

Nutrition Peculiarities from St. Petersburg Residents

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Abstract

The results of the standardized sociological telephone interview using the CATI system of 1200 people of the population of St. Petersburg under 18 years and older with the task to characterize the regime and diet are presented. For 45.6% of Petersburg residents the problem of overweight is relevant, of which 24.9% suffer from overweight, 20.7% - fat. The problem of hypotrophy is not significant, its presence is typical for 3.2% of respondents. At men, according to their estimates, excess body weight comes to light by 1.6 times more often than at women (31.2% against 20.0%), women face a problem of obesity slightly more often (against 17.1% men have 23.5%). Women are also somewhat more characterized by hypotrophy (4.9% versus 0.9%). Among young people (74.5%), there is a large proportion of persons for whom the BMI meets the criteria of the norm. In the group of socially active inhabitants in mature age, 28.6% experience overweight and 18.7% are obese, about half (47.3%) of those with overweight at this age. 63.6% of pensioners suffer from overweight or obesity. For them this problem is 3.5 times more relevant than for young people, and 1.3 times more relevant than for socially active in mature age. The optimal diet regime is observed - 67.0% of Petersburg residents, of whom 42.3% eat three times a day, and 24.7% - four. The highest frequency of meals in the morning is observed among pensioners - 85.7% breakfast every day, which is 1.3 times more than in other groups by age. The use of vitamins in the form of tablets, solutions and syrup is not widespread among citizens: often (every month) they are consumed only by one in five, by courses 2 times a year - one in four and exclusively during illness - only one in six Petersburg residents. Youth are the leader in monthly consumption of products enriched with biologically active food components. Vegetables and fruits are present almost daily in the diet of Petersburg residents. The second place is meat and fish products (67.8%) and the third place is milk and dairy products. Fat and sweet food is consumed daily by 35.9% of respondents. Pasta, cereals, bread and potatoes most (67.2%) consume often (3 - 4 times a week) or daily. The absolute majority (75.3%) of citizens believe that unsustainable nutrition is harmful and can cause severe diseases. Women, young people and those with higher education are somewhat more likely to be convinced.

Keywords: Nutrition Assessment; Population; Body Mass Index; Obesity; Food Consumption; Age; Sex; Income; Education

Introduction

Russia has established a legal framework for sanitary and epidemiological protection of food quality and safety, which provides for measures to comply with sanitary and epidemiological requirements in the production, storage, transportation, processing and sale of food of high nutritional value and food safety is a measure to protect the life and health of the population.

The ecological and hygienic concept of human nutrition quality and safety is aimed both at protecting the human environment, its "purity" and at normalizing the processes of its life activity, which are closely related to the environment, making up in nature a unified and interconnected ecological system.

The State policy of the Russian Federation in the field of healthy nutrition of the population is a set of measures aimed at creating conditions that ensure the satisfaction of the needs of different groups of the population for healthy nutrition, taking into account their traditions, habits and economic situation [1-5,9,10].

Most of the constituent entities of the Russian Federation have established programmes aimed at improving the nutritional structure of the population of the region, as well as the organization of health-improving nutrition centres. Health centres are implementing a programme of State nutrition monitoring based on special studies of individual nutrition.

Materials and Methods

Sociological study of the regime and diet of St. Petersburg residents was carried out by the St. Petersburg Information and Analytical Center together with the dietary service of the city [6]. Method of data collection: standardized telephone interview using SATI system. Respondents found data on growth, body weight, lifestyle, education, income, frequency of salt consumption, products enriched with vitamins and biologically active substances. The diet regimen was analyzed by the frequency of the meal during the day, the regularity of the meal at breakfast, the time the respondent took the bulk of the meal during the day, and the time of the last meal before bed. According to the state statistics bodies (Petrostat), the daily volume of consumption of various groups of products by the population of St. Petersburg was analyzed.

Sample: population of full form? (SPb) 18 years and older, 1200 people (674 women, 526 men), quota (by sex and age). Young people: men and women from 18 to 29 years old. Socially active in mature age: men from 30 to 60 years of age and women from 30 to 55 years of age. Pensioners: men aged 60 and over, women aged 55 and over. The eating regimen and nutritional composition during the day among different socio-demographic groups of the population were analysed.

Analysis was done using the maximum sampling error at 95% is $\pm 2.9\%$ and using the STATISTIKA software complex.

