

Anemia Screening and Micronutrient Status of Pregnant Women in Rural and Semi-urban Primary Healthcare Centers in Ikwuano Umuahia of Abia State in Nigeria

Anemia is a widespread public health problem associated with numerous factors, both nutritional (such as vitamin and mineral deficiencies) and non-nutritional (such as infection and hemoglobinopathies), contributing to the onset effect, which iron deficiency and malaria play an important role. This randomized study was designed to evaluate anemia prevalence at primary healthcare centers among volunteered semi-urban (Ahiaeke) and rural (Amawom) pregnant population attending Antenatal Clinic (ANC) in Ikwuano Local Government Area in Abia State, Nigeria. The socioeconomics and demographic peculiarities of these volunteers were captured using structured questionnaires and standard biochemical methods were adopted in evaluation of hemoglobin (Hb), Packed Cell Volume (PCV), malaria status (positive or negative), vitamin A and B12, folate, selenium, and serum iron. A total of 36 pregnant women (mean age=26.5±5.21) agreed to take part in the study; 16 and 20 of the pregnant women were from rural (mean age= 26.43 ± 5.91) and semi-urban (26.65 ± 4.57) primary health care centers respectively. The prevalence (overall 53%) of anemia was categorized as follows: 30-31%; mildly; 20-25%, moderate; 0 %, severe; predominantly in second and third trimester of their pregnancy based on world health index. Malarial parasite was presence in 56% of the blood analyzed, though common with rural dwellers. Evaluated relationship between serum iron and vitamin B12 among other (PCV, Hb vitamin A, folate, and selenium) were significant ($p<0.05$) at various stages of their pregnancy with age, despite respondents increased awareness in drug supplementation (folic acid and iron), use of antimalarial during pregnancy, food needs and personal hygiene. The respondents showed varied levels of awareness with strategic and policies programs (water, sanitation and hygiene, disease control, reproductive health, counseling management) indices in anemia intervention evaluated in the questionnaire. However, further screening of Iron content of some market vegetables (fluted pumpkin and garden egg), snack and cereals (roasted corn and pap) and sweet potatoes in these localities considered as common sources of iron indicated significant ($p<0.05$) differences in content. Besides malaria which leads to losses of blood or impairment of the production of Hb, nutrition plays one of the most important roles. Some vitamins like vitamin B12, and folic acid, influence the formation of Hb but the most important nutritional factor is iron deficiency and the most frequently occurring micronutrient deficiency (Selenium and vitamin A) in developing economy. Thus, iron's vital roles in oxygen transport, storage, oxidative metabolism and cellular proliferation; with roles of micronutrient under-provision and malaria impact on hemoglobin impairment or loss in pregnancy are critically implied interacting variables in anemia management

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