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UNHEALTHY DIET AS A BEHAVIORAL RISK FACTOR FOR SOCIALLY SIGNIFICANT DISEASES AND PREMATURE MORTALITY

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Abstract: A number of epidemiological studies prove that for the group of chronic socially significant diseases, nutritional factors are more important in cardiovascular diseases, oncological diseases, diabetes and obesity. Quantitative and qualitative nutritional disorders underlie the development of the most important risk factors for disease, disability and premature mortality in modern society. A target task of the programs for a healthy lifestyle is the reduction of habits harmful to health, among which unhealthy eating is included.

The purpose of the present study is to investigate unhealthy eating as a behavioral risk factor related to morbidity and mortality from socially significant diseases in Bulgaria and the other member states of the European Union.

Methodology: The following research methods were used: documentary method - review of: scientific literature; published materials from the Organization for Economic Cooperation and Development on the health profiles of the countries; induction and deduction; comparative analysis; graphical method for visual presentation of the obtained results.

Results and analysis: From the study, it is clear that unhealthy eating as a behavioral risk factor for morbidity and mortality is represented by 17% on average in the European Union. In Bulgaria, 29% of all deaths in 2019, which is the highest share in the EU, are due to irrational and unbalanced nutrition. It is followed by the countries of Central and Eastern Europe. A significant role for this problem is the low intake of fruits and vegetables and the high consumption of sugar and table salt.

Conclusion: The main element of a healthy diet is the intake of fruits and vegetables. Their consumption varies between countries. The most significant benefits of their consumption are due to the reduction of both cardiovascular diseases and the prevention of oncological diseases.

Recommendations: It is necessary to direct the efforts of the society to a correct food policy, a change in the food system and good education of individuals to create their own healthy microenvironment, different from the current toxic and obesogenic environment. Only in this way will the development of the global epidemic of obesity, type 2 diabetes and other socially significant diseases be reduced.

Keywords: *unhealthy diet, behavioral risk factor, socially significant diseases, premature mortality, fruits and vegetables*
Field: 3) Medical sciences and Health

1. INTRODUCTION

A number of epidemiological studies prove that for the group of chronic socially significant diseases, nutritional factors are of great importance in cardiovascular, oncological diseases, diabetes and obesity. Quantitative and qualitative nutritional disorders underlie the development of the most important risk factors for disease, disability and premature mortality in modern society.

The role of dietary factors on elevated blood pressure is well known and proven.

A significant positive effect on its reduction is the reduction of excess weight, reduction of fat intake, increase of fruit and vegetable intake, reduction of salt consumption. According to D. Popova (2015), the way of eating probably exerts long-lasting effects on blood pressure already with the start of improper fetal nutrition, which determines the further trends and magnitude of arterial pressure in children and adults in response to eating habits.

The INTERSALT studies demonstrate an absence of hypertension in some very isolated societies where salt intake is very low and blood pressure does not increase with age. The same studies found a trend toward no weight gain, lower fat intake, and a high intake of fruits and vegetables—three important conditions that help lower blood pressure. [8]

Over the past few decades, the incidence of obesity and diabetes has increased dramatically in all countries of the world. More than one billion people are currently overweight or obese, with more

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obese individuals residing in developing countries than in developed countries. In developed Western countries, recent reductions in the incidence of strokes and coronary heart disease have been achieved despite progressive increases in obesity and diabetes. This fact is explained by the successful reduction of cholesterol levels in these societies in connection with the replacement of dietary saturated and trans-fats with mainly omega-6 polyunsaturated fats. But these fats favor obesity and type 2 diabetes, despite having a beneficial effect on atherosclerotic and thrombotic processes.

For the prevention of cardiovascular and some oncological diseases, the regular intake of fruits and vegetables is recommended as an essential element of a healthy and balanced diet.[6]

Consumption of fruits and vegetables varies widely among countries depending on economic, cultural and agricultural characteristics. Inadequate fruit and vegetable intake is associated with about 14% of gastrointestinal cancer mortality, about 11% of coronary heart disease mortality, and about 9% of stroke mortality worldwide. The most significant benefits of fruit and vegetable consumption are due to a reduction in cardiovascular disease, but fruits and vegetables also prevent cancer. A higher incidence of mortality associated with low fruit and vegetable consumption occurs in middle-developed European countries.[8]

Many countries in the Mediterranean region have different diets, but with some common characteristics. This diet lowers the incidence of coronary heart disease, which is partly due to the increased consumption of monounsaturated fatty acids (mainly from olive oil) and the low consumption of saturated fat. The summarized key components of the Mediterranean diet are as follows:

- abundance of plant foods (fruits, vegetables, potatoes, bread, cereals, legumes, nuts and seeds);
- minimally processed and fresh seasonal foods;
- fresh fruit as a typical dessert;
- olive oil as the main source of fat;
- dairy foods, chicken and fish in low to moderate quantities;
- less than 5 eggs per week;
- red meats rarely and in small quantities;
- wine in low to moderate amounts (1-2 glasses daily for men and 1 glass for women).

