YOUNG PEOPLE — and their — FOOD CHOICES

A REPORT
PREPARED FOR

CBF,
The Irish Meat Board

BY

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THE IRISH NATIONAL NUTRITION SURVEY (1990) (1) CARRIED OUT BY THE IRISH NUTRITION AND DIETETIC INSTITUTE PRODUCED ABUNDANT INFORMATION ON WHAT DIFFERENT FOODS (WITH THEIR NUTRIENT CONTENT) WERE BEING CONSUMED BY DIFFERENT GROUPS IN IRISH SOCIETY. THE SURVEY DID NOT EXAMINE WHY PEOPLE MAKE CERTAIN FOOD CHOICES, WHY THEY AVOID PARTICULAR FOODS AND WHAT INFLUENCES THEIR CHOICES. IF WE ARE TO SOLVE THE PROBLEMS OF BEHAVIOURAL NUTRITION WE MUST FIND OUT WHY PEOPLE EAT AS THEY DO.

THE PURPOSE OF THIS STUDY IS TO EXAMINE THE EATING HABITS OF A RANDOM SAMPLE OF 12-15 YEAR OLD ADOLESCENTS, BOTH MALE AND FEMALE. AT THIS AGE YOUNG PEOPLE ARE BECOMING MORE INDEPENDENT AND MAKING THEIR OWN LIFESTYLE CHOICES. TO FIND OUT WHY THEY CHOOSE SPECIFIC FOODS, WHEN THEY EAT THEM AND WHAT INFLUENCES THESE HABITS, A STUDY WAS CARRIED OUT IN MAY/JUNE 1991.

USING THE SAME METHODOLOGY AS IN THE NATIONAL NUTRITION SURVEY (1) A RANDOM SAMPLE OF 500 SECOND LEVEL SCHOOL CHILDREN AGED 12 TO 15+, 220 BOYS AND 280 GIRLS, WAS INTERVIEWED, AND DATA ON FEEDING PATTERNS, NUTRITIONAL KNOWLEDGE, HEALTH STATUS AND A FOOD FREQUENCY AND 24 HOUR FOOD RECALL WAS COLLECTED.
The sample was drawn nationally, with a minimum of one school from each of the twenty-six counties. The schools were socially and economically diverse.

A core information set of questions was answered by the 500 pupils and subsequently work-shops were held in a sub-group of schools where pupils freely gave their opinions on diet and health. Their comments are incorporated into the various summaries.

The response rate was 100% since pupils were randomly selected on the day the researcher visited the school. No children, randomly selected, were absent and no pupil refused to take part in the study.

Acknowledgements:
The help of the teachers in the participating schools was much appreciated. I am particularly grateful to members of the Association of Teachers of Home Economics who facilitated me in many ways.

My thanks go especially to the pupils who shared their opinions and knowledge with me.

My special thanks to Mrs Margaret Doyle and Mrs Vivien Reid of the Irish Nutrition and Dietetic Institute for their comments and advice.

The study was funded by a grant from CBF, the Irish Meat Board, and I would like to acknowledge their generosity in promoting further nutritional research.
Summary

The National Nutrition Survey (1) showed that while on the whole Irish teenagers were well nourished, trends emerging showed that bad eating habits can be detected in the teen years.

The present study shows that young people are leading very 'rushed' lives - rising early, some travelling long distances to school. The majority (78%) have a cereal and/or bread - type breakfast, 11% have eggs/cooked breakfast and 11% no breakfast. Snacks such as crisps, coke and chocolates were consumed on the way to school, often instead of breakfast. These foods also formed an important part of the mid-morning break, either brought from home or purchased in the school tuck-shop.

Most pupils favoured sandwiches or filled rolls for lunch with ham, cheese and tuna the most popular fillings. A worrying trend emerging was the number of pupils, mainly rural and mainly boys, who were selecting high-fat meals eg. chips, chips and burgers, and fish and chips every day at lunch time. 4.4% of pupils had nothing for lunch on the day of the study.

Sweets, chocolates, crisps, fruit and cereal are the most popular foods eaten either on the way home from school or when the pupils arrive home. Although most pupils did not have to wait more than 1/4 - 1/2 hour for their main evening meal. 80% of them had at least one of the above.

Most Irish teenagers (92%) have the usual meat (or fish) vegetable and potato type main meal. It would appear that desserts are being replaced by yoghurts or fresh fruit. After the evening meal, an average of six snacks consisting of tart, cake, biscuits, crisps, sandwiches, sweets, chocolates, popcorn, cereal, soup, beans on toast, fizzy drinks, bun-burgers, Chinese take-aways, pizza, kebabs, ice-cream, pate and various drinks such as tea, cocoa and hot chocolate, are consumed.

Most teenagers gained their knowledge of nutrition from school or their parents. They had very definite ideas of what foods they liked or disliked with mother or self having most influence on their food choices. 97% of adolescents have milk daily (6% choosing low-fat milks) while 3% do not consume milk either because they do not like the taste or claim they are allergic to milk. By omitting milk these young people are missing out on a calcium-rich source which is vital for bone formation and development.

Meat is popular although 2% of females and 1% of males interviewed never eat meat. Avoidance of red meat by 3% of young males because they believe it causes coronary heart disease, and by 6% of females who usually do
so for ecological and philosophical rather than health reasons.
is a cause for concern. Analysis of the meals of a typical vegetarian
showed a very high intake of fat.
The low iron intake of females in the Irish diet (1) warrants attention.
Dietary inadequacies resulting in nutritional deficiencies have been reported
on self-imposed exclusion diets (2).
Sugar consumption is directly related to the degree of snacking and could
lead to dental decay especially in these young persons since most of the snacks
are taken between meals. The high intake of snack foods consumed by
teenagers needs to be addressed. Snacking or "grazing" is a fact of life for
young people - many of them who are active have high energy needs and
can consume these as well as healthy meals. The problem arises when snacks
are substituted for traditional meals.
90% of all pupils are concerned about the effect of their life-style
(including their eating plans) on their health status. While both males and
females are concerned with being 'fit', 'healthy', 'well', 'able to do my study',
'to have energy for games and sport', females in particular are concerned
about 'good skin', 'good teeth', 'to have a good body', 'to be able, eventually,
to have healthy babies'. Boys in particular are concerned about avoiding
coronary heart disease but are developing fatty eating patterns
which are nutritionally unsound.
The food choices of the total sample could be divided into 3 groups.

Fat Eaters
A) Those who had a preference for fatty foods.

Starch and Sugar Eaters
B) Those who had a preference for sugar/starchy foods.

Healthy Eaters
C) Those who choose healthy foods.

Those who preferred fatty foods (40%) - mainly male - made their food
choices from foods with a high fat content eg. spreadable fat i.e. butter,
margarine or other fat spreads or oils, chips, buttered potatoes, crisps,
pies and pastries, fried burgers, chocolates, cakes and biscuits.
METHODODOLOGY AND SAMPLE

SELECTION OF THE SAMPLE
A random sample of 500 second level school children aged 12 to 15+ was raised from the list of secondary schools in the country held by the Department of Education. Pupils were randomly selected from the school rolls using RANSAM. The response rate was 100% since pupils were selected on the day the researcher visited the school: no pupil refused to take part. 220 boys (44%) and 280 girls (56%) took part in the study and answered a core set of questions. Subsequently workshops were held in randomly selected schools where pupils freely gave their opinions of diet and health. Some of their comments are included in the various summaries. The sample was drawn nationally and the schools were socially - economically diverse.

