

## INVESTIGATION OF CULTURAL FACTORS OF PREGNANT WOMEN HAVING ANAEMIA VISITING SELECTED HEALTH CARE FACILITIES AT, UP

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### ABSTRACT

Anaemia is a significant "risk factor" during pregnancy and is linked to an increased risk of poor infant weight and maternal mortality. The present study aimed to identify the cultural factors that contribute to anemia in pregnant women. In this study cultural factors refer to cooking practices, food habits, personal habits, health practices, and health problems over six months before pregnancy.

**Material and method:** The researcher used an exploratory strategy in the current study. In order to comprehend the current issue better. In this study, 700 pregnant women, aged between 14-48 years, and visiting selected healthcare facilities in UP, for prenatal checkup were selected.

**Data collection:** The present study was conducted in selected healthcare facilities in UP.

**Results:** Majority of the anaemic pregnant women participants of the present study that is 668 (95.4%) washed vegetables before cutting, more than half of the anaemic pregnant women 416 (59.4%) drained the water after boiling the vegetables, more than half 362 (51.7%) had over-cooking practices, and only 101 (14.4%) used germinated pulses, majority of the anaemic pregnant women 502 (71.71%) had meals three times a day, 331 (47.28%) of them had habit of intake of fruits, 286 (40.85%) had gender (male) preferences in their families (best and more quantities of food is distributed to the males), and 239 (34.14%) avoided specific food during pregnancy, only 158 (22.57%) developed craving for unusual food, and 235 (33.57%) had intake of green leafy vegetables. majority of anaemic pregnant women participants of the present study 608 (86.9) had the habit of drinking tea, 442 (63.1%) drank coffee, and husbands of the 452 (64.6%) anaemic pregnant women were smokers. None of the anaemic pregnant women had smoking or drinking habits during pregnancy. Only 166 (23.7%) had regular antenatal check-up, 154 (22%) were taking multivitamins, 125 (17.9%) were taking de-worming treatment, 83 (11.9%) were taking iron tablets with vitamin C, 91 (13%) were taking iron tablets, and 67 (9.6%) used contraception methods, majority 454 (64.86%) of the anaemic pregnant women had irregular menstruation, 220 (31.4%) had menstruation for more than 7 days, 185 (26.4%) had blood clots in menstruation, 102 (14.6%) had a history of abortion, 92 (13.1%) underwent D&C, 300 (42.9%) had worm infestation, 137 (19.6%) had blood in stool, 105 (15%) had excessive menstrual flow, 74 (10.6%) underwent surgery, and none of the pregnant women had a history of malaria six months before pregnancy. **Conclusion:** the present study concluded that the cultural factor such as a lack of knowledge, religion and cultural prohibitions, poor food practices, and high parasite infection rates are important, poor antenatal care, high intake of coffee/tea, smoking habits of the husbands of the pregnant woman, and not using iron during pregnancy increased the chances of anemia during pregnancy.

**Keywords:** Cultural factor, Anaemia, Pregnant women, Health

## Introduction

Anaemia may have a broad range of solitary or, more often, coexisting causes. In 50% of instances of anemia, a lack of iron is assumed to be to blame (Roy, 2023). During pregnancy, there is a large rise in both the anemia caused by iron deficiency and the requirement for iron (Tyler, 2023). In India, the predominant cereal-based and phytate-rich diet may be a potential cause of pregnancy anaemia (Santhakumar et al., 2023).

A significant amount of total iron that was not accessible was found in in vitro studies to be present in a diet that consisted mostly of cereals with a little number of extra legumes and green vegetables (Kawaya, 2023). Cooking foods with cast iron implements increases their iron availability. The prevalence of iron deficiency anaemia in India ranges from 38% to 72%, depending on age and gender. Between 25 and 50% of women become anemic by the time they reach menarche (Santhakumar et al., 2023).

