

## Anaemia among pregnant women: a review in Africa

\*Emmanuel Ifeanyi Obeagu<sup>1</sup>, Abdi Abubakar Ali<sup>2</sup>, Uche Francisca Onwuasoanya<sup>3</sup>, Anthonia Onyinye Ngwoke<sup>4</sup>, Danchal Comfort Vandu<sup>1</sup>, Getrude Uzoma Obeagu<sup>5</sup> and Ugwu Okechukwu Paul-Chima<sup>6</sup>

<sup>1</sup>Department of Medical Laboratory Science, Kampala International University, Uganda.

<sup>2</sup>Department of General Surgery, Kampala International University Uganda.

<sup>3</sup>Department of Medical Laboratory Science, Nnamdi Azikiwe University, Nnewi Campus, Nnewi, Anambra State, Nigeria.

<sup>4</sup>Department of Physiology Faculty of Basic Medical Sciences, Enugu State, University of Science and Technology, Enugu, Nigeria. Kampala International University Uganda.

<sup>5</sup>Department of Nursing Science, Kampala International University Uganda.

<sup>6</sup>Department of Publications and Extension, Kampala International University, Uganda.

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### ABSTRACT

Iron-deficiency anemia is the most frequent form of anemia in pregnancy and can have serious consequences for both the mother and fetus. The majority of women do not have adequate iron stores to meet the dramatic increase in requirements during the second and third trimester of pregnancy. However, there is increasing evidence that intravenous iron is more effective, provides more rapid haemoglobin correction, corrects iron stores and is better tolerated than oral iron in treating iron-deficiency anemia during pregnancy. The reported prevalence of anemia in this study is high and routine screening of pregnant women is highly recommended and further studies to explore during pregnancy is a public health problem in developed and developing countries. Pregnant women are at risk of developing anemia due to increased nutrient needs which include iron, folate and Vitamin B12 and haemo-dilution during pregnancy.

**Keywords:** Anemia, haemoglobin, red cells, pregnancy, Africa.

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### INTRODUCTION

Anaemia during pregnancy is a public health problem in developed and developing countries [1-12]. Pregnant women are at risk of developing anaemia due to increased nutrient needs which include iron, folate and Vitamin B12 and haemo-dilution during pregnancy. Reported prevalence of anaemia among pregnant women in Uganda range from 7.4% to 63.1% and prevalence of 62.8% was reported in 2016 at Mbarara Regional Referral Hospital According to Mbarara Regional Referral Hospital Records, from January 2022 to February 2022, approximately 34.9% of pregnant women attending antenatal clinic were diagnosed with anaemia. About 20 cases of adverse perinatal outcomes and 25 cases of adverse maternal outcomes due to

anaemia. It is based on the above data that anaemia among pregnant women seem to be a problem and scarce data exist about anaemia during pregnancy at Mbarara Regional Referral Hospital and data available has been outdated. Therefore, this study aim to determine the prevalence and determinants of anaemia among pregnant women at Mbarara Regional Referral Hospital and improve on interventions given to anaemia pregnant women [13]. The consequences of anaemia during pregnancy to pregnant women include; fatigue, weakness, difficult breathing, dizziness, drowsiness, skin paleness, lack of productivity and death in severe cases when not intervened appropriately. Low birth weight, preterm birth and perinatal death are also adverse

perinatal outcomes whose risk is increased by anaemia during pregnancy if left untreated [14].

#### **Prevalence of anaemia among pregnant women**

Pregnant women are a risk group of the public health problem anaemia with 32 million pregnant women affected by anaemia globally. Studies show that anaemia is a health challenge in the pregnant women group. In 2014, 63% of pregnant women in central India were found to be anaemic. Singh P et al and colleagues showed that 58.3% of pregnant women in Bareilly district, Uttar Pradesh in India were anaemic. Still in another study conducted in India, 100% prevalence of anaemia among pregnant women was observed since no one met the standard haemoglobin level of >11.0 g/dL during pregnancy. According to this same article prevalence of mild, moderate and severe anaemia were 52.73%, 40.97% and 6.28% respectively [15]. In Bangladesh, prevalence of moderate and severe anaemia were 70% and 30% among pregnant women. Another Bangladesh

study reported in 2020 that, 51.6% pregnant women were anaemic with prevalence of mild, moderate and severe anaemia 23.2%, 26.3% and 2.1% respectively [16]. Noha Morsy and Sakina Alhady reported that 91.25% of pregnant women in Egypt were anaemic with 27.5% having mild anaemia (haemoglobin, 9.0 - 11.0 g/dL), 28.5% having moderate anaemia (haemoglobin, 7.0 - 8.9 g/dL) and 35.25% having severe anaemia (haemoglobin, < 7.0 g/dL) In Nigeria, Okafor and colleagues wanted to know prevalence of iron deficiency anaemia among pregnant women. In their final report, 20.0% of pregnant women were anaemic but prevalence of iron deficiency anaemia was 15.7% among the anaemic pregnant women. Other studies in Nigeria also reported prevalence of anaemia among pregnant women at 27.6% and 54.5% [17].

#### **Determinants of anaemia among pregnant women**

##### **Malarial infection**

Malaria parasites attack the red blood cells and causes hemolytic anaemia. Several studies has reported association of malaria with anaemia. According to reports from a Ugandan study conducted in Mpigi District, malaria was found associated with

anaemia with odds ratio of 1.32. Another study at Mbarara Regional Referral Hospital also showed association between malarial parasitaemia and anaemia among pregnant women [18].

##### **Human Immuno-Deficiency Virus (HIV) infection**

HIV infection was reported to increase the risk of developing among pregnant women in Mpigi District in Uganda with odds ratio of 2.13. Another study from South Africa also supported the above finding which

stated anaemia was significantly higher among HIV positive pregnant women than HIV negative pregnant women also showed association between HIV infection and anaemia during pregnancy [19].

##### **Lack of iron supplementation**

Lack of iron supplementation during pregnancy increased the risk of anaemia among pregnant women in Uganda by odds of 1.66. In Kenya, lack of folic acid or iron supplementation was found to be significantly associated with anaemia during pregnancy. Low iron/ folic acid

supplementation was shown to be a predictor of anaemia during pregnancy Increased iron supplementation was found to be associated with lower risk of developing anaemia during pregnancy [20].

##### **Maternal age**

Maternal age was associated with anemia during pregnancy in with pregnant women aged 20 years and below being most anemic. Age was also shown to be associated with anemia during pregnancy

among women. Pregnant women who were aged 31 years and above were significantly more anemic than the ones aged 18-24 years in Kenya. Another study also in the Ashanti region of Ghana showed

association between anemia during pregnancy and low maternal age Mothers aged 35-40 years were shown to be more

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anemic than mothers aged 34 years and below [21, 22, 23, 24].

### CONCLUSION

The gold standard for the diagnosis of iron deficiency anemia is a low ferritin level. First-line treatment for iron deficiency anemia is oral iron. New evidence suggests that intermittent dosing is as effective as daily or twice daily dosing with fewer side

effects. For patients with iron deficiency anemia who cannot tolerate, cannot absorb, or do not respond to oral iron, intravenous iron is preferred in the third trimester and sometimes as early as the second trimester.

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