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## First View

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# Development and evaluation of a Nutrition Transition-FFQ for adolescents in South India

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## Abstract

To develop and evaluate a Nutrition Transition-FFQ (NT-FFQ) to measure nutrition transition among adolescents in South India.

We developed an interviewer-administered NT-FFQ comprising a 125-item semi-quantitative FFQ and a twenty-seven-item eating behaviour survey. The reproducibility and validity of the NT-FFQ were assessed using Spearman correlations, intra-class correlation coefficients (ICC), and levels of agreement using Bland–Altman and cross-classification over 2 months (NT-FFQ1 and NT-FFQ2). Validity of foods was evaluated against three 24-h dietary recalls (24-HR). Face validity of eating behaviours was evaluated through semi-structured cognitive interviews. The reproducibility of eating behaviours was assessed using weighted kappa ( $\kappa_w$ ) and cross-classification analyses. Vijayapura, India.

A representative sample of 198 adolescents aged 14–18 years.

Reproducibility of NT-FFQ: Spearman correlations ranged from 0.33 (pulses) to 0.80 (red meat) and ICC from 0.05 (fruits) to 1.00 (tea). On average, concordance (agreement) was 60 % and discordance was 7 % for food groups. For eating behaviours,  $\kappa_w$  ranged from 0.24 (eating snacks while watching television) to 0.67 (eating lunch at home) with a mean of 0.40. Validity of NT-FFQ: Spearman correlations ranged from 0.11 (fried traditional foods) to 0.70 (tea) and ICC ranged from 0.02 (healthy global foods) to 1.00 (grains). The concordance and discordance were 48 % and 8 %, respectively. Bland–Altman plots showed acceptable agreement between NT-FFQ2 and 24-HR. The eating behaviours had acceptable face validity.

The NT-FFQ has good reproducibility and acceptable validity for food intake and eating behaviours. The NT-FFQ can quantify the nutrition transition among Indian adolescents.

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