Cultural factors refer to culinary practices, food habits, personal habits, health practices, and health concerns over the preceding six months. In this study, cooking practices include excellent practices such as washing vegetables before cutting, cutting vegetables into large portions, germinating pulses, covering the lid of the cooking vessel while cooking, and using iron vessels, as well as poor practices such as draining the water after simmering and overcooking. Poor practices in this study include food taboos, gender (masculine) preferences for excellent food in the family, and a desire for uncommon foods. Drinking tea, drinking coffee, smoking, consuming alcohol, and smoking spouses are the personal behaviours depends anaemia in pregnancy (Hong and Buntup, 2023).

Sociocultural interpretations of hazards to pregnancy influence the healthcare services utilized by pregnant women. Resolving what are seen as common complications of pregnancy should be the main focus of initiatives to promote continuing use of newborn care, especially skilled labor aid at deliveries. Additionally, the popularity of hospital-based treatments presents considerable chances for conventional and different medical practitioners to collaborate with the aim of boosting the use of skilled obstetric treatment. The recommended level of prior to conception include psychosocial support to assist women in overcoming pregnancy-related anxiety (Hong and Buntup, 2023).

## Material and method

### Study design

Depending on the goal of the study, the suitable research methodology must be chosen. To identify the psychological and cultural aspects related to iron in pregnant women, the researcher used an exploratory strategy in the current study. In order to comprehend the current issue better, a method called exploration is used. In this phase, 700 anaemic pregnant women, aged 14-48 years, and visiting selected healthcare facilities in UP, for prenatal check up were selected.

### Data Collection

Setting refers to the actual location and circumstances of the data collecting. Based on factors including closeness to one another, practicality of performing the research, and sample availability, healthcare institutions were chosen for the study. The present study was conducted in selected

healthcare facilities. In UP, there are eight healthcare facilities. Three were purposively selected for this study. They are Central Hospital-UP, University clinic-UP, and Local Clinic-UP.

## **Result and Discussion**

### **Cultural Factors and Anaemia**

Cultural factors studied include cooking practices, food habits, personal habits, health practices, and health problems 6 months before pregnancy, among the pregnant anaemic Libyan women of the present study.

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### **Distribution of anaemic pregnant women based on their cooking practices**

Table 1 shows that majority of the anaemic pregnant women participants of the present study that is 668 (95.4%) washed vegetables before cutting, more than half of the anaemic pregnant women 416 (59.4%) drained the water after boiling the vegetables, more than half 362 (51.7%) had over-cooking practices, and only 101 (14.4%) used germinated pulses.

Table 1: Distribution of anaemic pregnant women based on their cooking practices (n=700)

<b>Sl. No</b>	<b>Cooking variables</b>	<b>n (%)</b>
<b>1.</b>	<b>Wash vegetable before cutting</b>	<b>668 (95.4)</b>
<b>2.</b>	<b>Cutting vegetable into big pieces</b>	<b>212 (30.3)</b>
<b>3.</b>	<b>Germinate pulses</b>	<b>101 (14.4)</b>
<b>4.</b>	<b>Drain water after boiling</b>	<b>416 (59.4)</b>
<b>5.</b>	<b>Cover the vessel lid</b>	<b>336 (48.0)</b>
<b>6.</b>	<b>Use iron vessels</b>	<b>154 (22.0)</b>
<b>7.</b>	<b>Over cooking</b>	<b>362 (51.7)</b>

The total number of participants n=700. The data was collected using a closed ended questionnaire. The data represented is frequency with percentage in parenthesis.

