

Table 6. Purchases of fish by different types of household in 1950, 1951 and 1952 (g/household/week)

Household	1950	1951	1952
Containing one male and one female adult and:			
No other	21.1	24.0	23.3
One child	19.8	21.8	21.0
Two children	20.5	23.6	21.8
Three children	19.4	25.6	23.7
Four or more children	18.7	20.9	27.5
Adolescents only	28.9	31.3	29.7
Children and adolescents	30.0	32.3	31.7

number of children increased, indicating that even if the children were assumed to eat no fish the consumption per adult would itself be reduced in the larger families. It seems valid to conclude from such figures that children not only do not eat much fish but that their presence in the family actually tends to discourage adult members from doing so. This is incidentally not a class difference, since childless households are not, in general, of higher income status than those with children. The records suggest that fish was replaced by eggs rather than by meat in such households under the supply conditions then prevailing.

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The Diets of Elderly Women Living Alone

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National Food Survey records reflect the food habits of complete families, but those supplied by informants living alone provide data from which it is possible to assess the food consumption of the individuals concerned. The opportunity was

taken to study, over a period of 12 consecutive months, the collected records of all women over the age of 55 who fell into this category. The total number of women included in the sample was 722, divided into the following age groups:

Age (years)	55-59	60-64	65-69	70-74	75-79	80 and over
No. of records	80	153	167	152	114	56

Since in general declared income tended to diminish with age, the records were analysed both as recorded and after reweighting in such a way as to eliminate income differences.

Food consumption

Consumption of liquid milk declined slightly with age but was at the uniformly high level of between $5\frac{1}{2}$ and 6 pt./head/week for all ages.

Demand for fats was well maintained into the seventies. Margarine consumption exceeded that of butter, but rationing was still affecting the pattern. If allowance was made for declared income, it became clear that the preference for butter increased with age, although absolute consumption declined after 70-74. Consumption of beef and pork declined with age, but that of mutton and bacon and ham showed little variation. In general unrationed meats exhibited a downward trend. Consumption of white and fat fish appeared to be highest in the sixties but then declined.

Old people ate less green vegetables than younger adults, and a few of the informants ate substantial quantities of meat with no vegetables except potatoes, though for fresh legumes (including, for women under 70, a small quantity quick-frozen) and for miscellaneous fresh greens (mainly spinach) there was an increase with age until 70-74. Consumption of cabbage and sprouts was also highest in this group, but for leafy salads the fall began at 65 and for cauliflower even earlier. Consumption of potatoes was highest at 65-69 and then declined somewhat. For root vegetables (mainly carrots) consumption diminished rapidly after 75, but consumption of onions rose with age and was highest among those over 80: presumably onions, mutton and potatoes were all bought for stews. Tomatoes exhibited a steep fairly regular decreasing age-gradient. Consumption of citrus fruit appeared to be fortuitously high among those aged 55-64; the small decline with age in the remaining groups was due to a fall in the consumption of lemons rather than of oranges.

Women over 55 ate much less bread than the national average. There was little age variation; indeed, there was an absolute increase until 70-74. Demand for cakes, pastries and biscuits also remained high; this, however, was explained by a fall in flour purchases from 65-69 onwards, as women apparently ceased to bake for themselves. Those over 65 tended to prefer oatmeal to other breakfast cereals.

Tea consumption was maintained until an advanced age at a level nearly 50% above the national average, and higher than in two-adult households. Cocoa was little used by those over 65, who preferred branded food drinks.

Between 55 and 80 the pattern of the average diet changes continuously, but the rate of change appears to be greatest on approaching 70, the traditional onset of old age.

Energy value and nutrient content of food obtained

The energy value of food obtained for consumption was found to decrease from 2900 Cal./head daily at 55–64 to 2400 Cal. at 80 and over, the decrease being between 8 and 9% of the 60–64 value per decade after 60,—a rate of decrease which is slightly less than that calculated for these age groups from the Food and Agriculture Organization of the United Nations: Committee on Calorie Requirements (1950) recommendations. The daily average for the group was about 200 Cal./head lower than that for elderly couples (one or both over 55) and about 400 Cal. lower than that for couples under 55.

