

A school's own 'Hearty Eating' project

Sheila Vinson

Head of Social Development Studies
Offerton High School, Stockport

An investigation carried out by a group of 4th-year students during the 1984 summer term revealed what appeared to be serious shortcomings in day-to-day dietary decisions by many pupils. The result has been an increased determination to make them aware of the possible long-term effects of an unwise diet, and to influence canteen decisions both by suppressing some foods and by instituting a "traffic-light" labelling system.

In February, 1984, a 'World in Action' television programme entitled *Countdown to a Coronary* was screened. This was seen by some of our students, and it was later discussed in a Personal & Social Development lesson.

The programme started by showing a man who had just had his fifth heart attack, and then went on to look at the eating habits of schoolchildren in England and Scotland. Doctors are now saying that children today are more likely to have heart attacks when they are older, because of the high amount of fat in their diet. Research into heart disease has shown that there is a thickening of the arteries, which begins as early as 8 to 10 years of age.

In Britain there has been a study by the World Health Organisation of thousands of British workers, and it was found that once arteries begin to 'fur up' there is no turning back. The doctors interviewed in the programme said that we should centre our attention on children to catch them while they are young. It is obvious that we need to educate children to eat less fat.

Fat content of school meals

As a result of surveys into children's favourite foods, the fears of doctors have been confirmed. The meals most children seem to prefer are the ones with the most fat; school meals were highly criticised in the programme, and it was pointed out that these are very often their *main* meals of the day. In some of the surveys of children's meals the energy value from fat was as high as 48%. The British Heart Foundation has recommended that of all the energy we get from food only 20-30% should come from fat. At present this percentage averages about 40%.

The programme went on to quote the percentage energy value provided by fat in some popular foods:—

	Energy from fat
Fish & chips	50%
Chips	83%
Steak & kidney pie	52%
Pork sausage	60%
Pork pie	65%
Big Mac & chips	50%

Parents very often do not know what damage they are causing to their children's

health by allowing them to eat so much food which is high in fat.

After discussing the programme as a group, we were left wondering quite seriously how much damage we had already done to our own hearts! We were certainly far more aware of the dangers of eating too many foods high in fat.

We therefore decided that this topic was an important issue affecting the whole community, both from the point of view of personal health and also from the point of view of costs to the National Health Service. We then agreed that we would like to investigate the problem in our school, and considered that a school of over 1000 students would provide a sample large enough to be considered representative of young people within the community.

Some weekly diets

We started out by asking a group of 50 pupils, chosen at random, to write down on a chart everything they ate and drank for one week. Wherever possible, they were to weigh their food; failing this, they were asked to be as precise as possible about the quantities of food

consumed (for example, how many thin or thick slices of bread, how many teaspoonsful of sugar, and so on). We analysed Wednesday's intake in detail, and derived the nutritional intake from the diets by using the *Manual of Nutrition* published by the Ministry of Agriculture, Fisheries and Food¹. Knowing the amount of protein and fat consumed, we were able to calculate the percentage of total energy contributed by these nutrients.

Analysis of weekly diets

After analysis of one full day's menus for the 50 students involved in this survey, we firstly compared their protein intake with the latest DHSS recommended daily allowance as given in the *Manual of Nutrition*¹. The graph (Fig. 1) shows that nearly half (24/50) of the diets analysed provided less than the recommended allowance of 53g of protein. Therefore, if we take our sample as representing the whole school population, 48% of the students are not having enough protein.

Secondly, our results show that 47 out of the 50 diets analysed provided more

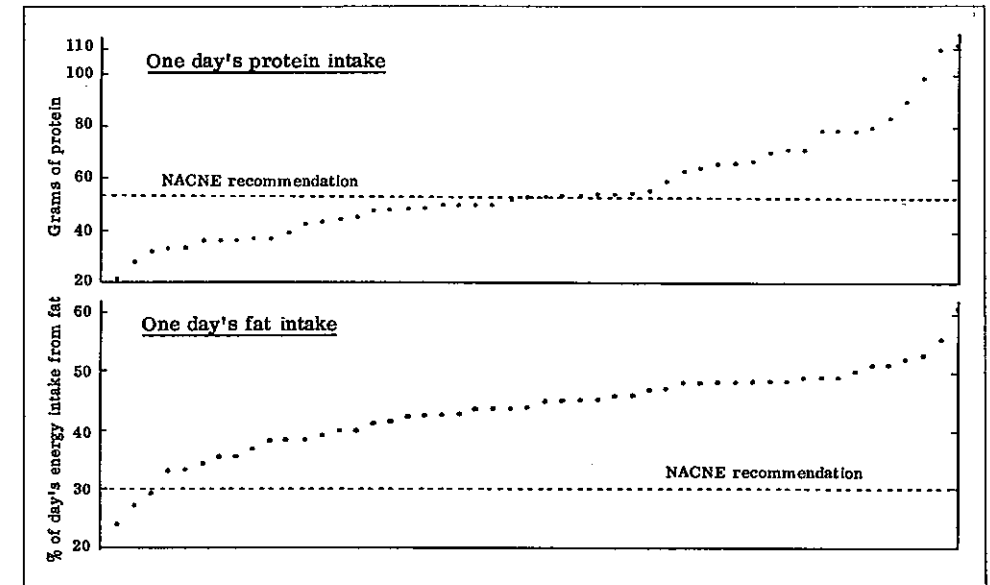


Figure 1. The full-day diet of 50 pupils, showing the number of grams of protein recorded (upper) and the percentage of the day's energy intake contributed by fat (lower).