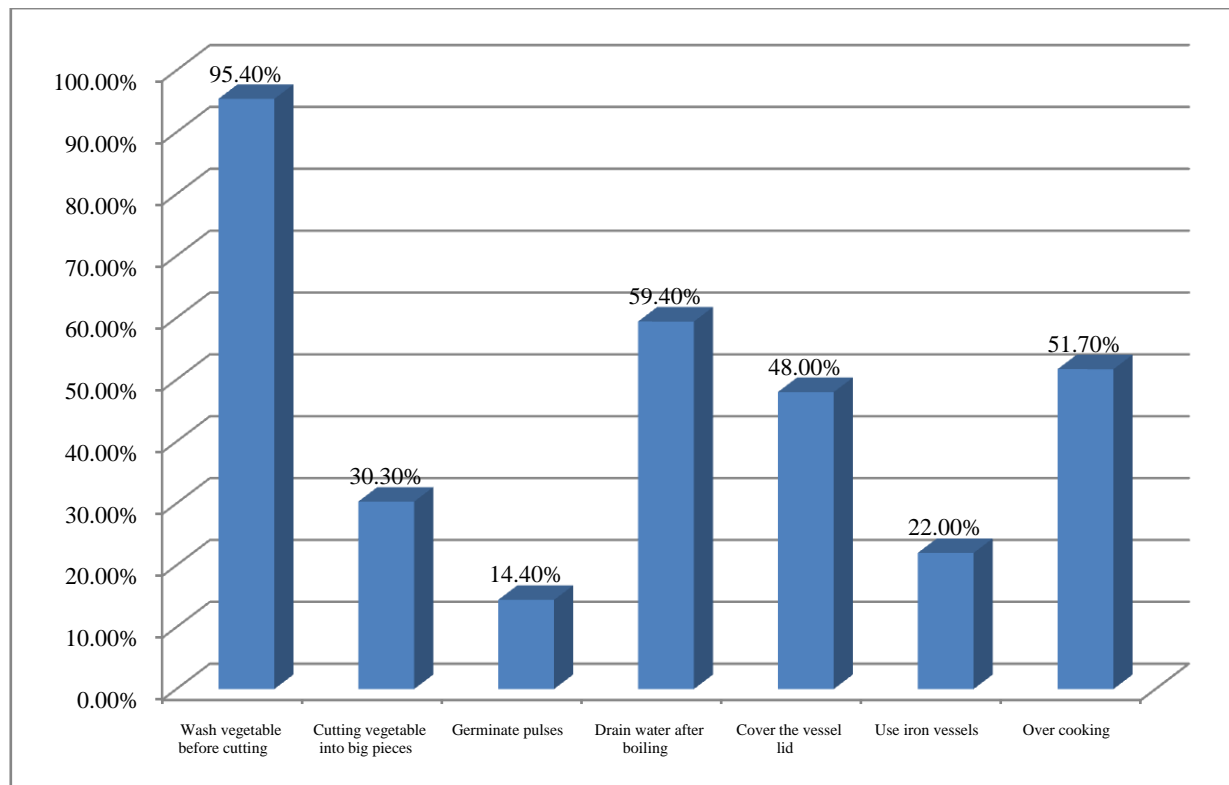


Figure 1: Distribution of anaemic pregnant women based on their cooking practices (n=700)  
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**Item wise comparison of good and poor cooking practices based on the severity of ANEMIA among pregnant women**

Table 2 shows the item wise comparison of severity of Anemia with the good and poor cooking practices of anemic pregnant women of the mild anaemic and moderate + severely anaemic groups. It was observed that there is a significant difference between the severity of ANEMIA and items of good cooking practices such as wash vegetables before cutting, germinate vessels (p<0.001). It indicates that severity of ANEMIA depends on some of the cooking practice.

Table 2: Item wise comparison of good and poor cooking practices with the severity of ANEMIA among anaemic pregnant women (n=700)

Sl. No	Cooking practice	Anaemic group n (%)		p value
		Mild (n=439)	Moderate + severe (n=261)	
	<b>Good cooking practices</b>			
1	Wash vegetable before cutting	429 (99.7)	239 (91.6)	<0.001***
2	Cutting vegetables into big pieces	138 (31.4)	74 (28.3)	<0.3882
3	Germinate pulses	74 (16.9)	27 (10.3)	<0.001***
4	Cover the vessel's lid	245 (55.8)	91 (34.9)	<0.001***
5	Use iron vessels	113 (25.7)	41 (15.7)	<0.002**
	<b>Poor cooking practices</b>			
1	Drain water after boiling	268 (61.0)	148 (56.7)	<0.2519
2	Over cooking	276 (62.9)	86 (35.9)	<0.001***

The total number of participants n=700. The table represents the good and poor cooking practices of anaemic pregnant women based on their severity. The data is represented as frequency with percentage in parenthesis. The items were compared using independent t test. The severe anaemic data is very less, so moderate ANEMIA and severe ANEMIA is combined together. “Level of significance: \*p<0.05 significant, \*\*p<0.01 highly significant, \*\*\* p<0.001 very highly significant.”

