UNLOCKING THE FACTS ON KIDS’ SNACK HABITS

THE FIRST IN-DEPTH EXPLORATION OF NATIONAL DATA ON SNACKING BEHAVIOURS IN AUSTRALIAN CHILDREN

Information for Healthcare Professionals
DO YOU OFTEN WONDER HOW MANY TIMES AUSSIE KIDS SNACK EACH DAY? OR IS AFTERNOON SNACKING A MORE SIGNIFICANT CONTRIBUTOR TO ENERGY INTAKE THAN MORNING SNACKING? AND DO CHILDREN WHO SNACK MORE FREQUENTLY HAVE A HIGHER BMI?

As a healthcare professional, chances are you have many unanswered questions, like these, surrounding snacking behaviours in our children.

Let’s face it, understanding snacking habits is an important first step to planning effective dietary intervention. How can we expect to influence “what” kids are snacking on, before we know “when” and “how often” they are snacking? In the past we have had to rely on isolated studies or select highlights of surveys to give insights. Until now, that is.

We trust you will find this first, in-depth, nationally representative data on Australian children’s snacking behaviours just what you’ve been waiting for. Utilising new methodology, the answers to your frequently asked questions are detailed in this report. And chances are you may find a few surprises along the way, just like we did.

ARE YOU READY TO UNLOCK THE FACTS ON SNACK HABITS AND OUR KIDS?

A relatively recent review on snacking definitions stated, “Despite the nutritional and public health significance of snacking, there are no widely accepted, comprehensive, science-based dietary recommendations regarding this practice”. It also concluded that, “…the lack of a universally accepted definition of snacking is an impediment to interpretation of the literature… to the development of pragmatic, science-based recommendations for healthy snacking, and fails to provide a template for future research”.

Therefore, a new methodology and approach to defining and studying snacking behaviours was developed for this research. In 2013 dietary data from the 2007 ANCNPAS were assessed which utilised 24-hour recall methodology. A total of 3,637 children aged 2-16 years were included in the analysis. Weekday records were used due to consistency in meal time patterns. Multiple linear regression accounted for age, gender, body mass index (BMI) z-score, energy intake and physical activity. Statistical significance was set at P<0.01.

**SURPRISING AS IT MAY SEEM, THERE IS NO UNIVERSAL DEFINITION OF SNACKING, PLUS VERY LIMITED DATA ON THE SNACKING HABITS OF AUSTRALIAN CHILDREN.**

The most recent Australian National Children’s Nutrition and Physical Activity Survey (ANCNPAS) did not include questions relating to snacks and data on snacking in Australia are limited. Studies worldwide have utilised different methodology and definitions of snacking, which makes it difficult to compare and contrast findings.

Many different approaches to defining snacking were identified in the scientific literature: time of day and timing of consumption, type of food (i.e. soft drink, self-defined snacking, meal pattern (i.e. frequency), social cues and physiology (i.e. level of hunger) from detailed food records. There is a trend toward the definition of snacks being energy-dense, nutrient poor “junk” foods when food-based classifications are utilised.

**HOW IS SNACKING DEFINED?**

**TYPE OF FOOD** (i.e. high fat, high sugar)

**TIME OF DAY** between main meals

**PHYSIOLOGY** hunger signals

**STUDIES OR SELECT HIGHLIGHTS OF SURVEYS TO GIVE INSIGHTS. UNTIL NOW, THAT IS.**

We hope this methodology will help set the benchmark for future studies and assist in making evidence based recommendations for healthy snacking behaviours.

Now, however, it’s time to share with you the fascinating results.

**BACKGROUND & NEW METHODOLOGY**

**SNACKING WAS DEFINED AS ANY FOOD OR BEVERAGE CONSUMED BETWEEN MAIN MEALS UTILISING A FRESH APPROACH TO PROFILING SNACKING BEHAVIOUR.**

Dr Flavia Fayet-Moore
BSc. Honours, MNutrDiet, RNutr, APD, PhD, Director, Nutrition Research Australia

**MAIN MEAL TIMEPERIODS**

<table>
<thead>
<tr>
<th>Time of Day</th>
<th>Percentage of Energy Intake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td>8%</td>
</tr>
<tr>
<td>Midday</td>
<td>12%</td>
</tr>
<tr>
<td>Afternoon</td>
<td>12%</td>
</tr>
<tr>
<td>Evening</td>
<td>15%</td>
</tr>
</tbody>
</table>

**BETWEEN MEAL TIMEPERIODS**

<table>
<thead>
<tr>
<th>Time of Day</th>
<th>Percentage of Energy Intake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td>4%</td>
</tr>
<tr>
<td>Midday</td>
<td>8%</td>
</tr>
<tr>
<td>Afternoon</td>
<td>10%</td>
</tr>
<tr>
<td>Evening</td>
<td>10%</td>
</tr>
</tbody>
</table>

**EATING OCCASIONS (EO)**

- Defined as all foods and beverages consumed at the same point in time.
- Were defined as all eating occasions (EO) that occurred during a main meal time period.

