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Abstract

The Development of a Nutrient Database to Analyse the Dietary Intake of Older Indians in the Longitudinal Aging Study in India—Diagnostic Assessment of Dementia (LASI-DAD) [†]

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Abstract: Investigating diet-related disease in India's ageing population is challenging due to poor dietary assessment infrastructure and limited capacity for nutritional analyses. We developed a semi-quantitative Food Frequency Questionnaire (FFQ) to capture dietary intake among older Indian adults. Nutrient analysis of FFQ data requires linkage to a nutrient database preferably based on local food composition. However, the Indian Food Composition Tables (IFCT) provided only partial coverage for FFQ items, nutrient data for cooked foods were unavailable, and some important nutrients were missing, e.g., iodine and vitamin B12. The objective was to develop a nutrient database maximising the IFCT to allow for the analysis of FFQ data. The development of the nutrient database involved: (1) the creation of a core dataset within the Nutritics (2019) software platform comprising analytical data for matched foods in the IFCT reference database; (2) the selection of suitable matches for additional foods/beverages consumed in the FFQ informed by local dietetic expertise; (3) the import of nutrient profiles for additional foods/beverages from international food composition tables (UK, USA, and Singapore) to provide full coverage for all FFQ items; (4) the filling of nutrient data gaps in the core IFCT dataset to ensure all foods/beverages have a value for each nutrient; and (5) the generation of a conversion file for food frequencies to daily intakes (in servings and grams) to facilitate FFQ linkage with the nutrient database. The complete nutrient database provides full coverage of FFQ raw and cooked food/beverages and has the capability to analyse 53 nutrients. Overall, 53% of the FFQ items were matched to the IFCT, whilst 28% were matched from the UK (GB21-0), 15% from the USA (FNDDS), and 4% from the Singapore food tables. All FFQ items matched to the IFCT had missing nutrients mapped from matches in other databases, with GB21-0 being the first preference. For cooked FFQ items matched to the IFCT (n = 21), an appropriate cooking method was applied using established nutrient retention factors. The bespoke nutrient database developed through the integration of nutritional expertise and dietary assessment software will allow for the nutrient analysis of FFQ data. The next step is to automate the nutrient analysis process from computer-assisted FFQ data collection in Wave 2 of LASI-DAD.

Keywords: diet; dietary intake; nutrient database; nutritional analysis; older adults; India



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