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THE ROLE OF DIET ON DIGESTIVE PATHOLOGY IN A PARTICULAR GEOGRAPHICAL AREA: RISK FACTORS, EPIDEMIOLOGY OF MAIN DISEASES

- abstract -

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Introduction

The association in the modern world of excess quantity and quality food (especially the prevailing use of refined foods and concentrate in association with sedentary own current civilization) with the food deficits produces negative consequences, and sometimes one of the most serious, regarding the health of large segments of the world's population.

The thesis aims to evaluate the dietary habits of the population in Dolj County and their involvement in the initiation and maintenance of digestive diseases in the light of etiopathogenic mechanisms known to be involved in these diseases.

The thesis is divided into two parts: general part consists into six chapters that update the dates regarding nutrition for centuries, nutrition of romanians and especially those in the south-western Romania, food metabolism, the role of macronutrients, micronutrients and water in the body; description of nutritional needs based on age and various physiological situations and the food pyramid; description of the risk factors and mechanisms involved in various digestive disorders such as gastroesophageal reflux disease, gastritis, gastric ulcer and duodenal ulcer, gastric cancer, chronic hepatitis, liver cirrhosis, hepatic neoplasm, cholecystitis, pancreatitis, irritable bowel syndrome and colorectal neoplasm ; The special consists into four chapters describing the material and the methods used for the study, results, discussion based on results in the context of current knowledge and the conclusions after conducting this study.

GENERAL PART

Chapter I describes the nutritional concerns over the centuries from Hippocrates of Cos, through the Roman period, Middle Ages, Renaissance, industrialization and reaching nowadays. In most cases, the continuous deepening of the knowledge of the pathophysiology of a specific disease caused the errors and exaggerations (in one direction or another) included in nutritional guidelines to be phased out in clinical practice so as to dietary embraceses a fundamental role for disequilibrium appeared in the body. It is already proven today that nutrition plays an important role in the promotion and maintenance of health throughout life and that not adopting a healthy diet plays an important role in the determinism of many chronic disease that have an incidence and prevalence with an alarming increase in current civilization, such as obesity, type 2 diabetes, cardiovascular diseases, cancer, osteoporosis and dental disease. We may say that prevention and control programs dedicated to all these diseases will be able to find many common elements, that may facilitate their long term implementation among population. The target of primary prevention of chronic disease mentioned is the so-called "modifiable" risk factors, among which are especially distinguished eating habits and sedentary living, also can be added measures for other factors risk, smoking, alcohol consumption, overweight, dyslipidemia, hypertension etc. The need for prevention and control measures to counter the expansion of chronic disease epidemic type discussed above is increasingly recognized today by a growing number of countries; unfortunately, exactly where developing countries (exactly where are are expected alarming climbing of morbidity and mortality figures of these diseases in the coming years), there is a delay in the adopting and implementing of these measures.

Chapter II describes the evolution of eating habits in our country from ancient times until today and also the geographical area of Oltenia and it's eating habits. It is a known fact that beyond common tendencies manifested during the process of food across the entire globe, each historical region and each nation is distinguished by certain peculiarities. As is natural, neither Romania nor romanian people are exception to this general rule. Getae and Dacians, that followed later in romanian territory, were recognized as farmers. Roman rule led to the adaptation of food habits in next centuries, locals adopting - and adapting - the food habits of those that followed.

The following centuries gradually bring an increase in importance of agriculture, with the limiting habit gaining transhumance and sedentary lifestyles. Starting with XVI century in the northern Romanian are grown lands buckwheat and from XVII century corn is beeing used as a considerable grain for all romanians. In the XVIII century, raising cattle remains a major occupation for the population, the extensive use of polenta show no adverse side being associated with a relatively sufficient amount of dairy products and, to a lesser extent by meat.