**Distribution of anaemic pregnant women based on food habits**

Table 3 shows that majority of the anaemic pregnant women 502 (71.71%) had meals three times a day, 331 (47.28%) of them had habit of intake of fruits, 286 (40.85%) had gender (male) preferences in their families (best and more quantities of food is distributed to the males), and 239 (34.14%) avoided specific food during pregnancy, only 158 (22.57%) developed craving for unusual food, and 235 (33.57%) had intake of green leafy vegetables. The findings are presented in Figure 3.

Table 3: Distribution of anaemic pregnant women based on their food habits (n=700)

Sl. No	Food habits	n	%
1.	Take meals three times a day	502	71.7
2.	Avoid specific food during pregnancy	239	34.1
3.	Gender (male) preference*	286	40.9
4.	Intake of fruits	331	47.3
5.	Intake of green-leaf vegetables	235	33.6
6.	Crave for unusual food	158	22.6

The total number of participants n=700. The data was collected by closed ended questionnaire. The data is represented as frequency with percentage in parenthesis. \*Gender (male) preference - It means best and more quantities of food is distributed to the males in their families.

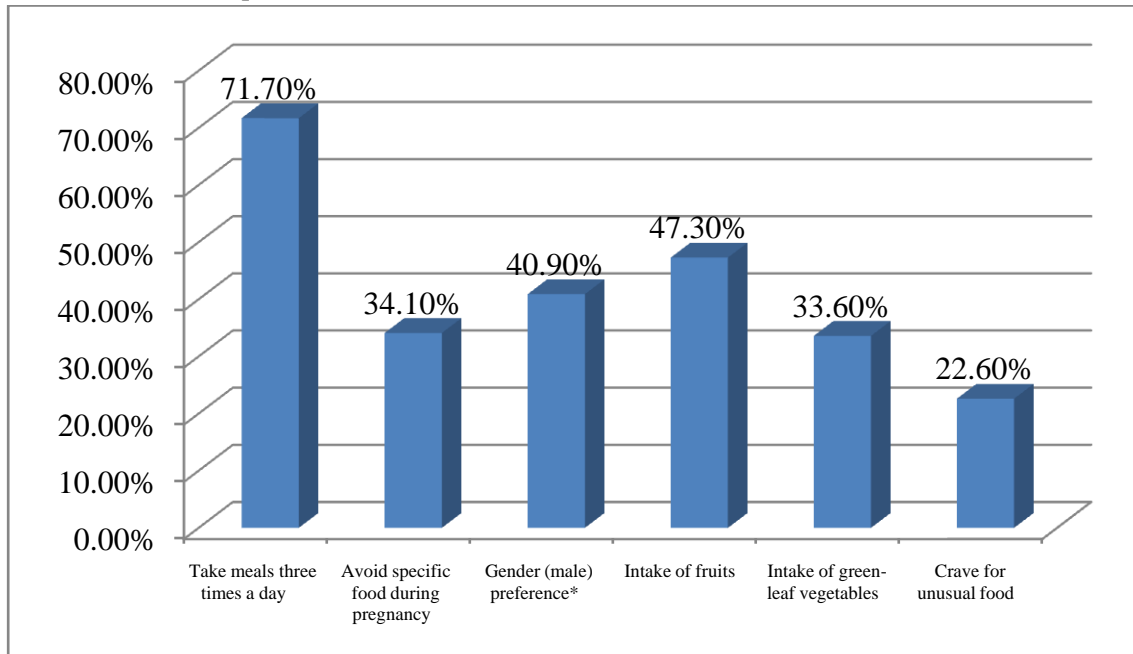


Figure 2: Distribution of anaemic pregnant women based on their food habits

The total number of participants n=700. The data was collected by closed ended questionnaire. The data is represented as frequency with percentage in parenthesis. \*Gender (male) preference - It means best and more quantities of food is distributed to the males in their families.

