

Acceptability, ease of use and perceived effectiveness of two portion control tools by people who are obese

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People tend to eat more and gain weight when exposed to large portion sizes⁽¹⁾, meaning that individuals may need to develop personal coping strategies to avoid overeating in such environments. The size and design of tableware may modulate how much is eaten and appropriately designed tools may help with portion control⁽²⁾. We examined the experience of using two commercial portion control tools - a guided crockery set (CS, sector plate, calibrated bowl and calibrated glass) and a set of calibrated serving spoons (SS, one for starch, one for protein and one for vegetables), by individuals trying to manage their weight.

Twenty-nine adults with an initial BMI > 30 kg/m² who had completed between 7–12 weeks of a community weight loss programme were invited to use both tools for two weeks each, in a crossover design, with minimal health professional contact. A paper-based questionnaire was used to collect data on their experience including changes in portion size of main foods; frequency and type of meal in which the tool was used. Binary indicators of high (=1) or low (=0) acceptance, ease of use and perceived effectiveness were derived from Likert scales, and likelihood for continued use was measured with a visual analogue scale. Logistic regression models with a random intercept were fitted to the indicators of acceptance, ease of use and perceived effectiveness to assess the effect of tool type. Changes in portion size of main foods; frequency of use and type of meal were analysed with contingency tables.

Likelihood of continued use, mean acceptance, ease of use and perceived effectiveness scores were moderate to high (Table); effect of tool type did not differ across indicators of acceptance, ease of use and perceived effectiveness ($p > 0.31$ for all comparisons); 55 % of participants used the CS on most days compared with 21 % for the SS. The CS was used for all meals while the SS were mostly used for evening meals. Self-selected portion sizes when using either tool increased mainly for raw and cooked vegetables and decreased mainly for chips and potatoes.

	Crockery set		Serving spoon set	
	Mean score	SD	Mean score	SD
Acceptance score (0–5)	3.7	0.97	3.8	1.03
Ease of use score (0–5)	4.3	0.89	4.4	0.67
Perceived effectiveness score (0–5)	3.7	1.05	3.7	0.82
Likelihood of continued use (0–100)	61.5	31.5	73.3	23.8

Values are mean scores for combined 5-point Likert sub-scores for: Liking, fitting in kitchen, fitting with home life and not feeling embarrassed of using it (Acceptance); Ease of use, resistant to wear and tear and having clear instructions (Ease of use); Helping to learn portions, measuring new foods, used continuously and helping with dietary goals (Perceived effectiveness); and 100 mm VAS scores (Likelihood of continued use).

Participants rated both tool sets as equally acceptable, easy to use and with similar perceived effectiveness. They reported they would be likely to continue using the tools if they were available. Trials to evaluate the impact of such tools on weight control are warranted.

1. Ledickwe JH, Ello-Martin JA and Rolls BJ (2005) *J Nutr* **135**, 905–909.
2. Hollands GJ, Shemilt I, Marteau TM *et al.* (2015) *Cochrane Database Syst Rev* **9**, CD011045.