

Fecal excretion of endogenous zinc during oral rehydration therapy for acute diarrhea: Nutritional implications

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The rate of fecal excretion of zinc and its concentration in each diarrheal stool was determined in 24 male Guatemalan children admitted to a rehydration unit for acute, infectious diarrhea and randomized to receive either standard, glucose-based oral rehydration therapy (ORT) or the same fluid with 111 mmol/L of glycine added. Since the children had been fasting, stooling profusely, and had the period of fecal collection marked by the appearance of a non-absorbable marker (brilliant blue), the zinc in stools was considered to be of 'endogenous' origin. The global rate of zinc excretion was 8.1 ± 5.7 $\mu\text{g}/\text{kg}/\text{h}$ with a median of 6.1, and a range of 1.4 to 22.9 $\mu\text{g}/\text{kg}/\text{h}$. Zinc concentration in stools averaged 1.1 ± 0.95 mg/L (median: 0.76 mg/L; range: 0.2-3.1 mg/L). There was a tendency to a greater excretion and a higher concentration of fecal zinc in children assigned to the glycine-containing ORT solution. A high degree of within-individual correlation between individual zinc content of st