

## ASSESSMENT OF THE CONSUMPTION FREQUENCY OF PRODUCTS WITH DIFFERENT FAT CONTENT AMONG YOUTH

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The aim of the study was to assess the consumption frequency of selected groups of products with different fat content among youth and students. The 434 people from Wielkopolska region were investigated. High consumption frequency of poultry as well as milk and cottage cheese with lowered fat content was positive nutritional behaviour of questionnaires. Girls considerably more often than boys paid attention to fat content in everyday diet, what was confirmed by Spearman correlation ranks.

### INTRODUCTION

In economically developed countries one of the major problems is actually excessive high caloric food consumption, and especially fats, particularly those of animal origin. Such type of nutrition leads to intensification of civilization metabolic diseases, to which among others arteriosclerosis, hypertension, diabetes, tumours, and obesity can be included. These diseases make up at present main cause of deceases having occupied place of infectious diseases, which up to now decimated societies [Gawęcki & Czarnocińska, 1997; Ziemiański, 1998 a, b; Duda, 2000].

Nutritional habits and customs of average Pole are mostly conditioned by long standing tradition, unfortunately often they are not favourable to health and optimal psycho-physical development. Therefore, in accordance with FAO/WHO recommendations, one should aim to change it as fast as possible, and especially to decrease at least about 1/3 of fat consumption in general as well as that of saturated fatty acids and cholesterol. Current standards of fat consumption for youth and adults became determined on 30% level of twenty four-hour energetic demand, and for older people even on 25% level, according to lowering basal metabolic rate and decrease of physical effort with age [Ziemiański, 1998 a; Duda, 2000].

Nowadays fortunately, people are more and more conscious of connections existing among consumed food and state of health. The necessity of limiting, from wholesome regards, consumption of food with high fat content is also higher and higher in Poland, and consumers' interest in low or fatless products is getting better from year to year, similarly as it happens in many developed countries, where the quantity and assortment of such products widen constantly. Two of three adult citizens choose these products, and consumers are still interested in further extension of their assortment in these countries. Positive influence of these products on health can be marked only

when these products would be systematically consumed and accepted in significant quantities [Imbs, 1996; Matuszewska, 1997; Porter *et al.*, 1998; Tuorila, 1987].

Special attention should be paid to proper nutrition of children and youth, on which a future model of society consumption will depend, and thus the health of the next generation. Undertaking investigations concerning the degree of youth interest in low-fat food as well as examining current consumption frequency of selected products with different fat content, which was also the aim of the study, seems, therefore to be right.

### MATERIAL AND METHODS

Method of direct interview with the use of questionnaire was applied in the study. Questions concerned consumption frequencies of selected products, broadly accessible on the market in assortments with different fat content. They were: milk and milk products, table spreads, meat and fish, mayonnaise as well as milk additives to meals and drinks. Average frequency of their consumption was defined with the help of 3-gradual scale containing such descriptions of consumption frequency as: "never" (1), "sometimes" (2) and "often" (3). Questionnaires were also asked about possible limiting of food components like fat, sugar and salt, significant in everyday diet from the point of view of the civilization diseases prophylaxis.

The investigations were carried out at the turn of the 2000 and 2001 year on the group of 434 randomly selected pupils, from primary schools, secondary schools as well as students living in the Wielkopolska region. Questionnaires were divided into three groups: up to 15 years old (30%), 16–19 years old (36%) and 20–25 years old (34%). Women made up 60% of the respondents.

Statistical analysis defining dependence between questionnaires' sex and consumption frequency of the examined products was conducted with Spearman correla-

tion ranks coefficient and verification of its significance – with t-Student’ test. Dependence between the age of youth and selection of products was analysed with “Chi-square” test.

## RESULTS AND DISCUSSION

The most limited by the largest group of questionnaires component in diet was fat (55%). Only 34% of respondents paid attention to the quantity decrease of sugar in everyday diet, and less to the quantity of the consumed salt (23%). Quite considerable percentage of those investigated did not at all pay attention to the quantity of these components in food (33%). Over twice more women (70%) than men (30%) tried to limit both fat and sugar in their diets (Table 1).

