

Main findings from the diet and nutrition survey: young people aged 4-18 years

1. The foods most commonly consumed by young people in the survey, eaten by more than 80% of the group during the seven-day dietary record, were white bread, savoury snacks, chips, biscuits, boiled, mashed and jacket potatoes and chocolate confectionery.
 - The most commonly consumed type of meat was chicken and turkey dishes, eaten by over 70% of young people,
 - Forty-seven percent of boys and fifty-nine percent of girls ate raw and salad vegetables (excluding tomatoes), around 40% of the group ate cooked leafy green vegetables and about 60% other cooked vegetables.
 - The most commonly consumed fruits were apples and pears, eaten by over half the group, followed by bananas eaten by just under 40%. A quarter of young people ate citrus fruit and about a third ate 'other' fruit (mainly soft fruit).
 - Three quarters of young people drank standard carbonated soft drinks and forty-five percent drank low calorie versions.
2. The majority of young people reported having milk as a drink although the proportion not drinking milk increased with age to 12-15% of 15-18 year olds. Semi-skimmed milk was the usual type of milk drunk for over a third of 4-6 year olds and over half those aged 11 and over.
3. About one fifth of young people reported that they took vitamin and mineral supplements, mainly vitamins A, C and D and multivitamin and multimineral preparations. Ten percent of 15-18 year old girls reported that they were vegetarian or vegan and 16% of this age group said they were dieting to lose weight (compared with 1% and 3% respectively of boys in the same age group). About 58% of the oldest group and 16% of 11-14 year olds reported that they had consumed alcohol during the past week.
4. Mean energy intakes were lower than estimated average requirements (EARs) for all age/sex groups but were lowest in relation to the EARs for 15-18 year old girls. This may be partly due to under-reporting of food consumption in this group. Energy intakes in this survey were lower than in the 1983 survey of 10-11 and 14-15 year old schoolchildren. However, young people in this survey were taller and heavier than in previous surveys, which suggests that their energy needs are lower.

5. The average proportion of food energy derived from total fat was 35% for boys and 36% for girls, close to the COMA recommendation of 35%. The average proportion of food energy derived from saturated fatty acids was 14.2% for boys and 14.3% for girls, above the COMA recommendation of 11%.
6. Non-milk extrinsic sugars (NMES) provided on average 16.7% of food energy for boys and 16.4% for girls, which exceeded the COMA recommended average for the population of no more than 11%. The main source of NMES intake was carbonated soft drinks, followed by chocolate confectionery.
7. Average intakes of all vitamins except vitamin A were well above reference nutrient intakes (RNIs). Mean vitamin A intakes were close to or above the RNI in younger children but below the RNI in older groups. Up to a fifth of older girls and 12% of older boys had vitamin A intakes below the lower reference nutrient intake (LRNI) and a fifth of older girls had intakes of riboflavin below the LRNI. The main food sources of vitamin A were vegetables, providing about a quarter of average intake and milk and milk products, providing about a fifth. The main sources of riboflavin were milk and milk products and cereals and cereal products (mainly fortified breakfast cereals), each providing about a third of average intake.
8. Average intakes of most minerals in the youngest group were above the RNI, with the exception of zinc, and the percentage with intakes below the LRNI was small. However, in the older groups, average intakes for a number of minerals were below the RNI: zinc in all groups, potassium, magnesium and calcium in older boys and girls, and iron in older girls. Significant proportions of young people had intakes below the LRNI for some minerals; for zinc for a quarter of the youngest girls, over a third of 11-14 year old girls and 10% of boys and other girls; for potassium for a fifth of 11-14 year old girls, over a third of the oldest girls and up to 15% of older boys; for magnesium for over half the older girls and a quarter of the older boys; and for iron for up to 50% of older girls.
9. Intakes of sodium and chloride, excluding additions during cooking and at table, were both on average about twice the RNI.
10. Biochemical status as assessed by analyses of blood and plasma showed that there was generally good nutritional status in this group for vitamin A and vitamin B₁₂. For magnesium, selenium, copper and vitamin E there was no evidence for a high risk group in any of the populations studied. There was some evidence that there may be individuals with a poor nutritional status for iron, vitamin D, vitamin C, folate, riboflavin, thiamin and for high plasma cholesterol.

