



## **Hans H. Ruthenberg-Graduierten-Förderpreis 2003/**

## **Hans H. Ruthenberg Award for Graduates 2003**

Tanja Reichl-Petsch „Nutrition of inpatients in Haydom, Tanzania“

University of Giessen, 2003

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### Summary

The food service in hospitals is related to recovery. Therefore it is important to see how food service is structured and if there are special nutritional assessments. Only little information is given about food services in hospitals in developing countries. The study "Nutrition of inpatients in Haydom, Tanzania" was carried out in a rural area in Tanzania. 100 interviews were taken among 39 males and 61 females at the age between 3 months and 66 years. The group was splitted into children and teenagers ( $\leq 17$  years;  $n=30$ ), and adults ( $> 17$  years;  $n=59$ ).

Data were collected with the help of a food-frequency to see if there have been differences in the quality of food at home and in hospital; a 24-h-recall to figure out the intake of energy- and nutrient during one day and with the help of a questionnaire to analyze the social backgrounds.

Responsible for the food supply of the inpatients are their relatives or friends. This is the reason why the food in hospital is dependent on the resources of food in the patient's household and the economic situation at home. Almost all of the probands live from subsistence-farming. There was a crop failure between March/May 2000, because there was only little rainfall in the rainy season. Because of this, the availability of food and money is small in this area.

A stay in hospital of one ore more members of the family is a big burden for the whole family. At least two workers are missing, and moreover, medications, the stay in hospital and extra food has to be paid. Lots of patients are not able to pay the bills. In most of the cases hospital charges are paid by donations. To avoid buying food in Haydom, lots of families take there own food from home to hospital. It is impossible for the caring person to bring fresh food from home to the hospital every day, because the patients live in an area of 100 km around Haydom.

Because of the bad crop the food-security in the families is not safe; and because of minor diversity of food the patients nutrition in hospital is worse than at home.

The results of the 24-h-recall were compared with the recommendations of the DGE. There is much too small intake of energy (the highest intake is about 1600 kcal/d). The achievement of recommendations for energy range between 15-86%; the protein intake is between 8 g and 80 g/d. A few probands, especially the children reach the recommendations for protein. Altogether the reachment is between 17-140%. The intake of vitamin-A of most of the subjects is appropriate with the recommendations of most of the probands, especially the children's is fine (100-1000 ug/d with a part of 14-160% of the recommendations). In contrast to this, the intake of iron is very low (2 g-11 g/d) and in most cases far away from the recommendations (10-65% of the recommendations).

In average, 73,4% of the daily calories intake comes from carbohydrates, 12,3% from proteins and 14.3% from fat.

There are significant differences between age and gender considering the percentage of protein, vitamin-A and iron in the recommendations of the DGE. For protein, the children have a higher share than the adults. Between the genders, the percentages of the girls are significantly higher than that of the boys. The same is for vitamin-A. There, the children's percentage in the recommendations is higher than of the adults. In opposite to this, the results for iron are higher of the adults than of the children.

Within the ethnic groups, significant differences exist in the results for energy, protein and iron. In every aspect, the Bantus' part at the recommended intake of energy, protein and iron is lower than the part of the Iraqw and Datoga. Pregnant and nursing women show the worse results, concerning the special recommendations for energy, protein, vitamin-A and especially for iron. There are no differences between tuberculosis patients and patients without tuberculosis in reaching the recommendations of the DGE.

The main food is normal maize porridge and diluted maize porridge. Little portions of beans, green leaves or milk, for example are served with the porridge. In some cases, milk is served from the hospital especially for the children. This is the only assessment of nutritional support from the hospital and the reason for the significant differences between children and adults in reaching the recommendations for protein and vitamin-A.

An important issue in the nutrition of inpatients is the knowledge of the medical staff in nutrition. With an interview their knowledge in nutrition was checked. Result is that the hospital staff sees no need in nutritional improvements and doesn't feel responsible for the nutrition of the patients. In addition, the knowledge about diseases that need nutritional interventions and about healthy food is low.

The results of the study "Nutrition of inpatients in Haydom, Tanzania" shows that nutritional interventions are important and necessary to improve the supply with food in the hospital and in the population. As shown in the literature (the result of a better nutrition is the consequence of a better nutritional status) an improvement of the situation can reduce the morbidity and mortality risk of the patients and also the duration of the stay in hospital. The consequence of this are lower costs. To improve a better nutrition in Haydom, food- security programs should be run in Haydom region. Also the medical staff should be better trained through a better education and courses.