### **Item wise comparison of good and poor food habits with severity of ANEMIA among the anaemic pregnant women**

Table 4, shows the item wise comparison of good and poor food habits, of the anemic pregnant women participants of the present study, of the mild anemic and moderate + severely anemic groups. Item wise it was observed that, there is there is a significant difference between the severity of Anemia and one item of good food habits (intake of green leaf vegetable) ( $p < 0.001$ ). An item in poor food habits (male gender preferences) was also significantly different between anemic pregnant women of the mild anemic and moderate + severely anemic groups ( $p < 0.001$ ). It indicates that severity of Anemia depends on some items of food habits.

Table 4: Item wise comparison of good and poor food habits with severity of ANEMIA among the anemic pregnant women (n=700)

Sl. No	Food habits	Anemic group n (%)		p value
		Mild (n=439)	Moderate + severe (n=261)	
<b>Good food habits</b>				
1	Take meals three times a day	320 (72.9)	182 (67.7)	<0.3637
2	Intake of fruits	199 (45.3)	132 (50.6)	<0.1747
3	Intake of green vegetables	169 (38.5)	66 (25.3)	<0.001***
4	Avoid specific food during Pregnancy	162 (36.9)	77 (29.5)	<0.046*
5	Gender preference	143 (32.6)	143 (54.8)	-
<b>Poor food habits</b>				
1	Crave for unusual food	106 (24.1)	52 (19.9)	<0.198

The total number of participants n=700. The table represents the good and poor food habits of anaemic pregnant women based on their severity. The data is represented as frequency with percentage in parenthesis. The items were compared using independent t test. # The severe anaemic data is very less, so moderate ANEMIA and severe ANEMIA is combined together. Level of significance: \*p<0.05 was considered significant, \*\*\* p<0.001 highly significant.

#### Distribution of anaemic pregnant women based on their personal habits

Table 5 shows that, majority of anaemic pregnant women participants of the present study 608 (86.9) had the habit of drinking tea, 442 (63.1%) drank coffee, and husbands of the 452 (64.6%) anaemic pregnant women were smokers. None of the anaemic pregnant women had smoking or drinking habits during pregnancy. The findings are presented in Figure 4.

Table 5: Distribution of anaemic pregnant women based on their personal habits (n=700)

Sl. No	Personal habits	n	%
1.	Drinking tea	608	86.9
2.	Drinking coffee	442	63.1
3.	Smoking	-	-
4.	Drinking alcohol	-	-
5.	Husbands were smokers	452	64.6

The total number of participants n=700. The data was collected using closed ended questionnaire. The data is represented as frequency with percentage in parenthesis.

