 weeks	64	39.8	55	42.6	2.69	0.101
	14-27 weeks	68	42.2	50	38.8		
	28-41 weeks	29	18.0	24	18.6		
ANC Adequacy	Yes	128	79.5	112	86.8	2.69	0.101
	No	33	20.5	17	13.2		

Table 4: Association Of Socio-demographic with Anaemia and its Severity

	Non anaemia (n=130)		Mild (n=63)		Moderate (n=84)		Severe (n=10)		Very Severe (n=2)		Chi Sq.	p-Value
	n	%	n	%	n	%	n	%	n	%		
Residence												
Rural	30	23.7	20	1.3	21	25.0	2	20.0	0	0.0	2.72	0.606
Urban	100	76.9	44	64.8	63	75.0	8	80.0	2	100.0		
Religion												
Hindu	68	52.3	42	65.5	45	53.6	6	60.0	2	100	5.05	0.283
Muslim	62	47.6	22	34.4	39	46.4	4	40.0	0	0.0		
Education												
Illiterate	11	8.4	2	1.2	8	5.0	2	20.0	0	0.0	26.67	0.145
Primary	2	1.5	0	0.0	2	1.2	0	0.0	0	0.0		
Junior	38	29.3	13	8.1	19	11.8	2	20.0	0	0.0		
High school	21	16.1	5	3.1	10	6.2	0	0.0	0	0.0		
Secondary	39	30.1	17	10.6	24	14.9	2	20.0	1	0.6		
Graduate or above	19	14.6	27	16.8	21	13.0	4	40.0	1	0.6		
Working Status												
Working	4	3.07	3	1.9	7	4.3	3	30	0	0.0	13.99	0.007
Non-working homemaker	126	97.3	61	37.9	77	47.8	7	70.0	2	1.2		
Type of housing												
Kachcha	2	1.5	1	0.6	5	3.1	4	40.0	0	0.0	37.22	<0.001
Pakka	128	98.5	63	39.1	79	49.1	6	60.	2	1.2		
Socioeconomic status												
Lower	20	15.3	10	6.2	17	10.6	2	20.0	0	0.0	13.39	0.644
Upper lower	13	10.0	5	3.1	5	3.1	0	0.0	1	0.6		

Lower Middle	46	35.5	28	17.4	39	24.2	5	50.0	1	0.6		
Upper middle	45	34.5	19	11.8	19	11.8	3	30.0	0	0.0		
Upper	6	4.5	2	1.2	4	2.5	0	0.0	0	0.0		
Dietary Preference												
Mixed	110	85.0	49	30.4	65	40.4	4	40.0	0	0.0	58.88	<0.001
Non-Veg	16	12.2	4	2.5	2	1.2	0	0.0	0	0.0		
Veg	4	3.07	11	6.8	17	10.6	6	60.0	2	1.2		

Table 5: Association of Anaemia Prevalence with Dietary Pattern, Intake and Supplementation

Characteristic	Anaemia (n=160)	No Anaemia (n=130)	Statistical significance
Intake of green leafy vegetables	105 (65.6%)	92 (70.7%)	2=1.35; p=0.238
Intake of tea/coffee after meal	35 (21.7%)	29 (22.5%)	2=0.033; p=0.880
H/o PICA	9 (5.6%)	3 (2.4%)	2=1.94; p=0.165
Iron supplementation	79 (49.1%)	99 (76.7%)	2=23.24; p<0.001
Mean Total calorie intake±SD (kcal)	2079±382	2239±13.20	t=1.45; p=0.144
Mean protein intake±SD (g)	62.49±17.77	101.93±441.79	t=1.17; p=0.269

Table 6: Association Between Trimester of Pregnancy and Severity of Anaemia

Trimester	Total No.	No anaemia		Mild		Moderate		Severe		Very Severe	
		n	%	N	%	N	%	n	%	n	%
0-13 weeks	119	55	46.2	28	17.4	35	21.7	1	0.6	0	0.0
14-27 weeks	118	50	42.4	25	15.5	32	19.9	9	6.2	1	0.6
28-41 weeks	53	24	45.3	11	6.8	17	10.6	0	0.0	1	0.6

CONCLUSION

This study highlights the high prevalence of anaemia in pregnancy, impacting over half of women, mainly with moderate anaemia. It identifies socio-demographic factors such as maternal age, low BMI, limited education, unemployment, and inadequate iron supplementation as significant contributors. Additionally, lifestyle factors and low intake of iron-rich foods worsen the condition. The results underscore the need for targeted nutritional counselling, improved antenatal care, better iron–folic acid supplementation, and support for vulnerable groups to enhance maternal and fetal health. The study recommends recognizing at-risk populations and implementing specific preventive and therapeutic strategies to combat anaemia in pregnant women.

