Available online at www.ijpab.com

DOI: http://dx.doi.org/10.18782/2582-2845.8657

ISSN: 2582 – 2845

Ind. J. Pure App. Biosci. (2021) *9*(3), 127-130

Indian Journal of Pure & Applied Biosciences

Peer-Reviewed, Refereed, Open Access Journal

Review Article

Anemia and Pregnancy

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Received: 5.03.2021 | Revised: 9.04.2021 | Accepted: 14.04.2021

ABSTRACT

Anemia during pregnancy is a major world health concern especially in developing countries affecting the life of the women and the future of the child thereby influencing the present as well the future of the nation and the world at large. Nutritional deficiency still emerges out the main cause of iron deficiency anemia affecting the life of the pregnant women. The iron deficiency anemia has a major say in adverse pregnancy outcomes like pre term delivery, IUGR, morbidity even leading to mortality, however it is noted that severe anemia has a significant effect than moderate and mild anemia. A well balanced diet can avert this condition, nonetheless iron supplementations as per the government guidelines and various treatment available also help to tackle the situation. Education of the women and more awareness programmes on health, pregnancy and nutrition by the stakeholders can further reduce the incidence of anemia in pregnancy.

Keywords: *Anemia, Iron deficiency Anemia, Nutrition, Pregnancy, Pregnancy outcome, Treatment.*

INTRODUCTION

Anemia and pregnancy

The most widespread haematological problem faced during pregnancy is anemia it is also most usual issue in obstetrics and perinatal care. Regardless of the gestational age, Hb below 10.5 g/dl is considered as true anemia. The physiologic anemia of pregnancy is a dilutional process secondary to an increase in plasma volume. The plasma volume which begins to rise from the sixth week of pregnancy increases in volume to about 25% - 80% by the end of 24th week. There is a direct relation between the plasma volume and the weight of the baby and its value increases with multiple gravidas.

Cite this article: John, S., & Sharma, P. C. (2021). Anemia and pregnancy, *Ind. J. Pure App. Biosci. 9*(3), 127-130. doi: http://dx.doi.org/10.18782/2582-2845.8657

However, nutritional deficiencies, hemolysis, and other diseases can cause significant anemia that is capable of affecting the mother as well as the foetus. This article reviews the usual nutritional cause leading to anemia, it also focuses on the pregnancy outcomes specifically affecting the mother and the baby and discusses the most common and universal treatments that could be availed.

Factors associated leading to a surge in anemia during pregnancy

Iron deficiency is considered as the most prevalent and frequent nutritional etiology leading to iron deficiency anemia not only in developed but in developing countries as well. (Scholl & Hediger, 1994). Iron and folate deficiency are regarded as the most common cause for the onset of anemia very specifically during pregnancy, (Horowitz, Ingardia, & Borgida, 2013) as the growing demand of iron is not sufficed. (Lee & Okam, 2011) and women with improper and insufficient diets and those deprived of prenatal iron and folate supplements are the most susceptible ones for having Iron deficiency anemia. The iron requisite by expecting ladies is approximately 20mg daily. (Kozuma, 2009) As mentioned, nutritional deficiencies are the major and most common reason for the onset of true or absolute anemia. Generally, the deficiencies encountered are manifold and numerous, and infections, poor nutrition or hereditary disorders such as hemoglobinopathies makes the clinical appearance look complex. (Milman, 2006). Imbalanced diet intake, poor and scarce absorption of the nutrients, increased demand, too much loss and insufficient utilization of hemopoietic nutrients are the universal sources for nutritional anemia. Of all anemias identified during pregnancy almost 75% are credited to iron deficiency (Baker, 1981).

Among the inhabitants of developed countries, nutritional anemia is not a broad-based problem. However, many individuals suffer due to iron deficiency and without saying it goes that iron deficiency anemia is indeed a major health problem in poor and under developed countries.

Effect of anemia of pregnancy

Studies show that severe maternal anemia during pregnancy is liked to adverse pregnancy outcomes. However, the reason for this linkage between anemia and pregnancy outcomes still needs to be clarified and studies needs to show light on it. (Sifakis & Pharmakides, 2000). It's worth noting that anemia during pregnancy lead to immediate poor outcomes, elevating the danger of preterm or premature delivery, decreased birth weight and perinatal death. (Klebanoff, Shiono, Berendes, & Rhoads, 1989). Studies have showed that maternal anemia and more precisely iron deficiency anemia tend to lead an elevated placental weight and a higher ratio of placental weight to birth weight is linked to increased probability of high blood pressure in the child later in life. (Godfrey, Redman, Barker, & Osmond, 1991).