METHODOLOGY
A questionnaire was developed (appendix I) based on the Health Related Behaviour Questionnaire of HEA Schools Health Education Unit. University of Exeter (3). The pupils sat in examination-style situations and were not able to consult each other. They were supervised by the researcher who asked the questions. These filled questionnaires formed the core information. Pupils in the unstructured workshops were divided into groups and asked to discuss food and health and collate their comments. Comments on smoking are included but physical exercise and games played were not noted. However, from teachers comments, it was understood that most, if not all, of the pupils in this age group do take part in sports or are involved in other activities such as Irish dancing.

Four individuals together with their parents were interviewed - each pupil represented

A  High Fat Eaters
B  High Starch/Sugar Eaters
C  So called "Healthy Eaters"
D  Vegetarians

A typical day’s food intake was evaluated for each of the four individuals studied using McCance and Widdowson’s ‘The Composition of Foods’ (4). These intakes are included in the report as interesting examples only, since it was not the aim of this study to evaluate nutrient content of the diet.
HOW DO YOU TRAVEL TO SCHOOL?

Pupils were questioned on their method of travel to school. Table 1 shows the highest proportion of pupils live near enough to school to enable them to walk there. However, 22% are transported by school bus and 16% are driven to school. A number of rural children either walk, cycle or are driven from home to the main road to join the school bus and this entails a very early rise for a number of pupils.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>Public Bus</th>
<th>School Bus</th>
<th>Cycle</th>
<th>Walk</th>
<th>Car</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>6.5%</td>
<td>13.0%</td>
<td>6%</td>
<td>12.6%</td>
<td>1.1%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Female</td>
<td>7.2%</td>
<td>9.6%</td>
<td>8.8%</td>
<td>33.0%</td>
<td>12.8%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Total</td>
<td>8.4%</td>
<td>22.0%</td>
<td>14.8%</td>
<td>15.5%</td>
<td>16.1%</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

WHAT TIME DID YOU HAVE BREAKFAST THIS MORNING?

Distance from school dictated time of rising and time when breakfast was taken. Table 2 shows that the majority of pupils take breakfast between 7.30 and 8 am. There is a small number of pupils (2%) who have breakfast between 6 and 7 am, because of chores such as milking or the distance between home and school. 4% of pupils are lucky enough to live near the school and they have breakfast between 8.30 and 8.45 am.

FIG. 1

WHAT SORT OF BREAKFAST DID YOU HAVE THIS MORNING?

Pupils were asked to identify the type of breakfast they had on the morning of the interview. Table 2 shows that cereal on its own or bread/toast with butter/ margarine/spread with a drink was the most popular breakfast. Cornflakes, Weetabix and surprisingly porridge were the most popular cereals consumed (the latter was more popular with rural children).

A nothing at all
B just something to drink
C cereal OR bread/toast, butter/margarine/spread and a drink
D cereal AND bread/toast, butter/margarine/spread and a drink
E just an egg and drink
F cooked breakfast with cereal OR bread/toast, butter/margarine/spread and a drink
G cooked breakfast with cereal AND bread/toast, butter/margarine spread and a drink
H none of above

Table 2

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1.0%</td>
<td>1.5%</td>
<td>18%</td>
<td>19.5%</td>
<td>0.5%</td>
<td>0.5%</td>
<td>1.6%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Female</td>
<td>2.5%</td>
<td>6.4%</td>
<td>33%</td>
<td>18.0%</td>
<td>0.5%</td>
<td>0.5%</td>
<td>1.4%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Total</td>
<td>3.1%</td>
<td>8.0%</td>
<td>50%</td>
<td>18.5%</td>
<td>1.0%</td>
<td>1.0%</td>
<td>3.0%</td>
<td>4.5%</td>
</tr>
</tbody>
</table>

Pupils, particularly those who travel some distance to school, complain that it is a very long day from breakfast until after school - they claim they are not hungry at breakfast but do feel hungry at early break (approx 10.15 am). Some city children supplement breakfast with either coke or crisps or chocolate on the way to school, whereas rural children are not always able to do so, since country shops do not open as early as city ones.

DO YOU EAT/DRINK ANYTHING ON THE WAY TO SCHOOL?

23% of males and 50% of females do not buy snacks etc. on the way to school. However, 24.5% of pupils (16.3% male and 8.9% female) do buy snacks, chocolate, fizzy drinks, fruit and crisps on the way to school. Most of the boys consume the food before entering school whereas the girls eat them at first break or "tuck in" behind teachers back.

PUPILS' COMMENTS

Pupils admitted that they often felt hungry without breakfast. The reasons given were "not hungry", "up too late to stop to have breakfast", "nothing", "molting to finish homework", "coun't face breakfast in the morning", "grab a can of coke and a bar on the way to school instead of breakfast", "would eat breakfast if put in front of me", "mother rushes me because she wants to clear up kitchen".
PUPILS' COMMENTS

Pupils who do not buy snacks on the way to school feel there is no need for "extras" if one has a breakfast, whereas the 'snackers' claim they feel hungry on their way into or shortly after they enter school, whether they had breakfast or not.

Pupils feel those 'snackers' should have bigger breakfasts.

MID-MORNING BREAK

Pupils were asked if they:

a) take school milk
b) bring a fizzy/other drink with you
c) drink nothing/water at mid-morning break

37% of pupils take nothing or only a drink of water at morning break. only

17% (6% of males and 11% of females) take school milk.

Strawberry flavoured milk is gaining in popularity although overall school milk is not liked by pupils.

<table>
<thead>
<tr>
<th>School Milk</th>
<th>Fizzy/Orange drink</th>
<th>Nothing/Water</th>
<th>Tea/Soup</th>
<th>Char. etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>6.0%</td>
<td>17.0%</td>
<td>1%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Female</td>
<td>11.0%</td>
<td>15.0%</td>
<td>34%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Total</td>
<td>17.0%</td>
<td>32.0%</td>
<td>37%</td>
<td>14%</td>
</tr>
</tbody>
</table>

PUPILS' COMMENTS

"Need a break because I am thirsty" was the comment made most frequently by both males and females. "Can't concentrate without break". "not having a break; trying to lose weight", "too messy to bring a break". "not school policy so have a break so we have chewing-gum instead". "A small number of females take no breakfast and no mid-morning break."

DO YOU HAVE THE FOLLOWING FOR MORNING BREAK?

A) nothing
B) sandwich (state filling)
C) chocolates/sweets
D) crisps/savoury snack
E) fruit
F) cakes/buns/biscuits

Although schoolchildren were not bothered much about drinks 62% of them had food (sandwiches, chocolates, crisps, fruit etc.).

Summary

Taking into consideration that the study was carried out prior to summer examinations when pupils are under stress, it would appear that school children spend much time in the mornings RUSHING. They rush to have breakfast, they rush to catch the bus or whenever means of transport used to travel to school.

Breakfast literally breaks the fast in what could otherwise be as long as 16 hours without nourishment. Although we rest while we sleep, the body uses energy and reserves can become depleted by mid-morning if breakfast is not eaten. Studies show that the omission of breakfast results in poorer physical and mental performances in the late morning hours. Even a mid-morning snack only partially removes the disadvantage.

