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Hemodialyzed Adolescents and their Nutritional Status in Mongolia

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Objectives: Malnutrition and cachexia are common nutritional risks in hemodialysis adolescents and children. The consuming an adequate diet can prevent malnutrition is of major importance. However hemodialysis adolescents and their caregivers are at risk of hemodialysis complications such as malnutrition, cachexia and stunting due to poor nutritional knowledge. This study was to evaluate the effect of daily food intake on nutritional status of children undergoing hemodialysis and provide recommendations for nutritional support.

Methods: The National Center for Maternal and Child Health is the only hospital in Mongolia to monitor and treat hemodialysis of children with chronic renal failure. General data on children were collected and dry body weight and height measured after treatment, and the assessment of physical growth and development was compared to the WHO reference size. A 24-hour food recall study determined the amount of nutrients taken from daily foods, and a biochemical blood test determined and compared protein, calcium, phosphorus, potassium, and sodium.

Results: A total of 10 children aged 13±4 years on hemodialysis participated in the study. 85.7% of the children in the study were malnourished, and 80% were stunted and underweight, indicating long-term malnutrition. For example, children eat 1-2 meals a day and the average calorie intake is 831.4 ±261.6 kcal, which is less than 50% of the required calorie intake. Although daily protein intake reaches the recommended level of 0.98 ±0.26 kg/g, the amount of carbohydrates and fats from food is very low, which affects muscle loss.

In the nutrition knowledge questioners, 80% of the participants lack of knowledge about daily calories and nutrients, consumed few variety of foods that cause of contributed to became malnutrition.

Conclusions: The results of this study shows that there is a need for a proper nutritional management, where the priority lies in developing appropriate treatments and guidelines for chronic kidney failure.