Quality of meals eaten out of home among Norwegian adolescents

Results from the Ungkost-3 Pilot study

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INTRODUCTION

• Rapid changes in health behaviors during adolescence influence eating habits

• American studies find:
  – Eating out of home is more common than earlier
  – Fast food outlets are especially popular among adolescents
  – Fast food outlets provide about 1/3 of meals eaten out of home
  – Out of home foods are higher in fat and energy compared with foods eaten at home
INTRODUCTION

What is the quality of meals eaten out of home among Norwegian adolescents?
Is eating main meals out of home more prevalent among Norwegian 13 than 9 year olds?

Do main meals eaten out of home contribute with more energy than meals eaten at home?

Which food groups are contributing with most energy in main meals eaten out of home?
Ungkost-3 Pilot Study

• Subjects: school children
  – Schools: n=14
  – 9 year olds: n=163
  – 13 year olds: n=190 (adolescents)

• Design
  – 4 days food record
  – Web based tool (WebDASH)
  – Includes all weekdays
  – Season: fall/winter (2013)
Ungkost-3 Pilot Study

- Main meals: Breakfast, Lunch, Dinner
- Eating location: At home, at school, with a friend, at after school activity, at restaurant/cafe, other
Main Meals in Ungkost-3 Pilot Study

• Breakfast
  – 9 year olds: n=642 meals (98%)
  – 13 year olds: n=709 meals (93%)

• Lunch
  – 9 year olds: n=632 meals (97%)
  – 13 year olds: n=682 meals (90%)

• Dinner
  – 9 year olds: n=647 meals (99%)
  – 13 year olds: n=748 meals (98%)
Research Questions?

Is eating main meals out of home more prevalent among Norwegian 13 than 9 year olds?

Do main meals eaten out of home contribute with more energy than meals eaten at home?

Which food groups are contributing with most energy in main meals eaten out of home?
Proportion of Main meals eaten out of home

<table>
<thead>
<tr>
<th></th>
<th>9 years</th>
<th>13 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Lunch</td>
<td>84</td>
<td>83</td>
</tr>
<tr>
<td>Dinner</td>
<td>17</td>
<td>14</td>
</tr>
</tbody>
</table>
Eating location of Breakfast

- **Home**: 94% (9 years), 94% (13 years)
- **Friends**: 1% (9 years), 2% (13 years)
- **School**: 3% (9 years), 3% (13 years)
- **Other**: 2% (9 years), 1% (13 years)
Eating location of lunch

Home  Friends  School  Restaurant  Other
9 years  13 years

<table>
<thead>
<tr>
<th>Location</th>
<th>9 years</th>
<th>13 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>Friends</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>School</td>
<td>71</td>
<td>76</td>
</tr>
<tr>
<td>Restaurant</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>3</td>
</tr>
</tbody>
</table>
EATING LOCATION OF DINNER

- **Home**: 83% (9 years) and 86% (13 years)
- **Friends**: 7% (9 years) and 7% (13 years)
- **School**: 2% (9 years) and 0% (13 years)
- **Restaurant**: 3% (9 years) and 3% (13 years)
- **Other**: 5% (9 years) and 4% (13 years)

**Legend**:
- **Blue**: 9 years
- **Red**: 13 years
**Research Questions?**

- Is eating main meals out of home more prevalent among Norwegian 13 than 9 year olds?
- Do main meals eaten out of home contribute with more energy than meals eaten at home?
- Which foods are contributing with most energy in main meals eaten out of home?
Energy from Main meals eaten out of home among 13 year olds

Proportion of main meals

- Breakfast: 7% (Energy), 6% (Proportion)
- Lunch: 82% (Energy), 83% (Proportion)
- Dinner: 16% (Energy), 14% (Proportion)
ENERGY SOURCES OF LUNCH AMONG 13 YEAR OLDS
Energy sources of dinner among 13 year olds

- Protein
- Total fat
- Saturated fat
- Carbohydrates
- Added sugar

Out of home
At home
Research Questions?

Is eating main meals out of home more prevalent among Norwegian 13 than 9 year olds?

Do main meals eaten out of home contribute with more energy than meals eaten at home?

Which foods are contributing with most energy in main meals eaten out of home?
Foods contributing with energy for lunch among 13 year olds

% of total Energy eaten out of home

- Dark bread: 53%
- Pizza/pai: 93%
- Cheese: 56%

% of total Energy eaten at home

- Dark bread: 53%
- Pizza/pai: 46%
- Milk/yoghurt: 48%
- Other items...
Foods contributing with energy for dinner among 13 year olds

% of total Energy eaten out of home

- Pizza/pai: 78%
- Pure meat: 47%
- Soft drink: 78%
- Cereal
- Meat
- Drinks
- Bread
- Dairy
- Potato
- Fat
- Cakes
- Sweets
- Vegetable
- Fish

% of total Energy eaten at home

- Salmon: 67%
- Rice/pasta: 46%
- Burger/meatball: 39%
- Pure meat: 47%
- Soft drink: 78%
What is the quality of meals eaten out of home among Norwegian adolescents?
CONCLUSION

• Preliminary results from the Norwegian Ungkost-3 pilot study find that:
  – The proportion of eating main meals out of home is similar between 9 and 13 year olds
  – Meals eaten out of home contributes with less energy from added sugar for lunch and more added sugar for dinner
  – More energy from bread, cheese, pizza/pai and soft drinks are found eaten out of home and less from milk/yoghurt, fruit and fish