REFERENCES

1. WHO. Haemoglobin concentrations for the diagnosis of anaemia and assessment of severity. Vitamin and mineral nutrition information system. Geneva: World Health Organization; 2011 (WHO, NMH/NHD/MNM/11. 1).
2. Bansal R, Bedi M, Kaur J, Kaur K, Shergill HK, Khaira HK et al. Prevalence and factors associated with anaemia among pregnant women attending antenatal clinic. Adesh Univ J Med Sci Res. 2020;2(1):42-8.
3. Gupta A, Gadipudi A. Iron deficiency anaemia in pregnancy: developed versus developing countries. EMJ Hematol. 2018;6(1):101-9. doi: 10.33590/emjhematol/10314911.
4. Vanamala VG, Rachel A, Pakyanadhan S, Somavathi. Incidence and outcome of anaemia in pregnant women: a study in a tertiary care centre. Int J Reprod Contracept Obstet Gynecol. 2018 Feb;7(2):462-6. doi: 10.18203/2320-1770.ijrcog20180155.
5. Rai RK, Fawzi WW, Barik A, Chowdhury A. The burden of iron-deficiency anaemia among women in India: how have iron and folic acid interventions fared? WHO S East Asia J Public Health. 2018;7(1):18-23. doi: 10.4103/2224-3151.228423, PMID 29582845.
6. Vindhya J, Nath A, Murthy GVS, Metgud C, Sheeba B, Shubhashree V et al. Prevalence and risk factors of anaemia among pregnant women attending a public-sector hospital in Bangalore, South India. J Fam Med Prim Care. 2019 Jan;8(1):37-43. doi: 10.4103/jfmpc.jfmpc_265_18, PMID 30911478.
7. Mahamoud NK, Mwambi B, Oyet C, Segujja F, Webbo F, Okiria JC et al. Prevalence of anaemia and its associated socio-demographic factors among pregnant women attending an antenatal care clinic at Kisugu health center IV, Makindye division, Kampala, Uganda. J Blood Med. 2020 Jan 20;11:13-8. doi: 10.2147/JBM.S231262, PMID 32021527.
8. Ahenkorah B, Nsiah K, Baffoe P. Sociodemographic and obstetric characteristics of anaemic pregnant women attending antenatal clinic in Bolgatanga Regional Hospital. Scientifica (Cairo). 2016;2016:4687342. doi: 10.1155/2016/4687342, PMID 27242947.
9. Hooja N, Arora S, Bhargava S, Mital P. Socioeconomic–demographic factors in varying degrees of anaemia in pregnancy. J Basic Clin Appl Health Sci. 2020;3(3):122-4.
10. Mehrotra M, Yadav S, Deshpande A, Mehrotra H. A study of the prevalence of anaemia and associated sociodemographic factors in pregnant women in Port Blair, Andaman and Nicobar Islands. J Fam Med Prim Care. 2018;7(6):1288-93. doi: 10.4103/jfmpc.jfmpc_139_18, PMID 30613513.
11. Martí-Carvajal A, Peña-Martí G, Comunian G, Muñoz S. Prevalence of anaemia during pregnancy: results of Valencia (Venezuela) anaemia during pregnancy study. Arch Latinoam Nutr. 2002 Mar;52(1):5-11. PMID 12214547.
12. Gibore NS, Ngowi AF, Munyogwa MJ, Ali MM. Dietary habits associated with anaemia in pregnant women attending antenatal care services. Curr Dev Nutr. 2021;5(1):nzaa178. doi: 10.1093/cdn/nzaa178, PMID 33501404.
13. Grover K, Kumar T, Doda A, Bhutani R, Yadav S, Kaushal P, et al. Prevalence of anaemia and its association with dietary habits among pregnant women in the urban area of Haryana. J Fam Med Prim Care. 2020;9(2):783-7. doi: 10.4103/jfmpc.jfmpc_1062_19, PMID 32318420.
14. Zewar M, Chakraborty S. Assessing the prevalence and risk factors of anaemia in women of reproductive age attending primary health care in Afghanistan's Provinces of Kabul, Nangarhar, and Herat. Clin Pract. 2022;19(2):1907-19.
15. Yadav UK, Ghimire P, Amatya A, Lamichhane A. Factors associated with anaemia among pregnant women of underprivileged ethnic groups attending antenatal care at provincial level hospital of Province 2, Nepal. Anemia. 2021 Feb 12;2021:8847472. doi: 10.1155/2021/8847472, PMID 33628498.
16. Madhuri K, Movva N. Prevalence of maternal thrombocytopenia and anaemia in pregnant woman - an institutional experience. MIJOBG. Feb 2022;21(2):43-6. doi: 10.26611/10122124.
17. Anwary Z, Stanikzai MH, Wyar WM, Wasiq AW, Farooqi K. Anaemia among women who visit bost hospital for delivery in Helmand Province, Afghanistan. Anemia. 2021 Jan 5;2021:9358464. doi: 10.1155/2021/9358464, PMID 33520311.
18. Kant S, Malhotra S, Haldar P, Kaur R, Kumar R. Anaemia among pregnant women attending antenatal clinic at a secondary health care facility in district Faridabad, Haryana. Indian J Community Fam Med. 2019;5:51-5.
19. Joshi SS, Manzoor I. Assessment of anaemia in pregnancy – prevalence, typing and awareness. Int J Sci Res. 2018;7(6):66-8.
20. Stephen G, Mgongo M, Hussein Hashim T, Katanga J, Stray-Pedersen B, Msuya SE. Anaemia in pregnancy: prevalence, risk factors, and adverse perinatal outcomes in Northern Tanzania. Anemia. 2018 May 2;2018:1846280. doi: 10.1155/2018/1846280, PMID 29854446
21. Rao SP, Srikanth S. Prevalence of anemia in the first trimester of pregnancy in rural population of Krishna district in Andhra Pradesh. Sch J App Med Sci. 2013;1(5):570-574.
22. Toteja GS, Singh P, Dhillon BS, Saxena BN, Ahmed FU, Singh RP, et al. Prevalence of anemia among pregnant women and adolescent girls in 16 districts of India. Food Nutr Bull. 2006;27:311–5.