

CLINICAL SUMMARY

Assessment of food intake in hospitalized patients: A 10-year comparative study of a prospective hospital survey

This study population was adult hospitalized patients with exclusive enteral or parenteral nutrition support and those who did not receive all three daily meals. The study took place at Geneva University Hospital, Geneva, Switzerland.

Malnutrition impacts 30-50% of adult hospital patients and negatively impacts outcomes, including mortality, morbidity, length of stay, and costs. Malnutrition can also worsen during hospital stays, and is often related to poor dietary intake during hospitalization. Both ESPEN and ASPEN recommend an early and systemic approach to nutrition screening for malnutrition risk for all hospital patients. Hospitals need to evaluate food intake of patients on a regular basis to help lower the risk of malnutrition and improve outcomes and reduce health care costs.

OBJECTIVE

A food quality control and improvement process was initiated to (1) evaluate the food service evolution, and (2) compare the protein-energy needs coverage over a 10-year period (from 1999 to 2008) in all hospitalized patients receiving 3 meals/day.

METHODS

A survey was performed in all adult departments of the hospital in 2008 (the survey was the same one conducted in 1999). A team of 45 dietitians assessed the individual food provision, intake and reasons for non-consumption of all hospitalized patients over a 24 h period. All tray meals, oral nutritional supplements (ONS), and supplemental enteral and parenteral nutrition was taken into account. Nutritional needs were calculated as 110% of Harris-Benedict formula for energy and 1.2 or 1.0 g protein/kg/day for patients <65 or >65 years old, respectively.

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RESULTS

The study included 1,291 patients. Mean BMI was higher in 2008 than 1999 (3.7% increase) ($P < 0.001$) and length of stay was significantly shorter (-20.8%) ($P < 0.001$). According to 110% of the Harris-Benedict equation, the mean estimated energy and protein needs were 1,452 kcal/day and 73 g/day, respectively. Overall, 69% of patients did not meet their energy and/or protein needs, however the proportion of underfed patients was unchanged (69 vs 70%, NS) between 1999 and 2008. The consumption of >1 ONS daily increased the protein needs coverage from 80% to 115% ($P < 0.001$). The year 1999, high BMI, 1st week of hospital stay, specific diet, ONS absence, and low meal quality were associated with low nutritional intakes.

NUTRITION CONCLUSION

The proportion of patients not meeting their nutritional needs (69% vs. 70%) remained unchanged in 10 years (from 1999 to 2008). The nutritional needs coverage could have improved in 2008 if BMI was similar to 1999. ONS consumption is associated with a lower risk of underfeeding in hospitalized patients.