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SOCIO-HYGIENIC ANALYSIS OF RISK FACTORS IN PATIENTS WITH DISEASES OF THE ENDOCRINE SYSTEM

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ABSTRACT

The study was conducted among 1375 (726 men and 649 women) patients aged 18-69 living in rural and urban areas of the Bukhara region, registered in the Bukhara Endocrinological Dispensary. Questionnaire data collected from patients evaluated using the “case-control” method. The risk factor with the greatest impact on health status is malnutrition (OR-15.6; 95% CI 12.9-18.8). As risk factors, not only low fruit consumption, but also the consumption of citrus fruits with allergenic properties the odds ratio was 12.6. In cases of high consumption of sweets, the odds ratio was 10.5 (from 8.7 to 12, 5), in addition, in cases of insomnia and heavy physical work, the odds ratio was 2.0. The results shows that the main part of the risk factors for the disease is associated with nutrition.

Key words: diabetes mellitus, case-control method, risk factors.

INTRODUCTION

Based on the WHO report, more than 537 million people aged 20-79 are living with diabetes mellitus today. This figure is expected to reach 643 million by

2030 and 783 million by 2045. More than 3 out of 4 adults live in low- and middle-income countries.

According to the World Health Organization (WHO), one of the leading causes of major non-communicable diseases, including the cardiovascular system, diabetes mellitus and some forms of malignant diseases, is an unhealthy lifestyle, malnutrition, non-compliance with the daily routine, overweight, irregularity is associated with nutrition [1,11,12,15,16].

Diabetes mellitus caused 6.7 million deaths in 2021, 1 death every 5 seconds. Due to the severity of this problem, WHO has declared diabetes as the epidemic of the 21st century.

The diet of the majority of the adult population does not meet the principles of a healthy diet due to the consumption of foods containing simple carbohydrates and a large amount of animal fats, and the diet is not enough fresh fruits and vegetables, fish and seafood, which leads to weight gain and obesity, its prevalence increased from 19% to 23% over the past 8-9 years, which leads to an increase in the risk of developing diabetes mellitus, diseases of the cardiovascular system, etc. [6, 9, 11, 12, 13,16,17]

According to the World Health Organization, non-compliance with the rules and norms of physical activity and nutrition, excessive consumption of foods and sweets with a high content of salt, sugar and fat, as well as insufficient intake of vitamins and minerals can lead to growth and mental retardation in young people, and in adults is the cause of the development of cardiovascular diseases, diseases of the endocrine system, dangerous tumors and a number of other diseases leading to premature death of people [10,11, 12,14,16].

A number of studies have shown that the development of type 2 diabetes mellitus is primarily influenced by harmful environmental factors, as well as a violation of the daily regimen, a violation of the diet, a decrease in the amount of proteins, fats, and vitamins. and minerals in the daily diet, as well as an increase in the amount of carbohydrates [3, 4, 7, 8, 9, 10, 11, 16, 17].

Environmental risk factors in the development of type 2 diabetes are shown in the works of a number of authors. Of more than 200 reported cases of type 2 DM assessed in 60 studies, 82 showed a significant association with the following characteristics: air pollution, dietary and physical activity, environment and proximity to streets are the most studied environmental determinants of prevalence [1, 4,13, 15,16,17]. Taking into account the analysis of the conducted studies, the socio-hygienic analysis of risk factors for the occurrence of diseases of the endocrine system in patients is one of the urgent tasks facing industry workers today.

Objective. Analysis of risk factors of patients with diseases of the endocrine system.

Materials and methods. 1375 patients (649 men and 726 women) living in villages and cities of the Bukhara region were registered in the regional endocrinological dispensary, their age ranged from 18 to 69 years. The data collected by patients on the basis of questionnaires were evaluated using the case-control method.

Statistical processing of the obtained data was carried out using the SPSS 16.0 and Statistica 6.0 programs for Windows.

Results and discussion

One of the main goals of our study is to identify risk factors that determine the development of the disease in patients with diabetes mellitus and substantiate the dependence of these factors on the development of the disease.

To achieve the goal, risk factors for developing type 2 diabetes mellitus were analyzed on the basis of the case-control group in a ratio of 1:1 (1375:1375), and healthy patients were taken as the control group. For the purpose of socio-hygienic analysis of the results obtained, the main ones were identified and a socio-hygienic analysis was carried out according to gradations of risk factors.

The main socio-hygienic factors affecting the health status of patients with diabetes mellitus and their results are presented in Table. 1.

Table 1

Lifestyle factors affecting people with diabetes (1:1 ratio)

Risk factors	Gradation of risk factors	Case group (P1)	Control group (P2)	P=P1/P2	M	95% II (DI)
Indiscriminate eating	yes	1007	205	4,9	15,6	12,9-18,8
	no	368	1170	0,3		
Fruit consumption	less	1243	586	2,1	12,7	10,2-15,6
	enough	132	789	0,2		
Sweets consumption	more	1119	405	2,8	10,5	8,7-12,5
	normal	256	970	0,3		
Consumption ща epy flour products	more	998	295	3,4	9,7	8,1-11,5
	less	377	1080	0,3		
Level of alcohol consumption	more	485	88	5,5	8,0	6,2-10,2
	less	890	1287	0,7		
Ratio of vegetable consumption	less	994	365	2,7	7,2	6,7-8,2
	enough	381	1010	0,4		
Consuming spicy food	more	901	304	3,0	6,7	5,6-7,9
	less	474	1071	0,4		
Use of vegetable oil	more	983	381	2,6	6,5	5,5-7,7
	less	392	994	0,4		