Most pupils had some type of breakfast with 3% leaving without any food and 3.7% having only something like an apple or a bag of crisps. More than 25% of the pupils, living mainly in cities or large towns, bought snacks.
fizzy drinks, fruit and crisps on the way to school. Interestingly of the 6% of pupils who had a cooked breakfast only 0.5% had a mid-morning break - the others stating they did not need food then. This finding is in line with the findings of the French researchers (6). Very few experiments have been carried out to examine the satiety value of specific foods and it would be an interesting exercise to examine the satiety value of the “cooked breakfast” vis-a-vis the cereal-based one. The sensory qualities of foods and eating situations can affect satiety and to date there is a lack of information on the signals controlling food choices. In other words choosing specific foods eg. bran-based cereal or meat etc. with a high satiety value could lead to a “full” feeling or external signals such as the mid-morning break bell might be sufficient to make a person feel hungry (7). The low uptake of schoolmilk is of concern and, if pupils will not consume milk at school for whatever reason, parents must address the situation in the home environment; using milk in milk pudding, sauces, home-made ice-cream, and in cooked dishes such as lasagne etc.

Other sources of calcium such as yoghurt, cheese, tinned fish such as salmon or sardines, should be encouraged if milk intake is low.

KEYPOINTS
Cereal/tea and bread was the most popular breakfast taken very often in a RUSHED environment.
Snacks were consumed on the way to school and formed an important part of the mid-morning break. The low uptake of schoolmilk is of concern.

WHERE DO YOU TAKE YOUR LUNCH?
Pupils were asked where they had lunch and to state their favourite lunch-time food. Contrary to what many magazine articles state, most pupils favoured sandwiches or filled rolls for lunch. Children who went home for lunch also liked sandwiches/rolls mid-day, having the main meal at evening time.

<table>
<thead>
<tr>
<th>TABLE 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>At Home</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

A small number of pupils, albeit day-pupils mainly at boarding-schools, took school lunch in the school canteen. This meal was usually meat/made-up dish eg. pizza and vegetable and potatoes/nice and desserts/fruit.
A worrying trend emerging was the number of pupils, mainly rural, selecting high-fat meals eg. chips, chips and burgers, fish and chips, and the 5% of pupils who have nothing at lunch time.

PUPILS’ COMMENTS
"Mother arranged lunch with local cafeteria to make sure I had lunch", "I bring home-made soup and bread and fruit because I know they have no additives", "I have surprises in my lunch-box", "I trade my brown-bread sandwiches for apple tart, cake etc", "I don’t eat lunch as I play games at lunch time", "I don’t eat lunch because I am slimming and my mother watches me carefully at home to make sure I eat", "I don’t eat any salad etc. in front of my friends as they jeer me for being a sissy, eating healthy food", "I don’t eat tuna as it’s not dolphin friendly", "I eat chips because they fill me".

COMING OUT OF SCHOOL
DO YOU EAT ANY OF THE FOLLOWING FOODS?
A sweet
B chocolates
C buns/cakes/tarts
D fizzy drinks
E chips
F crisps
G smoke cigarettes
H other - please state:
Sweets, chocolates, crisps, fruit and cereals are the most popular foods, eaten either on the way home from school or when pupils arrive home.

**TABLE 5**

<table>
<thead>
<tr>
<th></th>
<th>Snacks</th>
<th>Cakes etc.</th>
<th>Chips</th>
<th>Cereals</th>
<th>Fruit</th>
<th>Cereal</th>
<th>Ice Cream</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>15.4%</td>
<td>3.9%</td>
<td>5.3%</td>
<td>0.3%</td>
<td>1.9%</td>
<td>0.9%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Female</td>
<td>22.4%</td>
<td>12.0%</td>
<td>6.2%</td>
<td>11.9%</td>
<td>2.2%</td>
<td>1.1%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Total</td>
<td>17.8%</td>
<td>20.4%</td>
<td>11.7%</td>
<td>6.4%</td>
<td>17.2%</td>
<td>5.1%</td>
<td>3.2%</td>
</tr>
</tbody>
</table>

Although most pupils did not have to wait more than \(1/4-1/2\) hour for their evening main meal, 80% of pupils had at least one of the above. Several had two or three items.

**PUPILS’ COMMENTS**

"Starving", "have 6 Wasabiix and milk and sugar before my dinner", "have cake and a bar of chocolate before I start to study before dinner", "play games before dinner, need a Mars bar and Lucozade to give me instant energy", "dying with the hunger", "have a headache with the hunger", "can’t pass the sleep", "I raid the cupboard when I get home".

**SUMMARY**

Findings from this study show that changes in feeding patterns of the Irish population appear to be similar to those observed in the U.K. (8). The Irish adolescent chooses sandwiches/filled rolls with confectionery or fruit for lunch with relatively more food and drink during the latter part of the day. These changes are strongly related to social changes in Irish society. Even when children can go home for lunch (22.7%) they choose sandwiches or a mini-pizza or soup and a roll. Rushing again appears as a factor. Rushing to be with friends in the playground, rushing to play games at lunch time etc. etc. The use of micro-wave ovens makes it easy for a young person to "grab a snack" - children attending boarding schools (20.7%) took school lunch which was a nutritious meal of the traditional type.

Concern must be voiced regarding the number of adolescents (11%) who either have nothing at lunch time or buy mainly a carton of chips from the local fast-food outlet. Many of these pupils are rural and leave home very early in the morning and do not get home until late afternoon.

The majority of pupils takes a pre-packed lunch to school (45%) consisting mainly of cheese, meat, tuna, or salad. Ham was the most popular meat and white bread was more popular than brown.

Ribena and fruit juice (concentrated with added sugar) was the choice of 40% of children and the consumption of these drinks contribute to high sugar intakes. This gives cause for concern as both drinks retain a "healthy" image whereas milk is looked on by many adolescents as "unhealthy".

Adolescents appear to be very hungry when they finish school and choose sweets, chocolate, crisps, fruit and fizzy drinks either on the way home or when they get home. Cereal is also a popular choice even though most pupils do not have to wait more than 3/4 hour for their main meal. The main reason given for the consumption of the above is they like them.

**KEYPOINTS**

Sandwiches or filled rolls are the most popular choice of lunch. Young people like sandwiches.

Concern must be voiced regarding some rural children who travel long distances to school and choose chips and a fizzy drink for lunch.

Snacks etc. are consumed after school because young people feel very hungry.
WHAT TYPE OF EVENING MEAL DID YOU HAVE YESTERDAY?

Teenagers are often accused of not eating balanced meals but preferring so-called junk food. It would appear that most Irish teenagers have the usual meat or fish, vegetable and potato type main meal.

When asked what is a favourite main meal 92% of pupils interviewed said meat, vegetable and potatoes was their choice. Girls are interested in dessert although it would appear that dessert is being replaced by yoghurts or fresh fruit.

|       | Meat/fish | Veg or potato | Dessert | Fish | Other | Snacks | Sugar | Corn
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>3.5%</td>
<td>59.0%</td>
<td>1.3%</td>
<td>1.3%</td>
<td>13.6%</td>
<td>5.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>6.4%</td>
<td>34.4%</td>
<td>6.0%</td>
<td>1.7%</td>
<td>8.7%</td>
<td>3.5%</td>
<td>1.2%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9.9%</td>
<td>61.4%</td>
<td>11.4%</td>
<td>3.0%</td>
<td>20.0%</td>
<td>17.1%</td>
<td>6.6%</td>
<td></td>
</tr>
</tbody>
</table>

HOW MANY SNACKS DID YOU HAVE LAST NIGHT BETWEEN YOUR EVENING MEAL AND BEDTIME?

