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Anemia Profile in Antenatal Patients - A Study at Tertiary Care Centre

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Abstract

Background: The aim of study is to determine whether maternal mortality due to anemia is preventable with focus on anemic cases in tertiary care hospital.

Materials and Methods: This is retrospective analysis of anemia patients referred to GRH, Department of Obstetrics and Gynaecology, Madurai from January 2018 to December 2018. Cases were stratified based of age, parity, gestationalage, severity of anemia.

Results: The total number of cases referred to GRH during the study period is 17556, in which anemia referral was 4120(23.4%), PIH 3400(19.3), others 10036 (57.16).53.6% were multigravida, 46.3% primigravida. Mean age of presentation is around 25 to 30 years. Anemia being more common in gestational age greater than 34 weeks. Among 53 maternal mortality,anemia as a direct or indirect cause of maternal mortality was found to be nil.

Conclusion: We concluded by this study that anemia as a cause of maternal mortality was found to be NIL. Anemia as a cause of maternal death was due to lack of antenatal care, inadequate quality of care in primary and secondary centres. Cases referred in GRH with regular follow up did not develop complications and attained safe delivery with no mortality.

Keywords: Anemia; Tertiary Care Centre; MMR.

Introduction

Anemia in pregnancy defined as haemoglobin less than 11g in first and third trimester and less than 10.5 gram in third trimester[1]. It affects 38%of pregnant women, translating to 32 million globally[2]. Under diagnosed and under treatment women are at increased risk for preventable cause of death including PPH and hypovolemia. Most of the death due to anemia occur in developing countries. Incidence of anemia is still high due to improper antenatal care though it is a preventable complication. The average estimates for all-cause anemia attributable mortality (both direct and indirect) were 6.37, 7.26 and 3.0% for Africa, Asia and Latin America, respectively.[3]

Materials and Methods

Madurai Medical College is a tertiary hospital. Cases were referred from nearby rural community health centres, public health centres, primary health centres, district hospital, civil hospitals, primary nursing homes. A total of 17556 were referred, in which anemia referral was 4120(23.4%),PIH 3400(19.3%),others 10036 (57.16%).All the cases included for the study had a definitive diagnosis made either by complete blood count or by complete haemogram with peripheral smear. Information on age, parity, presentation at gestational age, severity of anemia, types of anemia and associated comorbidity was collected and patients were subsequently treated depending on the severity at the corresponding gestational age.

Results

The total number of maternal mortality for the year 2018 is 53. Direct cause contribute to 61% indirect cause contribute 39%. Maternal mortality rate is 43.2. In the one year study MMR due to heart disease is 24.5%,hypertensive disorder 11.3%, haemorrhagic stroke 21%, postpartum haemorrhage

21%, pulmonary embolism 1.8%,sepsis 5.66%, PPCM 5.66%, infective endocarditis 1.8%, cor pulmonale 3.77%, intracranial haemorrhage 3.77%, TB encephalitis 1.8%, splenic rupture 1.8%, viral encephalitis 7.5%, DIC 1.8%, ARDS 5.66%, hepatic encephalopathy 1.8%, amniotic fluid embolism 1.8%. There is no direct/indirect cause of maternal death due to anemia in our study.

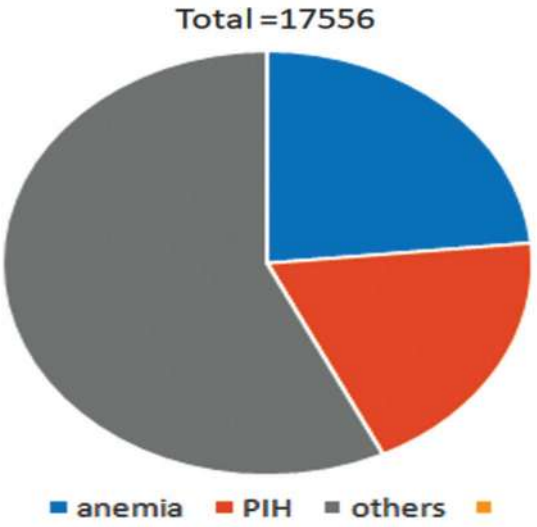


Fig. 1 Reason for referal.

Anemia in primigravida was 46.3% , multigravida 53.6%. Anemia in gestational age between 14 to 16 week is 6.8%, 20 to 24 week 19%, 26 to 30 week 20.4%,more than 34 week of gestational age 36.3%. Thus the more common time at presentation of anemia is at near term.

