



Summer Meeting, 11–14 July 2016, New technology in nutrition research and practice

## A qualitative analysis of barriers and facilitators in using portion control tools for weight control

Eva Almiron-Roig<sup>1</sup>, David Vaughan<sup>2</sup> and Susan A. Jebb<sup>1,3</sup>

<sup>1</sup>MRC Human Nutrition Research, Cambridge CBI 9NL, UK, <sup>2</sup>Department of Food and Tourism Management, Manchester Metropolitan University, Manchester, M15 6BH, UK and <sup>3</sup>Nuffield Department of Primary Care Health Sciences, University of Oxford, OX2 6GG, UK

Large portion sizes increase consumption and eating smaller portions is frequently recommended as a weight control strategy. However many people report difficulties in enacting this advice. Instruments that directly control how much is served or put on the plate may help with portion control but the evidence behind the effectiveness and acceptability of such tools is limited<sup>(1,2)</sup>. We examined the experience of using two particular tools intended to improve portion control: a guided crockery set (sector plate, calibrated bowl and calibrated glass) and a set of calibrated serving spoons (one for starch, one for protein and one for vegetables) by individuals trying to manage their weight.

Eleven men and 18 women who were obese and had completed between 7–12 weeks of a community weight loss programme were invited to use the two tool sets at home over a period of four weeks (two weeks each tool in random order) with minimal health professional contact. Qualitative data on their experience was collected with a semi-structured questionnaire including questions on perceived usefulness; circumstances when the tool was used or not used; liked and non-liked aspects of each tool; suggestions for improvement; and spontaneous comments. Data were analysed using thematic framework analysis<sup>(3)</sup>.

Participant's comments fell within two overarching themes related to either positive (facilitators); or neutral/negative experiences (barriers). Ease of use, functionality, portion size education; attractive design and added assets (e.g. being easy to clean) were themes associated with positive experiences and potential for long-term use. Unclear markings, divisions or instructions; not perceiving the tool necessary; the tool being unsuitable for measuring/eating specific foods; for those following particular diets; and for children; easy opportunities for overeating (e.g. By overloading the tool or having second helpings); being of poor quality or inconvenient and practical difficulties in using it consistently were associated with negative or neutral experiences and a low potential for adherence. Participants suggested improving instructions, making calibration marks clearer, and increasing the versatility of the tools for mixed meals, dry food, out of home use and for other family members. Free comments suggested that both tools helped to create a heuristic assessment of appropriate portion size. This finding suggests that such tools may help facilitate longer-term improvements in portion control, through lasting memories of the appropriate portion of regularly consumed foods.

1. Kesman RL, Ebbert JO, Harris KI, Schroeder DR (2011) *BMC Research Notes* 4: 346.
2. Pedersen SD, Kang J, Kline GA (2007) *Arch Intern Med* 167: 1277–1283.
3. Ritchie J & Spencer L (1994). Bryman A & Burgess R (Ed). Routledge: London, 173–194.