PREVALENCE OF ANAEMIA AMONG PREGNANT WOMEN OF LOW INCOME GROUP OF HISAR DISTRICT OF HARYANA

Ritu Panghal and Pinky Boora
Department of Foods & Nutrition, CCS Haryana Agricultural University, Hisar – 125004, India

ABSTRACT

Micronutrients have important influence on the health of pregnant women and growing foetus. Iron deficiency results in anaemia which may increase the risk of maternal mortality, increased foetal growth retardation, prenatal and perinatal mortality and low birth weight. A study was conducted on 5442 pregnant women of Hisar district to assess the prevalence of anaemia. Result indicated that out of total pregnant women (n = 5442) 50.7 per cent in Hisar-I, 51 per cent in Hisar-II, 50.4 per cent in Barwala and 52.4 per cent in Hansi-I block were found to be anaemic. Thus, overall fifty one per cent of the pregnant women were anaemic in four blocks of Hisar district. It was also found that that 77.8 per cent pregnant woman of BPL families were anaemic.

INTRODUCTION

Iron deficiency anaemia continues to be the leading single nutrient deficiency in the world, affecting the lives of approximately 1.3 billion individual in the world (Florentino, 2003). Although the fact that human adults require only about 1mg of absorbable iron per day, but the problem of iron deficiency of anaemia is widespread, especially among women of reproductive age. Anaemia in pregnancy is a worldwide problem but is more prevalent in the developing world (Abel et al., 2000). The prevalence of anaemia in developing countries is three to four times higher than in the industrialized countries. The most affected population groups in developing countries are pregnant women (56%), school age children (53%), non-pregnant women (44%) and preschool children (42%) (WHO, 1997).

Women in their reproductive years are at increased risk of iron deficiency because of the higher iron requirements associated with pregnancy. Iron deficiency anaemia (IDA) is a major threat to safe motherhood. It contributes to increased post partum maternal mortality, increased foetal growth retardation, prenatal and perinatal mortality and low birth weight. In India, anaemia is estimated to contribute to 20 per cent of all maternal deaths, three times greater risk of premature delivery and low birth weight babies and nine times higher risk of perinatal mortality and higher risk of brain damage of infants born to severely anaemic mothers (MOHFW, 1998).

Iron deficency anaemia (IDA) is a major contributory cause of lowered resistance to infection, poor cognitive development, retardation of physical and mental development, fatigue, lowered physical activity, poor mental concentration and productivity. An anaemic infant is at risk of long term, even permanent impairment of mental and motor development. Anaemic infants on reaching school age are estimated to have a loss of 5-10 IQ points. Anaemic children have poorer attention span memory, concentration and concept acquisition leading to poor school performance (MOHFW, 1998).

The main reasons for iron deficiency anaemia are inadequate intake of iron, low bioavailability (1-6%) of dietary iron from plant foods, due to inhibitory factors, low levels of absorption enhancers in the diet, repeated pregnancies, increased needs during growth and development among children and adolescents, parasitic infestations and chronic blood loss (Sharma, 2003).

Thus, it becomes necessary to improve the weight of newborns through improvement of mother’s nutritional status especially iron status. The
major approaches to controlling IDA are: medicinal supplementation with iron and folic acid; food-based approaches i.e. dietary diversification and fortification of foods both complemented by programmes to counter parasitic infestations and nutrition education. While supplementation with iron is considered necessary for groups at high risk as a short term emergency measures, it fails to address the root causes and cannot provide the overall long term benefit of economy and sustainability. Keeping this in mind present study was conducted to assess the prevalence of anaemia in Hisar district of Haryana so that necessary strategies for supplementation can be worked out on the basis of findings.

**METHODOLOGY**

1.1 **Locale of study**: The present study was conducted on pregnant women of Hisar district of Haryana state comprising of ten blocks. Four blocks of Hisar district were selected purposively for the present investigation. One hundred and sixty five villages from four blocks were screened for prevalence of iron deficiency. The list of pregnant women was collected from each Anganwadi centre of the selected villages. Moderately anaemic (Hb 7-10g/dl) pregnant women (1st trimester of pregnancy) of BPL category were selected for present investigation (Fig. 1).

