

Clinical Nutrition

Serum Zinc and Vitamin A Status of Malnourished Children Fed a High-protein Diet during Recovery

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Objective: Evaluate the effect of a high-protein diet on growth, serum proteins, and micronutrient status of malnourished children.

Methodology: Sixty-nine children were randomized to receive either a high-protein (HP) or a standard protein (SP) diet for three weeks in the metabolic study ward, and then followed up at home for six months. Body weight and height were measured, and concentrations of serum proteins, retinol, and zinc were also determined on admission at 3 weeks, and at 6 months.

Results: The mean $\pm$ SD height increment was 5.3 $\pm$ 1.0 cm in the HP group compared to 4.2 $\pm$ 1.1 cm in the SP group ($p < 0.001$). The mean increment of serum protein concentrations (7.5 g/L vs. 2.9 g/L) and retinol (45 μ g/L vs. 20 μ g/L) was significantly higher in the HP group compared to the SP group at 3 weeks, but not at 6 months. In spite of higher dietary zinc intake in the HP group than in the SP group (5.7 mg/kg.d vs. 2.9 mg/kg.d), the serum zinc concentrations were not significantly different between the two groups.

Conclusion: Diet rich in protein, energy, and micronutrients fed during the recovery period enhances the growth of malnourished children, but does not have sustained effects on protein and micronutrient status.

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Standardized Management Reduces Mortality among Severely Malnourished Children with Diarrhoea

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Objective: Reduce mortality and cost of treating severely malnourished children with diarrhoea by following a standardized management protocol.

Methodology: The mortality rates and the cost of treatment were compared between severely malnourished children aged 0-5 years, who received standardized management (standardized group, SG) and conventional management (comparison group, CG). Key points of SG are the standardized use of rehydration fluids with emphasis on oral rehydration solutions (ORS), slower rehydration, appropriate feeding, routine micronutrient supplementation, antibiotics therapy, and proper management of complications. Conventional management included rehydration within 3-4 hours, giving antibiotics only if there were obvious features of infection, delay in feeding until rehydrated, and supplementing with micronutrients only when indicated. The SG included children admitted to one of the three clinical units from 1 January to 30 June 1997. Children admitted to the same clinical unit from 1 January to 30 June 1996 (before the protocol was implemented) constituted the CG. Odds ratios with 95% confidence intervals were calculated for outcome variables, like mortality rates.