

Full Mini Nutritional Assessment Questionnaire and the Risk of Malnutrition and Mortality in Elderly, Hospitalized Patients: A Cross-Sectional Study

Authors : Christos E. Lampropoulos, Maria Konsta, Tamta Sirbilatze, Ifigenia Apostolou, Vicky Dradaki, Konstantina Panouria, Irini Dri, Christina Kordali, Vaggelis Lambas, Georgios Mavras

Abstract : Objectives: Full Mini Nutritional Assessment (MNA) questionnaire is one of the most useful tools in diagnosis of malnutrition in hospitalized patients, which is related to increased morbidity and mortality. The purpose of our study was to assess the nutritional status of elderly, hospitalized patients and examine the hypothesis that MNA may predict mortality and extension of hospitalization. Methods: One hundred fifty patients (78 men, 72 women, mean age 80 ± 8.2) were included in this cross-sectional study. The following data were taken into account in analysis: anthropometric and laboratory data, physical activity (International Physical Activity Questionnaires, IPAQ), smoking status, dietary habits, cause and duration of current admission, medical history (co-morbidities, previous admissions). Primary endpoints were mortality (from admission until 6 months afterwards) and duration of admission. The latter was compared to national guidelines for closed consolidated medical expenses. Logistic regression and linear regression analysis were performed in order to identify independent predictors for mortality and extended hospitalization respectively. Results: According to MNA, nutrition was normal in 54/150 (36%) of patients, 46/150 (30.7%) of them were at risk of malnutrition and the rest 50/150 (33.3%) were malnourished. After performing multivariate logistic regression analysis we found that the odds of death decreased 20% per each unit increase of full MNA score (OR=0.8, 95% CI 0.74-0.89, $p < 0.0001$). Patients who admitted due to cancer were 23 times more likely to die, compared to those with infection (OR=23, 95% CI 3.8-141.6, $p=0.001$). Similarly, patients who admitted due to stroke were 7 times more likely to die (OR=7, 95% CI 1.4-34.5, $p=0.02$), while these with all other causes of admission were less likely (OR=0.2, 95% CI 0.06-0.8, $p=0.03$), compared to patients with infection. According to multivariate linear regression analysis, each increase of unit of full MNA, decreased the admission duration on average 0.3 days ($b:-0.3$, 95% CI -0.45 - -0.15, $p < 0.0001$). Patients admitted due to cancer had on average 6.8 days higher extension of hospitalization, compared to those admitted for infection ($b:6.8$, 95% CI 3.2-10.3, $p < 0.0001$). Conclusion: Mortality and extension of hospitalization is significantly increased in elderly, malnourished patients. Full MNA score is a useful diagnostic tool of malnutrition.

Keywords : duration of admission, malnutrition, mini nutritional assessment score, prognostic factors for mortality

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