These figures take no account of wastage in the home, whether due to spoilage or cooking loss or to giving human food to domestic pets. If the conventional 10% is applied for wastage, the estimated energy intake at the younger end of the scale would be slightly above the British Medical Association: Committee on Nutrition (1950) recommendation for a woman doing medium work, and at the older end would lie between the B.M.A. recommendations for women doing sedentary and light work. At each age group the estimated intake would be well above the energy requirements recommended by the Food and Agriculture Organization of the United Nations: Committee on Calorie Requirements (1950).

The proportion of energy derived from protein declined slightly with increasing age, but for all age groups was above the 11% recommended by the B.M.A. for adults (other than pregnant and nursing women) not engaged on hard work. The proportions of protein from animal sources were between 53 and 56%, figures similar to those found in the diets of both elderly and younger childless couples.

Fat provided 37–38% of the energy value in the diets of all age groups, compared with the figure of about 35% recommended by the B.M.A. for those engaged on work requiring 'increasing physical effort'. For all groups, about 50% of energy was obtained from carbohydrate.

The remaining nutrients which are customarily evaluated may be mentioned briefly in relation to the B.M.A. recommendations. No allowance has been made in the calculations for wastage. The average for calcium was 1180 mg/head daily, with a regular age gradient from 1270 mg at 55–59 to 1060 at 80 and over: all figures were well above the B.M.A. allowance of 800 mg for adults. The average for iron was 13.8 mg, with a downward trend with increasing age from 15.6 to 11.8 mg, compared with the B.M.A. recommendation of 12 mg for adults of all ages. Vitamin A ranged from 4700 i.u. at 55–59 to 3200 i.u. at 80 and over, with an average of 4200 i.u. compared with the recommended intake of 2500 i.u. There was no clear age gradient for vitamin D, for which the average intake for the whole sample was 140 i.u./head/day. Even after making the conventional allowances for losses of vitamin C on cooking vegetables (Medical Research Council: Accessory Food Factors Committee, 1945) the estimated vitamin C intake for each age group was above the recommended allowance of either 20 or 30 mg daily: the average was 53 mg and the range from 67 mg at 55–59 to 39 mg at 80 and over. The intakes of thiamine, riboflavin and nicotinic acid all decreased with age, the two first in proportion to the decrease in energy value; nicotinic acid decreased slightly more

steeply. For all groups, the diet contained 0.8 mg thiamine/1000 non-fat Cal. (after allowing for assumed 15% destruction of thiamine on cooking) compared with the recommended figure of 0.6 mg, and 0.7 mg riboflavin/1000 Cal. compared with the recommended figure of 0.6 mg. On the average, the diet contained just over 5 mg of nicotinic acid per 1000 Cal., compared with the recommended figure of 4 mg (the actual figures were 5.7 mg at 55-59, falling to 4.9 at 75-79 and rising again to 5.1 at 80 and over). Thus, for all groups the diets were satisfactory when compared with the B.M.A. recommendations for thiamine, riboflavin and nicotinic acid.

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Food and Family Size

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Since 1950 the National Food Survey has provided analyses of the diets of two-adult households with varying numbers of children, but the childless households differed from the remainder in important respects. They included a high proportion of elderly people, most of whom were in social class D (Ministry of Food: National Food Survey Committee, 1954), whereas the couples with children consisted almost entirely of younger people, very few of whom were in class D. This meant that the average social class, measured by the income of the head of household, was lower in the childless group than in the others. An analysis showed that this discrepancy could be removed by excluding households containing a person aged 55 or over from the childless group. Such persons were so rare in the groups with children that they could be ignored. The sample limited in this way was nearly homogeneous in adult age and in social-class distribution, and each family-size group had about the same average net family income. It was also found that size of family did not materially affect the number of meals eaten away from home, or the uptake of school meals and school milk by those entitled to them, which were respectively about 44 and 78% of entitlement. It has therefore been possible to make a direct comparison of the domestic food consumption and expenditure of the different family-size groups, and to attribute the differences to the number of children.

The sample comprised 4081 households containing one man and one woman both aged between 21 and 55 years, with no other adult, and either without family