International Journal of Medical Science and Clinical Inventions 4(8): 3157-3159, 2017
DOI:10.18535/ijmsci/v4i8.06 **ICV 2015: 52.82**
e-ISSN:2348-991X, p-ISSN: 2454-9576

Research Article

Prevalence of Anemia among Pregnant Women in Block Hazratbal of Srinagar District

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Abstract:

Background;Anemia is one of the commonest health problems in the world but our country leads in the list of heavy burden of this deficiency disorder.Anemia in pregnancy is associated with low birth weight in the babies as well as preterm birth. **Objectives**;Estimate the prevalence of anemia in pregnant women and relation of anemia with low birth weight**.**

Methods:The study was a retrospective cross-sectional study. A total of 199 pregnant women were found registered in 2016 and who delivered upto march 2017 were included in the study.Information on socioeconomic and demographic variables were collected using a pre-tested and structured interview schedule. One hemoglobin determination taken at the time of registration of the pregnant was taken to avoid repeated measurements.

Results:199 pregnant women in the age group of 15 to 45 years, with majority (60.3%)in the age group of 21 to 30 years. 55.27% of the study subjects belonged to lower social classes.9.04% were possessing higher education levels(graduation and above). 79.88%(143/179) had deliveries conducted at government institutions , 18.99%(34/179) at private institutions and two were home deliveries.74.30%(133/179) had caesarean deliveries with 25.69%(46/179) normal type of deliveries.90.45% had anaemia (180 out of 199) at the time of registration. 75.4% having moderate anemia and only 1.5% with severe anemia. 8.37% were low birth weight babies.Conclusion: A high burden of anemia was found in this study.

Keywords: preterm birth,caesarean delivery,hemoglobin.

Introduction

Anemia is one of the significant public health problems with India leading the tables. It is widespread in every part of the country suppressing the productivity as well as associated complications in every section of the population. The main brunt is on maternal and child health with reduced capabilities of work and adverse pregnancy outcomes in women which further enhances the maternal mortality.

As per WHO ,there are two billion people with this condition in World and half of these is due to iron deficiency.[1] In India, anaemia affects an estimated 50 per cent of the population [2]. Anaemia also results in an increased risk of premature delivery and low birth weights. Iron deficiency in late pregnancy results in poor foetal iron stores [3,4]. Latent iron deficiency is known to alter brain iron content and neurotransmitters irreversibly in foetal life and postnatal babies [5,6].

Mild and moderate decrease in hemoglobin levels may not affect day to day activities but those engaged in a high intensity type of physical activities get a massive impact.

Weakness is assumed to be a normal condition during pregnancy and majority of Indian women do not seek treatment for anaemia unless symptoms become severe. Anaemia is attributed to dietary inadequacy due to poor purchasing power, illiteracy, ignorance regarding nutritional value of available cheap food, cultural taboos, superstition, large families etc. [7]

Anemic mothers give birth to anemic children with girl child entering adolescence too in an anemic state which leads to aggravated in her pregnancy so a circle gets completed which in turn leads to double burden of the disease.The most common cause of anemia during pregnancy is iron deficiency .WHO has categorized public health significance as per the burden of anemia and its levels as under

Classification of public health significance of anemia in populations on the basis of prevalence estimated from blood levels of hemoglobin.[8]

Category of public health significance	Prevalence of anemia (%)
Normal/Not a problem	4.9 or lower
Mild/Low	5.0-19.9
Moderate	20.0-39.9
Severe/ High magnitude	40 or higher

Use of hemoglobin concentration as a proxy for iron

deficiency anaemia is due to the fact that it is relatively easier to do and in expensive. Various programmes have been launched in India to decrease the burden of this nutritional deficiency but still a lot needs to be done as the causes of iron deficiency are multifactorial. Irrespective of free iron pills being given to every pregnant women under NHM (national health mission), anemia is still at large. This study will provide an insight as well as data regarding anemia in pregnant women and can lead to further indepth studies on this issue.

OBJECTIVES

1.To estimate the prevalence of anemia among pregnant women and its relation with low birth weight.

MATERIALS AND METHODS

Study Settings;The health block of Hazratbal comes under the field practice area of Department of Community Medicine ,GMC Srinagar with an estimated population of 82000 approximately as per annual survey .The health block has three zones viz;Hazratbal,Nishat,Harwan.

Study Design; It was a Retrospective observational study. Routine hospital data of the pregnant women who were registered and attended primary health center Nishat and subcenters Dara and Ishber for antenatal checkups and gave birth to a child upto March 2017 were included in the study and analysed.A total of 199 pregnant women were found registered in the year 2016 and delivered upto march 2017.Among these 199, twenty women had adverse pregnancy outcomes.They were interviewed for sociodemographic characteristics by using a semistructured pretested questionnaire .Only one hemoglobin determination taken at the time of registration of the pregnant was taken to avoid repeated measurements.The used definition of anaemia was as per WHO recommendation which is as under

Hemoglobin concentrations for the diagnosis and assessment of severity according to the WHO.[9]

Population	Non anemia	Mild anemia	Moderate anemia	Severe anemia
Pregnant women	11 gm/Dl or higher	10-10.9	7-9.9	Lower than 7

Information on socio-demographic variables like age, education, type of family, residence, income, religion, was collected after taking a proper consent. Socioeconomic status was classified as per modified BG Prasad's scale. [10]

BG PRASAD"S SCALE FOR SOCIOECONOMIC STATUS 2016

Social class	Per capita income(Rs/month)
I	6261 and above
II	3099-6260
III	1835-3098
IV	949-1834
V	<948

The data was entered in Microsoft excel (2007) and analysis was done using, percentages,chi square .