In total 2680 mini-meals/snacks were consumed by 91% of the total sample. The mean number of snacks consumed was 6 snacks and consisted of: tart, cake, biscuits, crisps, sandwiches, sweets, chocolates, popcorn, cereal, soup, beans on toast, fizzy drinks, bun-burgers, Chinese take-aways, pizza, kebabs, ice-cream, pate and various drinks such as tea, cocoa, coffee and hot chocolate.

Many of the commodities consumed were high-sugar, high-fat foods and it is clear that much of the total dietary intake is consumed as snack foods. These results compare with changes in eating patterns observed in the British population where it was found that relatively more food and drink is being consumed during the latter part of the day (8).

PUPILS' COMMENTS

Asked why so many snacks were consumed in the evening pupils reported “like them”, “more relaxed in the evening to eat more”, “hungry”, “need extra energy when studying”, “bored, so I eat”, “I like chocolates and biscuits”, “because I want to”

SUMMARY

The majority of Irish adolescents prefer the traditional meal of meat, vegetables and potatoes. A number of pupils from socially deprived families would like to eat more often items such as fresh meat, fresh fruit and fresh vegetables. Meat was the food most regularly omitted when money was scarce. Desserts appear to be disappearing from Irish menus except at the weekend. However, fruit and yoghurts are becoming more popular and if not eaten at the main meal are taken during the evening before bedtime.

Snacks or mini-meals between the evening meal and bedtime were very popular and consisted of high-sugar/high-fat foods such as fruit tarts, cake, biscuits, sweets, chocolate etc. or high-fat foods such as sandwiches (including mayonnaise) bun-burgers, Chinese take-aways, pizzas and kebabs.

KEYPOINTS

The traditional meal, vegetable and potatoes is still the more popular main meal preferred by Irish teenagers. Fish is only acceptable when cooked in batter and deep-fat fried.

There is much 'snacking' between evening meal and bed-time.
DO YOU HAVE A BASIC KNOWLEDGE OF NUTRITION?

Nutrition is a very popular subject in magazines, TV and radio programmes, besides being a taught subject in Home Economics, Biology etc. 81% of pupils claimed to have a knowledge of nutrition and 50% of the pupils attended Home Economics classes. Pupils were asked to give three sources in their own diet of three common nutrients i.e. calcium, fibre and iron. The groups were divided into Group - A - those who took Sciences and Home Economics and Group - B - those who did not take these subjects.

**TABLE 7**

**A. Pupils with Science/Home Economics**

<table>
<thead>
<tr>
<th>Sources</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>35%</td>
<td>17%</td>
<td>4%</td>
</tr>
<tr>
<td>Fibre</td>
<td>35%</td>
<td>10%</td>
<td>7%</td>
</tr>
<tr>
<td>Iron</td>
<td>10.6%</td>
<td>15%</td>
<td>8%</td>
</tr>
</tbody>
</table>

**B. Other Pupils**

<table>
<thead>
<tr>
<th>Sources</th>
<th>1</th>
<th>2</th>
<th>3</th>
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</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>16%</td>
<td>20%</td>
<td>8.8%</td>
</tr>
<tr>
<td>Fibre</td>
<td>18%</td>
<td>13%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Iron</td>
<td>7%</td>
<td>7%</td>
<td>9.0%</td>
</tr>
</tbody>
</table>

Aske about the nutrient linked with anaemia only 7% of males and 11% of females knew that iron was important, whereas 82% males and 54% females knew the role of fibre.

4% of pupils claim that modern diet is so processed that they need to take vitamin/mineral supplements daily. These were not medically prescribed.

**SOURCES OF NUTRITION KNOWLEDGE**

74% of pupils gained their knowledge of nutrition from school with 28% also stating that parents were a reliable source of nutrition knowledge. However, they were sceptical of magazines, saying "they are not always accurate", but would give credence to articles by reputable cookery writers. TV programmes could scaremonger linking every food to some disease and they claimed that radio food programmes are only listened to by 2% of those interviewed, mainly when they were searching for "pop" stations.
It is often claimed that parents decide the feeding patterns of the family and in Ireland the comment is often made that father's food likes and dislikes decide the family menu. The young people interviewed were asked to list their preferences of main meal food items and Table 9 shows the choices made.

### Table 9

<table>
<thead>
<tr>
<th>Choice</th>
<th>Steak</th>
<th>Seafood</th>
<th>Fish</th>
<th>Pizza</th>
<th>Sauces</th>
<th>Burgers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choice 1</td>
<td>23%</td>
<td>11%</td>
<td>16%</td>
<td>13%</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Choice 2</td>
<td>20%</td>
<td>11%</td>
<td>8%</td>
<td>13%</td>
<td>7%</td>
<td>15%</td>
</tr>
<tr>
<td>Choice 3</td>
<td>12%</td>
<td>20%</td>
<td>10%</td>
<td>8%</td>
<td>9%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Young people stated that 'mother' or 'self' influenced food choices - usually the mother knew what were acceptable foods and presented them to the family.

Young people had very definite ideas of what foods they liked and didn't like. Table 10 shows who the young consider an influence, which is very important for health educators in planning nutrition education programmes.

### Table 10

<table>
<thead>
<tr>
<th>Influence</th>
<th>Mother</th>
<th>Self</th>
<th>Father</th>
<th>Various*</th>
<th>GP</th>
<th>TV</th>
<th>Radio</th>
<th>Various</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>20%</td>
<td>18%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>0</td>
<td>1%</td>
</tr>
<tr>
<td>Female</td>
<td>24%</td>
<td>28%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>0</td>
<td>1%</td>
</tr>
</tbody>
</table>

* P.E./Coach, Physical Education and Home Economics Teacher

Magazines were not considered a reliable influence on choice, although in recent years cookery writers have given extremely good nutrition information and practical cookery hints to improve nutritional status.

### KEYPOINT

More and more people are becoming interested in the nutritional content of the food they eat, and营养 information can be obtained from both Science and Home Economics classes. They also respect the knowledge passed on from parents so it is very important that sound nutritional information is given to the general public. Young people have very definite ideas of what foods they like or dislike and 46% claim they make their own food choices. Mother plays a big part in influencing choice and father's influence does not appear to be important. Others who influence food choices, in the nutritional advice they give, are Physical Education teachers, the Home Economics teacher, the games coach or the General Practitioner. Nutritional labelling of food seemed to cause some confusion to young people and they would welcome standardised ways of presenting the nutritional information provided on food packaging.

Concern was expressed about food additives, hormones in meat and radioactivity in fish from the Irish sea, and was responsible for some young people cutting down or cutting out these foods.
CONSUMPTION OF STAPLE FOODS

Milk, meat, bread and potatoes are the four staple foods in the Irish diet (1). Milk is an important food for growing children and milk and milk products are important sources of protein, energy, vitamin A, riboflavin and particularly calcium.