Late meal	After 20.00	978	376	2,6	6,5	5,5-7,7
	Until 18.00	397	999	0,4		
Eating too much salt	more	855	306	2,8	5,7	4,8-6,8
	normal	520	1069	0,5		
Hypodynamic state	less activity	966	406	2,4	5,6	4,7-6,6
	more activity	409	969	0,4		
Sleepiness	yes	701	239	2,9	4,9	4,1-5,8
	no	674	1136	0,6		
Obesity	exists	623	230	2,7	4,1	3,4-4,9
	no	752	1145	0,7		
Fatigue	exists	445	145	3,1	4,1	3,3-4,9
	no existance	930	1230	0,8		
Stress	excess	487	232	2,1	2,7	2,2-3,2
	less	888	1143	0,8		
Overweight	exists	437	230	1,9	2,3	1,9-3,3
	no	938	1145	0,8		
Insomnia	less	509	307	1,7	2,0	1,7-2,4
	good	866	1068	0,8		
Doing heavy physical work	yes	411	245	1,7	2,0	2,7-4,1
	no	964	1130	0,9		

As can be seen from Table 1, the concept of healthy eating behavior and culture, which is considered one of the main factors of a healthy lifestyle, and the state of non-compliance with it, showing the main indicator and the highest ratio, the most important factor in the development of the disease and the risk factor that has the greatest impact on the health status of patients (SHN-15.6; 95%-II 12.9-18.8).

It can be seen that a patient in the group (risk factor) (type 2 diabetes mellitus) is 15.6 times more likely to develop the disease compared to the control group.

The next major risk factor was the state of fruit consumption, most of our patients consumed less fruit and consumed citrus fruits with allergenic properties, NR-12.6 (ranging from 10.2 to 15.6).

The odds ratio was 10.5 (from 8.7 to 12.5) in the case of high consumption of sweets (mainly sugar, various sugar-rich cookies, waffles, confectionery products).

In the Bukhara region, which is one of the main regions of our country, a traditional dish of dough, called kayish in the national and local languages, is eaten mainly in the evening. It consists of 80% dough, beans, onions, vegetable oil and meat. The meat in this dish mainly consists of horse meat, lamb and beef. Salt is used in excess in this dish to prevent the dough from being crushed or sticking together.

It was found that most of our patients ate this dish. The consumption level of the rest of the dough products was relatively low, and the ratio of total dough products to consumption level was 9.6. The confidence interval was from 8.1 to 11.5.

The main role and importance of vegetables is to provide vitamins and minerals to the daily diet.

Vegetables are not restricted in people with diabetes, overweight, and obese and obese people.

The use of pumpkin, turnip, cucumbers, cabbage is more recommended. Insufficient vegetable intake was found and the odds ratio was 7.2.

The next risk factors are hypodynamic status, followed by overweight, obesity, fatigue, excessive sleep and strenuous exercise.

Based on the information presented above, a prognostic table was created to grade all risk factors (see Table 2).

Table 2

Prediction table for grading risk factors affecting adults with diabetes

Risk factors	Gradation of risk factors	SHN indicator	Prognostic indicators
Indiscriminate eating	yes	15,6	15,6
	yes	**1**	
Fruit consumption	less	12,7	12,7
	enough	**1**	
Sweets consumption	more	10,5	10,5
	normal	**1**	
Consumption ща epy flour products	more	9,7	9,7
	less	**1**	
Level of alcohol consumption	more	8,0	8,0
	less	**1**	
Ratio of vegetable consumption	less	7,2	7,2
	enough	**1**	
Consuming spicy food	more	6,7	6,7
	less	**1**	
Use of vegetable oil	more	6,5	6,5
	less	**1**	
Late meal	After 20.00	6,5	6,5
	Until 18.00	**1**	
Eating too much salt	more	5,7	5,7
	normal	**1**	
Hypodynamic state	less activity	5,6	5,6
	more activity	**1**	

Sleepiness	yes	4,9	4,9
	yes	**1**	
Obesity	exists	4,1	4,1
	yes	**1**	
Fatigue	exists	4,1	4,1
	no existance	**1**	
Stress	excess	2,7	2,7
	less	**1**	
Overweight	exists	2,3	2,3
	yes	**1**	
Insomnia	less	2,0	2,0
	good	**1**	
Doing heavy physical work	yes	2,0	2,0
	yes	**1**	
Minimum ∑ P P=19 **Maximum ∑ P P=115,7**			

This table shows all 19 risk factors and calculated their lowest and highest prognostic values.

According to the socio-hygienic analysis of risk factors for patients with diabetes, it can be seen that the population does not adhere to a healthy lifestyle during the day, the collapse of lifestyle, the radical collapse of healthy eating habits and culture, the growth of hypodynamic conditions and the rapid development of this type of disease in diabetes are the main risk factors. Given the above, it is necessary to carry out rehabilitation work among patients.

Conclusion

1. The most important risk factors for the disease were violation of the daily regimen of controlled patients, their irrational diet during the day, excessive consumption of confectionery during the day, consumption of pastries in the evening, excess salt.

2. Low consumption of fruits and vegetables in the daily diet should be considered as one of the risk factors for the development of the disease, and the prevention and treatment of the disease should be created by including these products in the diet.

3. It is necessary to control the body mass index in patients with the use of dinners, fried and flour dishes. This, in turn, reduces the motor activity of patients, causes them to be overweight, obese, and causes insomnia. This will disrupt the healing process.

4. Alcohol, smoking, and a sedentary lifestyle are some of the following risk factors for developing diabetes in patients.

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