

# Supplementary Information

## Supplementary 1: Search process including search terms and exclusion criteria

### Stage 1: Searching major science databases (search terms used)

#### 1) Web of Science

Topic=((child\* OR infant\* OR toddler\* OR preschool\*))

AND Topic=((diet\* OR food\* OR nutrition OR dietary pattern OR eating pattern OR dietary intake OR food intake OR diet quality OR infant food OR infant nutrition OR child nutrition))

AND Topic=((assess\* OR tool OR assessment tool OR dietary assessment OR questionnaire\* OR evaluat\* OR instrument OR checklist OR validit\* OR correlat\* OR compar\* OR reproducibility OR accuracy))

Refined by: Topic=(assess) AND Research Areas=( NUTRITION & DIETETICS ) AND Research Areas=( NUTRITION & DIETETICS OR PEDIATRICS ) AND Research Areas=( NUTRITION & DIETETICS OR PEDIATRICS )

Timespan=All Years. Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, CCR-EXPANDED, IC.

#### 2) Pubmed

((((((("child"[All Fields]) OR "infant"[All Fields]) OR "toddler"[All Fields]) OR "preschool"[All Fields])))

AND (((((((("diet"[All Fields]) OR "nutrition"[All Fields]) OR "food"[All Fields]) OR "dietary pattern"[All Fields]) OR "eating pattern"[All Fields]) OR "dietary intake"[All Fields]) OR "food intake"[All Fields]) OR "diet quality"[All Fields]) OR "infant food"[All Fields]) OR infant nutrition) OR "child nutrition"[All Fields]))

AND (((((((("assess"[All Fields]) OR "tool"[All Fields]) OR "assessment tool"[All Fields]) OR "dietary assessment"[All Fields])) OR "checklist"[All Fields]) OR "reproducibility"[All Fields]) OR "valid"[All Fields]) OR "correlate"[All Fields]) OR "evaluate"[All Fields]) OR "food frequency questionnaire"[All Fields])

AND (Humans[Mesh]

AND English[lang]

AND (infant[MeSH] OR infant, newborn[MeSH] OR infant[MeSH:noexp] OR child, preschool[MeSH] OR child[MeSH:noexp])))

AND ("assess"[All Fields])

#### 3) Scopus

(TITLE-ABS-KEY((child\* OR infant\* OR toddler\* OR preschool\*))

AND TITLE-ABS-KEY((diet\* OR food\* OR nutrition OR dietary pattern OR eating pattern OR dietary intake OR food intake OR diet quality OR infant food OR infant nutrition OR child nutrition)) AND

TITLE-ABS-KEY((assess\* OR tool OR assessment tool OR dietary assessment OR questionnaire\* OR evaluat\* OR instrument OR checklist OR validit\* OR correlat\* OR compar\* OR reproducibility OR accuracy)))

AND ORIG-LOAD-DATE AFT 1365250549

AND (LIMIT-TO(LANGUAGE, "English"))

## Stage 2: Cleaning in Endnote

- 1) Duplicates were removed
- 2) Words were searched in TITLE and KEYWORDS to eliminate irrelevant articles

|  |   |   |
|--|---|---|
| Abuse  | Esophagitis   | Pesticide                                     |
| Advert   | Epilepsy  | Phenylketonuria                               |
| Agriculture  | Excretion   | PKU   |
| AIDS   | Exposure  | Pig   |
| Alcohol  | Fertility   | Poison  |
| Anaemia / Anemia                                     | Fibrosis  | Practice Guidelines                           |
| Allergic/allergy                                     | Gastro  | Premature                                     |
| Anaphylaxis  | Genetic   | Preterm infant / preterm                      |
| Asthma   | Guideline   | Primate                                       |
| Atresia  | Heavy metal   | Rabbit  |
| Bacteria   | HIV   | Rats  |
| burns  | Hormone   | Renal   |
| Case report  | Hypertension  | Retarded                                      |
| Case Study   | Illness   | Review  |
| Celiac disease / coeliac disease                     | Immun (i.e. Immunology, Immunization, Immunisation) | Rickets                                       |
| Cerebral palsy                                       | In vitro  | Smoke   |
| Colitis  | Infection   | Soil  |
| Contamin (i.e. contamination)                        | Injury  | Steroid                                       |
| Depress (i.e. depression)                            | Intensive care                                      | Spina Bifida                                  |
| Diabetes   | Intravenous   | Surgery                                       |
| Diarrhoea (diarrhea)                                 | Leukemia  | Syndrome                                      |
| Dietary sup  | Malaria   | Therapy                                       |
| Disabilit (I.e. disabilities, disability) / disabled | Mental health                                       | Toxic   |
| Disease  | Meta-Analysis                                       | Transplant                                    |
| Disorder   | Microb  | Tube (i.e. neural tube defects, tube feeding) |
| Drug   | Mice  | Urinary                                       |
| Drug effects   | Monkey  | Urine   |
| Drug therapy   | Otitis Media  | Vaccin (i.e. vaccinate, vaccine, vaccination) |
| Down syndrome  | Outbreak  | Violen (i.e. Violence, Violent)               |
| Eating Disorders                                     | Parenteral nutrition                                | Virus   |
|  | Patient   |   |

- 3) 'Cochrane' was searched in JOURNAL to eliminate review articles

## Stage 3 and Stage 4: Inclusion and exclusion of articles

- 1) The resulting articles were screened firstly according to *title and abstract* (stage 3) and if uncertain, the *full text* (stage 4) was retrieved, using the screening process detailed in the table below.

