

Hematinics- Still a Necessity in Pregnancy

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Pregnancy is known to be associated with some changes in the hematological system, which does act to protect against the expected blood loss associated with the delivery process in conjunction with other physiological adaptation of the body system.

These changes commence early post-conception and traverse the duration of pregnancy through to the postpartum period ranging from increased red blood cell mass, plasma volume, leucocytosis, a relative hypercoagulable state of pregnancy to adaptive immunological pregnancy changes and serve to provide for the materno-fetal needs.

The approximately 50% increase in the maternal blood volume at term ensures an adequate supply of blood to the enlarged uterus and it's content, making provision for fetal hematopoiesis and acting as a cushion against expected blood loss at delivery [1].

A physiologic or dilutional anemia often seen in the late second to third trimester is due to an increased plasma volume to red blood cell ratio and results in an increased placental perfusion due to the relatively decreased blood viscosity [2].

The World Health Organization (WHO) refers to anemia as hemoglobin level less than 11 g/dl while for the United States Center for Disease Control (CDC) a level less than 10.5 g/dl in the second trimester or less than 11 g/dl in the first and third trimesters are used [3,4]. In any case, hemoglobin level less than 7 g/dl is severe and measures need to be implemented to avoid sequelae like congestive heart failure.

The prophylactic use of iron supplementation in pregnancy cannot be overemphasized as it has been associated with an erythrocyte volume about 250-450 mls higher at term than in non-supplemented women while the average mean corpuscular volume decreases to an average of 80-84 fl in those not on Iron supplements [5,6].

Iron is absorbed in the duodenum and about 30 mg of elemental iron is needed daily as prophylaxis out of which an average of 3-4 mg needs to be absorbed per day early in pregnancy increasing to about 6-7 mg daily in the late second to third trimester to account for about 1000 mg needed during pregnancy. The supplements are typically given as 325 mg of oral tablets in various forms such as gluconate, fumarate or sulphate [7].

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Due to the increased red blood cell production, 400-800 mcg of Folic acid daily is also recommended during pregnancy compared to the 50-100 mcg needed pre-pregnancy.

The optimal management of pregnancy can be facilitated by simple measures such as Iron supplementation along with adequate nutrition to avoid pregnancy associated anemia and its consequences and should still be encouraged.

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