Maternal effect

There has not found any serious consequences of moderate anemia on the pregnant ladies except the fact that in the subsequent pregnancy they are susceptible to moderate to severe anemia. Nevertheless weakness, loss of energy and tiredness and a decreased performance is associated to moderate anemia. On the other hand adverse outcomes are connected to severe anemia. Palpitations, tachycardia and short of breath is experienced by the woman. However in dire conditions will pile up to cardiac stress due to elevated cardiac output and can prove fatal by causing cardiac arrest due to de compensation. (Sharma, 2003). The anemic pregnant women experience higher frequency of pre-term labour (28.2%), pre-eclampsia (31.2%) and sepsis. (Indian Council of Medical Research Task Force, 1989).

Neonatal effect:-

The high intensity of maternal anemia leads to placental weight gain which is attributed to the fact that placental growth is encouraged to increases in relation to balance the deficit of oxygen delivered caused due to anemia. As per the retrospective studies carried out in developing countries, it has found increased cases of IUGR, premature birth with low birth

weight and also foetal death to mothers who are anemic. (US Preventive Services Task Force, 1993) It is also stated that severe anemia deteriorates the perinatal prognosis.

Treatment of anemia in pregnancy

The duration left foe delivery, the gravity and acuteness of anemia and other risk factors associated like premature birth and patients' consent are some of the important criteria to be taken into consideration while deciding for treatment needed to be administered to the pregnant woman suffering with anemia. (Bashiri, Burstein, Sheiner, & Mazor, 2003) Therefore a pregnant lady suffering with severe anemia and is just 14 days away from the due date demand a critical and quick medication than a pregnant lady in her second trimester suffering with moderate anemia. (Koenig, Levine, Resnick, & Meyer, 1993) Nonetheless in these mentioned cases irrespective of the time left the mode of treatment will be the same and blood transfusion will be the last option and avoided as much as possible. Presently oral iron, parenteral iron, is the most common available options for treatment for those suffering with anemia. However, a few more methodology applied are haemopoiesis with growth factors (e.g., recombinant human erythropoietin) and the giving out of heterologous blood for anemic patients as well. (Breymann, 2002).

The expectant women should make iron rich food like green vegetables, sprouted pulses and jiggery part of their daily meal. They can also use iron utensil as an alternative to cook, doing so will increase the probability of having iron consumed by the mothers. Moreover over cooking and overheating should be discouraged and evaded.

As per the guidelines of the Ministry of Health, Government of India for the pregnant women it is mandatory to consume for a period of minimum 100 days, 100 mg of elemental iron with 500 mg of folic acid at least from the second half of pregnancy. Those pregnant women who religiously follow his are less prone to have iron deficiency anemia in their pregnancy. Nonetheless for a superior acquiescence and enhanced results it is advisable at 4 week intervals to take intramuscularly minimum two injection of iron dextran (250 mg each) together with tetanus toxoid. (Bhatt, 1997).

CONCLUSION

As per the search and research done on the health of the pregnant women and especially those suffering with anemia it concludes that iron deficiency anemia still remains a major threat caused mainly due to imbalanced diet and adversely affect the health of the women and birth outcomes. High incidence of maternal mortality and morbidity are associated with iron deficiency anemia during pregnancy. This review points out that nutritional reason such as improper diet and insufficient absorption among others are the major cause leading to iron deficiency anemia. The article also highlights the adverse birth outcomes as a consequence of iron deficiency anemia risking not only the life of the mother but the new born as well or may lead the baby to a poor state of life pushing the new born into the world of malnutrition and associated sickness. Although availability of medication to tackle iron deficiency anemia cannot be over ruled, but its effectiveness is ambiguous, as majority of time the root cause remains hidden or is identified very late. On the other hand quite many incidences of anemia among pregnant women and its aftermaths can be reduced if proper attention is given by the International and National leaders to see to the implementation of various programs to improve the socio economic level as well as health and educational level of the concerned women.

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