Item	Price	% Choice
Hot Selection		
Meat and potato pie . . .	28p	11.3
Beefburger bap	26p	9.2
Pizza	20p	8.0
Hot dog roll	22p	7.2
Beefburger	13p	5.0
Hot dog sausage	10p	4.9
Jumbo sausage	24p	4.2
Cheese and onion flan . .	21p	3.5
Fish finger	7p	3.5
Cheese pasties	24p	3.1
Chip barm cake	33p	3.1
Chicken and mushroom pie	30p	3.0
Cottage pie	26p	2.8
Steak and kidney pie . . .	29p	2.3
Beef and onion pie	28p	0.7
Vegetables and Other Accompaniments		
Chips	20p	70.0
Gravy	2p	33.5
Potato cake and butter . .	11p	14.0
Curry sauce	8p	9.5
Baked beans	10p	5.4
Rice	12p	4.8
Mashed potato	12p	3.0
Mixed vegetables	12p	1.8
Coleslaw	12p	1.3
Cold Selection		
Plain salad	20p	2.7
Cheese salad	25p	2.5
Cheese salad bap	27p	2.0
Tuna salad bap	35p	2.0
Tuna salad	35p	1.2
Corned beef salad	35p	1.0
Sweet Selection		
Chocolate crispies	6p	22.7
Doughnuts	10p	12.3
Flapjack	9p	10.4
Cheesecake	13p	9.2
Chocolate eclairs	13p	8.7
Iced buns	7p	8.5
Yoghurts	16p	7.6
Ice cream	13p	6.7
Lemon buns	13p	6.5
Crumble with custard . . .	13p	4.3
Fresh fruit	13p	4.3
Crumble (no custard) . . .	10p	3.8
Butterfly buns	8p	3.5
Angel whirl	13p	3.2
Jelly and cream	11p	3.0
Scones and butter	13p	1.8
Cream splits	13p	1.4

Table 1. The percentage of 1012 students across all school years choosing different items from the school canteen selection, assuming that they had 60p to spend.

than the 30% recommended energy from fat given in the NACNE report². In fact, 37 out of the 50 (74%) provided more than 40% energy from fat. Therefore, our results show most clearly that a large percentage of our students, nearly 75%, have diets providing not only more than the recommended 30% energy from fat, but more than even 40%.

Our findings brought home to us the very worrying fact that a large percentage of our students are in danger of damaging their hearts through having diets which are too high in fat. Therefore we decided that we had to do something to warn them of the possible dangers to their health and to make suggestions for ways in which they could improve their diets. What is noticeable from the results of the dietary analysis is that only a *small* reduction in fat intake for the people most at risk, would bring 60% of the diets down to a far less dangerous level. Therefore, to be realistic, it would not be too difficult for people to make the necessary changes to their diet.

We felt that a very important part of our campaign must involve the type of foods offered in the school canteen. (See *Recommendations* below.)

One day's school meals

We then took a look at the kind of foods offered in the school canteen, which is organised on a cafeteria system. We made a note of the menus for one week, and then carried out a survey of the total school population, using a questionnaire based on one day's school menu, which asked them which foods they would choose if they had 60p to spend. We were trying to find out which foods from the menu were most popular with young people. As a result we would then be able to find out the nutritional value of the students' diets, with particular reference to fat intake.

When the 1012 questionnaires had been completed we counted every response for every item on the menu and calculated the percentage choice for each item. The results are shown in Table 1. We then analysed the questionnaires to find the following information:

1. The number of students choosing NO major source of protein.
2. The number of students choosing NO fresh fruit or vegetable other than chips or potato.
3. The number of students choosing BOTH chips and a dessert high in fat and carbohydrate.

Analysis of the school meal survey

1. 34% of students chose NO major source of protein.
2. 85% of students chose NO fresh fruit or vegetable other than chips or potato.
3. 68% of students chose BOTH chips and a dessert high in fat and carbohydrate.

One of our conclusions from these results was that one third of our students are choosing meals which contain insufficient protein which is needed for growth. As teenagers are going through a period of growth and development, this was a very worrying finding.

Secondly, a staggering 85% chose NO fresh fruit or vegetable other than chips or potato, and their diets therefore were lacking in fibre and vitamin C.

