

Effect of Micronutrient Supplementation on the Nutritional and Immune Status of School Going Children with Vitamin A Deficiency in the Urban Areas of Chennai District

Narayanasamy Sangeetha and S. Premakumari*

Department of Food Science & Nutrition, Avinashilingam University for Women, Coimbatore, Tamil Nadu, India

KEYWORDS Food Supplement. Serum Retinol. Serum Zinc. Immune Profile

ABSTRACT Vitamin A deficiency is a major public health problem and is the cause of childhood blindness, with an estimated incidence of 250 000 – 500 000 per year. The present study was aimed to reduce the prevalence of Vitamin A in the community and also to improve the immune status through dietary supplementation with micronutrient rich foods (wheat germ, rice flakes, gingelly seeds, microwave oven dehydrated carrot powder, jaggery). The study was conducted on children in the age group of 7-9 years (N: 1675) from primary corporation schools located in the urban areas of Chennai district. Out of 1675 children, 73 children had symptoms of Vitamin A deficiency with anemia that were included in the supplementation study. They were further divided into three groups of 25 children each to receive the food based supplement (Micronutrient rich balls), synthetic supplement (Riconia tablet, a micronutrient fortified tablet) and 23 children in the third group formed the control group. The supplementation intervention by food or drug supplementation study was studied over a 6-month period. The impact of supplementation was evaluated through anthropometric measurements, clinical picture, dietary assessment and biochemical analysis before and six months after intervention/supplementation. The results support dietary intervention as a better method of supplementation evidenced by significant improvement in the parameters studied. In conclusion, the study strongly favors a food-based approach will serve as an effective strategy to correct deficiencies, improve immune status, promote health and well-being of children and improve global health.