TABLE 1. Reduction of fat, sugar and salt consumption by youth (in percentage).

| Reduced food component       | Total population |    | Girls |    | Boys |    |
|------------------------------|------------------|----|-------|----|------|----|
|                              | N                | %  | N     | %  | N    | %  |
| Fat                          | 238              | 55 | 166   | 70 | 72   | 30 |
| Sugar                        | 148              | 34 | 104   | 70 | 44   | 30 |
| Salt                         | 100              | 23 | 62    | 62 | 38   | 38 |
| No limits any food component | 145              | 33 | 67    | 46 | 78   | 54 |

N – number of young people

The whole population most often consumed low-fat milk and cottage cheese (products popularly named in dairy industry “half-fat”). The average consumption frequency of those products reached 1.96 and 2.12, respectively (Figures 1 and 2). Almost all questionnaires hardly ever paid attention to the fat level of these products. It should be

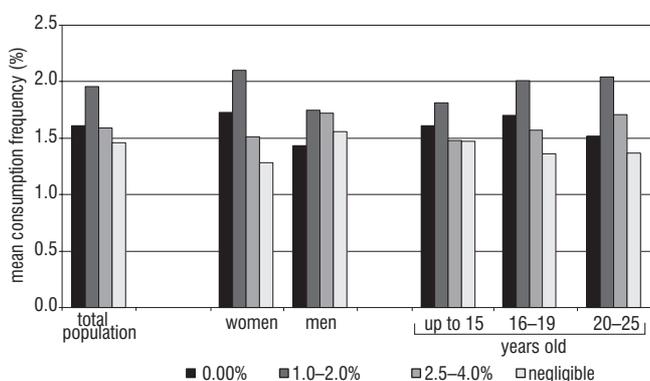


FIGURE 1. Mean frequency consumption of milk with differentiated fat content depending on sex and age of youth.

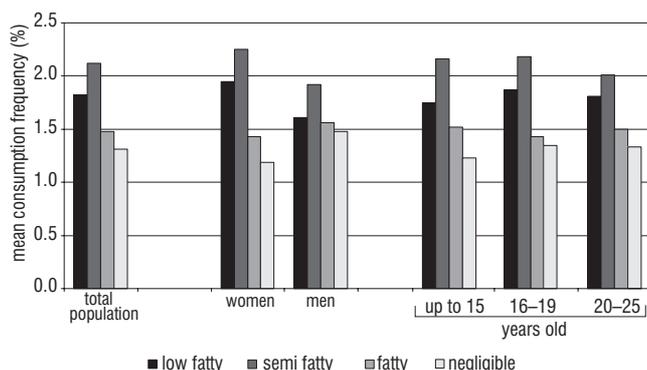


FIGURE 2. Mean frequency consumption of cottage cheese with differentiated fat content depending on sex and age of youth.

outlined that girls more often than boys aimed at maximal reduction of fat in the diet; they even selected milk and lean cottage cheese (average frequency: 1.73 and 1.43 as well as 1.95 and 1.61, respectively) – Figures 1 and 2. Correlation coefficient of Spearman ranks among consumption frequency ranks of the analysed assortments of milk and cottage cheese for girls and boys reached 0.400. Statistically significant difference among these rows was confirmed by the t-Student’s test:  $t_{cal}=0.62 < t_{0.05}=2.77$ . The age of the youth was not important in the selection of both milk ( $\chi^2_{cal}=0.08 < \chi^2_{tab}=12.59$ ) as well as cheese ( $\chi^2=0.04 < \chi^2=12.59$ ).

In the case of milk fermented drinks (except for yoghurt), total of the population often consumed products with different fat content, without paying special attention to its quantity (1.79) – Figure 3. It is probably connected with smaller distinction of assortments’ possibilities and seldom consumption of these products. Average selection frequency of products containing a limited percentage of fat accounted for 1.66 and that of the fatless products only 1.55. Also in this case women showed, in statistically significant way, more care of fat limiting in everyday diet ( $r_s=0.600$ ,  $t_{cal}=1.06 < t_{0.05}=2.77$ ).

