**ANEMIA IN PREGNANCY**

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 **ABSTRACT**

Anaemia is characterised by a low level of haemoglobin (Hb) in the blood. It is a common

pregnancy problem, affecting 38% of women worldwide.

Anemia is one of the most frequent complications related to pregnancy. Normal physiologic changes in pregnancy affect the hemoglobin (Hb), and there is a relative or absolute reduction in Hb concentration. The most common true anemias during pregnancy are iron deficiency anemia (approximately 75%) and folate deficiency megaloblastic anemia, which are more common in women who have inadequate diets and who are not receiving prenatal iron and folate supplements. Severe anemia may have adverse effects on the mother and the fetus. Anemia with hemoglobin levels less than 6 gr/dl is associated with poor pregnancy outcome. Prematurity, spontaneous abortions, low birth weight, and fetal deaths are complications of severe maternal anemia. Nevertheless, a mild to moderate iron deficiency does not appear to cause a significant effect on fetal hemoglobin concentration. An Hb level of 11 gr/dl in the late first trimester and also of 10 gr/dl in the second and third trimesters are suggested as lower limits for Hb concentration. In an iron-deficient state, iron supplementation must be given and follow-up is indicated to diagnose iron-unresponsive anemias.

Keywords: anemia, pregnancy, prevention, treatment, complications

 **I.Introduction**

Anemia is a blood condition characterized by a lack of healthy red blood cells or hemoglobin. Hemoglobin is the part of the red blood cells that binds to oxygen. When the body does not have enough hemoglobin circulating, not enough oxygen gets to all parts of the body either. As a result, organs and tissues may not function properly, and a person may feel fatigued. Iron deficiency anemia occurs when the body does not have enough iron to produce the hemoglobin it needs.

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The following hemoglobin (Hb) and Hct levels are classified as anemic:

* 1st trimester: Hb < 11 g/dL; Hct < 33%
* 2nd trimester: Hb < 10.5 g/dL; Hct < 32%
* 3rd trimester: Hb < 11 g/dL; Hct < 33%

If Hb is < 11.5 g/dL at the onset of pregnancy, women may be treated prophylactically because subsequent hemodilution usually reduces Hb to < 10 g/dL. Despite hemodilution, oxygen-carrying capacity remains normal throughout pregnancy. Hct normally increases immediately after birth.

 **II. Types of anemia in pregnancy**

Various types of anemia are common during pregnancy. These include:

**A.Vitamin B12 deficiency**

[Vitamin B12](https://www.medicalnewstoday.com/articles/219822) is essential for the body to be able to multiply red blood cells. It occurs naturally in animal products, such as eggs, meat, fish, and dairy. It is also available as a dietary supplement and a prescription medication. Fortified breakfast cereals and fortified nutritional yeasts are also good sources of vitamin B12.

This condition is an irreversible autoimmune disease that affects the mucous membrane of the stomach, called the gastric mucosa. It can cause gastric atrophy, a destruction of the cells in the protective stomach lining.

Pernicious anemia can also prevent the absorption of vitamin B12, even if a person is consuming adequate amounts of the vitamin. It is the most common cause of vitamin B12 deficiency worldwide.

**B.Folate deficiency anemia**

During pregnancy, people required, which is a water soluble B vitamin, as folate is necessary for the development of the fetus. Folate deficiency can affect normal growth and cell division in the placenta and fetus, which can lead to birth abnormalities.If a person does not have enough folate before and during their pregnancy, the baby [may develop Trusted Source](https://www.cdc.gov/ncbddd/folicacid/features/folic-acid-helps-prevent-some-birth-defects.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Ffeatures%2Ffolicacidbenefits%2Findex.html) severe problems with the brain and spinal cord, called neural tube defects. These include [spina bifida](https://www.medicalnewstoday.com/articles/220424) — which causes abnormalities in the nerves, spine, or both — and anencephaly, which is a fatal condition in which the fetus is missing parts of the skull and brain.Neural tube defects occur in the first few weeks of pregnancy, usually before a person knows that they are pregnant.

**C.Iron deficiency anemia**

A person’s iron needs during pregnancy because iron is important for:

* meeting the increased demands of the fetus and placenta
* keeping up with the higher production of red blood cells
* compensating for iron loss during the delivery of a baby

Iron deficiency anemia is the most common type of anemia among pregnant people.

* low birth weight
* [premature birth](https://www.medicalnewstoday.com/articles/premature-labor)
* [preeclampsia](https://www.medicalnewstoday.com/articles/252025)
* [postpartum hemorrhage](https://www.medicalnewstoday.com/articles/postpartum-bleeding)

 **III. Symptoms of anemia**

The symptoms of anemia during pregnancy may begin as mild and develop slowly. They can include:

* weakness
* [fatigue](https://www.medicalnewstoday.com/articles/248002)
* headaches
* dizziness
* pale or sallow skin
* low body temperature
* rapid or irregular heartbeat
* chest pain or shortness of breath, especially with physical activity
* brittle nails
* [pica](https://www.medicalnewstoday.com/articles/326751), which refers to unusual cravings for non-food items such as paper, dirt, or sand

 **IV. Risk factors**

A person is at [higher risk](https://www.hematology.org/education/patients/anemia/pregnancy) of becoming anemic during pregnancy if they:

* are pregnant with more than one baby
* have had a recent previous pregnancy
* do not consume enough iron
* had a heavy menstrual flow before pregnancy
* vomit often due to [morning sickness](https://www.medicalnewstoday.com/articles/179633)

**Prevention**

Good [nutrition](https://www.medicalnewstoday.com/articles/160774) is the [best way](https://www.hematology.org/education/patients/anemia/pregnancy) to prevent anemia during pregnancy or when trying to become pregnant. Eating foods high in iron can help with maintaining the supply of iron necessary to function properly. These foods include:

* red meat
* dark green leafy vegetables
* [eggs](https://www.medicalnewstoday.com/articles/283659)
* [peanuts](https://www.medicalnewstoday.com/articles/325003)
* fortified cereals

**Treatment**

* Treatment to reverse the anemia
* Transfusion as needed for severe symptoms or fetal indications
* Treatment of anemia during pregnancy is directed at reversing the anemia (see below).
* Transfusion is usually indicated for any anemia if severe constitutional symptoms (eg, light-headedness, weakness, fatigue) or cardiopulmonary symptoms or signs (eg, dyspnea, tachycardia, tachypnea) are present; the decision is not based on the Hct

**Complications**

 If not treated, anemia can cause many health problems, such as:

* **Severe tiredness.** Severe anemia can make it impossible to do everyday tasks.
* **Pregnancy complications.** Pregnant people with folate deficiency anemia may be more likely to have complications, such as premature birth.
* **Heart problems.** Anemia can lead to a rapid or irregular heartbeat, called arrhythmia. With anemia, the heart must pump more blood to make up for too little oxygen in the blood. This can lead to an enlarged heart or heart failure.
* **Death.** Some inherited anemias, such as sickle cell anemia, can lead to life-threatening complications. Losing a lot of blood quickly causes severe anemia and can be fatal.

**conclusion**

Anemia may affect the development of the fetus, and it can cause serious health issues, including neural tube defects. These abnormalities can occur during the very early stages of pregnancy, so it is important to have enough iron and folate before becoming pregnant, as well as during and after pregnancy. Anemia during pregnancy is often due to a deficiency in vitamin B12, folate, or iron. In many cases, it is possible to prevent anemia during pregnancy by eating foods high in iron and taking vitamins and supplements containing iron, vitamin B12, and folate. However, a person should seek advice from a doctor or midwife before taking any new supplements

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