

SURVEY OF THE PUBLIC OPINION OF THE CITIZENS OF KICEVO FOR CONSUMPTION OF FOOD RICH IN FATS AND OIL¹

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ABSTRACT

Consumption of food rich in fats and oils is of great importance for the health of people. The connection between food rich in fats and oils, and certain diseases is demonstrated in numerous scientific researches. The aim of this paper is to evaluate the public opinion of the citizens of Kichevo for the consumption of food rich in fats and oils. A survey of 163 respondents of different gender, age and education is conducted. The results of the given 22 questions are statistically elaborated and they give us a clear image that citizens are not sufficiently informed about the impact of food on health and about which fats are useful and which of them are insalubrious. They need to be educated about the need for daily intake of unsaturated fatty acids. Also, there is a need for the citizens to be educated for the impact of food on certain diseases, such as atherosclerosis, diabetes, obesity and cancer.

Key words: food, fats, oils, health, diseases

INTRODUCTION

The need for quality human diet dates back to ancient times. Fats and oils are necessary ingredients for proper nutrition because they are a major source of energy, liposoluble vitamins, essential fatty acids and etc. [1].

¹ review scientific paper

The functional food ingredients are of particular importance, because their aim is to improve the general health of the human body. Often, the food that is consumed is considered deficient in certain functional ingredients. Because of that, some products are enriched with certain additives, so their nutritional properties would be improved [2]. Fats and oils are necessary raw materials for the production of products such as margarine, butter, mayonnaise and other functional fatty spreads. Vegetable oils are one of the most valuable products in the world trade. The sunflower is the most important raw material in the world for making oils [3]. According to our regulations, the margarine is a product made during a technological process in the form of solid or liquid emulsion of the water-in-oil type. Margarine which is released for sale should be classified in accordance with the content of the fat phase, as follows: margarine (containing at least 80% fat), margarine with reduced fat content (containing not less than 60% fat and not more than 62% fat), light or semi-fat margarine (containing not less than 39% fats and not more than 41 fat) and margarine (containing not less than 10% fat) [4]. Nowadays, trends are moving towards increasing production of margarine, where there is a small production of full-fat products, and there is a large production of margarines with lower content of fats due to the low price and lower amount of calories compared to the full-fat margarines [5]. Mayonnaise is a product in a form of emulsion of the oil-in-water type, made from vegetable oil, egg yolks and other additives [4-5]. Fat spreads are food products in the form of emulsions of the water-in-oil type, but they can be produced without water. The content of the fat phase in the spreads may vary from 10 to 90%. Thanks to their chemical composition, these spreads are very suitable for input of functional ingredients. They can be consumed every day and they are for all categories of consumers [2]. Fatty acids are of huge importance for human health, but also they are very important for the preparation of products which may be considered as functional food [6]. Numerous studies of human medicine have shown that the quality of the consumed oils is not important for the cardiovascular diseases in the human diet, but what is important is their composition, especially the presence of ω -3 and ω -6 fatty acids. According to the medical literature, essential fatty acids are necessary for growth, development and health of the organism [7]. For people, the most important polyunsaturated fatty acid is the α -linolenic acid (18:3 ω -3) and its two major metabolites EPA (20:5 ω -3) and DHA (22:6 ω -3). α -linolenic acid is found in the soybean oil (about 6-10%), then in the turnips oil (about 10%), but mostly it is found in the linseed oil (50%) [1,8]. In the sunflower oil, as one of the most used oils in Kichevo, there is only 0, 1-0, 2% α -linolenic acid, and the most common is linoleic acid (C18:2) with 62-70 % [2].

MATERIALS AND METHODS

During this research, a survey of 163 citizens of Kichevo was conducted electronically. The structural representation of the respondents is determined by age, sex and education. The survey was conducted over three months (September, October and November) in 2014.

The questionnaire contains 22 questions. The research was conducted in order to find out how many citizens of Kichevo are informed about how food, which is rich in fats and oils, through everyday consumption affects their health. The results that are statistically processed can anticipate the additional steps which will be necessary to be undertaken.