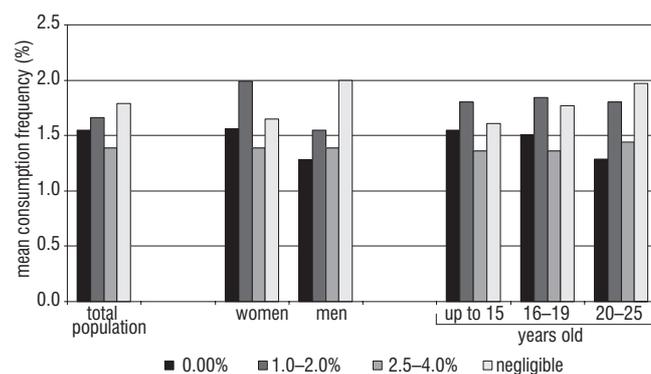


FIGURE 3. Mean frequency consumption of milk drinks with differentiated fat content depending on sex and age of youth.

Investigations of Solheim and Lawless [1996] and Babicz-Zielińska [1999] also showed that women consumed products with lowered fat content or even fatless products more often.

Then analysing the kind of consumed yoghurts and mayonnaise, it was found that the total of the examined youth preferred it in traditional, “fat” form (1.84 and 1.92, respectively) – Figure 4. Girls, also in this case, more often than boys consumed low-fat versions and more often paid attention to the fat content in these products. This difference was statistically significant ( $r_s=0.500$ ,  $t_{cal}=0.58 < t_{0.05}=12.71$ ).

Milk (2.52) as well as low-fat cream (1.84) were the most popular additives to meals and drinks. Very rare questionnaires were using cream with 30% fat content (1.18).

Traditional butter (2.12) yet, then table spread margarine (1.91) and mixture of butter with margarine (1.84) were the most popular among table spreads. Low-calorie margarine was consumed even more rarely (1.71) – Figure 5. Table spreads selection was statistically independent of sex ( $r_s=0.943$ ,  $t_{cal}=5.43 > t_{0.05}=2.78$ ) and age of youth ( $\chi^2_{cal}=0.10 < \chi^2_{tab}=18.31$ ).

Babicz-Zielińska and Łysiak-Szydłowska [1997] as well as Flaczyk and Korczak [1998] obtained approximate results

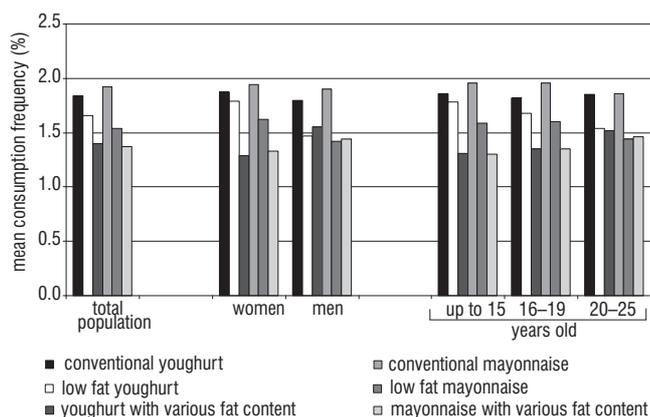


FIGURE 4. Mean frequency consumption of yoghurts and mayonnaise with differentiated fat content depending on sex and age of youth.

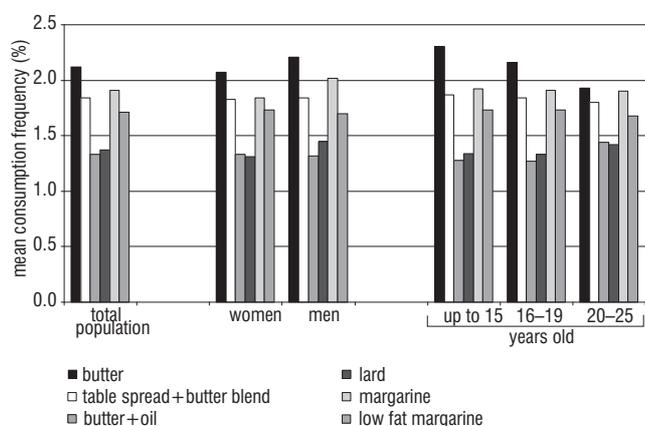


FIGURE 5. Mean frequency consumption of table fats depending on sex and age of youth.

for academical youth as well as for occupants of Poznań. Academical youth from Trójmiasto showed the highest preferences of margarine, butter and „Masmix”, however consumers from Poznań – in the face of butter, margarines table spread margarine and “Masmix”. Also in the study of Babicz-Zielińska *et al.* [2000] it was found that most often consumed fats among students were butter and margarine. In this context, it is probably possible to talk about superiority of butter gustatory values as well as tradition and habit above wholesome priorities.