The purpose of the present study is to investigate unhealthy eating as a behavioral risk factor related to morbidity and mortality from socially significant diseases in Bulgaria and the other member states of the European Union.

2. MATERIALS AND METHODS

The following research methods were used:

- documentary method - review of: scientific literature; of published materials from the Organization for Economic Co-operation and Development on the health profiles of the countries;
- induction and deduction;
- comparative analysis;
- graphic method for visual representation of the obtained results.

3. RESULTS

From the study, it is clear that unhealthy eating as a behavioral risk factor for morbidity and mortality is represented by 17% on average in the European Union.

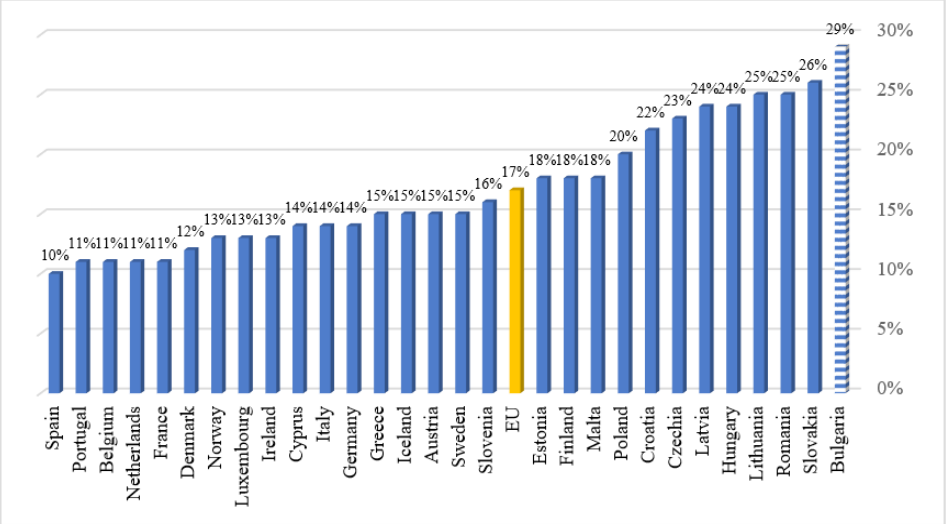

Fig. 1. Relative share of mortality caused by behavioral risks related to unhealthy eating in EU Member States

Sources: OECD, Eurostat, 2021

Notes: 1 The study also includes Norway and Iceland as members of the European Free Trade Association.

2 Nutrition-related risks include 14 components, such as low consumption of fruit and vegetables and high consumption of sugar-sweetened beverages. [7]

Almost half of all deaths in Bulgaria are due to behavioral risk factors, among which unhealthy nutrition occupies a leading place. The problem is particularly significant as it accounted for 29% of all deaths in 2019, the highest proportion among EU countries. A significant role is played by the low intake of fruits and vegetables and the high consumption of sugar and table salt.

As can be seen in figure 1 for the countries of Central and Eastern Europe – Slovakia, Lithuania, Hungary, Latvia, Czech Republic, a quarter of all deaths in 2019 can be attributed to risks related to unhealthy and irrational nutrition. They are followed by Croatia and Poland.

The main risk factor for chronic non-infectious diseases such as diabetes, cardiovascular and some types of oncological diseases is excess weight. A 2022 World Health Organization report notes that obesity levels in Europe are rising due to high consumption of high-calorie foods, trans-fats and saturated fats and increasingly sedentary lifestyles. [9]. And an OECD study, "The Heavy Burden of Obesity", found that obesity could cause more than 320,000 premature deaths a year in EU countries over the next 30 years if no countermeasures are taken (OECD, 2019 [5]).

Adolescent overweight and obesity are a growing public health problem.

According to data from the Organization for Economic Cooperation and Development, the relative share of obesity among adults in Bulgaria in 2019 was 13%, which is the third lowest among EU countries and below the EU average of 16%.

In most EU countries, more than half of adults are overweight or obese. Between 2014 and 2019, obesity rates increased in almost all countries, except France and Luxembourg, where they remained stable. Over this five-year period, the largest increases were observed in Austria, Croatia, Finland, Hungary and Slovakia.

In all EU countries, the proportion of men who are overweight or obese is higher. The gender gap is more significant in Luxembourg and the Czech Republic.

In terms of education, the situation is as follows: people with less education are more likely to be overweight or obese than those with higher education. This difference is particularly pronounced in Portugal and Luxembourg. According to the results of the study, differences in the prevalence of overweight among people with high and low education lead to additional inequality in health and employment. Those suffering from at least one chronic disease associated with being overweight are less likely to be employed; and when they are employed, they are more likely to be absent or less productive than healthy individuals. [5].