In the XIX century, when national and international context lead to expansion in Romania agriculture, land used for agriculture expansion occurs at the expense of those used for pasture and animal related capital reduction. Since XIX century also come with the first mentions of sanitary reports about expanding among population of chronic alcohol consumption and its adverse effects on nutritional status and thus health. In the early XX century peasants represent over 80% of Romania's population , observing also a gradual formation of the working class together with the development of industry. The years after First World War is characterized by a gradual economic recovery Romania to the place in the

prewar period; our country is, in the first years of the 3rd decade, the largest grain exporters in the area. In terms of food preparation technique, the gastrotehnia used by the Romanian peasant remains at a primitive level until around 1940. The Second World War marked a turning point in the way including the Romanian people's alimentation. Since around 1950, caloric, protein, lipid and carbohydrate intake tend to gradually increase again until the 8th decade of the last century. Socio-economic transition period after 1990 brings a drop in living standards, accompanied by inflation and unemployment expanding population, all resulting in deepening nutritional imbalances - especially in the deeply disadvantaged groups by this negative trend, such as children, the elderly, the unemployed etc. The cuisine of Oltenia still kept the habit of preparing food in pots of soil to "test" (recognized cabbage rolls cooked in pots of soil - "TEST") technology that offers a great taste for the meal, our kitchen peasant wearing their perfume.

In Oltenia cuisine there are used fresh vegetables, fish, poultry, beef and pork, dairy and cheeses. By region, the highest average consumption of bread and bakery products was recorded in the South-West Oltenia (11.4 kg / person) and lowest in the North-East region (7.4 kg / person). By region, the highest average consumption of vegetables and canned vegetables fresh vegetables equivalents recorded in the South-West Oltenia (1.5 kg /person).

Chapter III describes the stages of food metabolism and energy metabolism components: basal metabolism, thermogenesis and physical activity. The health of each individual requires, first, the existence of an optimal nutritional status derived from the balance achieved between the needs and energy intake and nutritional. In determining nutritional status it holds a special role ener¬getică balance of the body, which is the basis of weight balance and the

balance of internal environment. If the human body, energy intake (represented by foodconsumption) is discontinuous and variable, while energy consumption is permanent, with intra- and interindividual variations related to basal metabolism, thermogenesis and physical activity. Energy deposits of human are determined by the existing balance between food intake and energy consumption. The energy required in the short term (for example, between meals) is ensured by the use of tissue glycogen reserves and some of the lipids. In the extended posts or periods of limitation during the weight loss cycles occurs degradation of proteins and their use as energy substrate with the lipid. Energy intake should not only cover energy needs, but should also be considered restoring energy deposits; this notion of immaterial energy deposit in the refinement of the two aspects of intake necessary and essential contribution. Basal metabolism (BM) can be defined as the minimum energy required to maintain life (maintaining body functions and homeostasis) or energy consumption compatible with survival. Basal metabolism is impossible to be measured and therefore, the two terms of basal metabolism and resting energy consumption are used with the same clinical significance. The main factors influencing the BM are represented by mass and body composition, sex, age, hormonal status and external environment conditions. Thermogenesis occurs in response to stimuli such as food intake, exposure to temperature variations, fear, stress or as a result of taking certain medications or hormones. For these reasons, some authors use the term adaptive thermogenesis. The energy necessary to carry out physical activity is the most variable component of total energy consumption and represents approximately 30% of the of human expenditure. It is considered that thermogenesis secondary to physical activities can be divided into two components: thermogenesis caused by voluntary and sustained exercise and daily physical activity secondary thermogenesis representing all the

movements we make as individuals independent: work, standing or chair, walking, dancing, playing the violin or guitar, shopping, restlessness, nervousness, postural control, etc. Although carbohydrates, fats and proteins are possible sources of energy required muscle contraction and performing various physical activities, type of substrate used is determined by many factors. In general, both glucose and fatty acids are the energy sources in proportions that depend primarily on the intensity and duration of exercise, but also training and physical condition of the person.

