WebDASC: a web-based dietary assessment software for 8-11-year-old Danish children

Biltoft-Jensen, Anja Pia; Trole, Ellen; Christensen, Tue; Islam, N.; Andersen, L. F.; Egenfeldt-Nielsen, S.; Tetens, Inge

Publication date:
2013

Document Version
Publisher's PDF, also known as Version of record

Link back to DTU Orbit

Citation (APA):

General rights
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.
Abstract for ICDAM 8:

Topic: Novel approaches to measuring diet

Title: WebDASC: A Web-based Dietary Assessment Software for 8-11 year old Danish Children

Anja Biltoft-Jensen1 (apbj@food.dtu.dk), Ellen Trolle1 (eltr@food.dtu.dk), Tue Christensen1 (tuchr@food.dtu.dk), Noemi Islam2 (nislam@bcm.tmc.edu), Lene Frost Andersen3 (l.f.andersen@medisin.uio.no), Simon Egenfeldt-Nielsen4 (sen@seriousgames.dk), Inge Tetens1 (intet@food.dtu.dk).

1 Division of Nutrition, National Food Institute, Technical University of Denmark, Copenhagen
2 USDA/ARS Children’s Nutrition Research Center, Baylor College of Medicine, Houston TX
3 Department of Nutrition, Institute of Basic Medical Sciences, University of Oslo, Oslo
4 Serious Games Interactive, Copenhagen

Background/Aim: When we rely on children’s self-report to obtain information about dietary intake, the assessment tools we use should foster participants’ cooperativeness by being intuitive, easy and fast to complete, flexible in the choices it offers, non-intrusive, engaging, and age-appropriate. The challenge is to engage children in the process and to obtain accurate report while minimizing respondent bias. The aim of this study was to develop and evaluate a Web-based Dietary Assessment Software for Children (WebDASC) created as part of the OPUS1 project (“Optimal well-being, development and health for Danish children through a healthy New Nordic Diet”) to measure dietary change after a school-based intervention.

Methods: WebDASC is a self-administered tool that can be used by 8-11 year old children with or without parent’s aid. The development of WebDASC followed a prototyping approach: focus groups, informal interviews, literature review, and usability tests preceded its release. Special consideration was given to age-appropriate design issues, e.g. the avatar is an animated armadillo who guides respondents through six daily eating occasions and helps them report foods and beverages previously consumed; the report of amount consumed is aided by food photography: children are prompted to select the best match among four digital images depicting child-appropriate portion sizes. WebDASC is powered by a database of 1300 food list items based on food intakes from the Danish National Survey of Diet and Physical Activity among children. A type-in format is also available for foods that children are unable to find by either category browse or text search. Respondent’s acceptability was measured by a qualitative questionnaire administered to eighty one 8-11 year old participants in the OPUS pilot study who had completed seven consecutive days of dietary assessment using the WebDASC.

Results: 74 participants returned the qualitative questionnaire. 95 % of the children received more or less help from parents to complete WebDASC. 80% found the recording duration acceptable. 88% found the task of finding and reporting foods more or less easy. Children preferred the category browse search, whereas parents preferred the free text search. 85% found the digital images to estimate portion sizes more or less easy to use. 98% liked the user interface design. Open answers indicated that the flexibility could be improved.

1 The OPUS project is supported by a grant from the Nordea Foundation.
Conclusion: Qualitative testing demonstrated that WebDASC was well accepted among children and their parents.

Word count: 394