RESULTS AND DISCUSION

Table 1. Structure of representation of the respondents by age, gender and education

Age (%)			
15-25 years	25-35 years	35-45 years	Upper 45 years
37	30	30	3
Gender (%)			
Male		Female	
33		67	
Education (%)			
Primary	Secondary		Higher education
0	36		64

From Table 1, we can notice that the respondents aged 15-25 years represent 37%, the respondents who are aged 25-35 represent 30%, while the rest represent 3%. From the results, it can be concluded that the number of the female population is bigger (67%), while only 33% of the male population is interviewed. When it comes to the level of education of the respondents, it can be noticed that there are no respondents with primary education (0%), there are 36% respondents with secondary education, while there is the highest percentage of respondents with higher education, that is to say 64%.

When it comes to the question ‘Does food affect our health?’, most of the respondents (62%) said that food largely affects their health, and 29% of them said that food affects their health, but only a little (Figure 1). The percentage of the respondents who think that food does not affect their

health is very small (4%), and 5% of the respondents had no opinion about that question.

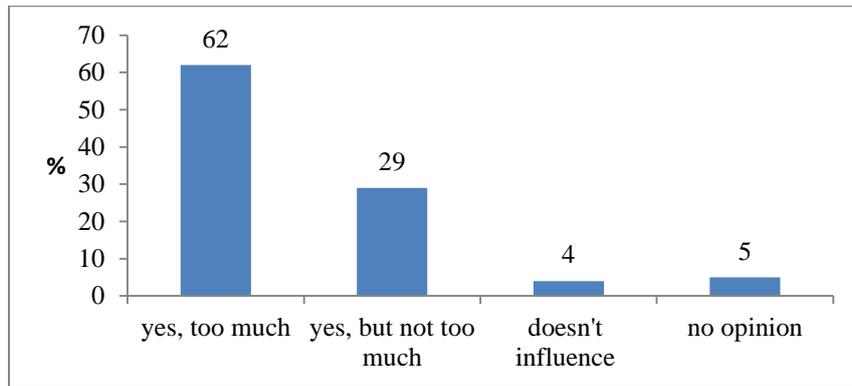


Figure 1: Representation of respondents who answered the question about whether food affects their health

From the Figure 2, it can be seen that the number of the respondents who use food rich in fats and oils is approximate to the number of respondents who do not use food rich in fats and oils, but there is a high percentage (25%) of those who do not know about it, or who do not pay attention to it.

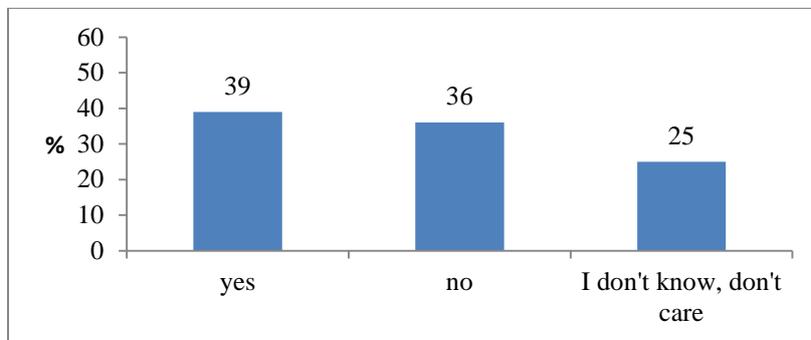


Figure 2: Respondents who use food rich in fats and oils in their diet

Much of the respondents (46%) only sometimes take care of what kind of fats and oils they use in their food, but there are a disturbingly high percentage of respondents (19%) who do not care at all about the fats and oils that they use (Figure 3).

