

Anemia during the pregnancy health essay

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Literature Review

Introduction

Anemia is a decrease in number of red blood cells (RBCs) or less than the normal quantity of hemoglobin in the blood. ORAnemia is a condition in which the body does not have enough healthy red blood cells. Red blood cells provide oxygen to body tissues[1]

Anemia during pregnancy is defined as Hb < 11 g/dL (Hct < 30%)

Numerous studies from the developing countries have shown that anemia especially the iron deficiency is highly prevalent in the pregnant women.[2-5]In General population, the anemia may become the underlying cause of maternal mortality and perinatal mortality as well complications to the fetus including increased risk of premature delivery and low birth weights.

[6]According to World Health Organization, on an average, 56% of pregnant women in developing countries are anemic. Anemia may contribute to up to 20% of maternal deaths.

EXTENT OF PROBLEM:

According to the United Nations (UN) estimates, approximately half of pregnant women suffer from anemia worldwide. Anemia prevalences during pregnancy differed from 18% in developed countries to 75% in South Asia [7]. Nutritionally related iron deficiency is the main cause of anemia throughout the world Besides poor nutrition, frequent labour, multiparity, abortions, parasitic infestations, consuming excess tea or coffee after meals determined as the predictors of anemia in reproductive age women [8].

Worldwide, anemia contributes to 20% of all maternal deaths [9]WHO has estimated that prevalence of anemia in developed and developing countries in pregnant women is 14 per cent in developed and 51 per cent in developing countries. About one third of the global population (over 2 billion) are anaemic[10]According to WHO total number of pregnant women effected world wide are 56 million, which is 41 percent among the general population effected with anemia.[11]Who estimated a population of 4. 8 million pregnant women who were anemic according to global survey conducted by WHO in 2006.[11]

TYPES OF ANEMIA[12]

Cytometric Classification: (size & amount of Hb conc.)

Normochromic, Normocytic Anemia

This anemia shows normal MCHC and normal MCV. This results the following:
Anemia of chronic disease (ACD)Hemolyticanemia (HA)Anemia of acute hemorrhage

Hypochromic, Microcytic Anemia[13]

This anemia shows low MCHC and low MCV. This results the following following: Iron deficiency anemiaThalassemia

Normochromic, Macrocytic Anemia

This anemia shows normal MCHC and high MCV. This results the followingVitamin B12 deficiencyFolate deficiency

Erythrokinetic Classification

The erythrokinetic classification is based on the rate of RBCs turnover. If this rate is high, a normoregenerative anemia occurs which are seen in hemolysis (excess destruction of RBCs) or hemorrhage (loss of RBCs from the vascular compartment). In these cases, the bone marrow responds by increasing the production of RBCs and releasing them into the bloodstream prematurely.

Several lab tests can help to determine the increased RBCs turnover such as:

Reticulocyte count
Serum unconjugated bilirubin and urine urobilinogen concentration
Serum haptoglobin concentration
Bone marrow biopsy

Biochemical Classification

This categorization is based on the etiology of the anemia. In a typical case of IDA (iron deficiency anemia), the biochemical indicators include serum iron, serum transferrin, transferrin saturation, serum ferritin and serum circulating transferrin receptor. Some forms of anemia -- like the anemia that develops during pregnancy -- are even considered normal. However, some types of anemia may present lifelong health problems.

There are more than 400 types of anemia, which are divided into three groups:

Anemia caused by blood loss
Anemia caused by decreased or faulty red blood cell production
Anemia caused by destruction of red blood cells

Anemia Caused by Blood Loss

Gastrointestinal conditions such as ulcers, hemorrhoids, gastritis (inflammation of the stomach), and cancer
Use of nonsteroidal anti-inflammatory drugs (NSAIDs) such as aspirin or ibuprofen
Menstruation and

childbirth in women, especially if menstrual bleeding is excessive and if there are multiple pregnancies

Anemia Caused by decreased or faulty RBC production

Sickle cell anemia Iron deficiency anemia Vitamin deficiency Bone marrow and stem cell problems Other health conditions

Anemia caused by destruction of RBC's

Sickle cell anemia Paroxysmal nocturnal hemoglobinuria Hemoglobin SC disease Hemolytic anemia due to G6PD deficiency Hereditary elliptocytosis Hereditary spherocytosis Hereditary ovalocytosis Idiopathic autoimmune hemolytic anemia Non-immune hemolytic anemia caused by chemical or physical agents Secondary immune hemolytic anemia Sickle thalassemia

There are several types of anemias that may occur in pregnancy[14]:

Commonly following types of anemia can occur in pregnancy:

Anemia of pregnancy(physiological anemia)

Due to plasma expansion normally occurs in pregnancy leads to fall in RBC's level.

Iron Deficiency Anemia

Due to inadequate iron storage in mother's bone marrow leads to this type.

Vitamin B12 deficiency anemia

Women who are vegans (who do not use animal products) are likely to have this type of anemia in pregnancy.

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Bloodlossanemia

Blood loss at delivery and postpartum (after delivery) can also cause anemia.

Folate deficiency anemia

Always occurs in association with iron deficiency because it is found in the same type of food which contain iron

ETIOLOGIESOF ANAEMIA IN PREGNANCY

Physiological cause of anemia:

Women often become anaemic during pregnancy because the demand for iron and other vitamins is increased. The mother must increase her production of red blood cells and, in addition, the foetus and placenta need their own supply of iron, which can only be obtained from the mother. In order to have enough red blood cells for the foetus, the body starts to produce more red blood cells and plasma. It has been calculated that the blood volume increases approximately 50 per cent during the pregnancy, although the plasma amount is disproportionately greater. This causes a dilution of the blood, making the haemoglobin concentration fall. This type is also known as physiological anemia commonly occurs in pregnancy.

Others leading causes of anemia during pregnancy are:

Diet low in iron[15].

Vegetarians, and dieters in particular, should make sure their diet provides them with enough iron. Poor intake of iron in diet. Iron is needed to make red blood cells. When women loose blood, they also loose iron. This happens in pregnancy due to the fact that the woman must supply iron to both herself and her baby. Iron is replaced by vitamin supplements or in the diet. Iron

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deficiency causes Iron deficiency anemia which is explained below in this section.

Folic acid deficiency.

Chronic illness

Blood Loss from bleeding hemorrhoids (piles) or gastrointestinal bleeding and stomach ulcers.

Anaemia is more common in women who have pregnancies close together and also in women carrying twins or triplets.