*Scottish Section Meeting, 5–6 April 2011, 70th Anniversary: Nutrition and health: from conception to adolescence*

# Comparison of a web-based tool to measure dietary intake with 24 h recalls in Maltese school children-RealityMalta

C. S. Copperstone[1], G. McNeill[2], L. Aucott[2], L. C. A. Craig[2] and D. M. Jackson[2]

[1]*Faculty of Health Sciences, University of Malta, Malta and* [2]*Public Health Nutrition Research Group, Division of Applied Health Sciences and Rowett Institute of Nutrition and Health, University of Aberdeen, AB25 2ZD, UK*

RealityMalta is a web tool (http://realitymalta.rowett.ac.uk), which was developed at the Rowett Institute for Nutrition and Health and adapted for use in Maltese school children. The aim of this study was to compare food and drink intake assessed by RealityMalta with a 1 d 24 h recall in Maltese primary school children aged 9–11 years. The study took place in Maltese primary schools between November 2009 and February 2010. Ethical approval was obtained from the local University of Malta Research Ethics Committee. Fifty children (twenty-eight females), mean age 10.2 years (sd 0.4), reported food intakes using both tools on the same day. Children first logged into the RealityMalta site to complete the tool covering questions on their previous day's food and drink intake. They were then interviewed using the 24 h multiple pass recall technique (MPR)[1]. Total energy and macronutrient intakes were computed for both methods using the WinDiets research package (Robert Gordon University, version 2005), with portion sizes estimated using UK children's portion sizes from the National Diet and Nutrition Surveys[2] and a questionnaire sent to parents of Maltese children of this age group. Nutrient intakes using the two methods were then compared using parametric or non-parametric tests as appropriate and shown in the Table.

| Nutrient | RealityMalta | | 24 h MPR | | $P$ difference | Spearman $r$ | $P$ |
|---|---|---|---|---|---|---|---|
| | Median | IQR | Median | IQR | | | |
| Total fats (g) | 43.3 | 32.8 | 67.4 | 27.2 | <0.001 | 0.61 | <0.001 |
| SFA (g) | 18.1 | 13.9 | 25.9 | 18.9 | 0.001 | 0.63 | <0.001 |
| Total sugars (g) | 73.4 | 52.2 | 85.7 | 50.0 | 0.175 | 0.40 | <0.05 |
| NMES (g) | 37.1 | 41.6 | 42.4 | 41.0 | 0.798 | 0.52 | <0.001 |
| Total sugars (% energy) | 22.9 | 12.4 | 19.3 | 11.0 | 0.342 | 0.47 | <0.001 |
| NMES (% energy) | 11.1 | 9.4 | 9.6 | 9.9 | 0.382 | 0.49 | <0.001 |

| Nutrient | Mean | sd | Mean | sd | $P$ difference | Pearson $r$ | $P$ |
|---|---|---|---|---|---|---|---|
| Energy kJ (kcal) | 6250.896 (1494) | 2055.5992 (491.3) | 7301.08 (1745) | 1859.3696 (444.4) | <0.001 | 0.59 | <0.001 |
| Total fats (% energy) | 29.2 | 8.5 | 34.3 | 7.3 | <0.001 | 0.49 | <0.001 |
| SFA (% energy) | 11.7 | 4.9 | 12.9 | 4.7 | 0.043 | 0.64 | 0.001 |

IQR, interquartile range.

There were significant correlations between the two methods with coefficients above 0.4 for all nutrients (all $P<0.05$). Comparison of absolute nutrient intakes showed no significant differences ($P>0.05$) between the two methods for total sugars (g and % energy) and NMES non-milk extrinsic sugars (g and % energy). The results show that the RealityMalta tool can be used with reasonable confidence to assess intakes of sugars and NMES in Maltese children.

1. Food Standards Agency (2007) *Low Income Diet and Nutrition Survey. Summary of Key Findings*. London: The Stationery Office.
2. Wrieden WL, Longbottom PJ, Adamson AJ *et al.* (2008) *Br J Nutr* **99**, 1344–1353.