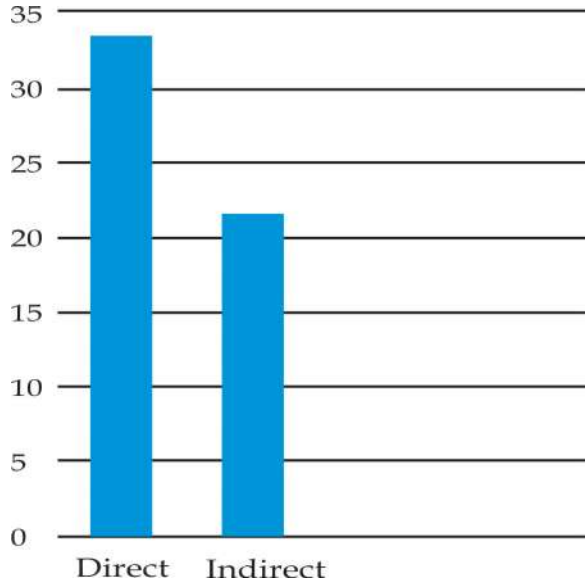
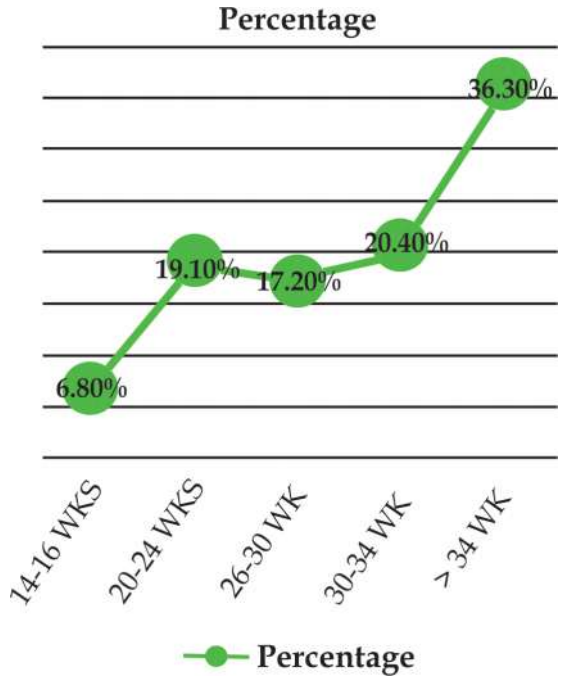


Fig. 2 Causes of MMR.

Age wise distribution of anemia is shown in the below table. The age ranged from 18 to 40 years. Patients between 20 to 30 yrs were commonly affected.



Depending on the severity of anemia, mild anemia is prevalent in 56.5%, moderate anemia in 36.6%, severe anemia in 6.7%.

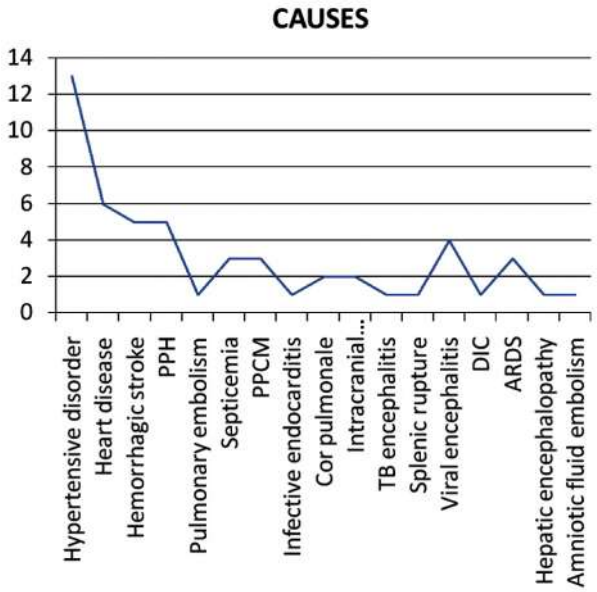


Fig. 4 Causes of MMR in GRH Jan. 2018-Dec. 2018.

Total blood transfusion done in GRH is 8956. Among this blood transfusion done for moderate anemia is 2986(33%), severe anemia 5970(66.6%). Total iron sucrose injection given is 7200 over the period of 1 year.

Discussion

When hb concentration of a women are below 2 standard deviation in comparision to mean distribution of normal population who are of same age,gender and live in same altitude is defined as ANEMIA.[4] Total iron demand in pregnancy is about 900mg.There is iron deficit of about 600 to 700mg. In India anemia accounts for 20% direct and 20% indirect maternal death hence correction of anemia remains a important role in obstetric care. According to the present study, pregnant woman with age groups 20-30 years very commonly affected. This fnding was similar to the study by Sitet et al in Kenya[6] where lower age was more likely to develop anemia. This is contrast to study by Jufar AH et al in Addis[7] where higher age groups [39–45 years] had anemia. This differences may be due to difference in time of study, life style and access to health care facilities among study participants.IV Iron sucrose is considered only when haemoglobin is more than 7g%.

Intravenous iron Sucrose Complex is safe and effective in the treatment of iron deficiency anemia during pregnancy in obstetrics as it is safe, effective and easy to administer. In case of haemoglobin less than 7g% blood transfusion is done. In GRH over the period of 1 year total blood transfusion done was 8956. Iron prophylaxis is started as by MoHFW 100mg of elemental iron and 500 microgram folic acid for 100 days after 1st trimester and 6 months postpartum. For treatment of mild anemia MoHFW recommends 2IFA tablets and for moderate anemia IM iron therapy and oral folinic acid.[5]

The program, implemented through the Primary Health Centers and its subcenters, aims at decreasing the prevalence and incidence of anemia in women of reproductive age. It focuses on three vital strategies: promotion of regular consumption of foods rich in iron, provisions of iron and folate supplements in the form of tablets to the high risk groups, and identification and treatment of severely anemic cases. The program solicits the support of various departments in implementing the dietary modification and supplementation measures.The health workers must educate women to utilise ANC services and they also need to be trained on communication skills as their roles as facilitators in ANC services to control anemia during pregnancy.

Conclusion

In conclusion we found that anemia as a cause of death in maternal women was found to be nil in GRH, Madurai. This was feasible by improvement in quality of care in primary and secondary centres, appropriate, review of haemoglobin status, other clinical symptoms, enabling recognision and transfer in of high risk obstetric cases in right time and early recognistion and correction of anemia and replenishment of iron stores.This is achieved by implementation of various programs national nutritional anemia prophylaxis, national anemia control program, 12/12 initiative. Thusanemia as one of the major cause of mortality is declining.

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