

Prevalence of Anemia In Pregnancy in a Tertiary Care Rural Hospital

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Abstract: Anemia is universal public health problem, more so in developing countries as India, leading to maternal mortality and morbidity and perinatal mortality. Almost 1/3 world population and 51% of Indians are anemic. **Objectives:** To know the prevalence, causes and severity of anemia in pregnant women. **Materials And Methods:** Cross sectional study was conducted on pregnant women attending outdoor department of Obstetrics of Karpaga Vinayaga Institute of Medical Sciences and Research Centre, a tertiary care rural hospital in Kanchipuram district. A Performa was used to get complete information. Patients with chronic diseases and multiple pregnancy were not included. Patients were explained about the study and written consent was also obtained. Anemia was tested at their 1st ANC visit by Cyanmethemoglobin method. Study was done for 2 years from 1st January 2012 to 31st December 2013. **Methodology:** Cross sectional study was conducted for 2 years from 1st January 2012 to 31st December 2013, in Karpaga Vinayaga Institute of Medical Sciences and Research Centre, a tertiary care rural hospital in Kanchipuram district on patients attending outdoor department of Obstetrics. Detail history as age, parity, literacy, socio-economic status and past, family and Obstetric history is taken in detail. Complete physical and Obstetric exam were done and noted. Investigations as complete haemogram, peripheral smear, urine and stool examination was carried out. **Results:** Prevalence of anemia was 81% (3309/4086) further distribution being mild 31.1%, moderate 56.7% and severe 12.2%. Main bulk of incidence was between age group 20-25 years 63.3% (2586), level of education illiterate 46.1% (1883) and 45% (1838) less than X std total 91.1% main cause. Low socio-economic status was 74.5% (3044), BMI < 19 was 48.6%, coming in 3rd trimester for ANC was 56% (2288), birth spacing < 1 year was 55% (2473), multi-parity 66.7% (2725) and unbooked cases being 61%. Illiteracy, multiparity, poor nutrition, pregnancy less than 1 year were common risk factors found in our studies. **Conclusion:** In our study in rural set-up prevalence of anemia is very high. Main causes being multi-parity, illiteracy, worm infestations, poor quality diet, not taking Iron in pre-conception period and during pregnancy, inadequate spacing of children and coming late under ANC. Anemia is still major cause or killer in Obstetrics. In South –East Asia India contributes 80% of maternal deaths; direct cause is 20% and 20% indirect cause contributing to cardiac failure, pre-eclampsia, hemorrhage and infection⁽³⁰⁾. Incidence is high in Orissa, Assam and Bihar but low in Kerala being most literate state. Iron deficiency anemia is most common. Causes being low dietary intake of Iron, worm infestations, chronic blood loss, poor bioavailability, wrong food habits, not supplementing Iron before and during pregnancy^(29, 9). Anemia is common in reproductive age more so in pregnancy. The demand of iron increases for fetus takes iron reserve in it liver, increase volume of blood, loss of blood in delivery, infection if occurs and if pregnancies take at short intervals. Mild anemia is not associated by adverse pregnancy output, as against severe anemia carries risk of infection and hemorrhage leading to DIC. Moderate anemia had maternal mortality of 1.35 and 3.5 in severe anemia. On fetal side, ill-effects were premature delivery, low-birth wt, and small for gestational age, low APGAR score and raised perinatal mortality.

Keywords: Anemia, awareness causes pregnancy, prevalence.

1. Introduction

WHO has defined anemia during preg. as Hb. concentration of < 11 gm % & Hematocrit of < 33 %. CDC (Center for Drug Control) proposes a cutoff point of 11 gm % in 1st & 3rd trimesters & 10.5 gm % during 2nd trimester. WHO classifies severity of anemia is as: mild degree is 9-11 gm%, moderate degree is 7.1-9 gm%, and severe degree is 7 -4 gm%. Anemia is universal public health problem.

Characteristics	No. of patients	Percentage
Mild	1270	31.1%
Moderate	2316	56.7%
Severe	498	12.2%

Characteristics	No. of patients	Percentage
Age in years		
Less than 20	437	10.7%
20-25	2586	63%
25-30	449	11%
More than 30	612	15%
Socio-economic status		
Low class	3044	74.5%
Middle class	1041	24.4%
Higher class	776	1.9%
Level of education		
Illiterate	1883	46.1%
Below X std	1838	45%
X std – below graduation	163	4%
Graduation	204	5%
BMI		
Less than 19	1985	48.6%
19-26	1634	40%
More than 26	980	2.4%

Obstetric history:		
Characteristics	No. of patients	Percentage
Parity		
Primigravida	1360	33.3%
Multigravida	2725	66.7%
Gestational age		
1 st trimester	490	12%
2 nd trimester	1307	32%
3 rd trimester	2288	56%
Birth spacing in years		
Less than 1 year	2473	55%
1-2 years	1532	37.5%
More than 2 years	510	12.5%
ANC check-up		
Booked	1581	38.7%
Unbooked	2504	61.3%

2. Discussion

Our study shows 81% prevalence of anemia in our district, which is similar to study by Sridevi 83.8% (2015)⁽⁹⁾ from Chidambaram district and so also to 87.4% quoted by Srivastava et al (2005)⁽¹⁰⁾, from Pondicherry district. Multiparity has been an important factor being 66.7%, more so 56% were in third trimester has correlated with studies of Chidambaram and Pondicherry (South India). Incidence in our studies 66.7% is comparable to studies by Singh et al (1998)⁽¹⁷⁾, Raghuram et al (2012)⁽¹³⁾ and Hytten et al (1970)⁽¹²⁾. This is due to blood loss and no recovery time in subsequent pregnancies and less than 1 year 55%, as similar to V.P.Gautam et al (2002)⁽²³⁾, Shidhaye et al (2012)⁽¹⁴⁾. Agarwal et al (2008)⁽¹⁴⁾.

Illiteracy has shown to be inversely related to anemia, as incidence is 74.5%. Other studies of Thangaleela et al (1994)⁽²²⁾, Jin L, et al (2012)⁽²¹⁾, V P Gautam et al (2002)⁽²³⁾ have also similar findings.

Our study has association with Singh et al (1998)⁽¹⁷⁾, V. P. Gautam et al (2005), Lokare et al (2012)⁽¹⁶⁾, Javed et al (15) between anemia belong to lower socio-economy and age. Anemia is higher in younger age 20-25 years and < 19 BMI indicating girls have poor nutritional status similar findings to Agarwal et al (2008)⁽¹⁴⁾.

Other surveys conducted as Indian Council Medical Research Micronutrient Survey, National Family Health Survey (NFHS) 2 and 3⁽¹⁹⁻²⁰⁾ District Level Household Survey 2 (DLHS)⁽¹⁸⁾ have shown 70% of Indian pregnant women are anemic.

3. Conclusion

Anemia still continues to be a major health problem during pregnancy. Though being preventable we are unable to bring down maternal and perinatal mortality, morbidity. The reasons being are illiteracy, poverty, food-habits, and lack of balanced diet, multi-parity, late ANC booking and pregnancies at short intervals. Study shows that anemia is having very high prevalence, in spite of various National programmes. Lot has to be done namely awareness, literacy, educating for early adequate ANC and importance

of supplementing Iron before and during pregnancy, on very high priority in Obstetrics

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