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

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TABLE 1: SHORT TOOLS AVAILABLE TO MEASURE DIET IN YOUNG CHILDREN

Reference	Tool details									Psychometric testing		
Author (PubMed Link hyperlinked) **(year), reference**	**Tool name**	**Age diet assessed**	**Tool type**	**no. food items**	**Food groups assessed**	**Recall period**	**Response variables**	**other**	**Outcomes of interest**	**Reliability** (Sample size, Reference period, conclusion)	**Relative validity** (Sample size, Reference method, conclusion)	**Other**
Bell et al. (2014), (3)	Toddler Dietary Questionnaire (TDQ)	12-36mo (1-3 years)	FFQ	19	Fruit; Veg; Meat & Alt; Grains & starchy; Dairy foods; Discretionary ; SSB; Water; Fats **(all)**	7d	Fq & portion size	Paper	Whole-of-diet food group intake Dietary risk (diet quality) score	*n* = 111 3.2±1.8 wks (1 .0 – 11.9) *Performs well*	*n* = 111 FFQ *Not validated at item-level*	✓ Convergent validity
Bell et al. (unpublished)	Preschooler Dietary Questionnaire (PDQ)	37-60mo (>3 - <5yrs)	FFQ	19	Fruit; Veg; Meat & Alt; Grains & starchy; Dairy foods; Discretionary ; SSB; Water; Fats **(all)**	7d	Fq & portion size	Paper	Whole-of-diet food group intake Dietary risk (diet quality) score	*n* = 74 2.1±1.0 wks *Doesn't perform well*	*n* = 74 *Doesn't perform well*	-
Bennett et al. (2009), (4)	Eating and Physical Activity Questionnaire (EPAQ)	2-5 years	FFQ	10	Fruit; Veg; Dairy foods; Discretionary; SSB; Water **(not *grains* or *meat and alternatives*)**	1d	Fq & portion size	Paper	Targeted obesity-related food and beverages	Not tested	*n* = 90 1 x 24hr recall (Gold Std) *Performs well*	-
Hendrie et al. (2014), (5)	Short Food Survey (SFS)	4-11yr	SFS	38	Fruit; Veg; Meat & Alt; Grains & starchy; Dairy foods; Discretionary; SSB; Fats **(all)**	usual	no. serves & no. cups & no. times	Computer -assisted	Whole-of-diet food group intake DGI-CA diet quality score	*n* = 63 1 wk	*n* = 63 3 x 24hr DR (Gold Std) *Doesn't perform well*	-
Grant et al. (unpublished thesis)	Short SFS (Short Food Survey)	4-11yr	sSFS	15	Fruit; Veg; Meat & Alt; Grains & starchy; Dairy foods; Discretionary (incl SSB); Fats **(all)**	usual	No. serves & no. types	Paper	Whole-of-diet food group intake DGI-CA diet quality score.	*n* = 47 *Performs well*	*n* = 63 3 x 24hr DR *Doesn't perform well*	-
Magarey et al. (2009), (6)	Children's Dietary Questionnaire (CDQ)	4-16yr	Q	28	Fruit & Veg; Dairy foods; Discretionary; SSB; **(not *grains* or *meat and alternatives*)**	1d or 1wk	Variety & fq (not portion size)	Paper	Targeted food component (positive and negative indicators of food intake against dietary guidelines)	*n* = 116 10d (5-57d) *Performs well*	*n* = 193 7d food checklist *Performs well for some items*	✓ Construct validity ✓ Sensitivity to change (partial)

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