RESULTS

The study sample included 199 pregnant women in the age group of 15 to 45 years, with majority (60.3%)in the age group of 21 to 30 years. Majority of the participants lived in nuclear families(61.30%). 55.27% of the study subjects belonged to lower social classes.9.04% were possessing higher education levels(graduation and above). 79.88%(143/179) had deliveries conducted at government institutions followed by 18.99%(34/179) at private institutions and two were home deliveries.74.30%(133/179) had caesarean deliveries with 25.69%(46/179) normal type of deliveries.

90.45% had anaemia (180 out of 199) at the time of registration.Table I shows the severity of anemia indicating 75.4% having moderate anemia and only 1.5% with severe anemia.Low birth weight babies were 15(8.37%).

Table I Distribution of study participants as per severity of anemia.

Degree of anemia	Frequency(N)	Percentage
Mild anemia	27	13.6%
Moderate anemia	150	75.4%
Severe anemia	3	1.5%

Table II shows the relation of age with anemia and points out that no statistical significance between presence of anemia with the age of the women and low birth weight of the baby.

Table II Relation of anemia with age of the participants

Age group	Any anemia	No anemia
15-30	113(62.7)	11(57.9)
31-45	67(37.3)	8(42.1%)
Total	180	19

Chi-square 0.17 ,degrees of freedom=1 p-value=0.3

Table III Relation of anemia with low birth weight

Anemia	Low birth weight present	Low birth weight absent
Present	12	146
Absent	3	18
Total	15	164

Chi-square,degrees of freedom=1 p-value=0.16

DISCUSSION :

In this retrospective study a heavy burden of anemia was present in pregnant women ,more so pointing to high prevalence of iron deficiency anemia,which can be due to the fact that women here enter pregnancy with limited iron stores as well as less haemoglobin concentration than in women in the developed world thus making them vulnerable to anemia in pregnancy. This study estimated 90.45% of women to be anaemic so is a matter of concern. Alvarez etal (2014) did a retrospective observational study on 73,795 determinations of haemoglobin ,49.5 % were female and found anaemia over 50% in women after puberty[11].

Inspite of the fact, government recommending and giving free of cost iron and folic acid supplementations to pregnant women. As per NFHS-4 data of Jammu & Kashmir only 32.4% pregnant women consumed iron tablets,[12]clearly indicating that the flaw could be due to non compliance to treatment and current programme has not achieved a reduction in the prevalence of anaemia in our setting. The results are in agreement with other studies in India [13] and indicate that the iron supplementation programme for pregnant women should also be better monitored. This study showed a high percentage of moderate anaemia more than 75.40% .In a study conducted by ICMR in 1989[14], prevalence of anaemia in 4181 pregnant rural women of 11 States was

estimated and it was demonstrated that 87.6 per cent women had haemoglobin (Hb) <10.9 g/dl. Further, ICMR in 1992 [15] reported that in 6 States supplementation of iron-folate tablets to control anaemia (women with haemoglobin < 7.0 g/dl were excluded) had 62 per cent women as responders

(anaemic-those responding to haematinic therapy by showing rise in haemoglobin). Even after consuming 90 tablets, 37.8 per cent women had

haemoglobin less than 10.0 g/dl and 19.4 per cent had less than 9.0 g/dl. Even after so many years the situation seems bad to worse. The present study showed 1.5 per cent women with haemoglobin level < 7 g/dl in pregnancy; being less as compared to study done by Agarwal etal where in 9.2 per cent of women reported <7.0 g/dl haemoglobin levels [16]. Haider etal(2013) did a systematic review and meta-analysis on anaemia,risk of adverse pregnancy outcomes and found that cohort studies showed a significant risk of low birth weight and preterm birth with anemia in first or second trimester[17].The current study showed no statistical significance between anemia and low birth weight.

To conclude, food fortification, behaviour change communication, patient compliance to treatment information and communication remain the key to decrease this level of anemia burden in our population.

CONCLUSION: The study found a high burden of anemia in this group of population.So further studies need to be taken to see various causes and factors responsible for this high level of anemia in pregnant women and monitoring of the interventions being taken at this point of time so that the burden is decreased or brought to control. The think tanks at the higher levels in decision making have to look forward than supplementation only. Does providing 100 tablets per pregnant women mean anemia is over, the compliance, patient preferences,behaviours need to be addressed.

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