



# Preventing Anaemia in Pregnancy: The Role of Obstetrician/Gynaecologist and Public Health Physician

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## COMMENTARY

Anaemia in pregnancy is a public health challenge globally.<sup>1</sup> The prevalence of anaemia in pregnancy is higher in the developing countries of the world when compared to the developed countries of the world.<sup>2</sup> This is as a result of multiple factors such as ignorance, poverty, illiteracy, socio-cultural beliefs, just to mention but a few.<sup>3</sup> Anaemia is defined as haemoglobin concentration less than 13g/dl in men and 12g/dl in women with reference to the World Health Organization (WHO).<sup>1,2</sup>

Prevention of anaemia in pregnancy is multidisciplinary involving the Obstetrician/Gynaecologist, haematologists, nurses, pharmacists, nutritionist and the public health professionals /physicians.<sup>5,6</sup>

For justice to be done to the topic under discussion; "Prevention of anaemia in pregnancy" it will be of importance to explain causes of anaemia in pregnancy.<sup>6</sup>

Anaemia occurs in up to one third of women during 3rd trimester of pregnancy. The most common causes of anaemia in pregnancy are iron deficiency and folate deficiency anaemia.

In pregnancy the following hemoglobin (Hb) and (Hct) levels are classified as anaemic.<sup>1,2</sup> In the first trimester Haemoglobin (Hb) : < 11g/dl; Hct < 33%, second trimester: Hb < 10.5g/dl; Hct < 32% and during the third trimester; Hb < 11g/dl; Hct < 33%. Researchers are of the opinion that at the onset of pregnancy, that women may benefit from prophylaxis iron therapy if Hb <11.5g/dl because subsequent haemodilution usually reduces Hb to <10.g/dl.<sup>1,4</sup> The explanation is based on the fact that during pregnancy, erythroid hyperplasia of the marrow occurs, and the red blood cell (RBC) mass increases.<sup>1,5-6</sup> In contrast to this, a disproportionate increase in plasma volume results in haemodilution (hydrema in pregnancy) haematocrit (Hct) decreases from between 38% and 45%

in healthy women who are not pregnant to about 34% during late pregnancy.<sup>1,3-5</sup> Anaemia in pregnancy poses a greater risk for low birth weight, preterm birth, and perinatal and maternal mortality.<sup>1,10</sup> Furthermore, the severity of anaemia is associated with higher rates of maternal mortality.<sup>10,11</sup> Anaemia affects over half a billion women of reproductive age, worldwide.<sup>1,2</sup> It is estimated to affect 38% (32.4 million) of pregnant women globally with the highest prevalence in Africa (48.3%) () of South - East Asia (48.7%).<sup>1,2</sup>

Other classifications of anaemia in pregnancy are; anaemia due to acute or chronic blood loss such as from ante-partum haemorrhage example of which is placenta praevia<sup>10</sup> or infection such as urinary tract infection, malaria infestation in pregnancy;<sup>2,10,13</sup> other causes of anaemia in pregnancy may be due to haemoglobinopathies examples of which is sickle cell disease and pregnancy.<sup>2,10-13</sup> Furthermore, anaemia in pregnancy can be classified based on the blood film such as microcytic anaemia, evaluation entails testing for the iron deficiency (measuring serum ferritin) and haemoglobinopathies using haemoglobin electrophoresis; another example of blood picture when evaluating for anaemia is macrocytic anaemia which includes serum folate and vitamin-B 12 levels.<sup>1,2,8</sup> Preventing anaemia in pregnancy can be addressed on a general note and specifics with respect to the topic under discussion: obstetrician / gynaecologist and public health physicians' viewpoint.<sup>2-4,10</sup>

On a general note anaemia in pregnancy can be prevented from first principles starting with primary prevention which entails health education to the populace and the pregnant women in particular.<sup>2-4,10</sup> This will entail explaining the causes of anaemia in pregnancy to the would be mothers and pregnant women which has earlier been discussed; iron deficiency and foliate deficiency anaemic which are the commonest causes of anaemia in pregnancy.<sup>2,3,10,13</sup> It is worthy of note that all pregnant women and women who are trying to conceive are given folic acid 0.4 to 0.8 mg orally once daily.<sup>3-4</sup> In addition when pregnancy is confirmed all pregnant women should be commenced on ferrous (sulphate, gluconate or fumarate) throughout pregnancy and in the puerperium.<sup>2-4,10</sup> Educating pregnant women and the populace on the need to comply routine antenatal visits and medications.<sup>2,10</sup> This is the responsibility of health care professionals, of which the obstetrician/gynaecologists and the public health physicians.<sup>2,13</sup>

The secondary prevention of anaemia in pregnancy is hinged on the findings revealed during the routine antenatal investigations at booking such as correcting for anaemia if her haemoglobin concentration reveals anaemia.<sup>2,10</sup> In addition, treating underlying infections and infestation such as hookworm infection, urinary tract infection and malaria infestation.<sup>10,12,13</sup> As a follow-up of evaluation for anaemia clinical and laboratory findings may treatment of malaria infestation, urinary tract infection and de-worming the pregnant woman for hookworm infection if there was evidence of the ova of the hookworm as shown by stool microscopy.<sup>10-13</sup> In addition, pregnant women with acute anaemia from blood loss such as antepartum

hemorrhage; anaemia should be corrected.<sup>13</sup> Furthermore, pregnant women with haemoglobinopathies example of which is sickle cell disease should be managed closely due to the fact that they are prone to chronic anaemia.<sup>10,13</sup> For this reason their steady state haemoglobin should be maintained in conjunction with the haematologist.<sup>1,2,10</sup>

The public health physicians have multiple roles to play in the prevention of anaemia in pregnancy.<sup>14-19</sup> From the primary level of prevention, which entails information dissemination not just to the pregnant woman on the causes of anaemia in pregnancy to living a healthy life throughout pregnancy to delivery.<sup>15</sup> The public health physician is a bridge between the pregnant woman, the Obstetrician and the outside world.<sup>16</sup> The role of the public physician, cannot be over emphasized in the prevention of anaemia in pregnancy of which are enumerated below:

- Information dissemination to the family and community on the need for the pregnant woman to comply with her routine antenatal medications and visits.<sup>15</sup> Help to pass useful information to the community, religious groups and the general public on the peculiarity of the need for pregnant women to register early, identify risk factors of anaemia in pregnancy, report to the nearest health facilities in the event of complications in pregnancy including acute blood loss in pregnancy which may predispose the pregnant woman to anaemia in pregnancy.
- Supervise community health workers in the rural setting, especially when it has to do with prevention of anaemia in pregnancy and other public health challenges.
- They are the voice of the pregnant women to the general world and help draw the attention of law givers / legislatures to drive policies in favour of safe motherhood including partnering with the hematologist and obstetrician during important health care awareness programmes including the need for blood donation as a proactive means in anaemia prevention.

## CONCLUSION

An anaemia in pregnancy is a major public health challenge globally. Prevention of anaemia in pregnancy is multidisciplinary, the role of the obstetrician/gynaecologist and the public health physicians cannot be overemphasized ; especially with respect to prevention of post-partum hemorrhage which is a major cause of maternal mortality.

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