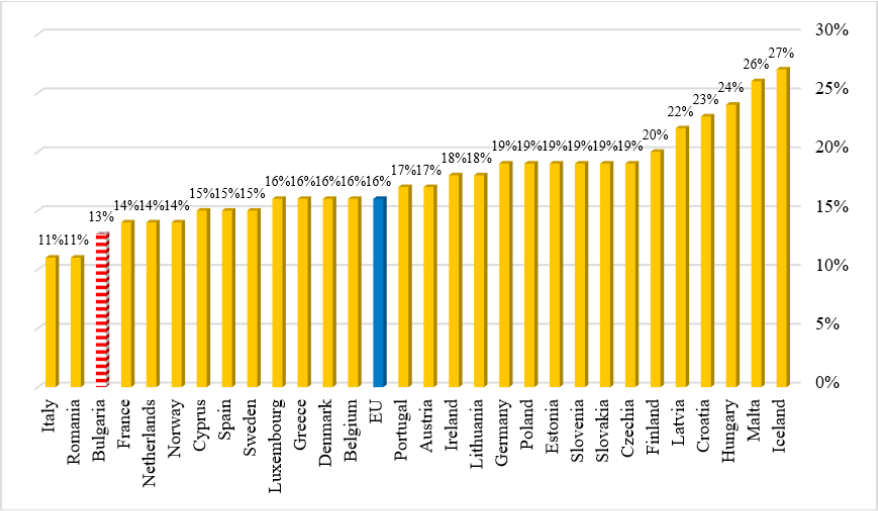

Fig. 2. Relative proportion of adults with obesity

Sources: OECD, Eurostat, 2021

Figure 2 shows the relative share of obese adults in EU countries, including Iceland and Norway - members of the European Free Trade Association. The obesity rate is highest in Iceland, which in 2019 had 27% obesity among the adult population (over 18). Much higher than the EU average (16%) is the adult obesity rate in Malta, Hungary, Croatia, Latvia and Finland. The relative share of obese adults was lowest in Bulgaria (13%), Romania and Italy (11% each).

4. DISCUSSION

During the outbreak of the COVID-19 pandemic, overweight and obesity were particularly at risk for developing more severe symptoms and death. [3,6] The imposition of lockdown and other restrictions on mobility contributed to negative changes in the eating habits of a large part of the population.

To prevent these adverse consequences leading to obesity, countries have begun to pursue policies promoting a healthier lifestyle. [1]. One of these policies is promoting the intake of more fruits and vegetables, which are a basic element of a healthy diet.

The World Health Organization recommends consuming at least 400g (i.e. 5 portions) of fruit and vegetables per day, and in response to this recommendation, the EU launched the “5 a Day” campaign. [6]

In Bulgaria, a small number of adults follow this recommendation. The country has the second lowest fruit intake of all EU countries. According to a survey, three out of five adults say they don’t eat fruit, and 49% don’t eat vegetables every day.

In response to the problems associated with overweight and obesity in adolescents, programs have been introduced to promote healthy eating in school-age children.[7] The situation is similar in Romania, Latvia, Luxembourg and the Czech Republic.

According to Eurostat data from 2019, in EU member states, on average, only 12% of adults report consuming five or more portions of fruit and vegetables per day. Between 1 and 4 portions per day are taken by 55% of the population. Among the countries with such a high intake are Ireland, the Netherlands, Denmark and France. Less than 1 serving per day consumed 33 percent. [6]

Women, as well as people with a higher level of education, eat more fruits and vegetables every day.

Interventions to promote healthy eating include subsidies for fresh fruit and vegetables, regulations to limit foods high in fat, salt and sugar, setting nutrient-based standards in schools and public institutions, reformulating products with high levels of sugar, simple and informative front-of-pack labels and youth nutrition education programs. In this context, the EU Farm to Fork Strategy and the European Cancer Plan have been created, which require a review of EU rules on information provided to consumers. [3]

In 2017, over 950,000 deaths in the EU were linked to an unhealthy diet, and half of people over 18 were overweight. [10]

Policies for prevention and health promotion in Bulgaria have a limited impact. In 2015, the proposal

to introduce a tax on food and drinks with a high content of salt, trans fat, sugar and caffeine did not receive the support of stakeholders and the Council of Ministers. Among the attempts to solve the problem of the growing number of children suffering from overweight or obesity is the project "Healthier children". [7]

5. CONCLUSION

Irrational and unbalanced nutrition occupies a leading place among behavioral risk factors, causing about half of the deaths in Bulgaria. This mortality can be prevented with good prevention and promotion of a healthy lifestyle, but unfortunately this is not among the priorities of the government policy.

A main element of a healthy diet is the intake of fruits and vegetables. Their consumption varies from country to country. The most significant benefits of their consumption are due to the reduction of both cardiovascular diseases and the prevention of oncological diseases.

6. RECOMMENDATIONS

It is necessary that society's efforts be directed towards a preventive food policy, a change in the food system and a good education of individuals to create their own healthy microenvironment, different from their current toxic and obesogenic environment. Only in this way will the development of the global epidemic of obesity, type 2 diabetes and other socially significant diseases be reduced.

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