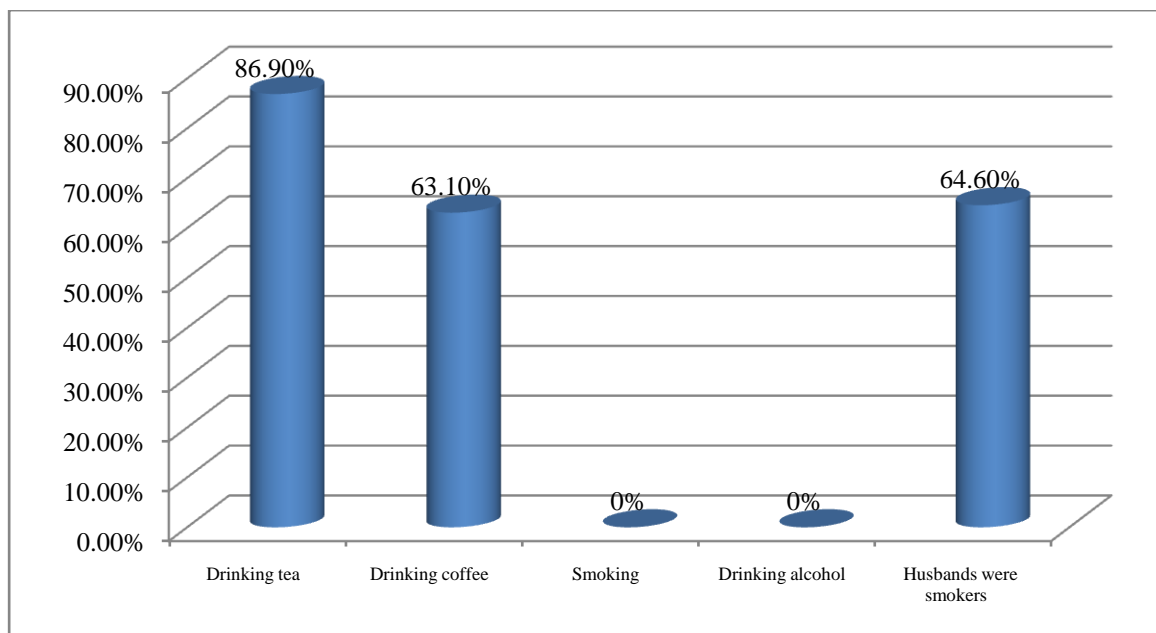


Figure 3: Distribution of anaemic pregnant women based on their personal habits (n=700)  
The total number of participants n=700. The data is represented as frequency with percentage in parenthesis.

**Distribution of anaemic pregnant women based on their health practices**

Table 6, shows that during their pregnancy ANEMIA pregnant women only 166 (23.7%) had regular antenatal check-up, 154 (22%) were taking multivitamins, 125 (17.9%) were taking de-worming treatment, 83 (11.9%) were taking iron tablets with vitamin C, 91 (13%) were taking iron tablets, and 67 (9.6%) used contraception methods. The findings revealed that the pregnant anaemic women need to improve their health practices during pregnancy. The findings are presented in Figure 5.

Table 6: Distribution of anaemic pregnant women based on their health practices (n=700)

Sl. No	Health practices	n	%
1.	Regular antenatal check-up	166	23.7
2	Take multivitamins	154	22.0
3.	De-wormin treatment	125	17.9
4	Take iron tablets	91	13.0
5.	Take iron tablet with Vitamin C	83	11.9
6	Use of contraception	67	9.6



The total number of participants n=700. The data was collected using closed ended questionnaire. The data represented is frequency with percentage in parenthesis.

