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A Systematic Review of Systematic Reviews of Validated Dietary Assessment Tools

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Measuring dietary intake accurately is important to improve understanding of the role of diet in health[(1)]. This, however, is challenging due to the difficulty of measuring diet and limitations of methods used[(2)]. The DIET@NET project aims to provide a central resource where researchers can identify and access the most appropriate dietary assessment tools (DATs) for their work, through the Nutritools.org website. The aim of this study was to identify validated DATs that can be used in UK population studies and are eligible for inclusion on the Nutritools.org website.

A systematic review of systematic reviews was conducted searching 7 electronic databases. To be included systematic reviews had to have conducted a comparative analysis on validated DATs that measured some aspect of food or nutrient intake. Data on the identified DATs were extracted from the original papers. Cross checking with other resources was conducted to ensure no validated DATs were missed. If not provided, mean differences and Limits of Agreement were calculated to allow comparison between the validated DATs. From the 43 systematic reviews identified, data for 62 UK validated DATs were extracted. The majority of the DATs were FFQs, with 44 DATs validated in adults and 13 in children. DAT comparison proved challenging due to the different analytical approaches used. Below is an example of one of the plots produced to compare statistical data between the DATs. The plot shows a modest variation in the mean differences between the DATs that have been validated for energy in children; however the limits of agreement for most of the DATs are +/− 500 kcal.

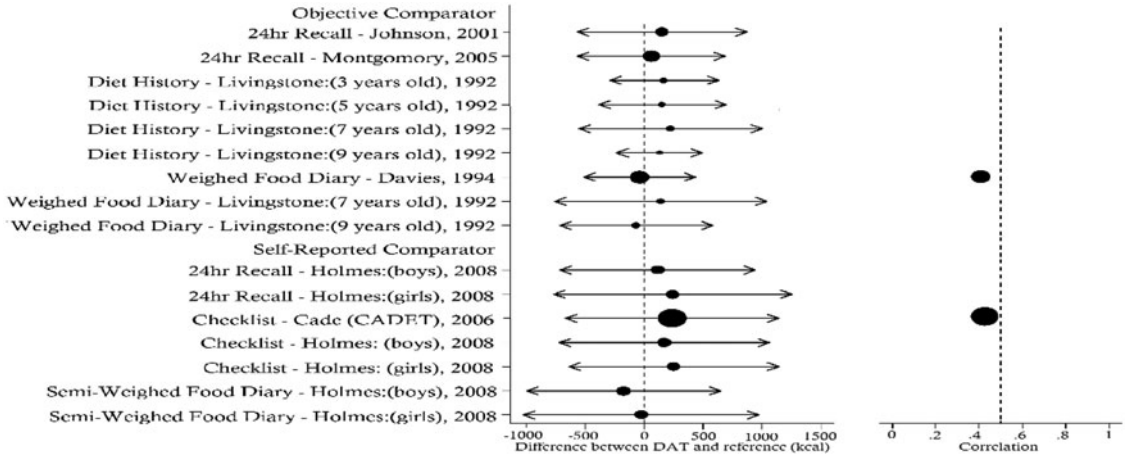

Figure 1. Comparison of energy intake (kcal) between DATs and the reference method in children. Circles in the first plot represents mean differences. Size of the circle represents sample size. Horizontal lines denote Limits of Agreement.

The review has collated into one place validation evidence on the DATs identified from the systematic reviews, which when provided online, will be a useful resource to compare the DATs available. The analysis has also developed a new approach to comparing DATs and presented this visually for the first time in a forest like plot. This could be a useful aid to researchers in selecting suitable DATs.

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