Most often consumed kind of meat, independently of questionnaires' age and sex, turned out to be poultry (2.44), and then pork (2.03) as well as beef (1.98) and fish (1.92) – Figure 6. It confirms recently changing structure of meat consumption in Poland. It is showed by a decrease in the consumption of traditionally preferred in the Polish kitchen pig meat with advantage to poultry, which contains considerably less fat and is especially beneficial from the nutritional prophylaxis point of view. This change should be therefore recognised as unusually positive, especially that it concerns youth preferences. The highest chicken meat consumption frequency was also shown in many other studies [Szczepaniak *et al.*, 2001; Babicz-Zielińska, 1998].

Selection of food products with different fat content, despite declarations about limiting its quantity in everyday diet by the majority of the examined youth population, was probably more often dictated by habits as well as by acce-

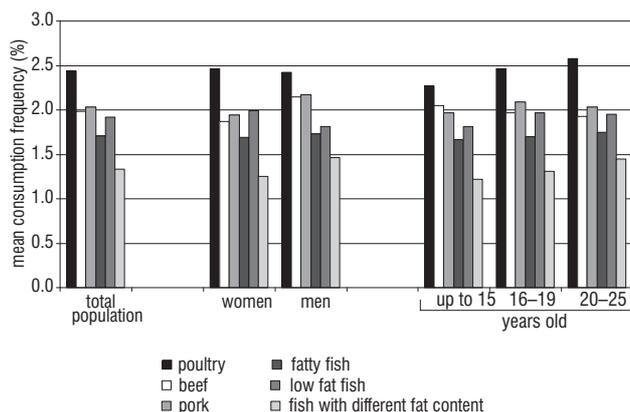


FIGURE 6. Mean frequency consumption of different kinds of meat depending on sex and age of youth.

ssibility and maybe ignorance of wide assortment of products currently offered on the market.

The young people should be conscious of reducing fat content in everyday diet, but this should be supported by permanent nutritional education conducted at all school levels. It is also known that food is often treated in a pleasure category, what can certainly make difficulties in changing of many of nutritional habits connected with the fat content in food, unfavourable from health point of view. Fat being a flavour carrier considerably improves sensory quality of many products, which in the case of low-fat or fatless products often just do not fulfil consumers' expectations. One should then aim to improve low-fat food production not to show considerable sensory differences in comparison to traditional food.

## CONCLUSIONS

High frequency consumption of poultry as well as milk and cottage cheese with lowered fat content should be considered as a positive nutritional behaviour of total population.

Girls considerably more often than boys showed pro healthy behaviours selecting low or fatless milk, milk fermented drinks, yoghurt and mayonnaise. Almost always they paid attention to the level of fat contained in the consumed products.

Increasing interest in this type of products will be a proof of larger and larger understanding by youth of the influence of proper nutrition on their health state in this as well as adult period of life.

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## OCENA CZĘSTOTLIWOŚCI SPOŻYCIA PRODUKTÓW O ZRÓŻNICOWANEJ ZAWARTOŚCI TŁUSZCZU WŚRÓD MŁODZIEŻY

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Celem pracy była ocena częstotliwości spożycia wybranych grup produktów spożywczych o zróżnicowanej zawartości tłuszczu przez młodzież szkolną i studencką. Badaniami ankietowymi objęto 434 osoby z terenu Wielkopolski. Do pozytywnych zachowań żywieniowych ankietowanych zaliczono wysoką częstotliwość spożycia drobiu (rys. 6) oraz mleka i twarogu (rys. 1 i 2) o obniżonej zawartości tłuszczu. Dziewczęta zdecydowanie częściej niż chłopcy zwracały uwagę na zawartość tłuszczu w codziennej diecie, co potwierdziła przeprowadzona korelacja rang Spearmana. Wskazana byłaby systematyczna edukacja żywieniowa wpływająca na bardziej świadomy i zgodny z zasadami racjonalnego żywienia wybór żywności konsumowanej przez młodzież.