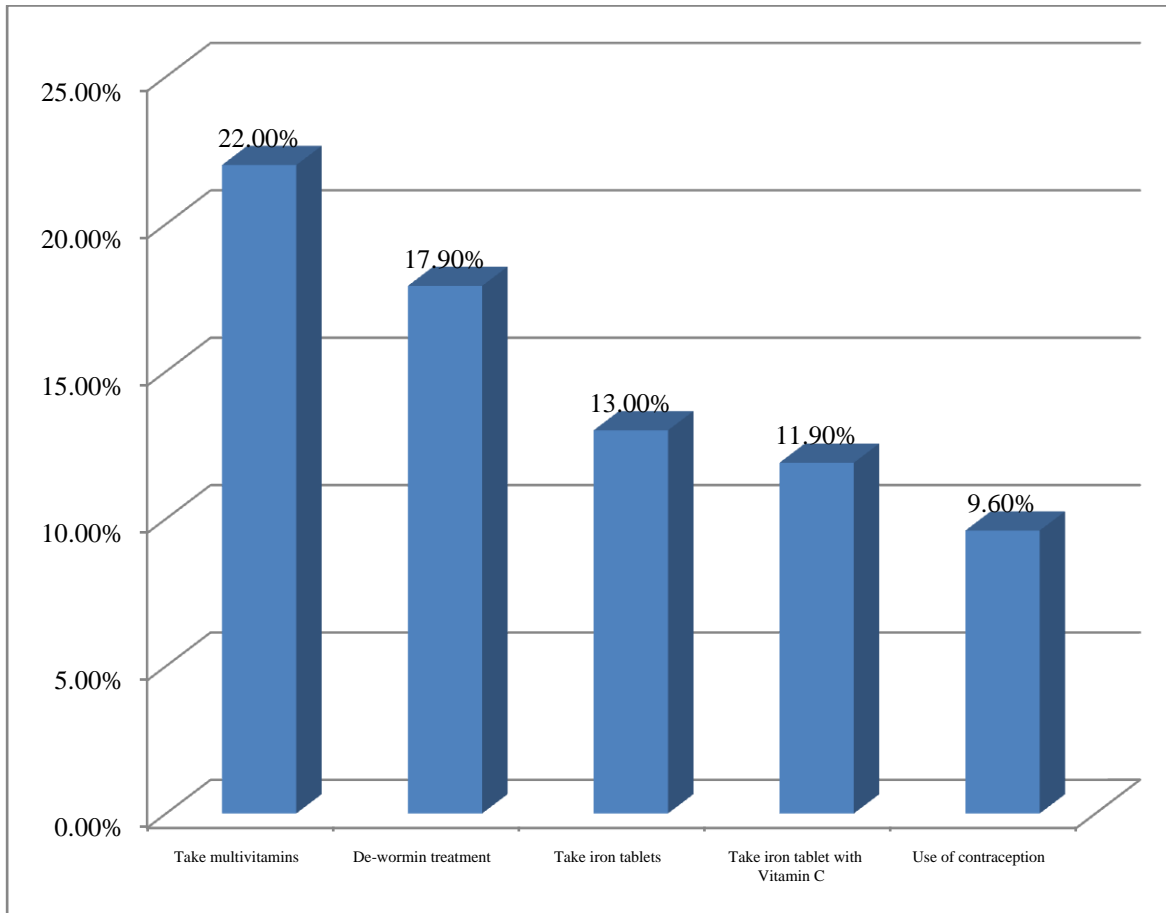


Figure 4: Distribution of anaemic pregnant women based on their health practices (n=700)  
The total number of participants n=700. The data represented is frequency with percentage in parenthesis.

**Distribution of anaemic pregnant women based on the health problems they had over six months before pregnancy**

Table 7 shows that, majority 454 (64.86%) of the anaemic pregnant women had irregular menstruation, 220 (31.4%) had menstruation for more than 7 days, 185 (26.4%) had blood clots in menstruation, 102 (14.6%) had a history of abortion, 92 (13.1%) underwent D&C, 300 (42.9%) had worm infestation, 137 (19.6%) had blood in stool, 105 (15%) had excessive menstrual flow, 74 (10.6%) underwent surgery, and none of the pregnant women had a history of malaria six months before pregnancy. The findings are presented in Figure 6.

Table 7: Distribution of anaemic pregnant women based on the health problems they had over six months before pregnancy (n=700)

Sl. No.	Variables	n	(%)
1.	<b>Irregular menstruation</b>	<b>454</b>	<b>64.9</b>
2.	<b>Menstruation more than 7 days</b>	<b>220</b>	<b>31.4</b>
3.	<b>Passing blood clot</b>	<b>185</b>	<b>26.4</b>
4.	<b>History of abortion</b>	<b>102</b>	<b>14.6</b>
5.	<b>Underwent D and C</b>	<b>92</b>	<b>13.1</b>
6.	<b>Worm infestation</b>	<b>300</b>	<b>42.9</b>
7.	<b>History of Malaria</b>		
8.	<b>Blood in stool</b>	<b>137</b>	<b>19.6</b>
9.	<b>Excessive menstrual flow</b>	<b>105</b>	<b>15.0</b>
10.	<b>Underwent surgery</b>	<b>74</b>	<b>10.6</b>

The total number of participants n=700. The data was collected by closed ended questionnaire. The data represented is frequency with percentage in parenthesis. #D and C - dilatation and curettage.