**SNACKING OCCASIONS (SO)**

- Were defined as all EO that occurred during a ‘between meal’ time period.
IS FREQUENT SNACKING REALLY THAT COMMON? OR IS IT JUST SEEN IN YOUNGER KIDS?

**RESEARCH FINDINGS**

- **Children consume on average**
  - 7 eating occasions (EO) & 2.6 snack occasions (SO) per day

- **66% of children have either 2 or 3 SO each day**

- **98% of children have at least 1 SO per day**

- **Children of all age groups (2-16 years) have similar number of SO per day**

- **Whereas over half of late night SO are by children aged 13-16 years**

- **90% of children have a mid-morning SO (7.00-11.30am)**

- **82.5% of children have a mid-afternoon SO (2.30-5.30pm)**

- **Supper is less common with only 13% of children having a late night SO (after 9.00pm)**

**SNACK FACT:** The research showed that the majority of Australian kids, from toddlers to teens, can best be described as committed snackers.

**RECOMMENDATION:** It’s widely accepted that younger children need to snack regularly as they have smaller stomach capacities and high nutrient requirements for growth and development. As snacking behaviours are entrenched throughout childhood and into the teen years, dietary assessments should carefully assess snacking behaviours in all ages.

**SNACK FACT:** The research showed that Australian kids consume multiple food and beverage items at one SO with the same behaviours observed in the morning, repeated in the afternoon.

**RESEARCH FINDINGS**

- **On average children consume 3 food or beverage items at each morning and afternoon SO**

- **On average children consume only 2 food or beverage items per late night SO**

- **Children have on average 3 food or beverage items per day from all SO**

**RECOMMENDATION:** When taking diet histories or conducting dietary assessments be careful to probe about multiple foods and beverages consumed at snack time.

**DEFINITIONS**

- **Eating Occasion (EO):** all foods & beverages consumed at the same point in time
- **Snacking Occasion (SO):** all EO during in between meal time periods
DO SNACKING OCCASIONS MAKE A BIG IMPACT ON ENERGY INTAKE IN KIDS?

SNACK FACT: The research showed on average SO are significant contributors to energy intake, contributing just over a quarter of Aussie kids total daily energy intake.

SNACK FACT: The research showed that higher total daily number of SO was not associated with higher BMI z-score. Children who were of normal weight had the same number of daily SO as children who were overweight or obese.

RECOMMENDATION: As snacking makes such a significant contribution to total daily energy intake, dietary interventions in children of all ages, should carefully balance advice on main meal strategies with those for balanced snacking.

RECOMMENDATION: When preparing general advice, such as writing a fact sheet on snacks, be mindful that the number of SO per day is not associated with overweight or obesity in kids. It is important to focus on the quality of snacks that are provided. Any advice to “limit” SO needs to be carefully concluded from individual and complete dietary assessments.

PERCENT OF TOTAL DAILY ENERGY

- 28% FROM ALL SO
- 72% FROM ALL MAIN MEALS

SNACKING OCCASION (SO): all EO during in between meal time periods

EATING OCCASION (EO): all foods & beverages consumed at the same point in time

ENERGY FROM ALL SO WAS NOT ASSOCIATED WITH BMI-Z SCORE

NO ASSOCIATION BETWEEN BMI Z-SCORE AND NUMBER OF SO WAS OBSERVED DESPITE TOTAL DAILY NUMBER OF SO BEING ASSOCIATED WITH HIGHER TOTAL DAILY ENERGY INTAKE

FOR EVERY 1 MJ INCREASE IN TOTAL DAILY ENERGY INTAKE, A QUARTER OF THE INCREASE COMES FROM SO

THE PERCENT OF TOTAL DAILY ENERGY IS 6.3% AND 6.8% HIGHER AT THE MORNING AND AFTERNOON SO, RESPECTIVELY THAN THE LATE NIGHT SO

ON AVERAGE EACH WEEKDAY SO CONTRIBUTES 12% OF TOTAL DAILY ENERGY INTAKE

EVERY 3 YEAR INCREASE IN AGE, % ENERGY PER SO INCREASES BY 1%

THE PERCENT OF TOTAL DAILY ENERGY IS 6.3% AND 6.8% HIGHER AT THE MORNING AND AFTERNOON SO, RESPECTIVELY THAN THE LATE NIGHT SO

FOR EVERY 1 MJ INCREASE IN TOTAL DAILY ENERGY INTAKE, A QUARTER OF THE INCREASE COMES FROM SO
ARE SNACKS LIKELY TO BE MAINLY “JUNK” FOODS CONTRIBUTING LITTLE IN THE WAY OF POSITIVE NUTRITION?

