



## CORRELATION OF POST-PARTUM ANAEMIA WITH TRADITIONAL POST-PARTUM DIET AND CUSTOMS.

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**ABSTRACT**

**Purpose:** Even though we are well knowledge with ante-partum anemia, there is very little or no knowledge of post-partum anemia has been identified. The main objective of the current study was to know the effect of traditional diet and customs followed by the women in post-partum period with the post-partum anemic status in antenatal and 6-8 weeks post-partum, in various urban and rural areas of Maharashtra, India. **Method:** Two hundred pregnant women were interviewed using a structured questionnaire at 36 weeks' gestation and then at 2 and 6 weeks postpartum. Blood samples were collected from the participants at 36 weeks' gestation and at 6 weeks postpartum. Chi-square tests assessing the difference between the anemic and non-anemic patients who were following the traditional diet and customs among them. **Results:** Out of 200 females, 154 (77%) females followed traditional diet and customs of which 71 (35.5%) females were found to have anemia after 6 weeks of post-partum, even though they were discharge with normal levels of hemoglobin after delivery. This was found to be statistically significant with value of 5.8457 (p-value - 0.0153) **Summary:** Anemia during the third trimester of pregnancy, heavy bleeding perceived by the mother during delivery, younger maternal age, and inadequate iron supplementation during the postpartum period were known causes associated with postpartum anemia. The knowledge of traditional diets and customs followed by females in post-partum period was of great impact to cause the anemic status of females in 6 weeks post-partum.

**KEYWORDS :** Post-partum Diet & Customs, Anemia, Hemoglobin, Iron Deficiency

**INTRODUCTION**

Anaemia is one of the leading causes of disability and is a major global public health problem specially in developing countries like India (1). Even though the problem of iron deficiency in pregnancy is adequately emphasized, very little attention has been paid to postpartum anaemia.

Coverage of antenatal care has improved in India, especially after implementation of the National Rural Health Mission, which was launched in 2005 to provide accessible, affordable, and quality health care to rural populations, but care during the postpartum period remains unscientific and poor (2).

According to mission ANEMIA MUKT BHARAT we are aiming to decrease anaemia in postpartum lactating females from 58% to 40%.

After delivery, maternal haemoglobin status is expected to improve as the expanded red cell mass of pregnancy contracts and a large proportion of iron returns to body stores (3). However, very few studies are available and they have reported that postpartum iron deficiency and anaemia are more common than expected (4-9). The prevalence of postpartum anaemia in developing countries ranges from 50% to 80% (10). Postpartum anemia is common among low-income women, even in resource-rich countries (11-12).

Maternal anemia affects postpartum emotion and cognition (13), and a low hemoglobin level has been found to be associated with postpartum depression (14). Anemia during the postpartum period can be a contributing factor for low milk supply, delayed wound healing, low immunity, and increased susceptibility to mastitis, ductitis, and urinary tract infection (15-16). Therefore, postpartum anemia occurring when the mother is learning to parent and take care of her baby will have major consequences and warrants greater attention and higher quality care.

The customs and diet which are followed by females from past many years such as diet without salt & spices, fruits and juices, with high sugar diet, hot water for drinking, continuously wearing warm dresses irrespective of season, continuous hot fomentation, belly binding, covering the head, restriction imposed during confined period etc. causes dehydration, hyponatremia, cramps, anaemia, decreased breast milk secretions, delayed wound healing, low immunity, and increased chances infection.

Maternal anaemia affects postpartum emotion and cognition, and a low haemoglobin level has been found to be associated with postpartum depression.

**AIM**

To study the prevalence of post-partum anemia and find the correlation between traditional post-partum diet and customs with post-partum anemia.

**MATERIAL & METHODOLOGY**

The study is prospective observational study done from June 2018 to June 2019, at Dr D.Y. Patil medical college hospital & research institute, Kolhapur in the department of Obstetrics and Gynecology.

In this study we have followed the levels of hemoglobin in patients through ante-partum to post-partum up to 6 weeks, till the period of puerperium.

In this study we have observed 200 patients of any age group who underwent delivery in form of either normal labor or C-section in Dr D.Y. Patil medical college hospital & research institute, Kolhapur in the department of Obstetrics and Gynecology and were having normal hemoglobin levels on discharge, were included in the study.

Patients with pre-existing haemoglobinopathies, chronic anemia, cardiac or renal disorders and those who have been treated post-partum for anemia by blood transfusion, were excluded from the study.

**Methodology**

Pre and Post-operative evaluation was done for the patients undergoing delivery in form of complete CBC profile through venous blood sampling. History was taken regarding any systemic chronic illness, major bleeding, malaria, tobacco, smoking, alcohol consumption and recent blood / blood product transfusion. After obtaining a written informed consent, the patients were followed up with a questionnaires asking demographic question like, age at marriage, age at first pregnancy. Number of pregnancy, time interval between pregnancy, Iron preparation taken during pregnancy, intake of specific iron containing food, iron absorption enhancing or inhibiting foods, how many meals taken per day, reasons for eating less than 3 meals per day and whether the participant had symptoms of anemia like, headache, dizziness, tired or fatigue attitude, loss of concentration and memory, lactational failure or post-partum depression.