Chapter IV describes the participation of macronutrients (proteins, carbohydrates, fats), micronutrients (vitamins hidr- and fat-soluble, minerals) and water in the human body processes in terms of their type, their role in the body, their sources, recommended intakes and the consequences inadequate intake. In some cases, carbohydrates can contribute to weight gain: it contributes through an intake exceeding expenditure and favorising lipid storage and when present in foods that contain fat and are eaten in excess and if sweetened drinks are consumed later than the meal. (more than one hour). Diets with high levels of fiber are associated with a low incidence of cardiovascular disease. Increased fiber content in the diet is associated with a lower incidence of diabetes. Diets low in fiber is a risk factor for colonal cancer. Excessive consumption of fiber can interfere with the absorption of calcium and zinc and increased amounts of fiber intake can cause flatulence. Increased intake of saturated fatty acids and polyunsaturated trans form fatty acids leads to dyslipidemia, which is associated with increased risk of atherosclerotic cardiovascular disease. Or excessive intake of cholesterol synthesis contributes to the development of atherosclerotic plaques or extravascular deposits of colesterol: xanthomas, xanthelasma, corneal arc. Low protein intake causes protein malnutrition (when combined with reduced

caloric intake), where vegetarian diets protein supplementation is required due to the low biological value of plant proteins. It is believed erroneously that increasing protein intake to achieve a better functioning immune system, weight loss and muscle gain.

Chapter V describes the nutritional peculiarities depending on age and physiological situations that occur during the evolution of the human body (infant, toddler, adolescent, adult, elderly, pregnancy, lactation). Are assessed physiological peculiarities of each period, the valuation of nutritional status and recommendations on necessary nutrients (proteins, carbohydrates, lipids, vitamins, minerals, water). The food pyramid is described, a graphic expression nutritional standards, quantities and types of foods that should be consumed daily to maintain health penntru and reduce the risk of developing various diseases related to diet. Each food group is visual plated to facilitate practical nutritional advice. Also, is the number of servings that should be eaten daily. Variation between minimum and maximum on the number of servings depends on your personal energy needs and food preferences. Each person should consume minimum number of servings for each food group. Thus, there is an adequate intake of macro- and micronutrients.

Food pyramid emphasizes balance, variety and moderation thatis necesary that some foods are consumed, focusing on the consumption of cereals, vegetables and fruits. There are plotted foods providing macro and micronutrients necessary to maintain the health of the population. Implementation of the principles that define food pyramid has the ability to improve quality of life and reduce the risk of chronic diseases such as coronary heart disease, stroke, diabetes and some cancers.

There are differences in the choice of different foods, varying depending on the culture, customs, family, religion,

the cost and availability of food allergies and food intolerances.

Thus, based on the principles underlying the composition of the food pyramid, we can ensure that the nutrient intake of daily food supply is adequate. It is possible to choose foods from each group represented in the pyramid, being able to create combinations according to individual preferences.

SPECIAL SECTION

Describes the material and the methods used for the study; results, discussion of results in the context of current knowledge, the conclusions after conducting this study.

Chapter VI describes the type of patients included in the study and methods of evaluation. The study was descriptive, longitudinal and retrospective held for a period of five years, the study included a total of 2492 patients with digestive pathology confirmed that affected the entire digestive tract and annex glands.

For each patient included in the study it was established a personal record on the model shown below. From the record were selected demographics, medical history, symptoms, physical examination data and the data obtained after exploring biological and imaging of patients.

Data collected from personal files required for the study were summarized in tables which subsequently allowed for statistical tests. Evaluation methods consisted in evaluating patients by assessing the energy balance energy intake and nutritional food surveys. Also there are described