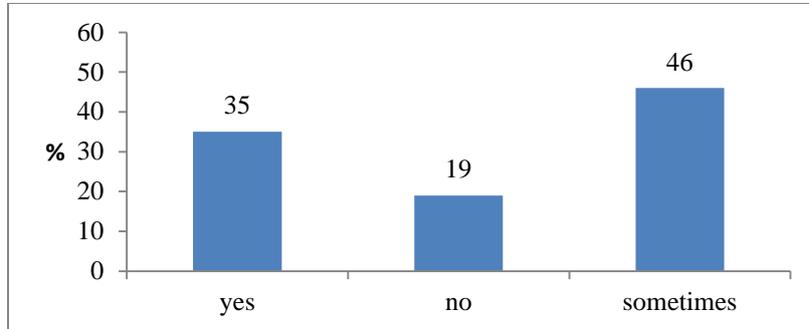


Figure 3: Results obtained on the question if respondents watch out for the type of fats and oils that they use

One of the goals of this survey was to see how many of the respondents know about which fats are not good to be used in the daily diet. The results of the answers to this question are presented in Figure 4.

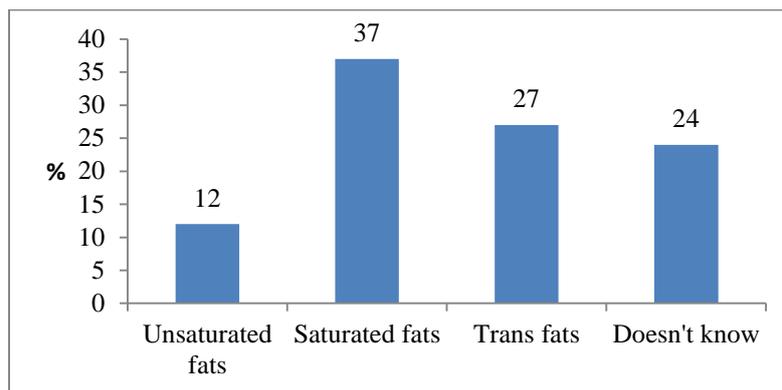


Figure 4: Respondents who know which fats are not good to be used in the daily diet

Unsaturated fats are recommended in the daily diet, but 12% of the respondents in Kichevo do not know about their beneficial effect on health, but they consider that the unsaturated fats should not be used. It can be noticed that many of them are well-informed about the use of the saturated fats and trans fats. A lot of the people in Kichevo (24%) should be educated about fats and about what kind of fats they should use.

When it comes to the question 'Do you think that you take the necessary fatty acids in the daily diet?', the majority of the citizens responded that they take the necessary fatty acids in the daily diet, while the percentage of those who do not take the necessary daily acids is 23%. A lot of the

respondents need to be educated, since 35% of them said that they do not know about that, or they do not take care about that.

Because of the fact that the margarine, mayonnaise and spreads are products which contain a huge amount of fats, we wanted to know whether the citizens use these products in their diet. The respondents rarely use these products. There is an evident similarity in the results that are obtained from the three questions (Figure 5).

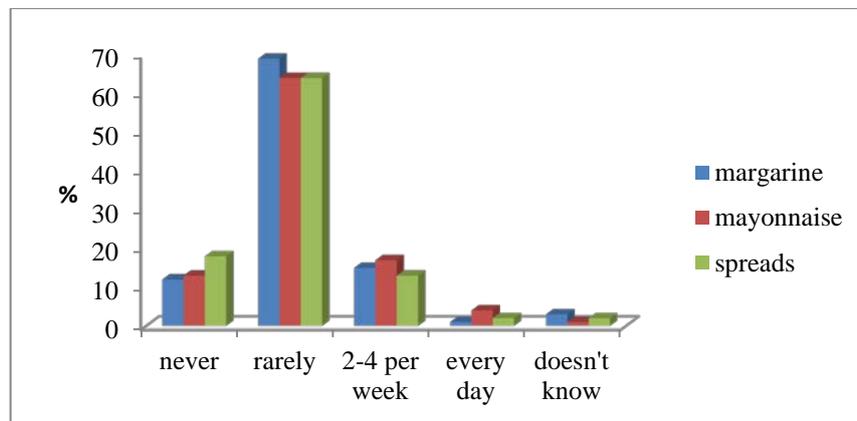


Figure 5: Results obtained on the question whether and how often they use margarine, mayonnaise or spreads in their diet?

A great number of respondents (73%) think that the use of the margarine is harmful to our health, while only a small number of the respondents (9%) consider that the margarine does not affect their health. 18% of the respondents need to be educated about the impact of the margarine because they said that they do not know the answer of that question.

