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Prevalence of zinc deficiency among preschool children aged 3-5 years in Vhembe district, Limpopo province, South Africa

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Background: Children under five years constitute the most vulnerable group and their nutritional status is a sensitive indicator of community health and nutrition. Diet of many South Africans consists of porridge as staple food which is usually consumed with vegetables, legumes and a small amount of animal derived food. These animal derived food sources are not consumed extensively due to their high cost, limited supply and religious or cultural practices.

Objective: To determine the prevalence of zinc and iron deficiency among preschool children aged 3-5 years in Vhembe district, Limpopo province, South Africa.

Methods: This study was carried out on 400 preschool children in Vhembe district, Limpopo province, South Africa. Municipalities were purposively selected and subjects were chosen by simple random sampling methods. Anthropometric measurements were made following standard techniques. Serum zinc, iron, ferritin, T saturation, transferrin and CRP levels were measured by atomic absorption spectrophotometery.

Results: Of the 400 children, 349 were included in this study. The prevalence of wasting, stunting and underweight was 1.4%, 18.6% and 0.3% respectively while 20.9% of the children were overweight and 9.7% were obese. The prevalence of zinc deficiency was 42.6% and anemia was 28% both were significantly higher in females as compared to males. When using both serum ferritin and T saturation levels as markers of iron deficiency 7 (2%) children were found to have IDA. Combined iron and zinc deficiencies using ferritin as a marker of iron deficiency was found in 8 (2.3%) of the children while when using T saturation as a marker of iron 42 (12%) of the children had combined iron and zinc deficiencies.

Conclusion: Zinc deficiency and anemia are common in preschool children of Vhembe district, Limpopo province. Iron and zinc deficiency in children is associated with poor growth development, alteration in neurological function, immunological response and behavior changes.

Biography

Selekane Ananias Motadi is a Junior Lecturer of Nutrition at the University of Venda. He has received his BSc degree in Nutrition at the University of Venda. In 2010, he has registered for Master's degree in Public Nutrition at the same university. He is a registered Nutritionist with Health Professional Council of South Africa. He was offered tenure in the Department of Nutrition. In addition to teaching, he is a regular contributor to the micronutrient malnutrition particularly zinc and a Mamelodi Sundowns United fan. He has also registered for Postgraduate Diploma in Health Professional Education at the University of Cape Town which he envisages completing in 2015. He has collaborated on manuscripts with Prof X G Mbhenyane, Dr. R L Mamabolo, Ms. H V Mbhatsani and Mr. N S Mabapa entitled "Prevalence of zinc deficiency among children aged 3-5 years in Vhembe district, Limpopo province, South Africa".

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