97% of young people have milk every day (6% choosing low fat milk). 20% of young people use milk in tea/coffee and on cereals but don’t drink milk. 3% of young people don’t have any milk.

Exclusion of milk from the diet should not be taken lightly and it was disturbing to find that children excluding milk had not been advised to do so by a doctor or dietician.

FIG. 3 MEAT

22% of pupils have meat 7 days per week.
30% of pupils have meat 6 days per week.
18% of pupils have meat 5 days per week.
10% of pupils have meat 4 days per week.
11% of pupils have meat 3 days per week.
5% of pupils have meat 2 days per week.
1% of pupils have meat 1 day per week.
1% do not eat meat. (1% males, 2% females).

Young people have no ‘hang-ups’ about bread or potatoes although some females consider both bread and potatoes fattening foods and omit them from their eating plan. Young males would choose chips or roast potatoes because of the taste, and both male and female prefer white to brown bread.

PUPILS COMMENTS

“Chips are filling”, “chips are fattening”, “chips are bad for your skin”, “milk is full of hormones”, “milk and butter are linked to coronary heart disease (CHD)”, “I don’t like the taste of milk”, “school milk is horrible as it is lukewarm and sometimes sour”, “milk causes allergy”, “I don’t eat meat because it causes CHD”, “I only have meat once a week because we can’t afford it”.

14
SUMMARY
People have likes and dislikes about many factors in life and food is not different. Milk, meat, bread and potatoes are the four staple foods in the Irish diet (1).

Milk
97% of the adolescents have milk daily either as a drink or in tea/coffee or on cereal (6% choosing low-fat milk; because they find it lighter or for health reasons). 3% of young people do not consume milk: either they do not like the taste of milk or claim they are allergic to milk.

Meat
Meat is popular and 80% of pupils had meat on at least four days per week, some had it 5, 6 and 7 days per week. 1% of males and 2% of females never eat meat. This avoidance of meat by 1% of males is a change from figures found in the INDI National Nutrition Survey where meat was consumed by all males and 93% of females (1).

White bread
White bread is more popular with young people than wholemeal and they give taste and "mouth-feel" as the prime reasons for choice. It is  omitted by slimmers.

Potatoes
Potatoes are popular with young people. They are considered fattening by girls but are very popular either as chips or roast potatoes with young males and non-slimming females.

Challenged that potatoes on their own are not of high energy content, young people feel that they are too "dry" to eat on their own without either butter, margarine, gravy or sauce on them. Chips or roast potatoes are preferred because of the taste.

DO YOU AVOID ANY PARTICULAR FOOD?
74% of pupils say they avoid particular foods for various reasons.
7% don’t like certain vegetables eg. cabbage, sprouts and turnips, and avoid them.
11% dislike fish and avoid it completely. They do not like the texture, mouth-feel, taste and more especially, the smell of fish. Fish is acceptable if coated with batter or breadcrumbs and deep-fat fried and served with a sauce which disguises the taste.
8% dislike liver while 6% are happy to eat pate or stir fry liver. Young people do not like the "bloody appearance and strong taste" of liver.

Other foods avoided are eggs (linked with salmonella). Parmesan and blue cheeses are avoided because they cause headaches. Spinach, tomatoes, strawberries and prunes are avoided by a small number of young people because they claim they cause itching or a rash.

Burgers, packet soup and any foods with "E" additives are avoided although all additives with "E" numbers are EC approved and appear to be safe for the vast majority of people.

3% of males avoid red meat because they believe it causes CHD. 6% of females avoid red meat because they believe either it is wrong to take life or they believe there is a link between the consumption of red meat and CHD. However, the Irish Heart Foundation’s nutrition policy on dietary advice for cholesterol lowering recommends the inclusion of lean red meat three times per week (9). The low intake of red meat and consequently low iron intake of females in the Irish diet (1) warrants attention. Dietary inadequacies resulting in nutritional deficiencies have been reported in those on self-imposed exclusion diets (10).

<table>
<thead>
<tr>
<th>Meat</th>
<th>TO NUTRIENT INTAKES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td>14%</td>
</tr>
<tr>
<td></td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>45%</td>
</tr>
</tbody>
</table>

Source: INDI National Nutrition Survey 1990(1)
Beetroot is avoided by some females because of its colour which is linked to the colour of blood, as is liver, again because of its 'bloody' appearance and strong taste. Eggs are avoided because of taste and the fear of salmonella from eggs.

Parmesan and blue cheeses are avoided by some adolescents because of headaches.

A small number of young people, mainly females, avoid spinach, tomatoes, strawberries and prunes because they claim they cause skin rashes.

Foods with 'E' additives are avoided as they are of concern to young people.

3% of males and 6% of females avoid red meat completely. This appears to be a new phenomenon when one compares these findings to those of the National Nutrition Survey when no males and only 2% of females avoided meat. Boys, in particular, are aware of the suggested link between red meat and coronary heart disease (CHD). The advice given by some doctors and dietitians to avoid or reduce the intake of red meat is mis-interpreted by the boys as meaning that they must not eat red meat in order to avoid CHD. A number of scientific studies show that it is the beef-fat and not the lean beef which raises blood cholesterol (11,12).

The 6% of females who avoid red meat do so because either they believe it is wrong to kill animals for man's use or they fear the so-called link between the consumption of red meat and coronary heart disease (CHD). The low iron intake in Irish females could be further exacerbated if this trend continues unless dietary changes are made to increase iron intake from sources other than meat (1).

Meat is a very important source of nutrients and Table 11 shows the % contribution made by meat to nutrient intake in the Irish diet (1). Meat is the main protein source (33%) for both males and females in the 12 - 15 year age group and to eliminate it completely would put those children at nutritional risk.

Professor Nancy Wellman recently highlighted the fact that "contrary to expert advice from dietitians and physicians more than half of Americans are needlessly eliminating certain foods especially red meat and dairy foods from their diets. Yet she points out these are important sources of iron, zinc and calcium especially in diets of women" (13).

**USE OF SUGAR BY YOUNG PEOPLE**

The popular press has written several articles on the role of sugar in behaviour problems even though there is little scientific evidence that sugar contributes to these problems. Young people, on the whole, have no difficulty regarding the use of sugar and many see it as a necessary boost to give energy.

It is of particular concern to nutritionists that young people should learn good eating habits and the high sugar content of their diet may need addressing. Sugar content is usually directly related to the degree of snacking, due to the fact that food consumed as snacks is relatively higher in sugar than food consumed as meals (1-4). High sugar intakes, particularly between meals, leading to dental decay especially in adolescents is of concern (13).

**PUPILS’ COMMENTS**

"I like sweet foods", "I need sugar for energy", "I avoid sugar because of my teeth" (reported by a male who had taffees, cake, chocolate and applesauce between meals), "I only have sweet Ribaena for energy", "I need sugar to help my strength in games".

**SUMMARY**

Sugar is seen by Irish adolescents as a 'necessary' food to give quick energy. Young people do not pay attention to the sugar/fat content of confectionery and chocolate/sweets/snack food. As long as they seem to be controlling sugar as table sugar in tea, coffee or cereal they feel they are in control of the situation. The fact that sugar is mainly consumed in 'snack foods' between meals might be of concern to the dental profession.

