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Iron deficiency anemia in pregnant women -A review paper

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Abstract:

It has serious effects on people's health as well as the social and economic development of both industrialised and developing nations. Anaemia is a widespread nutritional deficiency disorder and global public health issue that affects both of these groups. Pregnancy complications and anaemia are frequently linked to poor pregnancy outcomes and can endanger the lives of the mother and the foetus. The most frequent reason for anaemia during pregnancy is iron deficiency. To manage and treat anaemia properly and successfully, it is imperative to determine its underlying cause. Regulating organisations, however, have different definitions and guidelines for anaemia during pregnancy. Anaemia during pregnancy can have a negative impact on both the mother and foetus if it is not properly recognised or treated. Iron requirements are increased in pregnant and nursing women. In USM, anaemia is known as "Faqr al-Dam," while anaemia with hypoproteinaemia is known as "Su' al-Qinya." In old unani literature, Jurjani believes that anaemia is caused by improper dietary habits and imbalance, and he proposes that healthy nutrition and digestion are the keys to balancing the humours and health.

Keywords: Faqr-ud-Dum, Sū' Al-Qinya, Iron Deficiency Anemia, Pregnant Women, Prevalence.

Introduction;

Anaemia during pregnancy is a serious health issue, particularly in industrialised nations, and it is associated with several adverse consequences. The World Health Organisation (WHO) defines anaemia as having a haemoglobin (hb) level less than 11 g/dl. According to WHO, if the prevalence of anaemia is 5.0% or more, it should be regarded a severe concern. If the prevalence of anaemia in any community exceeds 40%, it must be designated as a serious health problem. Anaemia affects 56% of pregnant women in poor and middle-income families. The most prevalent causes of anaemia in pregnant women in industrialised nations are micronutrient shortages of iron, folate, and vitamins A and B12, as well as anaemia due to parasitic infections such a Malaria and hookworm, while tuberculosis and HIV are examples of chronic infections. Iron insufficiency is the most frequent dietary deficit around the world, especially among pregnant women. Because of the increased need for iron during pregnancy, pregnant women are more prone to anaemia.

Anaemia deficit has major consequences for both the foetus and the mother. Anaemia symptoms in mothers include increased tiredness, decreased mental ability, and decreased activity performance[1]. There are two recognised variables that contribute to the development of iron deficiency anemia (IDA) in pregnancy: the woman's iron reserves before conception and the quantity of iron absorbed throughout gestation. The fact that anemia is common among pregnant women in underdeveloped nations suggests that underlying iron deficiency

is to blame. Stores are frequently insufficient, and physiological pregnancy modifications are insufficient to satisfy the increased demands.

Anemia during pregnancy has been linked to an increase in antepartum and postpartum haemorrhage, pre-term labour, preeclampsia, sepsis, and maternal death. Preterm and small-for-gestational-age newborns, as well as higher perinatal death rates, have been found in the neonates of anaemic mothers. A diet deficient in iron consumption, obesity, and increasing parity are all risk factors for iron deficiency anaemia in pregnant women. Pregnant women of poor socioeconomic level, low educational achievement, and ethnic minority are also at elevated risk for IDA[2]. Anaemia during pregnancy also dramatically increases maternal morbidity, foetal and neonatal mortality, and morbidity. According to a recent WHO research of maternal mortality causes, bleeding is the leading cause of maternal fatalities in poor nation[3].

Unani Concept:

In unani medicine, various synonyms of anemia are; *faqr ul dam, su al qinya, qilla al dam,kami-i-khun, and fasad-i-dam.* Although the exact description of iron deficiency anaemia is not available in ancient Unani literature, Razi (Raze 841-926AD) and Abul Hasan Ahmad bin Mohammad Tabri (10th century AD) have stated that Soo-e-Mizaj Barid wa Ratab (Deranged cold and wet temperament) leads to the development of Soo-ul-Qiniya (iron deficiency anaemia)

Kabiruddin (1950 AD) compared Soo-ul-Qinya to Faqru-Dam, Qilit-ud-Dam, and so on. He went on to characterise Khizra (chlorosis) as a kind of Soo-ul-Qinya that only affects women, and its aetiology as an abnormality in the immune system.

the ingredients of blood and noted that with increased fibrous material in the blood, the size of RBCs becomes tiny (microcytosis) and their red substance decreases (hypochromic)[4.]

Jurjani believes in old Unani literature that improper eating habits and imbalance (poor iron minerals) are the causes of anaemia and that correct nutrition and digestion are the keys to balancing the humours and wellness. If the anaemia is not addressed, it might result in Istesqa[5.]

Razi mentions that anaemia is caused by a change in the temperament of the liver, resulting in pica and edoema, and recommends therapy with Muqawiyat Jigar Advia and goat's liver[6.] According to Ibn Sina, an excess of Sauda causes anaemia by stagnating between the liver and the stomach, interfering with the regular formation of blood and other humours.

