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SHORT COMMUNICATION

DISEASES CAUSING BIOCHEMICAL CHANGES DURING PREGNANCY IN THE POPULATION OF KARACHI

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ABSTRACT

Malnutrition and population growth rate are the basic problems is south Asian countries, mainly Pakistan, Bangladesh, India etc. This situation becomes serious when a woman becomes pregnant. In this research work 30 pregnant women belonging to middle and lower middle class of 25 to 35 years of age were examined at Abbasi Shaheed Hospital, Karachi. Most of the women showed malnutrition and iron deficiency anemia, which increased gradually with the passage of time. Above mentioned problem is unmistakable related to socioeconomic factors.

INTRODUCTION

Hematology profile is the essential part of the investigation of every antenatal patient. Red blood cells are produced in the bone marrow by erythropoietic stem cells. Red blood cells lack nucleus and they contain hemoglobin, a large iron containing molecule, which gives blood its characteristics colour. Hemoglobin carries oxygen from the lungs and transports it to the peripheral tissues. In anemia the oxygen carrying capacity of the blood is reduced. Most commonly occurring anemia is iron deficiency anemia. Hemoglobin is measured to detect anemia (Walder and Edward, 1994). Hemoglobin is found exclusively in red blood cells, were its main function is to transport oxygen from the lungs to the capillaries of the tissues (Anonymous, 1987). Anemia in pregnancy is usually due to the defective erythropoises, most often due to iron or foliate deficiency. Plasma volume begins to expand within a few weeks after conception, and there is an increase of about 20% by 15 weeks, whereas hemoglobin also increases but not at the same rate, this leads to hemodilution (Clapp *et al.,* 1988). Normally red blood cells have the same hemoglobin concentrations and the same survival time as in the non-pregnant state (Pritehard and Adams, 1960). A hemoglobin concentration of at least 11.0 g/dl with hematocrit of 60% is taken as normal, and an aggressive approach to achieve this from early pregnancy has been suggested in the interest of fetal and maternal well being (Tcuk, 1982). Transfusion of fresh packed cells may be required, and the exchange technique is of particular value during a crises or if the patient presents with sever anemia near term (Buckle *et al.,* 1969).

MATERIAL AND METHOD

30 patients of age ranging from 25 to 35 years were examined in the Department of Gynecology and Obstetrics, Abbasi Shaheed Hospital, Karachi from early pregnancy period till

birth of the child. During pregnancy the blood samples were drawn from the pregnant females and were analyzed for blood chemistry by Auto-Analyzer (R.A. 1000) made in France. Routine hospital procedures for blood chemistry analysis were utilized. The standard range of studied parameters is as follows (Ferri, 1991).

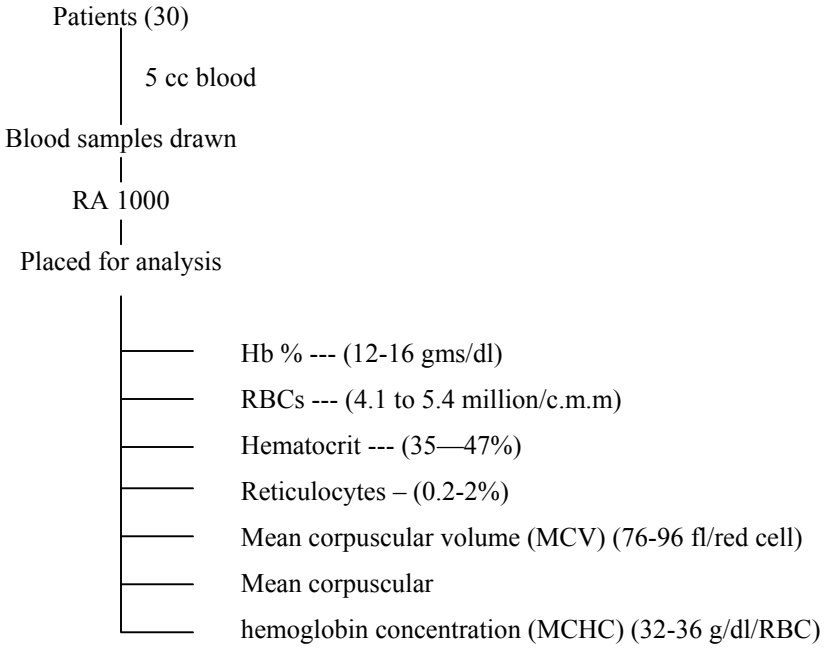

Table
Showing different values of the parameters

No. of Patients	Parameters	Standard Normal Values	Comprehensive results of blood analysis of patients
30 (Thirty)	Hb%	12-16gm/dl	23 patients below normal values
	RBCs	4.1-5.4 million/cmm	23 patients below normal values
	Hematocrit	35-47%	23 patients below normal values
	Reticulocytes	0.2-2%	All (30) patients, are of normal values
	MCV	76-96 fl/red cell	23 patients below normal values
	MCHC	32-36g/dl RBC	23 patients below normal values

Seven out of thirty pregnant females had all values above the normal values.

RESULTS AND DISCUSSION

The Table showed comprehensive results of blood analyzer of the 30 pregnant women residents of Karachi. The results of comparison of normal values with below normal values is

given, this shows that about 76% females are suffering from iron deficiency anemia, which directly affects the growth of the fetus, this may be due to malnutrition and non follow-up of antenatal checkup during pregnancy. Out of 30 patients, 23 cases were of below normal values of hemoglobin, 23 patients had below normal value of RBC's hematocrit, all patients had normal values of reticulocytes. 23 patients had MCHC and MCV below normal values. This study shows that 23 out of 30 patients were suffering from iron deficiency anemia.

CONCLUSION

The results of the above study show that 23 out of 30 women were suffering from iron deficiency anemia. Reason for such higher rate of iron deficiency anemia among women of child bearing age is malnutrition, repeated number of pregnancies without adequate spacing, and failure to take oral iron supplement during pregnancy.

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