

The challenge of translating nutrition research into public health nutrition, University College, Dublin, 18–20 June 2008

Comparison of three validated nutritional screening tools in the oncology setting

F. Roulston¹ and R. McDermott²

¹Department of Nutrition & Dietetics and ²Department of Medical Oncology, Adelaide & Meath Hospital, Dublin 24, Republic of Ireland

Undernutrition is common among patients with cancer⁽¹⁾ resulting in a reduced quality of life, lower activity level, increased treatment-related adverse reactions, reduced tumour response to treatment and reduced survival⁽²⁾. Screening for undernutrition is therefore vital for all patients with cancer⁽³⁾.

The aim of the present study was twofold, i.e. to compare three validated nutritional screening tools (the mini nutritional assessment (MNA)⁽⁴⁾, the malnutrition screening tool (MST)⁽⁵⁾ and the malnutrition universal screening tool (MUST)⁽⁶⁾) and to ascertain which tool is most appropriate in the oncology setting. For this purpose the dietetic records of fifty-two patients attending the oncology service were retrospectively reviewed. Each of the three screening tools were completed for each patient using data from their first nutritional assessment and then compared with the clinical judgement of the oncology dietitian following a full nutritional assessment.

Results showed that the MNA and the MST had a sensitivity index (percentage of total patients identified as being at risk of undernutrition by each of the screening tools) of 92 and 79 respectively, with the scores for the two tools being highly correlated. The MNA and the MST also showed a high correlation with the dietitian's clinical assessment. On the other hand, the MUST was less sensitive (sensitivity index 29), failing to identify thirty-two patients considered to be at risk of being undernourished. The Table details the levels of agreement between the various screening tools used in the study.

Screening tool	MNA		MST		MUST		Dietitian	
	Score	%	Score	%	Score	%	Score	%
MNA			45	87	19	37	51	98
MST	45	87			24	46	46	88
MUST	19	37	24	46			20	38
Dietitian	51	98	46	88	20	38		

In conclusion, both the MNA and the MST are screening tools capable of correctly identifying oncology patients at risk of undernutrition. As step three of the MUST only allocates a score to patients who are acutely ill and have, or are likely to have, no nutritional intake for >5 d, it does not account for decreased nutritional intake or nutrition-related side effects from illness and/or treatment, which can often arise in patients with cancer. Thus, the MUST, although validated to be applied to all types of patient groups, does not appear to be appropriate in the oncology setting.

1. Mattox T (2005) *Nutr Clin Pract* **20**, 400–410.
2. Arends J, Bodoky G, Bozzetti F *et al.* (2006) *Clin Nutr* **25**, 245–259.
3. Huhmann M & Cunningham R (2005) *Lancet Oncol* **6**, 334–343.
4. Guigoz Y, Vellas B & Garry PJ (1996) *Nutr Rev* **54**, S59–S65.
5. Ferguson M, Capra S, Bauer J *et al.* (1999) *Nutrition* **15**, 458–464.
6. Elia M (2003) *Screening for Malnutrition: A Multidisciplinary Responsibility. Development and Use of the 'Malnutrition Universal Screening Tool' (MUST) for Adults*. Redditch, Worcs.: BAPEN.