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Prevalence of Anemia in Pregnancy at Tertiary Care Hospital of Sindh

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Abstract:

Anemia during pregnancy is a worldwide health problem affects around 500 million women during pregnancy .Prevalence of anemia range from 5.4% to 80% in developed and developing countries respectively. Adverse effects of maternal anemia are well known and well documented on fetus as it potentiates risk of preterm labor, low birth weight babies and neonatal mortality. It also puts mothers at risk increasing maternal mortality and morbidity, antepartum and postpartum.

Material and Methods:

It was a cross-sectional prospective study which was conducted at Gynaecology and Obstetrics Department of Liaquat University Hospital, Jamshoro, Hyderabad. Sampling technique was Non probability convenient sampling. Duration of study was 6 month. 300 Pregnant females aged 30-45 years and with parity up to 5 were enrolled in study after taking informed consent. Anemia was classified as macrocytic, microcytic and normocytic based on MCV. Fetal wellbeing was evaluated by serial abdominal ultrasound. WHO Grading for anemia was used to assess the severity of anemia.

Results:

258(86%) women were multiparous 42 were primigravida. 79% were in third trimester, 15% during second trimester and 6% in first trimester. Out of 300 patients 47% had mild (11gm %), 43% had moderate (7-9gm %) and 10% were having severe anemia with Hb <7gm%. 78% had microcytic hypochromic anemia, 12% had dimorphic pictures 12% had low RBC indices with increased red cell count so these were referred for HB electrophoresis to be screened for thalassemia trait. 58 % had monthly income of 2000-4000.78% had poor diet 22% were taking normal diet. 28% had used for preparation of iron and folate for variable period of time 1-4 months.72% never used hematinic. history of blood transfusion during pregnancy and Labor was present in 16%.

CONCLUSION prevalence of anemia during pregnancy is high in our society. It can have significant impact on maternal and fetal outcome it is preventable and can be treated easily. Poverty and lack of education are the most important causes of anemia during pregnancy.

Introduction:

Anemia during pregnancy is a worldwide health problem affects around 500 million women during pregnancy.[1]Prevalence of anemia range from 5.4% to 80% in developed and developing countries respectively.[2] mostly it is physiological as there is more fluid retention in body leading to dilutional anemia but the true anemia that have potential to effect pregnancy adversely are nutritional anemia of iron, B12 and folate deficiency.it does not only effects maternal mortality morbidity but also have adverse effects on fetal wellbeing that can further add to fetal mortality and morbidity.[3] Hemoglobin level less than 10.5g/dl at any time of gestation is regarded as anemia. [4]Adverse effects of maternal anemia are well known and well documented on fetus as it potentiates risk of preterm labor, low birth weight babies and neonatal mortality.[5]It also puts mothers at risk increasing maternal mortality and morbidity antepartum and postpartum.[6]

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MATERIAL AND METHODS

It was a cross-sectional prospective study which was conducted Gynaecology and Obstetrics Department of Liaquat University Hospital, Jamshoro, Hyderabad. Sampling technique was Non probability convenient sampling. Duration of study was 6 month. 300 Pregnant females aged 30-45 years and with parity up to 5 were enrolled in study after informed consent. Detailed History of bleeding, parasitic infestation, pattern of taking NSAIDS, Blood transfusion and dietary customs was taken. Their socio-economic status was assessed by asking questions related to their monthly income and expenses. Blood samples for blood counts and hemoglobin estimation were collected. Cut-off value for labelling patient as anemic was 11 gram per deciliter. Anemia was classified as macrocytic, microcytic and normocytic based on MCV .MCV< 76 taken as microcytic, MCV>98 FL as macrocytic and MCV ranges 78 -98FL as Normocytic. Fetal wellbeing was evaluated by serial abdominal ultrasound. Who grading for anemia was used to assess the severity of anemia.