methods for assessing energy expenditure and how to measure them. Clinical assessment of nutritional status was made based on anthropometric indices, muscular strength measurements, clinical assessment scales-ui nutritional status and self-evaluation grids. Also there were used biochemical indices for evaluating nutritional status line like: creatininuria / 24h, transferinemia, transthyretin, 3-methylhistidine, creatinine waist index, circulating proteins, albumin, nitrogen balance, plasma amino acids, somatomedin C and fibronectin. To assess digestive changes endoscopy and colonoscopy were used according to standard techniques for making them. Assessment of nutritional habits was based on a survey of nutrition. The questionnaire is accompanied by a food diary with patients meals daily reports, schedule and type of food ingested. After patients completed the questionnaire, the data obtained from them were centralized and were the basis for establishing parameters watch the food the patient and their involvement in the initiation and / or maintenance of digestive disorders of patients included in the study. After pooling of data from the questionnaires, it was established monitoring of the following parameters and their involvement in percent for each condition separately. The parameters monitored were: DPA = imbalances between supply principles, OAD = zone unbalanced food, PNA = improper food preparation, MFF = eat fast food, home cooked food MGA =, A = alcohol, F = smoking, SED = sedentary . Dolj County was divided based on geographic coordinates, in five areas: central municipality represented by Craiova, northwest, northeast, southeast and southwest. Such data have been accumulated in a database and processed using statistical programs to show results of the study. Statistical programs used were Microsoft Office Excel and SPSS 18.

Chapter VII were provided after the assessment of patients with regard to age, sex and area of origin and it was

assessed their distribution in the city of Craiova and northwestern regions (NW), Northeast (NE), South -west (SW) and southeast (SE).

Comparing regions each county was found that there were no significant differences between the regions in terms of distribution of digestive diseases encountered in patients included in the study. Patients in the northwestern region being 25%, those in the NE in 23%, those in the SW in 26%, and those of SE in 26%.

There were no significant differences in the distribution of patients with digestive diseases included in the study either in terms of north-south axis and the east-west, which is distributed as follows: N = 24%, S = 26%, V = 25%, E = 25%.

In patients with antral gastritis, the most frequently involved factor, reported by the patients was sedentary (SED) currently at 48%.

In patients with superficial gastritis the most frequently involved factor, reported by the patients was eating fast food (MSF) currently at 54%.

In patients with hemorrhagic erosive gastritis, the most frequently involved factor, reported by the patients was sedentary (SED) currently at 43%.

In patients with reflux gastritis dietary factor most commonly involved, reported by patients, was at food cooked at home (MGA) currently at 51%.

In patients with papular gastritis the most frequently involved factor, reported by the patients was smoking (F) currently at 43%.

Gastritis in patients with portalhypertensive: the most frequently involved factor, reported by the patients was sedentary (SED) currently at 46%.

In patients with peptic ulcer the most frequently involved factor, reported by the patients was smoking (F) currently at 51%.

Factor in patients with gastric cancer most commonly involved, reported by patients was alcohol (A) present at a rate of 45%.

In patients with ulcerative colitis dietary factor most commonly involved, reported by patients was improper preparation of food (PNA) present at a rate of 54%.

Factor in patients with Crohn's disease most commonly involved, said the patients was sedentary (SED) currently at 41%.

In patients with colorectal cancer dietary factor most commonly involved, reported by patients was alcohol (A) present at a rate of 51%

In patients with chronic hepatitis B viral etiology the dietary factor most commonly involved, reported by patients was the imbalance between supply principles (DPA) currently at 31%.

In patients with chronic hepatitis C viral etiology the factor most frequently involved, said the patients was sedentary (SED) currently at 41%.

In patients with chronic hepatitis B + C viral etiology the factor most frequently involved, said the patients was sedentary (SED) currently at 43%.

In patients with chronic hepatitis B viral etiology + D the dietary factor most commonly involved, was reported by patients at home cooked food (MGA) currently at 56%.

In patients with chronic hepatitis ethanol etiology the factor most frequently involved, reported by patients was smoking (F) currently at 55%.

In patients with liver cirrhosis ethanol etiology the food factor most commonly involved, reported by patients was food cooked at (MGA) today at a rate of 47%.

In patients with cirrhosis of viral etiology B the dietary factor most commonly involved, reported by patients was improper preparation of food (PNA) present at a rate of 54%.

In patients with cirrhosis of viral etiology C the factor most frequently involved, patients said sedentary (SED) currently at 52%.

In patients with cirrhosis of viral etiology B + C the dietary factor most commonly involved, reported by patients was eating fast food (MSF) currently at 64%.