## Stage 5: Searching reference lists

- 1) Reference lists of all included articles and relevant reviews were searched for additional studies.

## Stage 6: Updating search results

- 1) Stages 1-5 were re-run using articles published between 01.06.13 and 01.04.13 to identify any recently published short dietary assessment tools for 0-5 years that assess whole diet.

|               | EXCLUSION POINT   |   |   |  |  |   |   |
|---------------|---|---|---|--|--|---|---|
|               | 1   | 2   | 3   | 4  | 5                                      | 6   | 7   |
|               | Study Outcomes  | Study Assessment Method   | Participants  | Other  | Dietary intake                         | Assessment of whole diet  | Food items in short tool  |
| Included      | Studies on individual dietary intake in infants and children<br>(Outcome data includes nutrition-related measure - e.g. dietary intake, dietary patterns, energy intake, nutrient intake)   | Diet assessed using short dietary assessment tool<br>- Food Frequency Questionnaires<br>- other dietary questionnaires/checklists                             | Healthy<br>- Infants and toddlers (1-23 months)<br>- Pre-schooler's (2-5 years)   | - English language<br>- Humans   | - Reported by primary caregiver/parent | - Investigates intake of foods from all 5 food groups (fruit, vegetables, meat/alternatives, dairy, cereals) with/without high-fat/sugar 'extras' foods | - ≤50 items<br>- *Items described as food intake questions. Excludes questions on dietary behaviour   |
| Excluded      | - Nutrition related outcomes such as nutrition knowledge, efficacy, attitudes, preference, behaviours (e.g. breastfeeding duration, weaning) etc.<br>- Group, school, family intake<br>Other studies, for example those<br>- Testing food/menu content e.g. additives, contaminants, nutritional content<br>- Describing supplement prescription and/or intake<br>- Measuring energy expenditure, urinary and blood concentrations of nutrients | Diet assessed using standard tool:<br>- dietary recall<br>- dietary record<br>- food diaries<br>- dietary indices<br>- dietary interviews<br>- large survey's | - Children and adolescents ≥5 years<br>- Diseased or institutionalised subjects (e.g. Coeliac disease, CF, Cancer, FTT, Diabetes) | - Studies without an abstract<br>- NE = Language other than English<br>- NH = Not humans (animals)<br>- EO=excluded for other reason, describe here (e.g. review/report articles, study protocols) | - Reported by child                    | - Assesses intake of foods from <5 food groups e.g. only fruit and vegetable intake   | - >50 items<br>- *Items described as food intake questions. Excludes questions on dietary behaviours. |
| Code assigned | <b>NDI</b> = Not assessing dietary intake (no dietary intake outcome data)  | <b>NST</b> = Not Short Tool   | <b>NP</b> = Not Population  | <b>NE</b> = Not in English<br><b>NH</b> = Not humans<br><b>NA</b> = No Abstract<br><b>EO</b> = Excluded other  | <b>NPR</b> = Not parent reported       | <b>NWD</b> = Not whole diet   | <b>NST50</b> = Not short tool ≤50 items   |

## 2 **Supplementary Table:** Definitions of review terminology and criteria used

| Terminology                               | Definition   | Criteria   |
|---|--|--|
| Correlation coefficient (r)               | A number, ranging from -1.0 to +1.0, used to describe the strength and direction of the linear relationship between two variables. Positive correlation; as one variable increases so too does the other. Negative correlation; as one variable increases the other decreases [1]. |  |
| Pearson's correlation coefficient         | Correlation coefficient used for parametric data [1].  | Low $\leq 0.50$ ;<br>Moderate 0.51-0.69;<br>High $\geq 0.70$   |
| Spearman's correlation coefficient        | Correlation coefficient used for non-parametric data [1].  | Low $\leq 0.50$ ;<br>Moderate 0.51-0.69;<br>High $\geq 0.70$   |
| Intra-Class correlation coefficient (ICC) | A measure of the reliability of measurements or ratings [2]. It is an explicit measure of the dependence of errors because it compares differences between groups to individual differences within groups [3]  | Poor $< 0.50$<br>Good $\geq 0.50$ [4]  |
| Kappa coefficient (k)                     | A measure of agreement between two different diagnostic tests for categorical data [1]. Kappa is 1.0 when agreement is perfect; it is 0.0 when agreement is no better than would be expected by chance [5].  | Poor $< 0.20$ ,<br>Fair 0.21-0.40<br>Moderate 0.41-0.60<br>Good 0.61-0.80<br>very good 0.81-1.00 [6] |
| Bland Altman analysis                     | Identifies the mean bias and 95% limits of agreement ( $\pm 2SD$ of the difference) between methods, providing an indication of whether a tool is valid for the assessment of intake at the individual and/or population level [7, 8].   | -  |
| Bland-Altman plot                         | A plot of the difference (bias) between two methods against the average of the two methods; used to evaluate strength of agreement [7, 8].   | -  |
| Sensitivity                               | Identifies the extent to which a diagnostic test correctly identifies those who have a particular condition or disease [9].  | -  |
| Specificity                               | Identifies the extent to which a diagnostic test correctly identifies those who <i>do not</i> have a particular condition or disease [9].  | -  |
| Cross-classification analysis             | Identifies the percentage of subjects correctly or incorrectly classified by the tool into quartiles or tertiles of intake by the reference method.  |  |

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