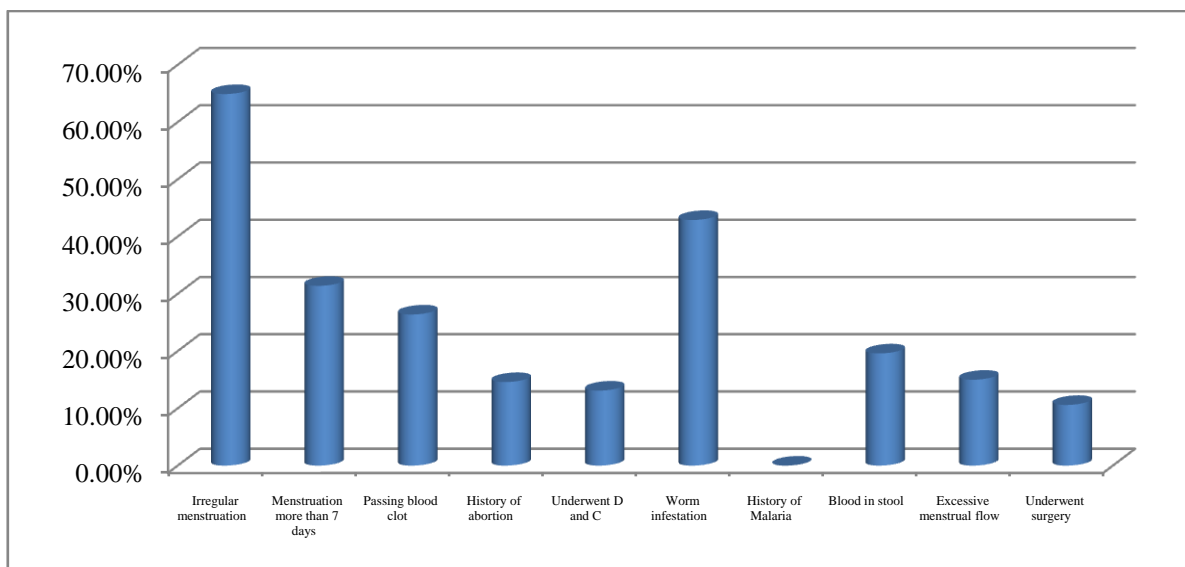


Figure 5: Distribution of anemic pregnant women based on health problems over 6 months before pregnancy

The total number of participants n=700. The data represented is frequency with percentage in parenthesis. D and C - dilatation and curettage

**Health problems before pregnancy as risk factors for anemia during pregnancy**

S.No	Health problem before pregnancy	Severe/moderate (n=261)	Mild (n=439)	OR	95% CI	'Z' statistic	p value
1	Menstrual cycle						
	Irregular	143	103	3.9	0.2-0.4	8.4	<0.000***
	Regular	118	336				
2	Duration of menstrual cycle						
	>7 days	138	82	4.9	3.5-6.9	9.1	<0.0001***
	<7 days	123	357				
3	Passing blood clots						
	Yes	132	53	7.5	5.1-10.9	10.5	<0.0001***
	No	129	386				
4	History of abortion						
	Yes	61	41	2.9	1.9-4.6	4.9	<0.0001***
	No	200	398				
5	Worm infestation						
	Yes	184	116	6.7	4.7-9.4	10.9	<0.0001***
	No	77	323				
6	Blood in stool						
	Yes	76	61	2.6	1.7-3.7	4.8	<0.0001***
	No	185	378				
7	Excessive menstrual flow						
	Yes	67	38	3.6	2.4-5.6	5.9	<0.0001***
	No	194	401				

**Conclusion**

Characteristics such as ignorance, impoverishment, a lack of knowledge, religion and cultural prohibitions, poor food practices, and high parasite infection rates are important, poor antenatal care, high intake of coffee/tea, smoking habits of the husbands of the pregnant woman, and not using iron during pregnancy increased the chances of anemia during pregnancy.



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