One milliliter of blood was collected by venipuncture into an ethylenediamine tetraacetic acid-coated bottle for estimation of hemoglobin. The same women were visited again within 2 weeks of delivery, and information regarding details of delivery including place, mode, and outcome of delivery, perceived blood loss during and after delivery, and complications at the time of delivery was collected. The

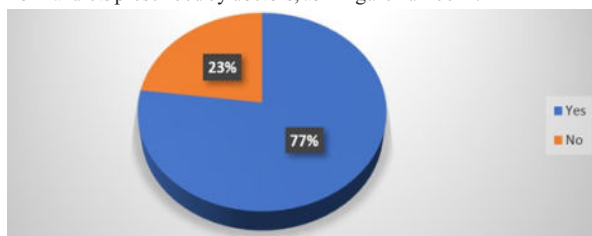
final visit was at 6–8 weeks after delivery during which details of iron intake, visits by health workers, and any morbidity during the postpartum period were collected. A second blood sample was collected during the last visit for estimation of hemoglobin. All samples were processed within 2 hours of collection at the base hospital laboratory. Hemoglobin was estimated using an automated device using a non-cyanide method for analysis of hemoglobin. A modified Kuppuswamy scale for household income, education, and occupation status was used to assess socioeconomic status (17).

Anemia during pregnancy was defined as hemoglobin  $< 11$  g/dL (World Health Organization cut-off for defining anemia during pregnancy) and less than 12 g/dL (World Health Organization cut-off for defining anemia in nonpregnant women) during the 6–8 weeks postpartum (18).

**RESULT:**

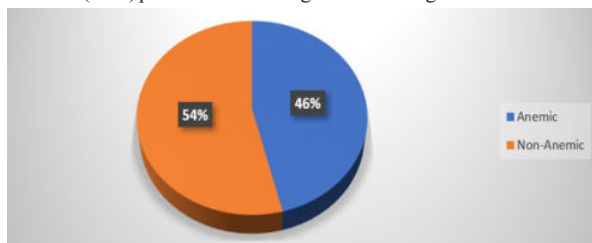
In a given study total sample of 200 patients were collected pre and post-partum. The characteristics (or variables) which are collected in this study, are represented as in Numbers (N), Percentage (%) and Means and Standard Deviations (SD). Here we have compared the number of patients which had developed anemia in post-partum period who followed the tradition diets and customs samples using Pearson's Chi-square test.

In our study out of 200 patients, 154 (77%) patients followed old tradition post-partum diet and customs and rest 46 (23%) followed normal diets prescribed by doctors, as in figure number 1.



**Figure 1: Number of patients who followed tradition diet and customs and who did not followed traditional diet and customs.**

Out of 154 patients following old tradition post-partum diet and customs, 71 (46%) were found anemic on follow-up after 6 weeks while 83 (54%) patients were having normal hemoglobin.



**Figure 2: Number of patients who developed anemia and who are Non-anemic after followed tradition diet and customs.**

Out of 46 pts. who did not follow traditional post-partum diet and customs, 12 (26%) were found anemic on follow-up after 6 weeks while 34 (74%) patients were having normal hemoglobin.

**Table 1: Comparison between patients having anemia or not between those who followed traditional diets and customs.**

	Anemic patients	Non-Anemic Patients	
Patients following traditional diet and custom	71 (35.5 %)	83 (41.5%)	154
Patients not following traditional diet and custom	12 (6 %)	34 (17 %)	46
	83	117	200

From above table-1, based on Chi-square test here we found significant distribution of difference of patients having anemia among those who were following traditional diet and custom after 6-8 weeks postpartum.

The chi-square statistics is 5.8457. The p-value is 0.0153. This result is significant at  $p < 0.05$ .

The chi-square statistics with Yates correction is 5.0503. The p-value is

0.0249. This result is significant at  $p < 0.05$

**DISCUSSION :**

The change in hemoglobin values during the postpartum period in a setting of optimal antenatal care would be of great use because it can provide a baseline against which comparisons can be made for the rest of the country. This study highlights postpartum anemia as a significant public health problem. It also identified several factors associated with postpartum anemia, including antepartum anemia and blood loss during delivery, which have policy implications.

In our study, anemia rates were higher among those following old traditional diet and customs stated above, instead of high protein and nutritious diet. Out of 200, 198 women who had normal hemoglobin on discharge, 83 (42 %) had postpartum anaemia. Out of these 83 patients, 71 (35.5 %) patients were following old traditional diet and customs.

Antepartum anemia has also been found to be an important risk factor for postpartum anemia in several other studies (19-20). The iron deficiency present during the antenatal period continues through the postpartum period also. The Centers for Disease Control and Prevention recommend screening for postpartum anemia in all women who have had anemia during the antenatal period (21). All these facts clearly point to the importance of prevention and control of anemia during pregnancy.

Maternal malnutrition, young maternal age, multiple births, and irregular in taking iron-folic acid supplements as prescribed by doctor (22-23), conservative and orthodox beliefs and customs for postpartum females, diet restrictions according to folk custom, etc. response to postpartum anemia.

To summarize, anemia during the postpartum period is an important public health issue, and the rise in hemoglobin after delivery was not adequate in our study population. Anemia during the third trimester of pregnancy, heavy bleeding perceived by the mother during delivery, younger maternal age, and no regular iron supplementation during the postpartum period were identified as significant risk factors associated with anemia at 6 weeks postpartum.

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