Abstract

Background and aims: The ability of nutritional status assessment methods to predict clinical outcomes in hospitalized patients has not been completely evaluated. This study compared the accuracy of traditionally used nutritional tools and parameters in predicting death, infection, and length of hospital stay (LOS) in hospitalized adults. Research Methods & Procedures: Patients admitted at clinical and surgical wards were evaluated by body mass index, percentage of weight loss, Subjective Global Assessment, albumin, lymphocyte count, and followed until discharge. Clinical outcomes considered were in-hospital death, infection, and LOS. Overall accuracy of each method to predict these outcomes was assessed from ROC curves and C-statistic.

Results: Among 434 patients evaluated, 51% had a prolonged LOS, 23% developed infection, and 7.8% died during hospitalization. In univariate analysis, serum albumin was the strongest predictive parameter for death (C-statistic: 0.77; CI95%: 0.69-0.86) and hospital infection (C-statistic: 0.67; CI95%: 0.61-0.74). For longer stay, lymphocyte count (C-statistic: 0.60; CI95%: 0.55-0.65) emerged as the most predictive variable. After adjustment for non-surgical hospitalization and cancer diagnosis, weight loss > 5% (OR: 1.58; CI95%: 1.06-3.35), and serum albumin < 3.5 g/dL (OR: 2.40; CI95%: 1.46-3.94) were associated to LOS. Albumin was the only independent variable related to infection (OR: 5.01; CI95%: 3.06-8.18) and, for hospital death, albumin (OR: 7.20; CI95%: 3.39-15.32) adjusted for age (OR: 1.03; CI95%: 1.01-1.06). Conclusions: Nutritional assessment methods evaluated were weakly predictors of hospital outcomes. Except for low serum albumin, isolated use of these methods adds little information in identifying the effect of nutritional status on clinically relevant outcomes.

Keywords

Nutritional status, Malnutrition, Inpatients, Risk assessment, Serum albumin.