Feasibility of a complex intervention to improve diet in Maltese children

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The high prevalence of childhood obesity in Malta is a challenging health problem. Schools can potentially be ideal for implementing successful dietary interventions when well designed. The main aim of this study was to assess the feasibility of a complex intervention to reduce sugar intake and increase water consumption in Maltese school children aged 9–11 years.

3 schools were recruited during the school year 2011–2012. This feasibility study used the Intervention Mapping Protocol2 design and based the strategy on the recommendations laid out by the Medical Research Council guidelines for designing complex interventions3. The dietary outcomes were measured at school using the novel web-based 24-hour recall dietary assessment tool, REALITYMALTA™, developed at the Rowett Institute of Nutrition and Health, and further developed and validated for use in Maltese school children4. The study included an educational component by supplying a printed leaflet on reduction of sugars, particularly non-milk extrinsic sugars (NMES) and through interactive sessions for both parents and children5. It also included an environmental component through the free supply of water in the intervention classrooms for a period of twelve weeks. 48 children (30 boys, 18 girls) completed both the pre-intervention and post-intervention assessments. Food counts and nutrients results were then compared using Wilcoxon signed-rank tests and paired sample t-tests respectively. No significant differences were found for food counts, except for increased fruit consumption (p = 0·03). A statistically significant reduction was reported for energy intakes (kJ/day) (p = 0·03), and small (but non-significant) reductions (p > 0·05) were reported for fats (g/day), and NMES (g/day). Water consumption rates remained similar pre- and post-intervention (p = 0·49).

In conclusion, the reductions in energy, NMES and fats intakes reported in this feasibility study are encouraging, although only small changes were noted. These results could inform the design of a larger study of longer duration involving both intervention and control schools, whilst modifying the intervention design to ensure a positive effect for water consumption.