

Nutrition News for Africa

Abstract May 31, 2005

Assessment of Plasma Zinc Status of Senile Cataract and Non-Cataract Elderly Patients in Mid Western Nigeria - A Case Study of Edo and Delta States of Nigeria.

Introduction.

Zinc is important for growth and development, reproductive, immune and sensory functions, antioxidant protection and the sensitization of membranes. A deficiency of this vital micronutrient may occur due to a decrease in intake, poor absorption, metabolic disorders and medication. Zinc deficiency results in retarded growth, depressed immune function, anorexia and dermatitis among other conditions. Zinc has a specific role to play in eye health, is vital in the photochemistry of vision, in the stabilization of intraocular pressure (IOP) as well as in the protection from the early onset of cataract. Using food availability data, it is estimated that zinc deficiency affects about one-third of the world's population, with estimates ranging from 4% to 73% across sub-regions. Information on this deficiency and its effects on eye health is of great interest particularly on the African continent, where populations are affected by both zinc deficiency and a high prevalence of blindness.

Objectives.

A study by Asonye et al published in the African Journal of Food, Agriculture Nutrition and Development (Volume 4, No. 2, 2004) aimed to assess the level of zinc in cataract and non-cataract elderly patients in Nigeria and investigate the relationship between utilization, under-utilization and mal-utilization of zinc and the manifestation of cataract.

Method.

One thousand elderly male and female patients (≥ 60 years) who attended eye clinics in 4 hospitals in Edo and Delta States in Nigeria were sampled in this study, with 500 diagnosed with cataracts and 500 cataract-free. A simple random sampling technique was used, and each of the study participants completed a written consent. In addition, dietary and other nutrition parameters were assessed using structured questionnaires including the food frequency method with a reference period of one week. Furthermore, trained interviewers collected qualitative data on night blindness.

Results

Biochemical, dietary and clinical measures were included in the analyses. Using a baseline of plasma zinc levels of $< 1,050$ $\mu\text{g/L}$, 38% of cataract and 17% of non-cataract respondents had a deficient zinc status. In addition, the questionnaire showed that more than twice as many cataract patients (48%) had reduced dietary zinc intake than non-cataract patients (21%). Most respondents who had deficient zinc status also had night blindness.

Conclusion.

The findings illustrate a relationship between zinc deficiency and occurrence of cataracts among the elderly in Nigeria. The authors state that further studies are needed to provide more information on this relationship. In addition, they point to the need for increased efforts to promote optimal nutrition practices so that adequate quantities of zinc are incorporated in the diet.