ASSESSMENT OF YOUNG CHILDREN’S OBESITY-RELATED DIETARY BEHAVIOURS

THE PURPOSE

1. To monitor population trends in predictors of energy imbalance or weight status of ≤5yo and screen children’s diets to identify high risk obesity-related behaviours

2. To evaluate interventions and scaled-up early obesity prevention program

THE CHALLENGES

— Assessment in children under 5 years is complicated by large variations in diet across brief periods of time (i.e. infancy to toddlerhood) which limits the ability for consistent measures.

— Existing tools (24hr recalls, weighed food records and food diaries) are costly and time-intensive for users and extracted data cannot be quickly compared to food-group based dietary guidelines.

SHORT FOOD-BASED MEASUREMENT TOOLS

— Food/food-group-based methods groups allow easy comparison against dietary guidelines.

— Short versions are less time-intensive and burdensome for respondents and researchers.

EXISTING SHORT TOOLS

— Two recent reviews evaluated short questionnaires to assess dietary intake of young children (1, 2) and adolescents (2).

— A summary of six short tools relevant to children aged under 5 years is provided in Table 1. Their characteristics, outcomes of interest and psychometric properties are described.

— Four assess whole-of-diet food group intake and produce a summary score reflecting overall diet quality. Two assess targeted food components, one with a focus on obesity-related items.

— Three demonstrated good reliability for several items yet validity was poor. One demonstrated good validity however it was not tested for reliability.

CONTEXT IN WHICH TO USE TOOLS

— These tools provide food/food group data that enable assessment of children’s dietary intake against the Australian Dietary Guidelines.

— They evaluate children’s dietary patterns and can be used to rank individuals according to their intake. They are not suitable for estimating nutrient intakes

REFERENCES


<table>
<thead>
<tr>
<th>Reference</th>
<th>Tool name</th>
<th>Age diet assessed</th>
<th>Tool type</th>
<th>no. food items</th>
<th>Food groups assessed</th>
<th>Recall period</th>
<th>Response variables</th>
<th>other</th>
<th>Outcomes of interest</th>
<th>Reliability (Sample size, Reference period, conclusion)</th>
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<tr>
<td>Bell et al. (2014), (3)</td>
<td>Toddler Dietary Questionnaire (TDQ)</td>
<td>12-36mo (1-3 years)</td>
<td>FFQ</td>
<td>19</td>
<td>Fruit; Veg; Meat &amp; Alt; Grains &amp; starch; Dairy foods; Discretionary; SSB; Water; Fats (all)</td>
<td>7d</td>
<td>Fq &amp; portion size</td>
<td>Paper</td>
<td>Whole-of-diet food group intake</td>
<td>n = 111 3.2±1.8 wks (1.0 – 11.9) Performs well</td>
<td>n = 111 FFQ Not validated at item-level</td>
<td>✓ Convergent validity</td>
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<tr>
<td>Bell et al. (unpublished)</td>
<td>Preschooler Dietary Questionnaire (PDQ)</td>
<td>37-60mo (&gt;3 - &lt;5yrs)</td>
<td>FFQ</td>
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<td>Fruit; Veg; Meat &amp; Alt; Grains &amp; starch; Dairy foods; Discretionary; SSB; Water; Fats (all)</td>
<td>7d</td>
<td>Fq &amp; portion size</td>
<td>Paper</td>
<td>Whole-of-diet food group intake</td>
<td>n = 74 2.1±1.0 wks Doesn’t perform well</td>
<td>n = 74</td>
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<td>Bennett et al. (2009), (4)</td>
<td>Eating and Physical Activity Questionnaire (EPAQ)</td>
<td>2-5 years</td>
<td>FFQ</td>
<td>10</td>
<td>Fruit; Veg; Dairy foods; Discretionary; SSB; Water (not grains or meat and alternatives)</td>
<td>1d</td>
<td>Fq &amp; portion size</td>
<td>Paper</td>
<td>Targeted obesity-related food and beverages</td>
<td>Not tested</td>
<td>n = 90 1 x 24hr recall (Gold Std) Performs well</td>
<td>-</td>
</tr>
<tr>
<td>Hendrie et al. (2014), (5)</td>
<td>Short Food Survey (SFS)</td>
<td>4-11yr</td>
<td>SFS</td>
<td>38</td>
<td>Fruit; Veg; Meat &amp; Alt; Grains &amp; starch; Dairy foods; Discretionary; SSB; Fats (all)</td>
<td>usual</td>
<td>no. serves &amp; no. cups &amp; no. times</td>
<td>Computer-assisted</td>
<td>Whole-of-diet food group intake</td>
<td>n = 63 1 wk</td>
<td>n = 63 3 x 24hr DR (Gold Std) Doesn’t perform well</td>
<td>-</td>
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<tr>
<td>Grant et al. (unpublished thesis)</td>
<td>Short SFS (Short Food Survey)</td>
<td>4-11yr</td>
<td>sSFS</td>
<td>15</td>
<td>Fruit; Veg; Meat &amp; Alt; Grains &amp; starch; Dairy foods; Discretionary (incl SSB); Fats (all)</td>
<td>usual</td>
<td>No. serves &amp; no. types</td>
<td>Paper</td>
<td>Whole-of-diet food group intake</td>
<td>n = 47 Performs well</td>
<td>n = 63 3 x 24hr DR Doesn’t perform well</td>
<td>-</td>
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<td>Magarey et al. (2009), (6)</td>
<td>Children’s Dietary Questionnaire (CDQ)</td>
<td>4-16yr</td>
<td>Q</td>
<td>28</td>
<td>Fruit &amp; Veg; Dairy foods; Discretionary; SSB; (not grains or meat and alternatives)</td>
<td>1d or 1wk</td>
<td>Variety &amp; fq (not portion size)</td>
<td>Paper</td>
<td>Targeted food component (positive and negative indicators of food intake against dietary guidelines)</td>
<td>n = 116 10d (5-57d) Performs well</td>
<td>n = 193 7d food checklist Performs well for some items</td>
<td>✓ Construct validity ✓ Sensitivity to change (partial)</td>
</tr>
</tbody>
</table>

Abbreviations: d, days; DGI-CA, Dietary Guideline Index for Children and Adolescents; FFQ, food frequency questionnaire; fQ, frequency; mo, months; no., number; Q, questionnaire; SFS, short food survey; SSB, sugar sweetened beverages; veg, vegetables; wk, week