

APPENDIX A

Appendix A: Literature Review Methodology

Reference Manager Database

A Reference Manager 10.0 database for this literature search and review was created to ensure that all of the references from the search strings in Exhibit A.1 were tracked from identification to article retrieval to evaluation in an efficient manner. Reference Manager is a commercially available citation management system that allows some customization of database fields. We customized six User Defined fields in the database to allow for efficient management of the search and review process; to track ordering and receipt of copies of full articles of relevant citations, and to allow searching on instrument type or by specific age group categories. The database fields in the customized Reference Manager database are presented in Exhibit A.2.

The citation information from each electronic search conducted in the Pub Med and Nutrition Abstracts and Review databases was merged into the Reference Manager database prior to the review of the individual citations for relevancy to the literature search goals. This allowed the citations, key words and abstracts to be saved for later screening and review and provided automatic identification and removal of duplicate references. A copy of the Reference Manager database containing the screened search results is included with this report.

Review Process.

Three Westat master's level registered dietitians reviewed over 3,000 citations in the Reference Manager database. The citation review process included:

1. Reading the title and abstract of each citation and reviewing the key word list;
2. Scanning the abstract for methods/tools used to assess dietary or food intake, food intake patterns, supplement intake or food-borne pesticide exposure in pregnant/lactating women or in children ages 0-18;
3. Passing or failing the citation based on criteria established in Exhibit 3 and recording either P (pass), F (fail) or UD (undecided) in User Defined Field 31;
4. Completing other User Defined Fields in the Reference Manager database on all passed citations.
5. Failing articles on adult populations even if the article used one or more biological markers as the validation standard, but documenting information in the User Defined Fields.

Citations that the Westat reviewer felt did not clearly meet all pass or fail criteria were marked UD (undecided). UD citations and abstracts were sent to investigators for independent review. The relevancy criteria listed in Exhibit A.3 were modified and adjusted in consultation with investigators as the review process progressed. For example, on the October 31st conference call, a decision was made to exclude eating disorder studies collecting diet and supplement data. Citations reviewed prior to this call may have been passed and the article ordered. These citations were retroactively failed during the article review process.

Full article review. The full article of all citations passing the initial screen was obtained and reviewed. Project staff designed a basic ACCESS database to manage the full article review process. Key information from each full article validating a dietary assessment method in one of the target age groups was entered into the ACCESS database. In addition, information from full articles describing dietary assessment methods or approaches which may be of relevance to the National Children's Longitudinal Survey was also included in the ACCESS database. The database contains a customized report for each age category to enable printing of a one-sheet summary of the information in the database by citation or age group.

**Exhibit A.1. Completed search strings imported into reference manager database
(1982 to present, English, Human)**

1. (Food intake or diet or nutrition or eating or nutrient intake) AND (assessment or evaluation or monitor*)AND (methods or method or methodolog*) AND (validation or validity or valid* or reproducibility of results)
All children 0-18 years
AND (Pregnant or pregnancy or breastfeed* or breastfed or lactation or lactating or lactate*)
2. (Diet or Dietary) AND (Supplement* or Dietary supplement or Multivitamin or pill) AND (assessment* or evaluation or monitor*) AND (methods or method or methodolog*)
All children 0-18 years
AND (pregnant or pregnancy) AND (breastfeed* or breastfed or lactation or lactating or lactate*)
3. (Dietary pattern or food intake pattern or eating pattern or meal pattern or food consumption pattern or food habits) AND (assessment or evaluation or monitor*) AND (methods or method or methodolog*)
All children 0-18 years
AND (pregnant or pregnancy) or (breastfeed* or breastfed or lactation or lactating or lactate*)
- 4.a (Food frequency questionnaire or FFQ) AND (assessment or evaluation or monitor) AND (methods* or method or methodolog*) AND (validation or validity or valid* or reproducibility of results)
All children 0-18 years
AND (pregnant or pregnancy)
AND (breastfeed* or breastfed or lactation or lactating or lactate*)
- 4.b (Food frequency questionnaire or FFQ) AND (validation or validity or valid* or reproducibility of results)
All children 0-18 years
AND (pregnant or pregnancy or breastfeed* or breastfed or lactation or lactating or lactate*)
- 5.a (Diet Record or Food Record or Food Diary or Diet Diary) AND (assessment or evaluation or monitor*) AND (methods or method or methodolog*) AND (validation or validity or valid* or reproducibility of results)
All children 0-18 years
AND (pregnant or pregnancy)
- 5.b (Diet Record* or Food Record* or Food Diar* or Diet Diar*) AND (validation or validity or valid* or reproducibility of results)
All children 0-18 years
AND (pregnant or pregnancy or breastfeed* or breastfed or lactation or lactating or lactate*)
- 6.a (Diet Recall or Food Recall or 24-Hour Recall) AND (assessment or evaluation or monitor*) AND (methods or method or methodolog*) AND (validation or validity or valid* or reproducibility of results)
All children 0-18 years
AND (pregnant or pregnancy)
AND (breastfeed* or breastfed or lactation or lactating or lactate*)
AND (breastfeed* or breastfed or lactation or lactating or lactate*)

Exhibit A.1 continued.