Prevalence & Incidence:

According to the WHO, the frequency of anaemia in pregnancy is roughly 56% in South East Asia. It has been reported in India to reach as high as 40-80%. It has also been observed in everyone (13%), pregnant women (24%), women (20%), and children (43%)[7.]

The prevalence of anaemia among pregnant women was found to be 40%, which is comparable to the worldwide prevalence (41.8%) and lower than national data (50.4% National Family Health Survey4 data (NFHS4)) but higher than NHFS 4 data for rural Kerala (22.5%) and Kozhikode (32%). According to DLHS 4 statistics, the

prevalence of anaemia in pregnant women in the Kozhikode district was 46.8%. This was higher than the state average of 34.6% and 40.6% in rural Kozhikode. Tiwari et al. in Karnataka and Abiselvi et al. in Kerala discovered. Although anaemia was found in 40% of the participants in our research, the majority had moderate anaemia and none had severe anaemia. The majority of the anaemic ladies were suffering from moderate anaemia. This might be related to the advantages of prenatal care services. In Karnataka, similar conclusions were made[8],

Classification;

Anaemia can be divided into various different categories. Anaemia can be caused by a variety of red cell defects, including those that affect red cell production (aplastic anaemia), maturation (megaloblastic anaemia), haemoglobin synthesis (iron deficiency anaemia), genetics (thalassaemia), or physical loss of red cells (haemolytic anaemias)

When this happens, the body's supply of red blood cells is insufficient to meet the needs of the body's oxygen requirements. Recognising the signs and avoiding anaemia altogether can be made easier by being aware of the various classifications[9].

Degree of anemia ;

1.mild degree (8-10gm%)

2.moderate degree (7-8gm%)

3.severe degree(<7gm%)(arif)

Etiology;

The most prevalent cause of anaemia during pregnancy is iron deficiency. Individuals' iron stores determine the onset and course of anaemia. A person's final iron status and the development of anaemia are also influenced by factors such as age, dietary status, iron absorption, and iron loss.

Inadequate nutritional intake due to malnutrition,increased iron loss from body, increased iron requirements , low socioeconomic status, vegetarianism, chronic illness; malabsorption due to celiac disease and atrophic gastritis; and chronic blood loss due to esophageal varices, hiatus hernia, bleeding peptic ulcer, inflammatory bowel disease, hookworm infestation, haemorrhoids, and menorrhagia are all causes of iron deficiency anaemia.

Furthermore, some pathological and physiological situations, such as pregnancy and a growth spurt, might trigger IDA[10].

Symptoms of anemia;

When someone has anaemia, one or more of the following signs and symptoms will be present:Extreme exhaustion, weakness, and weariness,Paleness develops on the skin, mouth, and nail beds.Issues with breathing, include chest pain, palpitations, shortness of breath, and a rapid heartbeat.The presence of a headache, lightheadedness, or dizziness, The hands and feet, in particular, feel frigid.Tongue inflammation or discomfort ,Brittle nails are an issue,The Weird desire to consume starch, dirt, or ice, Appetite loss, particularly in young toddlers and infants with an iron deficit anemia ,Specific signs and symptoms of hemolytic anaemia include the presence of jaundice (icterus), a yellowish colour of the skin or whites of the eyes, upper abdominal pain, reddish

or brown urine, chills, and an enlarged spleen. An enlarged heart, arrhythmias, a weak and quick pulse, faintness or dizziness, sweating, increased thirst, fast breathing, and even heart failure might be symptoms of severe anaemia[11].

Consequences of iron deficiency anemia in pregnancy & during postpartum;

Chronic placental insufficiency, impaired physical performance, increased heart failure, and a risk of severe maternal morbidity or mortality following postpartum haemorrhage are all effects of iron deficiency during pregnancy.

Reduced milk supply and shorter breastfeeding periods, postpartum depression and emotional instability, and impaired physical performance are all effects of iron deficiency during the postpartum period.[12]

Complications;

The effect of anemia It impairs cognitive development in childhood, physical labour capacity in adulthood, and quality of life in the elderly. It also slows down the physical growth of foetuses during pregnancy and causes mental growth retardation. Additionally, it is linked to a higher risk of mother and baby fatalities in complex instances[13]

Chronic IDA during pregnancy degrades the woman's overall health, making her tired and reducing her ability to carry out daily chores. Pallor, breathing problems, palpitations, headaches, lightheadedness (including episodes of fainting), and irritability are common indications and symptoms of anaemia during pregnancy. it's possible for some people to have anaemia symptoms such fatigue, irritability, lack of focus, and hair loss without having the condition officially diagnosed Cardiac failure could develop in extreme circumstances[14]

Diagnosis;

