Validation of a developed online 24-h dietary recall tool (Foodbook24) in a Chinese population in Ireland: preliminary results from a comparison study

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Foodbook24 is a web-based, self-administered 24-h dietary recall(24HDR) tool initially developed for the Irish adult population[1]. Previous studies have demonstrated the validity of Foodbook24 for use in Irish cohort[1][2]. However, the application of this tool in other population groups is limited. As different population groups have diverse dietary habits and food choices[3], there is a need to develop it for use in specific population groups. In this study, Foodbook24 was further developed for use in the Chinese population living in Ireland. The purpose of this study was to examine the performance of developed Foodbook24 by comparing with traditional interviewer-led 24HDR, assessing nutrients and food intakes derived from both methods. Chinese adults who are living in Ireland were recruited to complete a comparison study, whereby participants were asked to complete one self-administered 24HDR using Foodbook24 and one interviewer-led 24HDR on the same day. Following a two-week wash-out period the same process was completed again in the opposite order. We described nutrients and food groups intakes data using means and standard deviation. The percentage differences between the two methods were calculated. Mann-Whitney U tests were performed to identify significant differences between estimates. Bland-Altman analysis was applied to determine the agreement between the two methods. Preliminary results show there were no significant differences in reported energy and nutrients intakes between self-administered and interviewer-led dietary recall, except for starch($p = 0.02$). For 25 out of 35 nutrients, mean percentage differences between both methods were less than 10%, with an overall range of -40% to +40%. Bland-Altman analysis showed good comparison between the two methods.

Categorising foods into 16 foods groups, mean daily intakes estimated from the self-administered recall method were higher for most of the groups. However, the observed differences were not significant except for Vegetable & Vegetable dishes (62.4 v 49.0 g/d) and Soup, Sauces& Miscellaneous (26.6 v 18.4 g/d) in the self-administered v traditional interviewer-led method respectively. More than half of the participants reported Foodbook24 as the preferred method. The use and applicability of novel dietary assessment tools, such as Foodbook24, need to be considered in all population groups in any given country, with wide and diverse languages and eating habits. Results show that Foodbook24 is a suitable tool to examine dietary intake in a Chinese population living in Ireland. Its use in a Chinese population living in China needs to be evaluated.

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References

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