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ANALYSIS OF ANAEMIA IN PREGNANCY IN A DISTRICT IN JHARKHAND

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Abstract

Background: Maternal anaemia has been defined by the low level of haemoglobin in the blood while pregnancy period. Gestational anaemia has been defined as one of the most prominent health problems faced by pregnant women worldwide. Anaemia in pregnant women might be relative or absolute.

Aim: To identify the various factors associated with anaemia among the pregnant women in Jharkhand

Methods: A prospective study was carried out on 10,000 pregnant women between September 2019 and February 2020 in Jharkhand. Those women were taken into consideration who had haemoglobin less than 11 mg/dl. The non-pregnant women were excluded from the list. Multivariate analysis in terms of Binary logistic regression was done to check the associations of selected socio-economic and demographic covariates on the prevalence of anaemia in Jharkhand.

Results: Majority of the women belonged to 26-30 years of the age group, which accounted for 38% of all the study population. The majority of the patients were from the rural background amounting to 52%. The majority of the patients belonged to the Hindu religion with 60% prevalence rate. The majority of the patients belonged to the lower middle class, with a prevalence rate of 38%. The majority of the women had no education at all. The percentage of such women was 40% of the total study population. The majority of the spouse of patients had secondary education with an incidence of 40%. The majority of the patients had moderate anaemia with 60% of incidence rate. The majority of the patients consumed fruits, occasionally with a prevalence of 50%. The majority of the women consumed non-veg weekly, with a prevalence of 50%. The majority of the patient consumed green leafy vegetables weekly with an incidence of 48%.

Conclusion: The majority of pregnant women were not educated enough and consumed less amount of vegetables and fruits than non-veg. Furthermore, it was also found from the above study that the majority of the pregnant women ha moderate anaemia and belonged to the rural background.

Keywords: Anaemia, Gestational Anaemia, Haemoglobin, Pregnant Women

Introduction

Maternal anaemia has been defined by the low level of haemoglobin in the blood while pregnancy period[i]. Gestational anaemia has been defined as one of the most prominent health problems faced by pregnant women worldwide. Anaemia in pregnant women might be relative or absolute[ii]. It has been identified that maternal anaemia is characterized when the plasma volume is relatively higher than the red cell masses in the majority of the pregnancies. This type of anaemia is identified as physiologic anaemia[iii].

It has been identified that nearly 50% of pregnant women in developing countries and approximately 20% of pregnant women in developed countries suffer from anaemia[iv]. The highest prevalence of the disease has been administered in Asia, i.e. nearly 60%, followed by Africa, i.e., 52%. It has been identified that 80% of anaemic pregnant women are found in the South Asia region[v]. It has also been identified that nearly 1.2 lakh of maternal deaths have been attributed to anaemia[vi].

There are various factors such as haemoglobin, reticulocytes, plasma ferritin, and unsaturated iron-binding capacity are responsible for the physiological changes during pregnancy and resulting in anaemia[vii]. The other etiologies of anaemia in pregnant women include malaria, hookworm, infection, micronutrient deficiencies like folic acid, vitamin A, vitamin B12 and other haemoglobin apathies such as Helicobacter pylori. According to the WHO, there are various types of anaemia as follows[viii]:

- Mild Hb%-10-10.9gm%
- Moderate Hb%-7-10gm%
- Severe Hb% 4-7gm%
- Very severe: less than 4gm Hb%

Anaemia in pregnancy results in postpartum haemorrhage, premature labour, puerperal sepsis, the thromboembolic phenomenon in the mother, IUGR and low birth weight in the neonates and similar other complications. Various addictions like smoking, chewing tobacco and drinking have been identified in close association of anaemia among women, but its verified data is very less.

Aim

To identify the various factors associated with anaemia among the pregnant women in Jharkhand

Materials and methods

A prospective study was carried out on 10,000 pregnant women between September 2019 and February 2020 in Jharkhand in Jharkhand. Those women were taken into consideration who had haemoglobin less than 11 mg/dl. The non-pregnant women were excluded from the list. Multivariate analysis in terms of Binary logistic regression was done to check the associations of selected socio-economic and demographic covariates on the prevalence of anaemia in Jharkhand.

