Salt Intakes in the Irish Population: Estimates and Trends

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(www.iuna.net)
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IUNA (www.iuna.net)

- Formal association of nutrition units in: University College Cork, University College Dublin, University of Ulster
- Committed to joint initiatives in education and research
- Jointly carry out dietary surveys
IUNA National Dietary Surveys

Provide databases of habitual food & beverage consumption in representative samples of the Irish population:

- Data collected at an individual level and include data on food intake, body weight, physical activity, socio-demographics, health & lifestyle, food choice and eating behaviour

- Used for a wide range of applications relating to both food safety and nutrition
## IUNA National Dietary Surveys

<table>
<thead>
<tr>
<th>Survey</th>
<th>Age Group</th>
<th>Year</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>North/South Ireland Food Consumption Survey (NSIFCS)</td>
<td>18-64 y</td>
<td>1997-1999</td>
<td>1379</td>
</tr>
<tr>
<td>National Children’s Food Survey (NCFS)</td>
<td>5-12 y</td>
<td>2003-2004</td>
<td>594</td>
</tr>
<tr>
<td>National Teens’ Food Survey (NTFS)</td>
<td>13-17 y</td>
<td>2005-2006</td>
<td>441</td>
</tr>
<tr>
<td>National Adult Nutrition Survey (NANS)</td>
<td>18-90 y</td>
<td>2008-2010</td>
<td>1500</td>
</tr>
<tr>
<td>National Preschool Nutrition Survey (NPNS)</td>
<td>1-4 y</td>
<td>2010-2011</td>
<td>500</td>
</tr>
</tbody>
</table>
Dietary Salt—where does it come from?

- Discretionary
  - Added at the table
  - Added in cooking

- Already present in food (natural or added by manufacturer)
How do we estimate Salt Intake?

- **Urinary sodium (Na) excretion** - estimation of total salt intake based on measured Na in urine

- **Dietary intake** (excludes discretionary salt)
  
  Food consumption data converted into nutrient intakes

For IUNA Surveys:

- Food Consumption data
  - Food Records

Na content in food

- Composition tables (UK)
- Analytical data from Ireland (FSAI)
- Food labels (collected at time of surveys)

  - Salt (g) calculated by Na (g) X 2.5
## Guidelines for Salt Intake

- **Population targets**
  
  (not regarded as optimal or ideal but an achievable population goal)

<table>
<thead>
<tr>
<th>Age</th>
<th>Salt (g/d)</th>
<th>Population target</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-6 months</td>
<td>&lt;1</td>
<td></td>
</tr>
<tr>
<td>7-12 months</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1-3 years</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4-6 years</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>7-10y</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>&gt;10y</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

(FSAI 2005, SACN 2003)
1997-1999: NSIFCS (18-64y)

Mean daily salt intake (dietary)

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>g/d</td>
<td>8.8</td>
<td>6.2</td>
</tr>
</tbody>
</table>

0 1 2 3 4 5 6 7 8 9 10

Men Women
1997-1999: NSIFCS (18-64y)

Contribution of food groups to salt intake

Within the meat/fish category, cured/processed meats contributed 19%
2008-2010: NANS (18-90y)

Mean daily salt intake (dietary)

- **18-64y:**
  - Men: 8.0 g/d
  - Women: 5.9 g/d

- **>65y:**
  - Men: 6.9 g/d
  - Women: 5.0 g/d
Within the meat/fish category, cured/processed meats contributed 18%.

For those aged 65y and over, similar findings with the exception of breads and spreading fats contributing more (26% and 6% respectively) and savouries contributing less (2%) to salt intakes than 18-64y olds.
Salt intake (dietary) in Irish adults between NSIFCS 2001 and NANS 2011

NSIFCS (2001) 8.1 g/d
NANS (2011) 7.0 g/d

↓ 1.1g
Contribution of key food groups to salt intake in Irish adults (18-64y) between NSIFCS (2001) and NANS (2011)

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Breads</td>
<td>2.10</td>
<td>1.50</td>
<td>↓ 0.60</td>
</tr>
<tr>
<td>Cured/processed meats</td>
<td>1.68</td>
<td>1.33</td>
<td>↓ 0.35</td>
</tr>
<tr>
<td>Spreading fats</td>
<td>0.48</td>
<td>0.23</td>
<td>↓ 0.25</td>
</tr>
<tr>
<td>Ready-to-eat breakfast cereals</td>
<td>0.35</td>
<td>0.23</td>
<td>↓ 0.10</td>
</tr>
<tr>
<td>Milk/milk products</td>
<td>0.68</td>
<td>0.60</td>
<td>↓ 0.08</td>
</tr>
<tr>
<td>Processed vegetables/veg dishes</td>
<td>0.10</td>
<td>0.28</td>
<td>↑0.18</td>
</tr>
<tr>
<td>Savouries including pizza/pasta dishes</td>
<td>0.24</td>
<td>0.33</td>
<td>↑0.09</td>
</tr>
</tbody>
</table>
This difference indicates that discretionary salt accounts for about 25-30% of total salt intake in Irish adults.
2005-2006: NTFS (13-17y)

Mean daily salt intakes (dietary)

- Boys: 7.2 g/d
- Girls: 5.4 g/d
2005-2006: NTFS (13-17y)

Contribution of food groups to mean daily salt intake

Within the meat/fish category, cured/processed meats contributed 20%
2003-2004: NCFS (5-12y)

Mean daily salt intakes (dietary)

- **5-6y**
  - Boys: 4.9 g/d
  - Girls: 4.6 g/d

- **7-10y**
  - Boys: 6.0 g/d
  - Girls: 5.3 g/d

- **11-12y**
  - Boys: 6.6 g/d
  - Girls: 6.3 g/d
2003-2004: NCFS (5-12y)

Contribution of food-groups to mean daily salt intakes

- Meat/fish
- Breads
- Milk/milk products
- Soups/sauces
- Spreading fats
- Vegetables/processed veg
- Breakfast cereals
- Biscuits/cakes/pastries/confectionary
- Savouries eg. pasta dishes/pizza
- Other

Within the meat/fish category, cured/processed meats contributed 17%
2011-2012: NPNS (1-4y)

Mean daily salt intake (dietary)

- 1 year: 2.4 g/d
- 2 years: 3.2 g/d
- 3 years: 3.4 g/d
- 4 years: 3.8 g/d
2011-2012: NPNS (1-4y)

Contribution of food groups to mean daily salt intake

Within the meat/fish category, cured/processed meats contributed 16%
Conclusions

Using dietary data:

- Cured/processed meats & breads - two main contributors to salt intakes for most population groups

- Mean daily salt intake in adults ↓ by 1.1g between 2001 and 2011

- ↓ salt intake reflects ↓ in salt content of many foods (in particular breads, cured/processed meats, spreading fats and breakfast cereals)

Overall:

- Salt intakes are higher than targets for the Irish population

- Discretionary salt intake in Irish adults is estimated to be about 25-30% of total salt
Acknowledgements

- IUNA survey teams in UCC and UCD led by Prof Albert Flynn and Prof Mike Gibney
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