- Three percent of boys and 8% of girls aged 4-6 years had blood haemoglobin levels below 11.0g/dl, the WHO limit defining anaemia for children aged 6 months to 6 years.
 - Haemoglobin levels for older children and young people are difficult to interpret due to lack of appropriate reference standards. For older boys and girls mean haemoglobin levels ranged from 13.0g/dl and 12.8g/dl respectively in the 7-10 year group to 14.9g/dl and 13.1g/dl in the 15-18 year group. Thirteen percent of boys and 27% of girls had low serum ferritin levels, which may indicate low iron stores.
 - A significant proportion (13%) of 11 to 18 year olds had poor vitamin D status. There was a strong seasonal variation with higher proportions with low status in the winter months.
 - Eight percent of boys and 11% of girls overall had a plasma cholesterol concentration at or above 5.20mmol/l.
 - Blood lead levels were low and decreased with age; only one participant had a level above 10µg/100ml. Boys from manual social class backgrounds and from households receiving benefits had higher blood levels than did other boys.
11. Although there were some regional differences in diets, there were few significant differences in energy and macronutrient intakes between regions. Intakes of most vitamins and minerals tended to be lower in Scotland, and to a lesser extent in Northern England, than elsewhere. When differences in energy intakes were taken into account, lower intakes in Scotland persisted for vitamin D for boys and girls, iron and manganese for boys and thiamin, folate and pantothenic acid for girls and in Northern England for intakes of zinc for boys and girls and iron and manganese for girls. Young people in Scotland and the North also tended to have lower biochemical status of vitamins such as vitamin C and folate.
12. Indicators of socio-economic status such as receipt of benefits, household income and social class showed that young people, particularly boys, in households of lower socio-economic status had lower intakes of energy, fat, some other macronutrients and most vitamins and minerals. Intakes of vitamin C, calcium, phosphorus, magnesium and iodine for boys and girls, pantothenic acid for boys and riboflavin, niacin, carotene and manganese for girls remained lower when differences in energy intakes were taken into account, indicating differences in the quality of the diet between socio-economic groups for these nutrients. Those in lower socio-economic groups also tended to have lower biochemical status of vitamins such as folate, riboflavin, vitamin D and iron.

13. Mean blood pressure increased significantly with age for both boys and girls. Increased systolic pressure was associated with use of salt at the table for both boys and girls and with use of salt in cooking for girls, with smoking and consumption of alcohol for boys and with body mass index (BMI) in boys and girls.
14. Information collected on the time that young people aged 7 and over spent in moderate or vigorous intensity activities indicates that most young people were inactive. The classification based on the calculated activity score suggests that activity levels were higher, but this is an overestimate. Girls were less active than boys and activity levels fell with increasing age. About a third of 7-14 year old boys and over half the eldest boys failed to meet the HEA recommendation for young people to participate in at least moderate intensity activity for one hour a day. For girls, over half the 7-14 year old group and over two thirds of the eldest group failed to meet this recommendation.
15. About 50% of young people walked to school, about one third travelled by car and about 20% by bus. Between 1% and 6% cycled to school. Boys were significantly more likely to cycle to school than girls. Older children were significantly less likely to travel by car. There was no significant variation in physical activity levels with social class, region, household income or being at school or work. However, boys from families in receipt of benefits had significantly lower activity scores than other boys.
16. Data on physical measurements showed that young people were taller and heavier than those studied in the 1982/3 survey of the Diets of British Schoolchildren. Boys were significantly taller and heavier than girls from the age of 16 years. Height and weight were positively associated with income.