51% of the respondents rarely use margarine for frying and making sauces, 43% never use the margarine, while 5% of them use the margarine “2-4 times a week”. Very few of the respondents (1%) responded that they do not pay attention to that, while nobody said that they use the margarine “every day”, which shows that the respondents are informed about this question.

A great number of respondents (91%) are informed that the oil which is already used for frying is not safe for re-usage. They are right, because there may be an oxidation of the oil with the occurrence of toxic substances that would affect negatively their health. Only a small number of them consider that the oil can be usable (4%), and 5% of the respondents do not know about the safety of the oil when it is used like this.

The opinion of the citizens about the connection between the fats and oils with some diseases, such as atherosclerosis, diabetes, obesity and cancer, is of great importance (Figure 6).

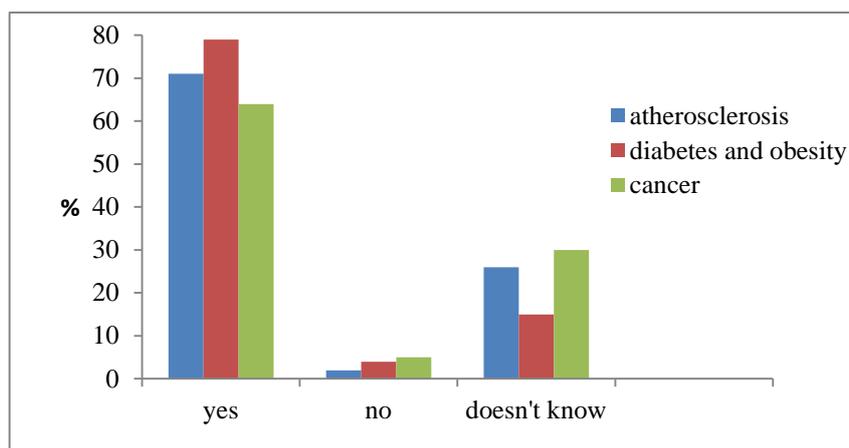


Figure 6: Results obtained on the question if respondents think that too much intake of the saturated and trans fatty acids increases the risk of the occurrence of all disease

It may be noticed that most of the respondents know that there is a connection between the saturated and the trans fatty acids with certain diseases, while nearly 30% of the respondents need to be educated about this question.

The respondents mostly use sunflower oil (67%) and olive oil (23%), but there is a need for education about the positive effect of other oils, such as corn oil, rapeseed oil and other vegetable oils.

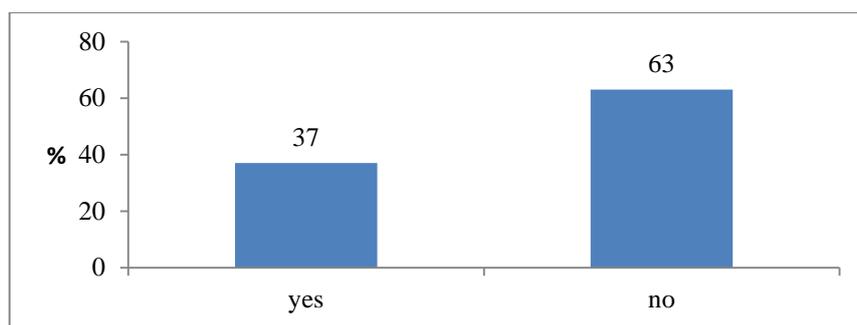


Figure 7: Knowledge of the respondents about the role of the fats and oils in the biochemical processes in the human body

From Figure 7, it can be noticed that there is a great lack of knowledge among the respondents about the role of the fats and oils in the biochemical processes in the human body.

