

An investigation into the efficacy of four nutrition risk screening tools in respiratory patients

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Loss of lean body mass without weight loss can occur in patients with a respiratory diagnosis⁽¹⁾, hence the importance of routine nutritional risk screening in this patient group. This study investigated the efficacy of four nutrition risk screening tools, Malnutrition Universal Screening Tool⁽²⁾, Malnutrition Screening Tool⁽³⁾, Undernutrition Risk Score⁽⁴⁾ and a chronic obstructive pulmonary disease specific screening tool⁽⁵⁾ in determining nutrition risk in patients with a respiratory diagnosis. Furthermore, nurse compliance with completion of the locally used Undernutrition Risk Score screening tool was examined and perceived barriers to using the tool were identified.

A comparison-validation study was carried out in a sample of 50 patients with a respiratory diagnosis consecutively admitted during a 4-week period to a large, teaching hospital in Dublin, Ireland. Each nutrition risk screening tool was undertaken on all subjects and a full nutritional assessment incorporating anthropometry and dietary assessment was carried out by a student dietitian. The sensitivity, specificity and predictive values of each tool were determined using the nutritional assessment as the 'gold standard'. The concurrent and predictive validity of the tools were investigated. Compliance with the local Undernutrition Risk Score screening tool was assessed by examination of nursing records and the opinions of nurses on nutrition risk screening were sought in a short questionnaire.

More than one-third (36%) of this sample of respiratory patients were at risk of malnutrition according to the nutritional assessment. The Malnutrition Universal Screening Tool performed best in terms of sensitivity and specificity.

Screening tool	Sensitivity (%)	Specificity (%)	Kappa (κ)
URS	83.3	68.8	0.480
MUST	72.2	93.8	0.685
COPD Specific tool	61.1	93.8	0.584
MST	55.6	90.6	0.492

All tools showed fair-good agreement with each other and the nutritional assessment except the Undernutrition Risk Score and the Malnutrition Screening Tool which had poor agreement ($\kappa = 0.200$). There was systematic over-categorisation of risk relative to the other tools by the Undernutrition Risk Score. The respiratory disease specific screening tool did not perform better than the generic screening tools. Almost all (89%) nurses reported using the screening tool most of the time; however, only 28% of patients had their nutrition risk score documented on admission. Issues such as being unable to weigh the patient or the patient being unable to answer questions, and a lack of time and working equipment were highlighted as barriers to completion of the tool.

The Malnutrition Universal Screening Tool is an effective tool for identifying malnutrition in respiratory patients. The Undernutrition Risk Score screening tool over-categorises risk of malnutrition. Nutrition risk screening is poorly complied with and patient-related issues were highlighted as the main barriers to successful completion of screening tools.

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