Innovations in dietary interventions: Use of a photographic food diary method and telephone linked computerized care in chronic disease

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Abstract

Access to dietetic care is important in chronic disease management and innovative technologies assist in this purpose. Photographic dietary records (PhDR) using mobile phones or cameras are valid and convenient for patients. Innovations in providing dietary interventions via telephone and computer can also inform dietetic practice. Three studies are presented. A mobile phone method was validated by comparing energy intake (EI) to a weighed food record and a measure of energy expenditure (EE) obtained using the doubly labelled water technique in 10 adults with T2 diabetes. The level of agreement between mean (±sd) energy intake mobile phone (8.2±1.7 MJ) and weighed record (8.5±1.6 MJ) was high (p=0.392), however EI/EE for both methods gave similar levels of under-reporting (0.69 and 0.72). All subjects preferred using the mobile phone vs. weighed record.

Nineteen individuals with Parkinson’s disease kept 3-day PhDRs on three occasions using point-and-shoot digital cameras over a 12 week period. The camera was rated as easy to use by 89%, keeping a PhDR was considered acceptable by 94% and none would rather use a “pen and paper” method. Eighty-three percent felt confident to use the camera again to record intake. An interactive, automated telephone system designed to coach people with T2 diabetes to adopt and maintain diabetes self-care behaviours, including nutrition, showed trends for improvements in total fat, saturated fat and vegetable intake of the intervention group compared to control participants over 6 months. Innovative technologies are acceptable to patients with chronic conditions and can be incorporated into dietetic care.