Validation of the nutrition screening tool 'Seniors in the Community: Risk Evaluation for Eating and Nutrition, version II' among people in advanced age.

A thesis presented in partial fulfilment of the requirements for the degree of Masters of Science in Human Nutrition at Massey University, Albany, New Zealand.

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Table of Contributions	
Planning for NZ photographic atlas	Dr. Carol Wham (LiLACS lead investigator) and Kristy Redwood (Masters candidate)
Formatting of NZ photographic atlas and MPR forms	Kristy Redwood
Baseline SCREEN II administration	LiLACS NZ interviewers
Follow - up SCREEN II administration	Kristy Redwood
Recruitment for validation study	Kristy Redwood and LiLACS project co-ordinator
Twenty-four hour dietary recall x 2 – weekdays	LiLACS NZ nurses
Twenty-four hour dietary recall x1 – weekend	Kristy Redwood
Quality checking of 24 hour recalls	Kristy Redwood, Dr. Carol Wham
Dietitian's nutrition risk rating assessment	Kristy Redwood
Physical assessment (including anthropometrics)	LiLACS NZ nurses
Dietary analysis (Foodworks)	Kristy Redwood

Abstract

Background:

This study aims to determine the validity of the nutrition screening tool 'Seniors in the Community: Risk Evaluation for Eating and Nutrition' (SCREEN II) among adults of advanced age in Life and Living in Advanced Age: a cohort study in New Zealand (LiLACS NZ). SCREEN II is widely used in Canada and has been found to be valid and reliable amongst well community living older people. As the LiLACS NZ participants are considerably older than those recruited in Canada it was important to validate the SCREEN II tool among participants in advanced age and in the New Zealand setting.

Methods:

Forty–five people, 85-86 years, were recruited on the basis of their baseline nutrition risk score. SCREEN II consists of 14 items with a total summed score ranging from 0 to 64. Equal proportions of participants were recruited at low (>54), medium (50-53) and high risk (<50). One year later participants completed a follow up SCREEN II assessment and underwent a dietitian's nutrition risk rating assessment. The assessment included a medical history, anthropometric measures and a dietary assessment using three 24 hour multiple pass recalls. Using clinical judgement the dietitian ranked participants from low risk (score of 1) to high risk (score of 10). A Spearman's correlation determined the association between the SCREEN II score and the dietitian's risk score. Receiver operating characteristic (ROC) curves were completed to determine sensitivity and specificity of cut-offs.

Results:

There was no change in nutrition risk over the year. Participants who lived alone ($p=0.02$), were women ($p=0.03$), widowed ($p=0.01$), former or current smokers ($p=0.03$), took multiple medications (polypharmacy) ($p=0.03$), had depressive symptoms ($p=0.02$) were significantly more likely to be at nutrition risk. SCREEN II was significantly correlated with the dietitian's risk rating ($r= -0.73$, $p<0.01$). A new cut-off of <49 was established for high nutrition risk based on ROC curves and was associated with high sensitivity 90% and specificity 86%.

Conclusion:

SCREEN II appears to be a valid tool for the identification of nutrition risk in community-living older adults 85 years and older using a cut-off of <49 for high nutrition risk.

Key Words: SCREEN II, nutrition, screening tool, advanced age, older adults

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