RESULTS:

258(86%) women were multiparous 42 were primigravida. 79% were in third trimester 15% during second trimester and 6% in first trimester. Out of 300 patients 47% had mild (11gm %), 43% had moderate (7-9gm %) and 10% were having severe anemia with Hb <7gm%. 78% had microcytic hypochromic anemia, 12% had dimorphic pictures 12% had low RBC indices with increased red cell count so these were referred for HB electrophoresis to be screened for thalassemia trait. 58 % had monthly income of 2000-4000.78% had poor diet 22% were taking normal diet. 28% had used for preparation of iron and folate for variable period of time 1-4 months.72% never used hematinic. history of blood transfusion during pregnancy and Labor was present in 16%.

Discussion:

Study was conducted to see the prevalence of anemia in pregnant women as it is a state which predisposes a women to develop anemia due to several reasons physiological or pathological overall prevalence of anemia as reported in literature globally is 74% while in developing countries like India it is reported as 19 to61% in Tanzania it is reported as 86%, in Nigeria 47% in Philippines again 48% and Bangladesh 47%(Barbin et al., 2001).In our study the overall prevalence of anemia is 82%whuich is higher than many developing countries .if compare with the local studies a study conducted in Faisalabad in 2015 reported the prevalence of anemia in pregnant woman as 75% and study published from Lahore in 2007 reported it as 80%.8,9 So our results are comparable to both of the local studies and slightly higher prevalence of anemia as most of the patients in our study were from lower socioeconomic background. 38%women had mild anemia with Hb Ranging from 8-9.9gm/dl. Out of 300 patients 47% had mild, 43% had moderate and 10% were having severe anemia. These results are comparable to a study conducted on 400 subjects from selected hospitals of Punjab which reported 44.75% patients falling in mild category, 44.50% in moderate category and 4.75% in severe category of anemia. As compared to this study we have higher percentage of patients falling in severe category of anemia. 10Another study conducted on 250 patients in southern Punjab 55.2% were anemic and

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out of these 60.14 % were moderately anemic while 39.86 % had mild anemia and none of these had severe anemia. Study in Faisalabad reported the mildly anemic women 24%, moderately anemic 33% and severely anemic 18%.[11, 12]So in this study the percentage of severely anemic pregnant women was higher than our findings.

Among the patients which were anemic 78% had microcytic hypochromic anemia, 12% had dimorphic pictures,12% had low MCV MCH but normal MCHC and these were referred for HB electrophoresis. The presence of anemia along with microcytic hypochromic indices indicates iron deficiency which is highest as a cause of anemia in developing countries these results are in line with the other studies .Iron deficiency anemia is already worldwide commonest cause of anemia in preganancy.Estimated prevalence of IDA from data of 107 countries was 43% two decade back and 38% in 2011 which is much higher in developing countries 56.4%.[13]We referred 12% patients for Hb Electrophoresis for Thalassemia trait as it is also important to diagnose it to reduce the burden of this disease as our part of the world is already affected by it. 12%patients had dimorphic population of RBCs these patients were later found to have mixed nutritional deficiency which is very much near to the expectations as most of the patients in our study were from lower socioeconomic group having very limited incomes also their diet was not satisfactory and lacking in many important nutrients ,proteins and vitamins. Mixed nutritional deficiency that is iron and folate both of which are required in pregnancy can worsen the condition in fetus and in mother as well. Folate deficiency during pregnancy can result in congenital birth defects.[14]72% patients in our study were totally ignorant about the use of hematinic considering them unimportant and of no significance. Hook worm infestation and nutritional deficiency were the most important factors in these anemic patients. A study conducted in India also observed the two factors as most important cause of anemia.[15] 16% patients had transfusion history repeatedly during their pregnancyfor severe anemia.

Conclusion:

We consider that education and awareness are the mainstay for prevention and treatment of anemia as it has worse outcome for maternal and fetal health. Poverty and ignorance are two very important reason for anemia and poor health of woman during pregnancy. Worthy side is that it is not only treatable but also preventable by simply paying attention to the normal dietary patterns and general wellbeing of the mother. Regular use of hematinic which are routinely prescribed in pregnancy can also prevent the unwanted and undesirable outcomes.

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