**SAMPLING PROCEDURE**

![Sampling Procedure Diagram]

* = Total Pregnant Women  
** = Pregnant Women belonging to BPL Families  
*** = Pregnant women of BPL families-moderately anaemic and in first trimester of pregnancy
RESULT AND DISCUSSION

Prevalence of anaemia among pregnant women

Four blocks namely Hisar -1, Hisar –II, Barwala and Hansi-1 of Hisar district were selected purposively (Table 1). Total 5452 pregnant women of 165 villages were screened in terms of clinical signs and haemoglobin level by medical officer of PHC/CHC of that area to study the prevalence of anaemia among pregnant women. Result indicated that 26.3, 34.5 and 39.2 per cent pregnant women were in 1st, 2nd and 3rd trimester of pregnancy, respectively. Out of total pregnant women, 50.7 per cent in Hisar-1, 51 per cent in Hisar-II, 50.4 per cent in Barwala and 52.4 per cent in Hansi-1 block were found to be anaemic. Thus, overall fifty one per cent of the pregnant women were anaemic in four blocks of Hisar district. Similarly, 50.58 per cent pregnant women in India and 69.7 per cent married women in Haryana were found to be anaemic in 2006 (NFHS-3 report, 2006). Bentley and Griffiths (2003) also studied the prevalence of anaemia among pregnant women in Andhra Pradesh and reported that 32.4 per cent had mild, 14-19 per cent had moderate and 2.2 per cent had severe anaemia. In contrast higher percentage (96%) of prevalence of anaemia in Delhi was reported by Sharma et al. (2003).

Prevalence of anaemia among pregnant women belonging to Below Poverty Line (BPL) families

Data in Table 2 showed the prevalence of anaemia among pregnant women belonging to Below Poverty Line (BPL). Out of total 5452 pregnant women screened, 1589 pregnant women belonged to Below Poverty Line. It was also found that 29.7 per cent pregnant women were in 1st trimester, 36.3 per cent were in 2nd trimester and 33.9 per cent were in 3rd trimester of pregnancy. It was surprising that 77.8 per cent pregnant women of BPL families were anaemic. Similarly slightly higher percentage (81.82%) of anaemia in low socio economic status pregnant women was reported by Mathuravalli et al. (2001).

CONCLUSION

Prevalence of anaemia was higher in BPL families which indicated that income and education have important role on the health status of families. Therefore it is suggested that education campaign related to effect of anaemia on health status of new born may be conducted so that the health status of pregnant women could be improved.

**Table 1 : Prevalence of anaemia among pregnant women**

<table>
<thead>
<tr>
<th>Block</th>
<th>Total no. of villages screened</th>
<th>Total no. of pregnant women screened</th>
<th>Trimester of pregnancy</th>
<th>Hb status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1st</td>
<td>2nd</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hb&lt;12g/100ml</td>
<td>Hb&gt;12g/100ml</td>
</tr>
<tr>
<td>Hisar-Block-I</td>
<td>25</td>
<td>712</td>
<td>148 (20.8)</td>
<td>271 (38.1)</td>
</tr>
<tr>
<td>Hisar Block-II</td>
<td>40</td>
<td>1329</td>
<td>389 (29.3)</td>
<td>454 (34.2)</td>
</tr>
<tr>
<td>Barwala Block</td>
<td>40</td>
<td>1477</td>
<td>371 (25.1)</td>
<td>460 (31.1)</td>
</tr>
<tr>
<td>Hansi Block-I</td>
<td>60</td>
<td>1934</td>
<td>577 (29.9)</td>
<td>668 (34.5)</td>
</tr>
</tbody>
</table>

Figures in parentheses indicate percentage of respondents

**Table 2 : Prevalence of anaemia among pregnant women belonging to Below Poverty Line (BPL) families**

<table>
<thead>
<tr>
<th>Total no. of pregnant women screened</th>
<th>BPL</th>
<th>Trimester of pregnancy</th>
<th>Hb status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5452</td>
<td>1589(29.14)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>472 (29.7)</td>
<td>578 (36.3)</td>
</tr>
</tbody>
</table>

Figures in parentheses indicate percentage of respondents
REFERENCES