RESEARCH FINDINGS

TOTAL PERCENT DAILY NUTRIENTS FROM ALL SO

- 28% TOTAL DAILY ENERGY INTAKE
- 32% VITAMIN C
- 29% VITAMIN E
- 25% CALCIUM
- 26% MAGNESIUM
- 26% POTASSIUM
- 25% FOLATE

IT IS IMPORTANT TO NOTE THAT FOR MOST NUTRIENTS, % INTAKES ARE PROPORTIONATE WITH % ENERGY CONTRIBUTION. THAT IS, FOR THE 28% OF TOTAL DAILY ENERGY CONTRIBUTION FROM ALL SO COMBINED, THE RANGE IN TOTAL DAILY NUTRIENT INTAKES FROM ALL SO WAS PROPORTIONATE BETWEEN 19% (NIACIN) TO 35% (TOTAL SUGARS).

SNACK FACT:
The research showed that SO made a significant contribution to essential nutrients in kids and nutrient contributions are in line with the energy contribution of SO.

At least 25% of daily calcium intake from all SO

At least 28% of daily dietary fibre intake from all SO

21% PROTEIN
28% TOTAL FAT
29% SATURATED FAT
31% CARBOHYDRATE
35% TOTAL SUGARS
28% DIETARY FIBRE
24% SODIUM

SNACK FACT:
The research showed that non-alcoholic beverages, cereal-based foods and fruit were the top three food groups during the morning and afternoon snacking occasions.

TOTAL SNACK FACT:
The research showed that non-alcoholic beverages, cereal-based foods and fruit were the top three food groups during the morning and afternoon snacking occasions.

RESEARCH FINDINGS

WHICH FOOD GROUPS ARE MAKING THE GREATEST CONTRIBUTION DURING SNACKING OCCASIONS?

DEFINITIONS

EATING OCCASION (EO) - all foods & beverages consumed at the same point in time
SNACKING OCCASION (SO) - all EO during in between meal time periods

*As defined in the survey

RECOMMENDATION:

It’s important to appreciate the positive nutrient contribution of SO and take this into account when completing diet histories or making recommendations for children and adolescents.

RECOMMENDATION:

There is often an unspoken bias around the concept of snacking with the term “junk” food used interchangeably with the term “snacks”. However, it is important to recognise that core and discretionary foods may be consumed together in a single SO.
KEY FINDINGS & RECOMMENDATIONS:

1. Australian children, from toddlers to teens, are best described as committed snackers with 66% having between 2-3 SO each day.

2. Multiple items of food and beverages are consumed at each SO, therefore dietary assessments should accurately explore snacking behaviours.

3. SO contribute significant amounts of nutrients in the diet of Australian children and should not be collectively described as "junk" or empty kilojoule based. Close to a third of dietary fibre intakes and at least a quarter of vitamin C, E and folate intakes are obtained from SO in Australian children.

4. All SO contribute on average 28% of total daily energy intake to the diet of Australian children. The snacking habit is well entrenched into the older years with a gradual creep in the total energy contribution of SO.

5. The number of SO is not associated with BMI z-score, overweight or obesity. Children who are overweight or obese do not have a higher number of SO compared to children of a healthy weight. Advice to "limit" SO, as a strategy for effective weight management in Australian children, is not supported by this research.

6. Snacking is a prominent behaviour among children of all ages, an important source of both energy and key nutrient intakes, and is not associated with overweight or obesity.

REFERENCES:


Nestlé Corporate Nutrition

Nestlé has been providing good food for good living for over 100 years. We believe in making a long term commitment to the health and happiness of all Australians. We recognise the changing role that food and beverages are playing in people’s lives so much that we employ over 30 Dietitians who work on different products across all life stages and help improve the nutrition of our products.

Funding source: In 2013, Nutrition Research Australia, an independent nutrition research company, received a grant from Nestlé Australia Ltd to conduct this research. The aim was to complete a secondary analysis of snacking behaviour among children in the 2007 Australian National Children’s Nutrition and Physical Activity Survey.