Results and Discussions

Body mass index

According to estimates of their height and body weight, which were provided by interviewed residents of St. Petersburg, almost half (45.6%) of them have deviations of body mass index from normal in the direction of weight increase. The increase in body mass index from the norms occurs with the increase in the age of respondents. At men, according to their estimates, excess body weight comes to light by 1.6 times more often than at women (31.2% against 20.0%), women face a problem of obesity slightly more often (against 17.1% men have 23.5%). Women are also somewhat more characterized by hypotrophy (4.9% versus 0.9%). Among young people (74.5%), there are a large proportion of persons for whom the BMI meets the criteria of the norms. In the group of socially active inhabitants in mature age, 28.6% experience overweight and 18.7% are obese, about half (47.3%) of those with overweight at this age. Among pensioners overweight in 28.1%, and obesity in - 35.5%. The problem of hypotrophy is not significant, its presence is typical for 3.2% of respondents.

The correct nutrition regime violates a large part of the population (according to some indicators up to half). More than half of the respondents (67.0%) are oriented to three to four single meals. Every day 72.2% of Petersburg residents start their day with breakfast, a quarter (27.8%) either has irregular breakfast or no breakfast at all. Not everyone has the opportunity to have lunch and dinner at a certain time. A certain lunch time is observed by 52.7% and dinner time by 45.2%. The bulk of lunch-time food consumes one in two (48.7%), and one in four (23.2%) does so at dinner. More than half of the respondents (65.8%) have dinner in 2 hours or more before bed, which corresponds to the idea of the right approach to nutrition.

Level of education in BMI

Analysis of the way of life and nutrition of respondents showed that in persons with higher education (56.9%) BMI is 1.4 times more common than among respondents with lower level of education (40.4%). The problem of obesity and excess body weight is most relevant for persons without higher education.

Among those who rate their physical activity as sufficient, respondents with normal body weight are 57.3% (versus 23.1% with excess body weight and 17.1% with obesity).

To a high degree of commitment to rational nutrition.

And the lack of excess body weight was indicated by the majority (62.6%) of respondents with normal weight and only 10.8% obese persons.

Physical activity in respect to BMI

There are 37.1% of individuals rate their commitment to rational nutrition and therefore lack of excess body weight as partial, slightly higher, compared to those with excess body weight or obesity (29.6% and 31.8%, respectively). The degree of commitment to rational nutrition as low is estimated by 28.9% of respondents with normal body weight. The proportion of people with obesity in this group is significantly higher (44.2%). Physical activity and commitment to rational nutrition contribute to maintaining normal body weight, which has a beneficial impact on human health.

Diet formulation and BMI

The correct diet regime is important for human health, which provides for the number of meals during the day; The distribution of the daily diet among the individual meals; Time of meals and intervals between them; Human behaviour during eating. Recommendations on optimal diet for adults [3,7,8] - meals 3 - 4 times a day are observed - 67,0% of Petersburg citizens, 42,3% of them eat three times a day, and 24,7% - four. One in three (33.3%) in their eating regime deviate from the recommended norms, taking food 2 times a day and less often (21.7%), 5 times a day and more often (11.3%).

In all three age groups, more than 60% adhere to the recommended eating regimen by taking food three to four times a day. Among pensioners (13.8%), the lowest proportion of those who eat twice a 2 or less. St. Petersburg citizens in socially active mature age of such a diet regime adhere more often than young people (27.8% against 20.0%), forced to adjust the diet regime taking into account the peculiarities of the labour schedule. Men (27.6%) are 1.6 times more likely than women (17.2%) to be limited to twice eating during the day. Women are more likely to eat frequently (4 - 5 times).

Income level and BMI

The frequency and regularity of meals during the day is not related to the level of material income or part of the family budget that is spent on food.

The study revealed the following features of the diet of St. Petersburg citizens.

Half (49.3%) of citizens consume food without salt or with little; As a rule, these are Petersburg residents with higher education. Salty food is more likely to be chosen by men than by women (18.1% versus 13.6%). Salt intake increases with age as a whole.

Iodized salt among citizens is not popular.

The presence of vitamins in their diet (both in the form of medicines and in the composition of food products) citizens are treated carelessly: one in three declared that never consumes them. The reception of these products with some frequency in daily life is more common for women. Factors of age, income and education also have an impact here.

Daily consumption of different product groups (According to the state statistics bodies) is presented in table 1.

Varieties of daily food products and BMI

The absolute majority of Petersburg residents stated that vegetables and fruits are present almost daily in their diet, but their consumption is insufficient (vegetables - 1.5% lower than the minimum recommended volume). This is consistent with the pessimistic picture of reviews of consumption of foods enriched with vitamins and other biologically active food components.

Insufficient consumption volumes are typical for bread products and potatoes (below the minimum recommended volumes by 21.3% and 40.8% respectively), excess - for sugar and confectionery products (10% higher than the maximum recommended volume), which is a negative factor in the formation of a balanced diet of citizens.

