Proceedings of the Nutrition Society (2024), **83 (OCE1)**, E195 doi:10.1017/S0029665124002131

47th Annual Scientific Meeting of the Nutrition Society of Australia and Nutrition Society of New Zealand, 28 November – 1 December 2023, Nutrition & Wellbeing in Oceania

Validating an electronic snacking questionnaire among New Zealand adolescents and young adults with type 1 diabetes – feasibility study

S. Styles[1], J. Haszard[2], S. Rose[1,3,4], A. Barea[1] and B. Wheeler[3,5]
[1]*Department of Human Nutrition, University of Otago, Dunedin, 9054 New Zealand*
[2]*Biostatistics Centre, University of Otago, Dunedin, 9054 New Zealand*
[3]*Department of Women's and Children's Health, University of Otago, Dunedin, 9054 New Zealand*
[4]*Department of Paediatrics & Child Health, University of Otago Wellington, Wellington, 6021 New Zealand*
[5]*Paediatric Department, Te Whatu Ora Southern, Dunedin, 9054 New Zealand*

Type 1 diabetes (T1D) is a chronic autoimmune disease characterised by a deficiency in insulin production and consequent hyperglycaemia. A glycated haemoglobin (HbA1c) value < 53 mmol/mol (< 7%) is recommended to reduce the risk for diabetes-specific complications(1). However, most adolescents and young adults (AYAs) have an HbA1c above the target(2). Dietary behaviours, including a routine meal plan with snacks, play a significant role in self-management(3). Snacks without an insulin bolus, grazing or snacking to cope with stress contribute to out-of-target glucose levels. Although modifying AYAs' snacking behaviours could be a low-cost, equitable, and effective approach to improving glycaemic control, there is a dearth of evidence to inform effective snacking interventions. Importantly, no brief, validated tool exists to assess snacking behaviour among individuals with T1D. This research explored the acceptability and feasibility of validating a snacking questionnaire adapted for AYAs with T1D; a crucial step before a larger validation study. Twenty-five AYAs (aged 13-20 years) with T1D and receiving diabetes care through Te Whatu Ora Southern were invited to participate in a feasibility study. Purposive sampling was used for maximum variability in participants' demographic characteristics. All study procedures were completed remotely, with electronic questionnaires administered in the morning via a secure web platform. On days 1 and 8 of the 8-day study, participants completed a 30-item snacking questionnaire that assessed the timing and frequency of snacking and types of food or drinks consumed as a snack in the past seven days. The snacking questionnaire was adapted from questionnaires previously used in population-level surveys. An experienced diabetes dietitian ensured that items reflected foods commonly consumed by AYAs with T1D. Before recruitment, two diabetes dietitians and a young adult with T1D critically reviewed the adapted snacking questionnaire. On days 2-8, participants recalled their snacking behaviour (timing, frequency, food/drink consumed) over the previous day. The proportion of completed snacking questionnaires assessed feasibility, defined as a response rate ≥ 80%. The ease of completing the snacking questionnaires was self-reported on a Likert-type scale (1-completely agree, 5-completely disagree) to assess acceptability, defined as ≤ 20% of participants reporting the questionnaires were not easy to complete. Participants (n = 10) were aged 16.2 ± 1.69 years, 60% male, and 90% self-identified as New Zealand or Other European. All participants completed the proposed validation study. Most (95%) of the snacking questionnaires were completed. All (100%) daily snacking behaviour questionnaires were completed. All participants (100%) agreed that the questionnaires were easy to complete. The snacking behaviours questionnaire validation procedures are feasible and acceptable to New Zealand and Other European AYAs with T1D. Feasibility and acceptability must be explored among ethnically diverse AYAs before conducting a larger rigorous validation study.

Keywords: Adolescents; questionnaire validation; snacking; type 1 diabetes

Ethics Declaration

Yes

Financial Support

University of Otago Research Grant (2022).

References

1. de Bock M, Codner E, Craig ME *et al.* (2022) *Pediatr Diabetes* **23**, 1270–1276.
2. James S, Perry L, Low J *et al.* (2022) *Pediatr Diabetes* **23**, 736–741.
3. Annan SF, Higgins LA, Jelleryd E *et al.* (2022) *Pediatr Diabetes* **23**, 1297–1321.