Sugar consumption has been found to be directly related to the degree of snacking, due to the fact that food commodities consumed as snacks are relatively higher in sugar than the traditional meals of meat, vegetables and potatoes. This is in line with the concern about higher sugar intakes, particularly between meals, leading to dental decay, especially in adolescents.

Sugar is taken mainly in 'snack food' form and supplies a large proportion of the energy intake of the teen-age diet.

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**SUMMARY**

74% of pupils avoided one or more foods for various reasons. Certain vegetables, e.g. cabbage, sprouts, turnips are avoided mainly because of the taste and texture.

Beetroot is avoided by some females because of its colour which is linked to the colour of blood, as is liver, again because of its 'bloody' appearance and strong taste.

Eggs are avoided because of taste and the fear of salmonella from eggs.

Parmesan and blue cheeses are avoided by some adolescents because of headaches.

A small number of young people, mainly females, avoid spinach, tomatoes, strawberries and prunes because they claim they cause skin rashes.

Foods with 'E' additives are avoided as they are of concern to young people.

3% of males and 6% of females avoid red meat completely. This appears to be a new phenomenon when one compares these findings to those of the National Nutrition Survey when no males and only 2% of females avoided meat. Boys, in particular, are aware of the suggested link between red meat and coronary heart disease (CHD). The advice given by some doctors and dietitians to avoid or reduce the intake of red meat is mis-interpreted by the boys as meaning that they must not eat red meat in order to avoid CHD. A number of scientific studies show that it is the beef-fat and not the lean beef which raises blood cholesterol (11,12).

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DO YOU EAT ANY OF THE FOLLOWING FOODS
INSTEAD OF A MEAL?

Pupils were asked if they had substituted sweets, cakes, chocolate bars or packets of crisps for any meal during the previous week.

60% of the group studied did not substitute these foods for meals regarding them as 'snack foods' and not a main meal per se. However, a number of pupils claimed they were under pressure preparing for examinations and 11% of males and 10% of females had cake and coffee instead of a full evening meal. 9% of males and 10% of females had chocolates and crisps instead of lunch on the previous day.

DO YOU EAT ANY PARTICULAR FOOD
WHEN YOU ARE TIRED?

May-June when the pupils were interviewed was the run-up period to summer examinations and many were under pressure. Asked if they consumed any particular food when tired 55% said they did not eat or drink any specific food. However, cereal, tea, coffee or cold milk, crisps and chocolate were the most popular "pick-me-up" reported. Most students agreed that it was "habit" rather than necessity.
FOOD PREFERENCES

By scoring specific foods into 3 categories A) high fat foods, B) high sugar/starch foods and C) healthy foods, the food choices of the total sample could be divided into 3 groups

A Preference for fatty foods
B Preference for Sugary/Starchy foods
C Healthy foods

A 40% of the total sample - mainly male - made their food choices from foods with a high fat content e.g. spreadable fat ie. butter, margarine or other fat spreads, chips, buttered potatoes, crisps, pies and pastries, burgers, chocolates, cakes and biscuits.

B 42% of teenagers - both male and female - choose foods from the cereal/bread, potatoes, pastry group. They also took sugar in tea/cereals etc. and had a high intake of fizzy type drinks.

C 18% of teenagers - mainly female - made their food choice from fruit, vegetables, brown bread, chicken and lean meat.

It is worth noting that there was little cross-over between the groups.

SAMPLE OF DIETARY INTAKES.

Individuals from the 'high fat group, high carbohydrate', so-called healthy eaters and a vegetarian (4 persons - 2 male, 2 female) were subsequently interviewed. Using the methodology used in the National Nutrition Survey, each subject was asked to:-

• describe where they ate their meals - whether they ate most of them at home, in a canteen or restaurant or whether they ate fast food/take away or home pre-prepared food.
• describe their usual food intake over a seven-day period.

The mother of each participant was interviewed separately regarding serving weights, cooking methods, accompanying sauces etc.

A typical day's food intake was evaluated for each of the four individuals.

The nutrient content of the food intake was determined using the fourth edition of McCance and Widdowson's 'The Composition of Foods' by Paul and Southgate (4).
HIGH FAT 'EATER'

Male: 15 years. Weight 66kg Height 175cm

### Breakfast
- Cornflakes
- Milk
- Fried Bread
- Fried Egg

### Lunch
- Chips
- Curry Sauce
- Chocolate Bar

### Dinner
- Corned Beef
- Cabbage
- Mashed Potato with added butter, milk and margarine
- Appletart and custard

### Mid-Morning
- Cheese Sandwiches with mayonnaise and margarine.
- Mars Bar

### Mid-Afternoon
- Crisps
- Sausage Roll
- Tea

### Supper
- Tomato Sandwich with mayonnaise
- Chocolate Biscuits
- Tea

#### NUTRIENT ANALYSIS OF INDIVIDUAL MEALS

<table>
<thead>
<tr>
<th>Meal</th>
<th>Calories</th>
<th>Protein (g)</th>
<th>Fat (g)</th>
<th>Carbohydrate (g)</th>
<th>Calcium (mgs)</th>
<th>Iron (mgs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td>756</td>
<td>26</td>
<td>48</td>
<td>39</td>
<td>299</td>
<td>3.68</td>
</tr>
<tr>
<td>Mid-morning</td>
<td>1109</td>
<td>23</td>
<td>73</td>
<td>96</td>
<td>625</td>
<td>2.71</td>
</tr>
<tr>
<td>Lunch</td>
<td>1608</td>
<td>18</td>
<td>92</td>
<td>192</td>
<td>215</td>
<td>13.3</td>
</tr>
<tr>
<td>At bus stop and mid-</td>
<td>372</td>
<td>5</td>
<td>27</td>
<td>29</td>
<td>44</td>
<td>1.1</td>
</tr>
<tr>
<td>afternoon at home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dinner</td>
<td>1099</td>
<td>41</td>
<td>60</td>
<td>111</td>
<td>280</td>
<td>5.4</td>
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<tr>
<td>Supper</td>
<td>663</td>
<td>8</td>
<td>49</td>
<td>50</td>
<td>108</td>
<td>2.0</td>
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<tr>
<td><strong>Total Nutrient Intake</strong></td>
<td>5607</td>
<td>121</td>
<td>349</td>
<td>537</td>
<td>1571</td>
<td>28.18</td>
</tr>
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<td>National Nutrition Survey</td>
<td>2709</td>
<td>90</td>
<td>110</td>
<td>362</td>
<td>1208</td>
<td>14.7</td>
</tr>
<tr>
<td><strong>% Energy from Fat</strong></td>
<td>35%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recommended</td>
<td>35%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dietician's Comments: Hidden fat e.g. mayonnaise, fried food and pastry, can greatly increase the fat content of the diet and must be addressed in this age group.

