Abstract

Justification and objective: Identify changes in the nutritional status of hospitalized children is fundamental for the early establishment of interventions. This study aims at describing the prevalence of undernutrition at admission and over the weeks of in-hospital stay in pediatric patients and evaluate the association between nutritional status and length of in-hospital stay. Materials and methods: A cohort study was carried out. It followed all the in-patients admitted to the general pediatric unit, composed of 72 beds, in the Hospital de Clínicas de Porto Alegre (HCPA), in the south of Brazil, from 20 March to 20 October in 2004. Patients who were between 1 month and 12 years of age and who had been admitted for clinical or and surgical reasons were included. Those with Down Syndrome or without clinical condition and/or stature for weight measurement were excluded. Anthropometric data were collected up to 48 hours after admission and, weekly, up to hospital discharge (at admission, on 7th, 14th, and 21st day after admission). In children below 5 years of age, the standard defined by the World Health Organization (WHO/2006) for the classification of the z-score for the stature/age (S/A), weight/age (W/A) and weight/stature (W/S) scores was used. In children from 5 to 10 years of age, the standards of the National Center for Health Statistics (NCHS, 1977) were used to classify the same rates as reference values. In children above 10 years of age, the classification of the Body Mass Index (BMI) was used (OMS/1995). In order to compare the z-scores over the four evaluation moments, analysis of variance (ANOVA) was used for repeated measurements, with Bonferroni’s Post-Hoc test, and, for the evaluation of the in-hospital stay length, according to the nutritional status, Kaplan-Meier’s survival curve, in the SPSS program, version 12.0, was used. Results: 426 patients were included in the study. 57% of them were male and 50.7% were below one year of age. At admission, the prevalence of malnutrition was 10%, 18%, 21% and 14.7%, according to the W/S, W/A, S/A, and BMI criteria, respectively. Improvement of the nutritional status over the in-hospital stay was observed (at admission to 21st day) in children below 5 years (Z-score W/A: from -1.49 ± 2.47 to -0.85 ± 2.36, p = 0.001, and S/A: from -1.69 ± 2.05 to -1.21 ± 1.99, p = 0.007) and also in 5 to 10 years of age (S/A: from -0.43 ± 1.31 to -0.30 ± 1.37, p = 0.024). Undernourished patients, compared to nourished patients (according to the W/S rate for children below 10 years of age and BMI for above 10 years of age), showed a higher probability of remaining hospitalized (HR = 1.41; IC95%: 1.02-1.92). Conclusions: The prevalence of malnutrition by the W/S score was about half the prevalence found by the W/A and W/A indices, possibly reflecting a chronic impairment of the nutritional status. Undernutrition was confirmed as a health problem, once undernourished patients remained hospitalized for longer periods, which is a treatable problem as it was observed an improvement in the nutritional status rates over in-hospital stay.
Keywords