In patients with cirrhosis of viral etiology B + D the dietary factor most commonly involved, reported by patients was improper preparation of food (PNA) present at a rate of 61%.

In patients with viral cirrhosis of mixed etiology and ethanol the dietary factors most commonly involved, the patients said that unbalanced schedule and smoking (F) were present in the same percentage of 52%.

In patients with biliary dyskinesia, the most frequently implicated food factor, reported by patients was home cooked food (MGA) currently at 65%.

In patients with chronic cholecystitis alithiasic, the food factor most commonly involved, reported by patients was the improper preparation of food (PNA) present at a rate of 67%.

In patients with biliary gallstones the food factor most commonly involved, reported by patients was improper preparation of food (PNA) present at a rate of 67%.

In patients with biliary gallstones, the food factor most commonly involved, was reported by patients to be home cooked food (MGA) currently at 54%.

Realizing a cross-over type analysis between the type and frequency of digestive disorders regions and food factor most frequently involved in starting, maintaining or worsening digestive disorder it was managed to highlight the distribution of custom food on regions with the highest frequency in that region.

Conclusion

1. The study of dietary factors involved in digestive pathology is difficult in the present context as a certain factor dependent individualization of diet interferes directly with other factors in the environment, especially those related to daily stress, food composition, climate and the workplace.

2. In the study of digestive pathology was widely represented at all levels of the digestive tract, each pathology, regardless of location, has matched at least one risk factor food or bad food habbit involved in triggering, maintaining or worsening of that condition.

3. Despite the diversity found in the studied group of digestive disorders, any condition, regardless of the location in the digestive system and glands was more common in Craiova, compared to any other region of the county.

4. Explanation greater frequency in the Craiova is given by the degree of culture of patients easier access to advanced medical services, the information more accessible and higher adherence to medical recommendations.

5. Although gastrointestinal pathology has been widely studied and evaluated by age, sex and area of origin and dietary factors were studied in detail based on questionnaires it was found that among the other regions of the county, except Craiova, there were no significant differences in the frequency of digestive diseases in the studied group.

6. These differences were insignificant in comparison to both the regions of the north-south axis and the regions of

the east-west axis which reveals a tendency to uniformity of digestive diseases in terms of their distribution, which is explained by the fact that food from the city began to spread in rural areas also.

7. According to the study it was found that in the northern region of the county prevailed related disorders of the digestive glands annexes, especially the liver, and in the south of the county prevailed digestive tract diseases especially the upper digestive tract.

8. The same frequency distribution was found and the comparison between patients from the eastern region of the county compared to the west.

9. It was an increase of diseases of the digestive tract which is north-south and east-west direction and a reverse for conditions glands.

10. Food risk factors most frequent that emerged after centralizing data from questionnaires and report to the regions and the distribution of digestive diseases were : eating fast food in the northwestern region, sedentary lifestyle and eating home cooked food in the north-east, sedentary lifestyle, smoking and alcohol in the south-west and in the south east improper preparation of food and lack of exercise. 11. Factors relevant food questionnaires most commonly north south axis were sedentary eating fast food, alcohol and smoking and the east-west axis: home-cooked food, alcohol and smoking.

12. Although the distribution and frequency of dietary factors involved in digestive pathology vast studied was very varied and it was difficult to quantify the distribution of digestive disorders, regions were not significantly different; another explanation for this is that dietary factors involved are

interfered by other environmental factors that deserve a closer study.

13. Making an epidemiological study for functional digestive disorders is not an easy task, highlighting dietary habits (diet) and establish the pathology digestive and nutritional or socioeconomic factors is difficult and the interpretation of epidemiological studies may often be uncertain .

14. For a good correlation between the stakeholders would be required strategies and coordinated efforts and the emergence of guidelines and standard questionnaires to allow closer correlation between food and truth digestive disease. 15. The discovery of relevant correlations between dietary factors and digestive disease, specific measures can be taken at all levels to promote healthy habits among adults, not only to prevent and relieve the excess weight, but also to trigger digestive diseases.