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A pilot study evaluating nutritional outcomes from a behaviour change intervention with adolescents

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It is now well established that obesity is a significant health problem worldwide, increasing the risk of a range of chronic diseases such as diabetes, CVD and certain cancers, which contribute to an increasing strain on National Health Service (NHS) resources. Obesity in young adults is an important predictor of adult obesity⁽¹⁾ however, there are limited strategies for improving nutrition in adolescents⁽²⁾. Positive changes in the health habits formed at this age have the potential to be sustained into adulthood, thus reducing the risk of nutritionally related adult disease.

A pilot study was conducted to evaluate the effect of an evidence based behaviour change intervention on increasing healthy snacking, fruit and vegetable intake and pedometer steps. Twenty-nine participants were randomly allocated to control and intervention conditions and cognitions, nutritional knowledge, and BMI were measured by questionnaire at baseline and 5-month follow-up. Diaries were also provided to record food intake over 3 days and daily pedometer step count. One week after baseline (time 1), following a nutrition education seminar, nutritional knowledge was again measured and participants completed intervention or active control tasks. The intervention involved participants making if-then plans (or implementation intentions) in relation to achieving the following healthy lifestyle goals: replacing unhealthy snacks with healthy ones, increasing daily fruit and vegetable intake and increasing daily pedometer steps.

For both groups, increasing trends were observed in good intentions and high self efficacy towards the lifestyle goals ($n = 29$) and in daily reported pedometer steps ($n = 16$). Reducing levels were observed in energy intake from unhealthy snacks, total energy, sugar, fat, unsaturated fat and salt intakes reported from diaries ($n = 19$). There was a discrepancy between daily fruit and vegetable intake reported in food diaries (which remained stable over time) compared to self-reported weekly recall taken by questionnaire (which indicated that the intervention group had increased intake by nearly half a portion at follow-up).

It is important to conduct interventions that can help to prevent obesity in adolescents and the potential for subsequent long-term chronic illnesses. The results from this study indicate the potential trends that a small scale behavioural change intervention coupled with nutritional education can have, in altering aspects of diet quality, physical activity, nutritional knowledge and cognitions held towards leading a healthy lifestyle. The results show positive trends that require future research with a larger and more diverse sample.

1. Guo SS & Chumlea WC (1999) *Am J Clin Nutr* 70(1): 145S–148S.
2. Fitzgerald A, Heary C, Nixon E *et al.* (2010) *Health Promot Int* 25, 3.