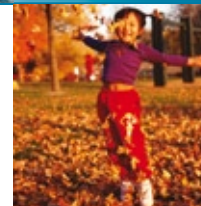




## Results from the Western Australian Child and Adolescent Physical Activity and Nutrition Survey (CAPANS) 2003

# Nutrition



In 2003, the Premier's Physical Activity Taskforce, Healthway and the Department of Health commissioned the University of Notre Dame Australia to undertake a Statewide school-based survey to collect baseline data on child and adolescent physical activity behaviours, eating patterns and physiques.

This fact sheet describes the procedures specific to the nutrition component of the study, including description of survey tools, survey process and treatment of data. For information on general CAPANS methodology, refer to the fact sheet 'CAPANS Methodology - General procedures'. For specific technical information relating to the nutrition components, please refer to the supplementary CAPANS Nutrition Technical Report.

### SURVEY SAMPLE

- A 24-hour **dietary record** was completed for 1,494 students aged 8 – 15 years. Of the sample, 49.5% (n = 739) were male and 50.5% (n = 755) were female.
- A Food Frequency Questionnaire was completed for 1,712 students. Of the sample, 50.5% (n = 868) were male and 49.5% (n = 849) were female.

### NUTRITION PROCEDURES

Dietary habits of children and adolescents were examined using a 24-hour Dietary Record (adapted from the 1985 national dietary survey) and a Food Frequency Questionnaire (adapted from the National Nutrition Survey 1995).

### DIETARY RECORD

- The 24-hour dietary record method required participants to record the type and amount of all foods, beverages and supplements consumed over a 24-hour period.
- Research assistants attended each classroom to give specific instructions and help participants work through examples of keeping a dietary record.
- Participants were then asked to record everything (food, drink, water, vitamins and supplements) that they consumed over the next 24 hours.
- Specifically, participants were asked to note the time of consumption; name, type, brand and cooking method; food source (i.e. home, canteen, etc.); and amount eaten.

Food measuring instruments provided for use in the survey included

- standard metric measuring cups (1 cup, ½ cup, ⅓ cup, and ¼ cup);
- standard metric measuring spoons (1 teaspoon, ½ teaspoon, ¼ teaspoon), and a 15 mL tablespoon measure; and
- a metric ruler (school ruler or printed ruler supplied in the food record book) was used to measure the dimensions of food such as bread and steak.

After completion of the 24-hour dietary record period, research assistants (trained dieticians and nutritionists) interviewed each student and reviewed their dietary record. For those students unable to complete the record, a full or partial 24-hour recall was obtained by the research assistant. The accuracy of each participant's dietary record was then rated excellent, good or poor based on the interview and the dietary record.

### TREATMENT OF DATA

#### Exclusion of Data

Due to obvious under-reporting of a significant number of foods and poor quality of the records, 209 records were removed from the sample.

#### Coding of Foods Contained in the 24-Hour Dietary Records

- Items recorded for each child in the 24-hour dietary record were coded using Foodworks Professional, a nutrition analysis software system [Xyris Software (Australia) Pty Ltd].
- Foodworks utilises the AUSNUT database for nutrient analysis.
- Food coding clarifications were resolved by a supervisor and detailed in a separate coding manual.
- The database was constantly updated throughout the coding process, with the addition of 347 newly created foods. The list of new foods, and the foods on which they were based, were recorded in a coding manual.<sup>5</sup>

#### Age Adjustment of Data

- The 9, 11 and 15-year-old age groups were under-represented due to sampling by school year group.
- Where data were aggregated across age groups, the data analyses were weighted for age and gender against the Western Australian population.

### FOOD FREQUENCY QUESTIONNAIRE

- The Food Frequency Questionnaire was designed to collect information about the children and adolescents' usual pattern of eating over the last 12 months.
- Only qualitative information was collected. No quantities were specified.
- The survey instrument included two sections:
  - Section one asked how often, on average, participants had consumed certain food and drinks during the last 12 months: and
  - Section two consisted of 12 questions relating to amounts and types of foods, meals and ways of eating, with five questions asking for general demographic information.
- High school students completed example questionnaires at school with the help of research assistants prior to taking them home for completion themselves or assisted by parents.
- Food Frequency Questionnaires for primary school students were sent home with students for completion by parents.



## TREATMENT OF DATA

### Coding of Food Frequency Questionnaires

- The Food Frequency Questionnaires were scanned using an Optical Mark Recognition System.

### Age Adjustment of Data

- The 9, 11 and 15-year-old age groups were under-represented due to sampling by school year group.
- Where data were aggregated across age groups, the data were weighted for age and gender against the Western Australian population.

## PILOT TESTING OF DIETARY METHODS

- The 24-hour dietary record was piloted with year 3, 5, 7, 8 and 10 students.
- Parents of primary school children completed the food frequency questionnaire for their children.
- Parents were asked to complete a feedback form that included questions about the Food Frequency Questionnaire and the dietary record.
- A focus group was held with year 7 students to discuss the food record.
- A focus group was held with secondary school students to obtain feedback on the Food Frequency Questionnaire.

## DIETARY INTAKE AND BMI

To reduce the methodological limitations of dietary assessment:

- The relationship between 24-hour dietary intake and BMI was only considered for groups of children with an EI/BMR (Energy Intake/Basal Metabolic Rate) ratio  $>0.9$ ; and
- The Food Frequency Questionnaire was used to provide a more reliable estimate than the 24-hour dietary record of usual individual food and dietary patterns.

## NUTRITION RECOMMENDATIONS

The NHMRC Dietary Guidelines for Children and Adolescents in Australia, recommend that children and adolescents enjoy a wide variety of nutritious foods and drink plenty of water. Daily food servings vary with body size and physical activity level but most children should aim for the following serves:

Children and Teenagers	CEREALS (Including Breads, Rice, Pasta and Noodles)	VEGETABLES, LEGUMES	FRUIT	MILK, YOGHURT, CHEESE	LEAN MEAT, FISH, POULTRY, NUTS AND LEGUMES	EXTRA FOODS (Have no more than)
4-7 yrs	5-7	2	1	2	½	1-2
8-11 yrs	6-9	3	1	2	1	1-2
12-18 yrs	5-11	3	3	3	1	1-3



The number and size of portions recommended for different age groups were used to assess the nutritional quality of average group 24-hour dietary intakes.

For more information on dietary recommendations visit:  
<http://www.nhmrc.gov.au/publications/files/n30.pdf>

## ACKNOWLEDGEMENTS

Other recommendations and key findings, including levels of physical activity in children, can be found in the CAPANS report at [www.beactive.wa.gov.au](http://www.beactive.wa.gov.au) or by contacting the Physical Activity Taskforce Secretariat on 9382 5980.

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