The physiological hydremia of pregnancy and the ensuing changes in the values of the key hematologic markers make the laboratory assessment of iron-deficiency anaemia particularly challenging. Additionally, a differential diagnosis must be made between hypochromic microcytic anaemia from iron deficiency and other hypochromic anaemias including hemoglobinopathies or anaemias brought on by toxins, inflammatory conditions, or malignancies. Although it is the norm in iron-deficiency anaemia, the mean corpuscular volume (MCV) is frequently lowered in these situations.34 If iron supplies are reduced, the normal rise in red blood cell mass after week 20 of pregnancy won't be seen. For the reasons outlined above, serum iron levels decrease as pregnancy progresses. Iron deficiency is typically diagnosed by values below 30 g/dl, however the but the serum ferritin level (normal values in pregnancy: 55–70 g/l) is the greatest predictor of this. The transferrin saturation, which is around 15% with iron insufficiency, is also a good indicator. Unsaturated iron-binding capacity (UIBC), when it exceeds 400 g/dl, is regarded by some writers as a key indicator of iron deficient conditions.35 Reduced iron levels in the bone marrow are the early tissue signal of an iron-deficient state, however aspiration during pregnancy is typically not recommended[15].

Differential diagnosis of deficiency anemia in pregnancy;

- Infection
- Nephritis
- Hemoglobinopatheis[16]

Treatment:

Prior to making a final management decision, it is crucial to identify the aetiology of anaemia. However, as soon as the necessary samples have been taken, an emergency red cell transfusion is needed for signs of decompensation, extremely severe anaemia, and acute blood loss. The only restriction is that we have to make sure that all required samples have been obtained before transfusion[17]

Oral dietary aids Oral iron supplements are typically provided to expectant mothers. Although the normal daily intake of elemental iron is 100–200 mg, the ideal dose of iron supplementation depends on the blood profile and any existing iron deficit.

supplements for intravenous iron The mainstay of therapy for IDA, including anaemia during pregnancy, is oral iron supplementation. Due to gastrointestinal adverse effects in patients with limited tolerance, parenteral iron treatment may be suggested as an alternative.

transfusion of blood When a patient is severely iron deficient and at a high risk of heart failure, blood transfusions may be indicated. The transfusion does, however, come with dangers, including circulatory overload, transfusion response, and a higher chance of foetal hemolytic illness. Consequently, blood transfusions should only be done after carefully weighing the risks and advantages[18].

usool to eliminate the root cause.

An increase in appetite and digestion. Correction of a wholesome diet. Drugs to enhance the quality of blood[19.]

unani treatment;

To delete the cause that is underlined. In order to relieve constipation. to avoid fuzlat (faecal matter) development. To get rid of the fuzlat (faecal matter) that is already inside the body. To enhance digestion and administer stomach tonic medications. A morning stroll in the open air. To provide a healthy, easily digested diet.

Dietotherapy: Iron Resources Amarnath (21.4mg), Bajra (8.8mg), Chana (8.9mg), and Matar Khushk (4.4mg) are the four substances. Karela (9.4 mg), Gur (11.4mg), i) Gosht (2.5mg); h) Podina (15.6mg); and g) Ge ngelly seeds (10.8mg). Few single drugs effictive in anemia; anar, angoor, amla[20].

Unani formulation;

Safoof-e-Khabsul Hadeed. Constituents of Safoofe-Khabsul Hadeed are Poste Haleela zard (Terminalia chebula), Poste Baleela (Terminalia ballerica), Amla (Emblica officinalis), Filfil Daraz (Piper longum), Sonth (Zingiber officinalis), Gudh (Jaggery) each 12 grams. • Jawarish Amla 7 grams twice a day. • Qurs-e-Gulnar 2 BID. • Jawarish Amla 7 grams twice a day with water and Qurs-e-Kushta-e-Faulad 2 Qurs morning & evening, up to 2

months. • Jawarish Anarain 5 to 7 gram with normal water twice a day. • Sharbat-e-Anar 10 to 20 ml with normal water twice a day[19].

Conclusion;

Due to their increased need for iron and folate during pregnancy, women are more likely to develop anaemia. In addition to having a negative impact on the mother's health throughout pregnancy, anaemia significantly raises the likelihood of an unanticipated bleed during birth or pregnancy. Anaemia is typically treated by administering nutritional supplements in the unani medical system. Herbs are essential in the treatment of many illnesses, particularly those involving iron disorders. There are a number of chemical compositions that are frequently used to treat anaemia and have excellent outcomes. Consequently, in order to avoid Regular prenatal checks, early anaemia detection to rule it out, proper diet, iron supplementation by giving iron-rich herbs & Unani formulations during the pregnancy, and early diagnosis of anaemia can all assist to attain the objective of a healthy mother and healthy baby.

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