

## Validation of Nutritional Assessment Scores in Prediction of Mortality and Duration of Admission in Elderly, Hospitalized Patients: A Cross-Sectional Study

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**Abstract :** Objectives: Malnutrition in hospitalized patients is related to increased morbidity and mortality. The purpose of our study was to compare various nutritional scores in order to detect the most suitable one for assessing the nutritional status of elderly, hospitalized patients and correlate them with mortality and extension of admission duration, due to patients' critical condition. Methods: Sample population included 150 patients (78 men, 72 women, mean age  $80 \pm 8.2$ ). Nutritional status was assessed by Mini Nutritional Assessment (MNA full, short-form), Malnutrition Universal Screening Tool (MUST) and short Nutritional Appetite Questionnaire (sNAQ). Sensitivity, specificity, positive and negative predictive values and ROC curves were assessed after adjustment for the cause of current admission, a known prognostic factor according to previously applied multivariate models. Primary endpoints were mortality (from admission until 6 months afterwards) and duration of hospitalization, compared to national guidelines for closed consolidated medical expenses. Results: Concerning mortality, MNA (short-form and full) and SNAQ had similar, low sensitivity (25.8%, 25.8% and 35.5% respectively) while MUST had higher sensitivity (48.4%). In contrast, all the questionnaires had high specificity (94%-97.5%). Short-form MNA and sNAQ had the best positive predictive value (72.7% and 78.6% respectively) whereas all the questionnaires had similar negative predictive value (83.2%-87.5%). MUST had the highest ROC curve (0.83) in contrast to the rest questionnaires (0.73-0.77). With regard to extension of admission duration, all four scores had relatively low sensitivity (48.7%-56.7%), specificity (68.4%-77.6%), positive predictive value (63.1%-69.6%), negative predictive value (61%-63%) and ROC curve (0.67-0.69). Conclusion: MUST questionnaire is more advantageous in predicting mortality due to its higher sensitivity and ROC curve. None of the nutritional scores is suitable for prediction of extended hospitalization.

**Keywords :** duration of admission, malnutrition, nutritional assessment scores, prognostic factors for mortality

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