- 6.b (Diet Recall or Food Recall or 24-Hour Recall) AND (validation or validity or valid* or reproducibility of results)
All children 0-18 years
AND (pregnant or pregnancy or breastfeed* or breastfed or lactation or lactating or lactate*)
- 7.a Diet History Questionnaire or DHQ) AND (assessment or evaluation or monitor*) AND (methods or method or methodolog*) AND (validation or validity or valid* or reproducibility of results)
All children 0-18 years
AND (pregnant or pregnancy)
AND (breastfeed* or breastfed or lactation or lactating or lactate*)
- 7.b (Diet History or DHQ) AND (validation or validity or valid* or reproducibility of results)
All children 0-18 years
AND (pregnant or pregnancy or breastfeed* or breastfed or lactation or lactating or lactate*)
8. (Herbal or food or nutritional* or natural or health or herbal remedy) AND Supplement* AND (assessment or evaluation or monitor) AND (methods* or method or methodolog*) AND (validation or validity or valid* or reproducibility of results)
All children 0-18 years
AND (pregnant or pregnancy)
9. (energy balance or energy intake or energy expenditure or doubly labeled water or DLW) AND (assessment or evaluation or monitor) AND (methods or method or methodolog*) AND (validation or validity or valid* or reproducibility of results)
All children 0-18 years
AND (pregnant or pregnancy)
AND (breastfeed* or breastfed or lactation or lactating or lactate*)
10. (Lead or Mercury or acrylamide or pesticide) AND (contamination or exposure) AND (measure* or instrument) AND (diet or food)
All children 0-18 years
AND (pregnant or pregnancy or breastfeed* or breastfed or lactation or lactating or lactate*)
11. (nutrition surveys[mesh] OR diet surveys[mesh] AND (energy intake[MAJR] OR eating[MAJR] OR Food Intake) AND assessment
All children 0-18 years
AND (pregnant or pregnancy or breastfeed* or breastfed or lactation or lactating or lactate*)
12. Searches in Nutrition Abstracts and Reviews database and author searches
AND (breastfeed* or breastfed or lactation or lactating or lactate*)

Exhibit A.2. Reference Manager User Defined Fields and Codes

| User Defined Field ^a | Code ^b | Definition |
|---------------------------------|---|--|
| [30] Misc 2 Export to Reviewer | Reviewed by (reviewer initials) and date (mm-dd-03) | JB = Joan Benson TZ = Thea Zimmerman CS = Carolyn Sharbaugh |
| [31] Misc 3 Pass/Fail | P F UD | Pass F Undecided |
| [18] UD-1 Sample Size | Number | Sample size specified in abstract |
| [19] UD-2 Instruments | FFQ HFFQ DHQ DH 24HR 24HR-T FR-3 FR-4 FR-? Weighted FR FG FV CL EX O: | Food Frequency questionnaire Harvard Food Frequency questionnaire Diet History Questionnaire Diet History 24-hour recall Telephone administered 24HR 3-day Food Record/Food Diary/Diet Record 4-day Food Record/Food Diary/Diet Record Food Record/Food Diary/Diet Record, specify # days Weighted Food Record Food Group intake Fruit and Vegetable Intake Checklist, Daily Food List Exposure Questionnaire Other, specify |
| [20] UD-3 Validation Standard | DLW DO DO-V None O: _____ | Doubly Labeled Water Direct Observation Direct Observation by Video Same Fields as in UD-2 Instruments No validation standard discussed in abstract Other, specify |
| [21] UD-4 Exposure | FI E FV VM HS C Specific nutrient O: | Food Intake, diet pattern/diet intake/diet history Energy Expenditure; caloric intake Fruit/Vegetable Intake Vit/Min supplement Herbal supplement Contaminants Write out nutrient name, e.g. calcium. Other, specify: _____ |
| [22] UD-5 Age Group | P L I T PS S A O: _____ | Pregnant Lactating, breastfeeding Infants (0-12 mo) Toddlers (13mo to 2 years) Preschool (25 mo to 5 years) School-aged (6 to 12 years) Adolescents (13 to 18 years) Other: specify (adults or women or men and give age if provided) |

^a User Defined Field numbers listed in brackets [] and presented in order appearing in database.

^b If more than one code, code is separated by semicolon; NS used for not specified in all fields.

Exhibit A.3. Citation relevancy criteria

To pass the initial screen for ordering the full text article, the title and/or abstract met the following criteria:

1. Was published in 1982 or later;
2. Reviewed primary studies, or was a primary study using an instrument to assess food, supplement, and/or food born contaminant intake;
3. Contained (or at least presented an adequate impression that the full article might provide) discussion of assessment in non-institutionalized pregnant or lactating women, or children ages 0-18 years of age;
4. Contained (or at least presented an adequate impression that the full article might provide) discussion of assessment of college student populations that include 18 year old students;
5. Included a target population relevant to the characteristics of the proposed NCS cohort (and therefore included studies performed on European populations but excluded studies in most third world populations);
6. Did not target populations with eating disorders or specific disease conditions such as cerebral palsy, diabetes, kidney disease, or developmental delays;
7. If the citation was a supplement-intervention study, it included an instrument to measure baseline supplement usage or included a biochemical marker validating supplement usage.
8. If the citation was an epidemiological study that included 16 to 18 year old participants as adults, it reported and analyzed data on adolescents separately;
9. If the citation was an analysis of published data from CSFII or NHANES, the abstract discussed dietary assessment methodology or dietary data collection issues; and
10. If the citation was a review article, it discussed dietary assessment methodology which may have relevance to our target population.