

## ABSORPTION AND LOSS OF NUTRIENTS IN DIARRHOEAL DISEASE OF CHILDREN

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The nutritional cost of diarrhoea is due to the factors like anorexia, increased catabolism, increased loss of nutrients and even withholding of food as a measure to control diarrhoea. The aim of this balance study is to measure the extent of anorexia, quantify the loss of nutrients in terms of fat, nitrogen and calories in the acute phase of diarrhoea and to compare with the recovery at the convalescent period. Fat, protein and calories from each food sample as well as stool and urine were estimated quantitatively according to standard laboratory procedures.

Patients were all below 5 years of age and bacteriological diagnosis included cholera, *E. coli* (ST, LT), rotavirus and non-specific gastroenteritis. After full hydration patients were studied in a metabolic ward for 72 hours at the acute stage. Two weeks after recovery they were followed-up and study repeated for another 72 hours. The data analysis of 10 patients is reported here. The calorie intake during the acute stage was much lower in all groups of patients and the loss of nutrients in the diarrhoea stool was also significantly high. Compared to fat and calories, nitrogen loss was higher especially in cholera and rotavirus 37% and 33% percent. Percentage of loss was calculated by taking the amount of nitrogen intake as 100%.

During the follow-up period both the intake of calories improved and loss of nutrients decreased. The calorie intake at convalescence in cholera, *E. coli*, non-specific gastroenteritis and rotavirus increased by 253%, 294%, 204% and 552% respectively. Similarly the loss of nutrients in the stool also decreased considerably in all group of patients. In cholera and rotavirus the decrease in nitrogen loss was especially remarkable from 37% to 4% percent and 33% to 15% percent respectively. Percentages of loss were calculated by taking the respective intakes as 100% both during the acute and convalescent phases. The overall improvements of appetite and absorption of nutrients was well related to increase xylose absorption. Our data suggest that there is severe degree of anorexia and malabsorption in the acute phase of diarrhoea and is corrected to a significant extent during the convalescent period. Further studies are in progress at our centre and the results will be reported.