World Academy of Science, Engineering and Technology
International Journal of Nutrition and Food Engineering
Vol:9, No:08, 2015

Concurrent Micronutrient Deficiencies in Lactating Mothers and Their Infants 6-23 Months of Age in Two Agro-Ecological Zones of Rural Ethiopia

Authors : Kedir Teji Roba, Thomas P. O'Connor, Tefera Belachew, Nora M. O'Brien

Abstract : Micronutrient deficiencies of ferritin, zinc and haemoglobin are prevalent among the mothers and their infants in developing countries. But little attention has been given to these vulnerable groups. No study has been done on co-existence of the deficiencies among lactating mothers and their breast feeding infants in two different agro-ecological zones of rural Ethiopia. Methods: Data were collected from 162 lactating mothers and their breast feeding infants (aged 6-23 months) who were living in two different agro-ecological zones. The data were collected via a structured interview, anthropometric measurements, and blood test for Zinc, ferritin and anaemia. Correlation and Chi square test were used to determine the association among nutritional status and agro ecological zones. Results: Iron deficiency was found in 44.4% of the infants and 19.8% of the mothers. Zinc deficiency was found in 72.2% of the infants and 67.3% of the mothers. Of the study subject 52.5% of the infants and 19.1% of the mothers were anaemic, and 29.6% of the infants and 10.5% of the mothers had iron deficiency anaemia. Among the mothers with iron deficiency, 81.2% and 56.2% of their children were deficient in zinc and iron respectively. Similarly, among the zinc deficient mothers, 75.2% and 45.3% of their children were deficient in zinc and iron. There was a strong correlation between the micronutrient status of the mothers and the infants on status of ferritin, zinc and anaemia ($P < 0.001$). There is also statistically significant association between micronutrient deficiency and agro-ecological zones among the mothers ($p < 0.001$) but not with their infants. Deficiency in one, two, or three, micronutrients was observed in 48.1%, 16.7% and 9.9% of the mothers and 35.8%, 29.0%, and 23.5%, of their infants respectively. Conclusion: This study shows that iron and zinc deficiencies are the prevalent micronutrient deficiencies among the lactating mothers and their infants, with variation of the magnitude across the agro-ecological zones. This finding calls for a need to design effective preventive public health nutrition programs to address both the mothers' and their infants' needs.

Keywords : ferritin/iron, zinc, anaemia, agroecology, malnutrition
Conference Title : ICFSN 2015 : International Conference on Food Science and Nutrition
Conference Location : Paris, France
Conference Dates : August 27-28, 2015