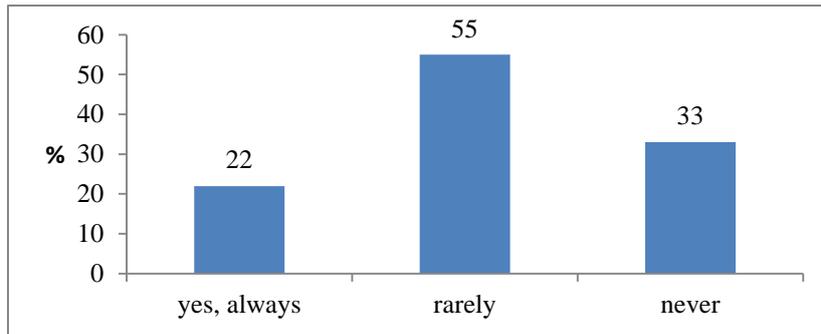


Figure 8: Results obtained on the question if the respondents pay attention to the type of the fatty acids that the products contain while buying groceries

Figure 8 presents the results that few of the respondents take care about whether one product contains any fatty acids and if it contains which they are. However, some of them rarely or never pay attention about that. Respondents sometimes or rarely read the information given on the package of certain products, while some of them have difficulties understanding them (Figure 9). It is necessary the citizens to be informed about the composition and nutritional components of the product from the packaging label.

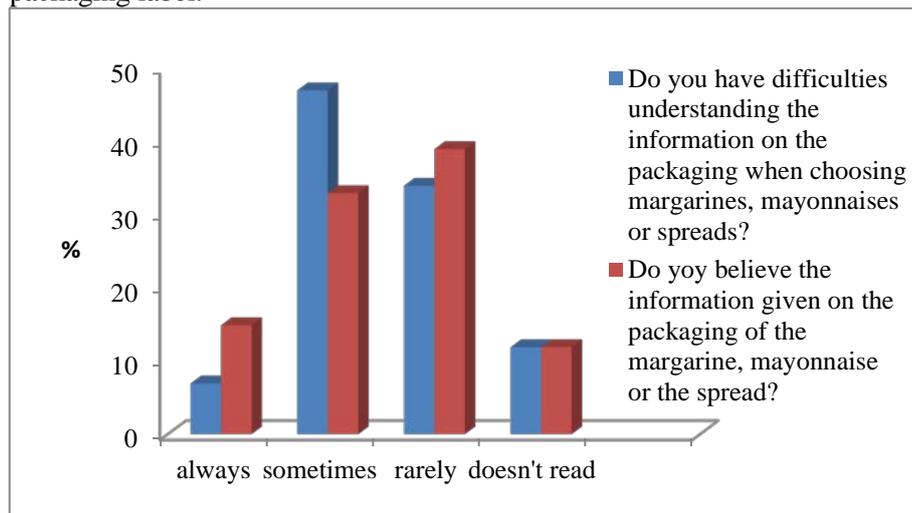


Figure 9: Difficulties and confidence in the information given on the packaging of certain products

CONCLUSION

The results of the survey show that most respondents:

- Are with higher education and most of them are informed about the connection between the food that contains fats and oils with the health and diseases. However, some of the respondents need to be educated about that
- There are a high percentage of those who do not know or who do not pay attention about what kind of food they eat and whether they take fats and oils in the daily diet, what kind of fats and oils it is necessary to be taken, and whether they take the recommended amount of the unsaturated fatty acids
- The majority of respondents (around 60%) rarely use the margarine, mayonnaise and spreads, while 18 % of them do not know that the margarine has negative effects on their health
- There is a great awareness among the citizens that it is not safe to re-use the oil which was already used for frying, as well as about the use of the margarine for making sauces
- The majority of the respondents know about the connection between the food with arteriosclerosis, obesity, cancer and diabetes. However, around 30% of them are not informed and they need to be educated about how important food is when it comes to these diseases
- The respondents need to be educated about the other vegetable oils, because they mostly use the sunflower oil and the olive oil
- The respondents need to be educated about the role and importance of the fats and oils in the biochemical processes
- Citizens rarely or never pay attention about the type of the fatty acids which the product contains. It is necessary that the respondents regularly read the information provided on the packaging, because the nutritional value and the composition of the product are marked on the packaging
- A comprehensive approach to education is necessary, approach which will include all sectors, starting from ourselves, the schools, the communities and organizations, health professionals, nutritionists and so on.

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