19
HIGH STARCH/SUGAR (CARBOHYDRATE) EATER
Male: 14.75 years. Weight 42kg Height 159cm

Breakfast
CEREAL WITH SUGAR AND MILK

Lunch
HAM SANDWICH
PEAR
CAN OF COKE
PACKET OF FRUIT GUMS
(2 CIGARETTES)

Dinner
BEEF STEW
CARROTS
BOILED POTATOES
FRUIT YOGHURT

Mid-Morning
CAN OF COKE
APPLE

Mid-Afternoon
CAN OF LUOZADE
SEMI-SWEET BISCUITS
CHOCOLATE BAR

Supper (Evening Snacks)
APPLE (8 PM)
ICECREAM (9 PM)
SUGAR PUFFS WITH MILK
AND SUGAR (10.30 PM)
PORTION OF JAM SPONGE
GLASS OF MILK

NUTRIENT ANALYSIS OF INDIVIDUAL MEALS

<table>
<thead>
<tr>
<th>Meal</th>
<th>Calories</th>
<th>Protein g</th>
<th>Fat g</th>
<th>Carbohydrate g</th>
<th>Calcium mgs</th>
<th>Iron mgs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td>290</td>
<td>7</td>
<td>4.8</td>
<td>38</td>
<td>1.49</td>
<td>1.0</td>
</tr>
<tr>
<td>Mid-morning</td>
<td>143</td>
<td>-</td>
<td>-</td>
<td>40</td>
<td>1.5</td>
<td>-</td>
</tr>
<tr>
<td>Lunch</td>
<td>924</td>
<td>28</td>
<td>16.7</td>
<td>175</td>
<td>5.5</td>
<td>6.3</td>
</tr>
<tr>
<td>At bus stop and mid-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>afternoon at home</td>
<td>1034</td>
<td>10</td>
<td>35.5</td>
<td>179</td>
<td>2.56</td>
<td>1.8</td>
</tr>
<tr>
<td>Dinner</td>
<td>333</td>
<td>17</td>
<td>8.9</td>
<td>50</td>
<td>2.23</td>
<td>1.8</td>
</tr>
<tr>
<td>Supper</td>
<td>856</td>
<td>21</td>
<td>26.0</td>
<td>138</td>
<td>6.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Total Nutrient Intake</td>
<td>3560</td>
<td>83</td>
<td>92</td>
<td>640</td>
<td>18.43</td>
<td>12.9</td>
</tr>
<tr>
<td>National Nutrition Survey</td>
<td>2709</td>
<td>90</td>
<td>110</td>
<td>362</td>
<td>12.08</td>
<td>14.7</td>
</tr>
<tr>
<td>Recommended Dietary Allowance</td>
<td>2900</td>
<td>72</td>
<td>23%</td>
<td>23%</td>
<td>12.00</td>
<td>14.0</td>
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<tr>
<td>% Energy from fat</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recommended</td>
<td></td>
<td></td>
<td>35%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dieterian's Comments: Discussions with the mother of this boy shows that he does not choose foods with a high fat content but prefers sweet food. He claims he needs drinks which give him a lift e.g. Lucozade etc.
VEGETARIAN

Female: 15 years. Weight 50kg Height 157cm

**Breakfast**
- Fresh Orange Juice
- Homemade Muesli
- Goats Milk
- 1 Slice of Toast
- Polyunsaturated Margarine
- Mint Tea

**Lunch**
- Cottage Cheese
- Chopped Avocado
- Peanuts
- 1 Wholemeal Roll
- Ribena to Drink

**Mid-Morning**
- Apple
- Ribena

**Mid-Afternoon**
- Banana
- Mint Tea

**Dinner**
- Sweet 'n' Sour Rissoles
- Apple Sauce
- Potatoes
- Ribena to Drink

**Supper**
- 1 Slice of Toast
- Flora
- Mint Tea

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### NUTRIENT ANALYSIS OF INDIVIDUAL MEALS

<table>
<thead>
<tr>
<th>Meal</th>
<th>Calories</th>
<th>Protein g</th>
<th>Fat g</th>
<th>Carbohydrate g</th>
<th>Calcium mgs</th>
<th>Iron mgs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td>378</td>
<td>10.6</td>
<td>15.3</td>
<td>52.2</td>
<td>236</td>
<td>2.37</td>
</tr>
<tr>
<td>Mid-morning</td>
<td>121</td>
<td>0.3</td>
<td>-</td>
<td>32.2</td>
<td>7</td>
<td>0.46</td>
</tr>
<tr>
<td>Lunch</td>
<td>408</td>
<td>21.9</td>
<td>21.3</td>
<td>39.9</td>
<td>98</td>
<td>3.11</td>
</tr>
<tr>
<td>At bus stop and mid-</td>
<td>47</td>
<td>0.7</td>
<td>0.2</td>
<td>11.4</td>
<td>4</td>
<td>0.2</td>
</tr>
<tr>
<td>afternoon at home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dinner</td>
<td>1076</td>
<td>11.6</td>
<td>71.3</td>
<td>108.5</td>
<td>56</td>
<td>2.56</td>
</tr>
<tr>
<td>Supper</td>
<td>147</td>
<td>2.4</td>
<td>8.3</td>
<td>16.2</td>
<td>27</td>
<td>0.33</td>
</tr>
<tr>
<td><strong>Total Nutrient Intake</strong></td>
<td>2177</td>
<td>47.5</td>
<td>117.0</td>
<td>260.4</td>
<td>*428</td>
<td>10.02</td>
</tr>
<tr>
<td>National Nutrition Survey</td>
<td>2181</td>
<td>73.0</td>
<td>88.0</td>
<td>-</td>
<td>962</td>
<td>12.4</td>
</tr>
<tr>
<td>Recommended Dietary Allowance</td>
<td>2100</td>
<td>53.0</td>
<td>-</td>
<td>-</td>
<td>1200</td>
<td>14</td>
</tr>
<tr>
<td>% Energy from Fat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>35%</td>
<td></td>
</tr>
<tr>
<td>Recommended</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dietician's Comments: Protein too low and of second class mainly.

*Fat intake too high, Calcium too low, Iron too low.
HEALTHY EATER
Female: 13.4 years. Weight 40kg Height 145cm

Breakfast
PORRIDGE
Milk
SUGAR
GLASS OF ORANGE JUICE

Lunch
BANANA SANDWICH (MADE WITH BROWN BREAD)
PACKET OF BOILED SWEETS

Dinner
ROAST CHICKEN
BOILED POTATOES
BROCCOLI
SWEETCORN
ORANGE

Mid-Morning
1 APPLE

Mid-Afternoon
BOWL OF RICE CRISPIES
Milk
SUGAR

Supper
GLASS OF MILK

NUTRIENT ANALYSIS OF INDIVIDUAL MEALS

<table>
<thead>
<tr>
<th>Meal</th>
<th>Calories</th>
<th>Protein (g)</th>
<th>Fat (g)</th>
<th>Carbohydrate (g)</th>
<th>Calcium (mgs)</th>
<th>Iron (mgs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td>319</td>
<td>8.4</td>
<td>6.5</td>
<td>58.2</td>
<td>205</td>
<td>0.97</td>
</tr>
<tr>
<td>Mid-morning</td>
<td>46</td>
<td>0.3</td>
<td>-</td>
<td>11.9</td>
<td>4</td>
<td>0.3</td>
</tr>
<tr>
<td>Lunch</td>
<td>721</td>
<td>-</td>
<td>7.3</td>
<td>174.6</td>
<td>10</td>
<td>0.8</td>
</tr>
<tr>
<td>At bus stop and mid-</td>
<td>379</td>
<td>7.9</td>
<td>5.7</td>
<td>76.4</td>
<td>184</td>
<td>0.47</td>
</tr>
<tr>
<td>afternoon at home</td>
<td>389</td>
<td>32.8</td>
<td>5.6</td>
<td>55.4</td>
<td>125</td>
<td>3.0</td>
</tr>
<tr>
<td>Dinner</td>
<td>97</td>
<td>4.9</td>
<td>5.7</td>
<td>7.0</td>
<td>180</td>
<td>0.07</td>
</tr>
<tr>
<td>Supper</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Nutrient Intake</td>
<td>*1951</td>
<td>54.3</td>
<td>30.8</td>
<td>383.5</td>
<td>708*</td>
<td>5.61*</td>
</tr>
<tr>
<td>National Nutrition Survey</td>
<td>2181</td>
<td>73.0</td>
<td>88</td>
<td>-</td>
<td>962</td>
<td>12.4</td>
</tr>
<tr>
<td>Recommended Dietary Allowance</td>
<td>2100</td>
<td>33.0</td>
<td>-</td>
<td>-</td>
<td>1200</td>
<td>14</td>
</tr>
<tr>
<td>% energy from fat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recommended</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ARE YOU CONCERNED ABOUT YOUR HEALTH?