Among women, there is more daily consumption of fats and sweets, but not much: 38.9% against 32.1%. Same picture for milk and dairy products: 58.6% versus 49.6%, slightly larger gap.

In daily consumption of vegetables and fruits: 80.1% against 63.5%. In turn, women are less likely than men to use pasta, cereals, bread and potatoes in their daily diet (41.2% versus 55.7%).

Pensioners are less likely than Petersburg residents in other age groups to consume fats and sweets.

Young people in the first place on weekly consumption of vegetables and fruits and less often than others refuse to eat dairy products, as well as pasta, cereals, bread and potatoes.

The leader in daily consumption of pasta, cereals, bread and potatoes is pensioners, which is related to their income level.

Groups of products	Actual consumption Actual consumption in Europe*	Recommended consumption (Minimum level)	Recommended consumption (Maximum level)	Actual consumption in Europe*
Grain products	204,4	259,6	289,9	-
Potatoes	153,6	259,6	273,2	-
Vegetables and melon	311,5	327,9	382,5	335,1
Fruit and berries	253,6	245,9	273,2	251,2
Meat and meat products	224,9	191,3	204,9	209,3
Fish and fish products	51,9	49,2	60,1	60,0

Eggs	4,6	5	5	12,7
Milk and dairy products	894,3	874,3	929,0	601,4
Sugar and confectionery	84,2	65,6	76,5	106,3
Fats	25,4	27,3	32,8	39,0

Table 1: Daily consumption of different product groups (According to the state statistics bodies).

*Sources: [12,13] Food and Agriculture Organization of the United Nations, FAOSTAT, 2009; WHO Report “Nutrition and Health in Europe: A New Framework for Action,” 2005.

Consumption of fats and sweets is minimal in low-income population groups. In the weekly diet, fats and sweets are more common in high-income Petersburg residents (45% versus 30.5% - 35.9%). Also in high-income population groups less often refuse to consume dairy products (9.7% against 15.7% - 16.7%). Fats and sweets, as well as pasta, cereals, bread and potatoes, are more often present in the daily diet of persons without higher education, and in the weekly diet - in Petersburg residents with higher education, who are less likely to exclude dairy products, vegetables and fruits from nutrition.

The absolute majority (75.3%) of citizens believe that unsustainable nutrition is harmful and can cause severe diseases. Women, young people and those with higher education are somewhat more likely to be convinced.

Conclusion

More women, young people and people with higher education adhere to a healthy diet and quality of nutrition. Deviations from the principles of a healthy diet lead Petersburgers to alimentary diseases, mainly in the form of overweight and obesity.

Bibliography

1. Order of the Government of the Russian Federation No. 1364-r of 29 June 2016 “Strategy for improving the quality of food products in the Russian Federation until 2030”.
2. Order of the Government of the Russian Federation No. 1873-r of 25 October 2010 “On the Foundations of State Policy in the Field of Healthy Nutrition of the Population of the Russian Federation for the Period up to 2020”.
3. Methodological recommendations MP 2.3.1.2432-08 “Norms of Physiological Requirements for Energy and Food Substances for Different Population Groups of the Russian Federation” dated December 18, 2008.
4. Order of the Ministry of Health No. 539n dated 02.08.2010 “On approval of recommendations on rational standards of food consumption, meeting modern requirements of healthy nutrition”.
5. Nutricology -2040: Horizons of Science through the Eyes of Scientists/Foundation “Center for Strategic Development” North-West. SPb., (2017): 105.
6. Monitoring of the prevalence of healthy lifestyle according to surveys: regime and diet of St. Petersburg residents. Research opinion. Committee on Informatization and Communications. St. Petersburg (2014).
7. Baranovsky Yu A. Dietology. 5th edition, SPb: “Peter Publishing House” (2017): 1104.

8. Bessonov VV. *Nutritsiologiya-2040. Horizons of Science through the Eyes of Scientists*/Edited by V.V. Besonov VN. Knyagin, M.S. Lipetskaya. SPb: Foundation "Center for Strategic Development" North-West (2017): 105.
9. Dotsenko VA., *et al.* "Quality and safety of products from GMO in the nutrition of the population". *Safety of Life* 12 (2013): 6-11.
10. Dotsenko VA., *et al.* "Food quality and safety". *Life Safety* 2 (2019): 9-21.
11. Tel LZ. *Nutricology*. Tel L.Z., Dalenov E.D., Abdullayeva A.A., Koman I.E. SPb.: Publishing house "Gaotar-Med, (2018): 544.
12. Food and Agriculture Organization of the United Nations, FAOSTAT (2009).
13. WHO Report "Nutrition and Health in Europe: A New Framework for Action" (2005).

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