Results

The following are the results obtained from the study:

Table 1:

Age group	Number of Patients	Percentage
15-20	2000	20%
21-25	2800	38%
26-30	3800	38%
31 and above	1700	17%

The above table shows that majority of the women belonged to 26-30 years of the age group, which accounted for 38% of all the study population.

Table 2:

Residence	Number of Patients	Percentage
Rural	5200	52%
Urban	4800	48%

The above table shows that the majority of the patients were from the rural background amounting to 52%.

Table 3:

Religion	Number of Patients	Percentage
Hindu	6000	60%
Muslim	3000	30%
Others	1000	10%

The above table shows that the majority of the patients belonged to the Hindu religion, with a 60% prevalence rate.

Table 4:

Socio-economic status	Number of Patients	Percentage
Lower middle class	3800	38%
Middle class	2800	28%
Upper middle class	1800	18%
Upper class	1600	16%

From the above table, it was evident that the majority of the patients belonged to the lower middle class, with a prevalence rate of 38%.

Table 5:

Educational status	Number of Patients	Percentage
No-education	4000	40%
Primary	3000	30%
Secondary	2000	20%
Higher	1000	10%

The above table depicts that majority of the women had no education at all. The percentage of such women was 40% of the total study population.

Table 6:

Spouse Educational status	Number of Patients	Percentage
No-education	2000	20%
Primary	3000	30%
Secondary	4000	40%
Higher	1000	10%

It was identified from the above table that the majority of the spouse of patients had secondary education with an incidence of 40%.

Table 7:

Anaemia	Number of Patients	Percentage
Mild	3000	30%
Moderate	6000	60%
Severe	1000	10%

The above table depicts that majority of the patients had moderate anaemia with 60% of incidence rate.

Table 8:

Consume fruits	Number of Patients	Percentage
Never	1000	10%
Daily	500	5%
Weekly	3500	35%
Occasionally	5000	50%

The above table identified that the majority of the patients consumed fruits, occasionally with a prevalence of 50%.

Table 9:

Consume non-veg	Number of Patients	Percentage
Never	1500	15%
Weekly	5000	50%
Occasionally	3500	35%

Majority of the women, as shown in the above table, consumed non-veg weekly with a prevalence of 50%.

Table 10:

Consume green leafy vegetable	Number of Patients	Percentage
Daily	4800	48%
Weekly	3200	32%
Occasionally	2000	20%

As per the above table, the majority of the patient consumed green leafy vegetables weekly with an incidence of 48%.

Table 11:

Complications during pregnancy	Number of Patients	Percentage
Low birth weight	4800	48%
LSCS	1000	10%
Abortion	500	5%
Still births	450	4.5%
Obstructed labor	700	7%
Preeclampsia	800	8%
Prolonged labor	1200	12%
Premature delivery	500	5%
Birth asphyxia	50	.5%

The above table shows the results of anaemia deficiency among pregnant women. The majority of them had low birth weight babies with 48% prevalence rate.

Discussion

As per the current study, it was found that the majority of women belonged to 26-30 years of age. On the contrary, as per the study of ***Kumar et al., (2015)***[ix] , the majority of women belonged to 31 years and above. Furthermore, the study found that the majority of women consumed green leafy vegetables on a daily basis which reduced the risk of anaemia. Similar results were found in the study of ***Kuamr et al. (2015).*** The study showed that the majority of the women had moderate anaemia. According to the study by ***Suryanarayana et al. (2017),***[x] the majority of pregnant women had moderate anaemia. The current results were in accordance with this study. As per the study of ***Vemulapalli et al. (2013)***[xi] identified that the moderate degree of anaemia was identified in the majority of the studies. The current study showed that the majority of pregnant women who had anaemia were at a high risk of having Low Birth Weight babies. Similar results were found in the study of ***Sangeetha et al., (2014)***[xii] **,** which identified that majority of the young pregnant women who suffered from anaemia delivered low birth weight babies. On the contrary, the results according to the study of ***Marahatta et al., (2007)***[xiii]***,*** the moderate anaemia was not that prevalent among the anaemic pregnant women.

Conclusion

The above study showed that the majority of the pregnant women in Jharkhand belonged to 26-30 years with a low socio-economic status. The majority of pregnant women were not educated enough and consumed less amount of vegetables and fruits than non-veg. Furthermore, it was also found from the above study that the majority of the pregnant women ha moderate anaemia and belonged to the rural background.

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