98% of all pupils interviewed are concerned about the effect of their lifestyle (including their eating habits) on their health status.

While both males and females are concerned with being "fit", "healthy", "well", "able to do my study", "to have energy for games and sport" and for "growth", females in particular are concerned with "good skin", "good teeth", "to be slim", "to have a good body" etc.

Both boys and girls are fully aware of the effects of smoking and drinking: 16% of males and 31% of females have never smoked.

13% of males and 14% of females have only ever tried smoking once or twice and those who currently smoke say they would like to give it up.

### TABLE 12

<table>
<thead>
<tr>
<th></th>
<th>Never tried</th>
<th>Tried one</th>
<th>Used to</th>
<th>Would like to</th>
<th>Would not like to</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male</strong></td>
<td>14%</td>
<td>13%</td>
<td>3%</td>
<td>3%</td>
<td>1.4%</td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td>31%</td>
<td>14%</td>
<td>12%</td>
<td>6%</td>
<td>5.6%</td>
</tr>
</tbody>
</table>

The average number of cigarettes smoked per pupil was 2 cigarettes daily. A small number of males smoked 5 to 10 cigarettes on the day previous to interviews.

Asked "What nutrient is linked to heart disease?" pupils showed an awareness of the link between diet and coronary heart disease (CHD) but their dietary practices did not reflect their knowledge. Boys in particular are concerned about avoiding CHD but are developing tasty eating patterns which are nutritionally unsound.

### KEYPOINTS

90% of all pupils are concerned about their health - females are more concerned about body image, skin, hair, slim body whereas males are more concerned with being fit and 'healthy'. Young people want to make the right food choices and are somewhat confused by the different dietary advice they are exposed to.

They are concerned about smoking - they have not smoked at all or if they have smoked or are presently smoking have examined the reasons why they should stop. They are aware of the anti-social aspects of smoking e.g. the cost of smoking, the bad breath, stained teeth or fingers, the smokers' cough, more colds and infections. They are aware of the fact that smokers die earlier, that pregnant women run a greater risk of miscarriage and that smoking is linked to heart and lung disease as well as cancer.

Only 2.4% of young people stated that they did not want to give up smoking in spite of knowing all the deterrents to smoking. Much of this might be bravado.

The main concern of young people was to avoid coronary heart disease and they were concerned about 'fit' and CHD. However, apparently good advice to reduce saturated fat may lead to bad eating patterns. It is of concern that staple foods such as dairy products, meats, eggs etc had been given a negative, bad image. Whereas total spreadable fat, plus biscuits, cake, pastries and chips/tost potatoes with savoury snacks and chocolate, which contribute in total 40% of the fat in the Irish diet, seem to form the basis of the diet of 12-15 year old adolescents [1].

### PUPILS' COMMENTS

"Fat", "cholesterol", "high fat diets", "sodium", "salt" were identified as the "baddies" in CHD, "drinking milk", "eating butter", "eating the yolk of eggs", "fatty meat", "red meat".

"I have cut out red meat completely as it causes heart attacks", "ifore advised to cut out red meat and eat only fish - I don't like fish so I have chips and tomatoes every day", "health food shop expert advised pupil to cut out meat and all dairy products to improve acne", "cut out all processed foods because of the additives", "food additives cause cancer".

[1]
Please confine answers to answer panel only.

<table>
<thead>
<tr>
<th>School No.</th>
<th>Male</th>
<th>Female</th>
<th>Date of Birth</th>
<th>Date of Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. [ ] Nothing at all  [ ] Just an egg & drink

2. [ ] Just a drink  [ ] Cooked breakfast with cereal or bread/toast, butter/margarine and drink

3. [ ] Cereal or bread/toast, butter/margarine & drink  [ ] Cooked breakfast with cereal and bread/toast, butter/margarine and drink

4. [ ] Cereal and bread/toast, butter/margarine & drink  [ ] None of the above

5. [ ] Public bus  [ ] School bus  [ ] Cycle  [ ] Walk  [ ] Car  [ ] Other

6. [ ] Take School Milk  [ ] If YES state food/drink and if it is from home/shop/school

7. [ ] Bring a sizeable drink with you.

8. [ ] Drink nothing at school

9. [ ] YES  [ ] NO

10. [ ] If YES state food/drink and if it is from home/shop/school

11. [ ] Give one comment on the drink you had.

12. [ ] Drink nothing at school

13. [ ] YES  [ ] NO

14. [ ] If YES why do you need food mid-morning?

15. [ ] At home  [ ] School canteen  [ ] Pre-packed lunch to school  [ ] Fast food bought locally  [ ] Skip Meal
Please confine answers to answer panel only.

9

10

Please tick all the foods you may have.

☐ Sweets  ☐ Buns  ☐ Chips  ☐ Other (please state:)

☐ Chocolate  ☐ Fizzy drinks  ☐ Chips  ☐ Cigarettes

11

12

13

Please tick closest answer.

☐ Soup  ☐ Dessert  ☐ Omelette  ☐ Other (please state:)

☐ Meat, veg and potatoes  ☐ Fry  ☐ Pasta dish  ☐ Sausage and chips

15

Please List:

Time of Last Food Consumed

16

17

18

19

20

Please tick closest answer.

☐ School  ☐ Magazines  ☐ TV  ☐ Radio  ☐ Parents

25
Please confine answers to answer panel only.

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>Please number 1-7 where 1 is most preferred and 7 least preferred:&lt;br&gt; □ Steak □ Pork □ Pizza □ Beerburgen □ Chicken □ Fish □ Sausages</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Please tick □ YES □ NO If NO why not?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Please tick □ 1 □ 3 □ 5 □ 7 □ 2 □ 4 □ 6 □ 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Please tick □ YES □ NO If YES state why?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>State food</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Please tick □ Tea □ Coffee □ Cereal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Please tick □ Sweets □ Cakes □ Bars □ Crisps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Please tick □ YES □ NO If YES state food</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I have never smoked a cigarette
I have only tried smoking once or twice
I used to smoke, but I don’t now
I smoke and I would like to give up
I do not want to give up smoking

Mother
Father
Yourself
Television
Your Friend

YES
NO

Your Present Weight

YES
NO

If yes please state type of diet
REFERENCES


3. Balding, John. (1980) Young people say: "This is what we really like". HEA Schools Health Education Unit, School of Education, University of Exeter.


