Applying a computerized nutritional screen tool for determining malnutrition risk in hospitalized patients

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Background and aim: Available evidence indicates high prevalence of malnutrition in the hospitalized patients in almost all countries. In spite of this fact, no standardized screening method on admission to hospital exists currently. Clinical Nutritional Risk Screen (CNRS) is a way to classify patients into four risk levels (No risk, Low risk, Medium risk, and High risk) to manage nutritional interventions. Several tools such as Mini Nutritional Assessment (MNA), Malnutrition Universal Screening Tool (MUST), and Malnutrition Screening Tool (MST) have been suggested for screening nutritional risk level. They use up to six different factors for predicting malnutrition risk. It seems that increasing the number of factors may lead to upper prediction value. The present study was an attempt to employ a computerized screen tool including multiple risk factors to identify nutritional risk levels for inpatients.

Methods: A computerized tool for nutrition screening based on 19 nutrition risk factors was designed and run in four selected wards including Endocrine, Internal, Pediatrics, and Orthopedics in Golestan Hospital, Ahvaz, Iran and Namazi Hospital, Shiraz, Iran. During the four months period of the evaluation, the tool was utilized for 121 patients on admission by clinical nutritionists. Manual assessment done by two clinical nutritionists considered as comparative standard.
**Results:** The results of the computerized screen tool performance showed that sensitivity, specificity, accuracy and precision were 91.67%, 76%, 88.43%, and 93.62%, respectively. Instant performance on admission and very low probability of mistake in predicting malnutrition risk level may justify using the computerized screen tool in hospitals.

**Conclusion:** The computerized screen tool based on multiple nutrition risk factors has the capability to stratify inpatients at nutritional risk levels and identify the level of required nutritional intervention.