Thirdly, nearly three-quarters of the students chose both chips and a dessert high in fat and carbohydrate. Therefore, these students had main meals which were made up mainly of fat and carbohydrate, and therefore dangerously low in the more nourishing protein and fruit and vegetable foods.

Recommendations

As a result of our study we would like to put forward the following recommendations:

1. That the school meal menu is quite drastically altered to one which is *more healthy*.
2. The large choice of items on the present school menu should be *reduced*.
3. The school meal menu should contain more *dietary fibre*.
4. Most important of all, there should be a *reduction of the fat and carbohydrate* content of the school menu.

5. A colour coding or 'traffic-light' system should be introduced in the school canteen to indicate to students the type of foods to avoid.
6. We should aim to *educate* the students in our school into *eating more wisely*, by making them aware of the dangers of the wrong type of diet.

Here is our suggested school meal menu:

Hot food selection

- ☆ ● Chicken curry with rice
- ☆ ● Chili con carne with rice
- ☆ ● Spaghetti Bolognese* *alternate days
- ☆ ■ Lasagne*
- ☆ ● Cottage pie
- ☆ ■ Beefburger bap (wholemeal)
- ☆ ■ Beefburger
- Baked stuffed potatoes

Vegetables

- Baked potatoes
- Baked beans
- Selection of boiled vegetables — e.g. peas, carrots, sweetcorn
- ▲ Chips — only on some days as an alternative vegetable

Cold selection

- Mixed salads — in large containers which can be served as required
- ☆ ● Open sandwiches — wholemeal bread with variety of toppings
- ☆ ■ Ploughman's lunch

Sweet selection

- Grapefruit segments
- Baked apples
- Fresh fruit
- Yoghurts
- ▲ Iced buns or Chelsea buns
- Fruit pie (pastry made with unsaturated vegetable fat)
- Custard (made with skimmed, dried milk)

KEY:

- ▲ High in fat and/or carbohydrate
- Moderately high in fat but high in protein
- Low in fat
- ☆ High in protein

A plan of action for our school . . .

We have organised a health education campaign for all students within the school, which started in September 1984, entitled *Hearty Eating*. Informative leaflets for both pupils and parents play an important part in this campaign, as well as trendy badges for the pupils emblazoned with *I'm a Hearty Eater!* The campaign is centred around Home Economics and Personal & Social Development lesson time, making use of the video recording made as part of our project. In addition, the teachers of these subject areas are helping out by giving students an opportunity to ask questions and take a critical look at their own eating habits. In an attempt to help the students to choose more healthy foods, the colour-coding system is being used alongside the school menu.

We feel strongly that the problem is not just ours at Offerton High. The School Meals Service in Stockport, and indeed the whole country, needs to make a major review of the meals offered in schools.

. . . and some outcomes!

Since writing the above account, I have been most encouraged by the response to our report, which was presented as a Community Issues Project to a large audience at Stockport Teachers' Centre. It has aroused considerable interest in the local press and within the Health Authority, and we are particularly indebted to the Physician in Charge of Coronary Care at Stepping Hill Hospital, Stockport, for his professional assistance while researching the causes of heart disease.

The team of six students have given presentations to the Offerton High School governors, the Stockport Metropolitan Borough Area Committee, teachers on an in-service course, a group of students from a neighbouring school, and, finally, the Education Committee. The school meals issue was debated by the Committee, and a working party was set up to make further investigations and to put forward its own recommendations.

It is now planned to launch a major Healthy Eating Campaign in all Stockport Metropolitan Borough primary and second-

ary schools, starting in January 1986. It is hoped that the campaign will be a joint venture between the education and school meals services, the aim being to encourage youngsters to choose more healthy and varied diets. Central to the plan is an eye-catching coloured information leaflet, designed by an Offerton High School art teacher, which will be distributed to every parent of primary school children and to every secondary school pupil.

It is clear that any campaign aimed at influencing children's eating habits must also involve the education and support of parents. We must also be prepared to accept, however reluctantly, that progress may be slow, since dietary habits are so entwined with socio-economic factors. For maximum impact the message must be *positive and attractive*, with emphasis on the benefits of eating wisely rather than on the sacrifices of abstinence!

References

1. Buss, D. & Robertson, J. (eds.), *Manual of Nutrition*. HMSO, 1982.
2. *Discussion Paper on Proposals for Nutritional Guidelines for Health Education in Britain* (The NACNE Report): Health Education Council, 1983.

The NACNE points

The following four recommendations are made in the report:

1. A reduction of the average total fat intake by 10%.
2. A reduction of the average total sucrose intake by 10%.
3. An increase in total dietary fibre intake by about 25%.
4. A reduction of salt by 10%.

The report also advises a reduction of average alcohol intake by 10%. It suggests that the energy lost by these reductions could be made good through increased consumption of low-fat foods, such as bread, potatoes, fruit, and vegetables.