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Topic: Malnutrition treatment and prevention

Title: Adequacy of Calories, Zinc and Selenium among Adult Patients on Total Naso-Gastric Tube Feeding Admitted in a Copperbelt Province Referral Hospital, in Ndola District, Zambia

Presentation Type: Oral

Background: Poor hospital outcomes among patients in hospitals have been attributed to inadequate nutrient intake and progressive disease conditions. The purpose of this study was to determine the adequacy of the intake of calories, zinc and selenium among adult patients on total naso-gastric tube feeding (NGTF).

Methods: The study was cross-sectional and 113 adult patients aged 20-65 years on total NGTF in the previous 24hrs participated. Harris Benedict equations (HBE) and the European Society for Parenteral and Enteral Nutrition (ESPEN) standards defined nutrient adequacy. Socio-economic characteristics were determined and 14 pairs of hospital prepared NGTFs were sampled weekly for three months and analysed for total caloric, carbohydrate, protein, fat, zinc and selenium content using objective methods.

Results: Mean total caloric (64.6% carbohydrate, 23.1% protein and 12.3% fat), zinc and selenium content for NGTF was 127.7 ± 67.0 Cal/100ml, 0.13 ± 0.01 mg/100ml and 0.09 ± 0.02 µg/100ml respectively and this content varied significantly among the samples ($p < 0.05$). Mean volume intake of naso-gastric feed was 257.1 ± 273.0 ml/day given through scheduled gravity feeding. This resulted in a mean total caloric intake of 326.5 ± 346.7 Cal/day (5.5 Cal/Kg/day), mean carbohydrate intake of 210.9 ± 223.9 Cal/day, mean protein intake of 0.3g/Kg/day with zinc at 0.34 ± 0.24 mg/day and selenium at 0.23 ± 0.24 µg/day. All nutrients were significantly lower than the recommended values ($p < 0.05$).

Conclusion: Evidence of inconsistent supply of nutrients to patients on naso-gastric tube feeds was seen, therefore commercial tube formulas with known and predictable nutrient amounts be used.