




Abstract

Development and Validation of Nutri S-Can, a Short Screener to Evaluate Adherence to the 2018 WCRF/AICR Cancer Prevention Recommendations [†]

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Abstract: There is a lack of rapid dietary assessment tools to screen for compliance with guidelines for cancer prevention, such as those issued by the World Cancer Research Fund and the American Institute for Cancer Research. Our aim was to develop and validate a short screener (Nutri S-Can) to evaluate adherence to these recommendations, with the potential to be used in cancer prevention strategies. Four stages were defined: development, pilot study, refinement and validation study. The Nutri S-Can captures several domains of the WCRF/AICR recommendations: body composition, physical activity, diet, alcohol consumption, and breastfeeding. A first version was piloted in $n = 100$ PREDIMED-Plus study participants, for which comprehensive dietary, physical activity, and anthropometric measurements were available (+/– 6 months). Nutri S-Can was retested 6 months later in a subsample of 60 participants. Its validity was evaluated by comparing total and individual domain scores of the screener to those obtained from validated methods (breastfeeding not validated), and its reproducibility was measured comparing the first to the second administration (Pearson correlation). The first version of the Nutri S-Can included 15 questions distributed across five domains. Each question had three possible answers to determine whether participants meet (1 point), partially meet (0.5) or do not meet (0) the recommendations (score range: 0–7). Participant's average age was 71.4 ± 5.03 y (41 women, 59 men), taking an average of 6.9 min to complete the screener. The total average score was 4.9 ± 0.9 vs. 3.5 ± 0.9 using data from validated questionnaires (high correlation; $r = 0.51$). Individual domains presented a high and significant correlation ($r = 0.25$ – 0.85) when comparing Nutri S-Can to validated assessments, except for processed foods ($r = 0.15$). A high correlation ($r > 0.3$) was observed when comparing Nutri S-Can before and after 6 months for individual dimensions and overall score. The refinement study aimed to increase preciseness and accuracy: two additional questions were included (total: 17 questions) to reduce the under-estimation of processed foods and improve self-classification of physical activity, and the n° of answers available was increased to six. This final version is being validated in two different populations (university students ($n = 100$) and PREDIMED-Plus participants ($n = 117$)) with the aim of having a validated screener that can be used in clinical settings at the individual level.

Keywords: cancer; screener; diet; validation study



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