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EDUCATION OF PATIENTS WITH METABOLIC SYNDROM ON DISEASE SELF- MANAGEMENT

Assist. Prof. Dr. Aleksandra Traykovska- Dimitrova
Medical University - Sofia
Faculty of Public Health
BULGARIA
dr.trajkovska@yahoo.com

Assist. Prof. Dr. Todor Dimitrov
Medical University - Sofia
Faculty of Public Health
BULGARIA
todor99us@yahoo.com

Dr. Andrey Kehayov
Southeast European Medical Forum
Sofia- BULGARIA
bulgmed@gmail.com

Prof. Dr. Ralitsa Zlatanova- Velikov
Medical University - Sofia
Faculty of Public Health
BULGARIA
ralicazlatanova@abv.bg

Abstract

Metabolic syndrome is a complex of interrelated risk factors for development of cardiovascular diseases and type 2 diabetes – two of the most common chronic non-communicable diseases today. This makes the metabolic syndrome a socially significant problem for society. The education of patients with metabolic syndrome is an indispensable element in the complex therapeutic approach and social behavior.

This article examines and analyzes the opinion of patients with metabolic syndrome on their need for education on disease self-management. The respondents were 978 patients over the period from 01.02.2015 to 31.03.2016 in Sofia – hospitals and medical centers. The analysis includes their opinion on the need for information about disease self-management and the methods of its receipt, the need to control the level of body fat, the frequency of this control, the need for measuring and monitoring the blood pressure and blood sugar levels. The education of patients with metabolic syndrome and their families on coping with the disease is an important moment in practical social behavior. It provides good quality of life and is a major factor in preventing complications of the metabolic syndrome in the context of secondary prevention.

Keywords: Self-management, metabolic syndrome, education.

INTRODUCTION

Metabolic syndrome is a combination of cardiovascular risk factors, including mainly obesity of central type, hypertension, dyslipidemia and impaired glucose regulation - prediabetes and diabetes. Metabolic syndrome is

associated with a two times higher risk of developing cardiovascular disease in the next 5-10 years and with a five times higher risk of developing type 2 diabetes.
The training of patients with metabolic syndrome is an absolutely indispensable element in the complex therapeutic approach and social behaviour. Patients should know how to control in their daily lives this disease, so that they normally live with it.

The purpose of this article is to examine and analyse the opinion of patients with metabolic syndrome on their need of training for self-control of the disease.

For achieving the so stated objective the following tasks were implemented:
1. Study of the opinion of patients with metabolic syndrome on the need for information about self-control of the disease in the following aspects:
- way of obtaining the information;
- sufficiency and quality of the information received;
- application of the acquired knowledge to develop a healthy lifestyle.
2. Study of the opinion of patients about the need to control risk factors for the development of their disease and the frequency of these controls.
3. Formulation of conclusions and recommendations for optimizing training in patients with metabolic syndrome for self-management of the disease.

METHODOLOGY

For acquiring information an individual anonymous questionnaire was used. Respondents were 978 patients over a period from 01.02.2015 to 31.03.2016 in Sofia and Kardzhali - hospitals and medical centres. In the study a wide range of descriptive and analytical statistical methods were used. Quantitative analyses were made with a statistical package of applied programs - SPSS 17.0. For tabular and graphical processing and presentation the products of MICROSOFT OFFICE were used.

RESULTS AND DISCUSSION

In the conducted study 978 patients were covered diagnosed with metabolic syndrome. Of these, 36.8% were men and 63,2 % were women. The greatest proportion of respondents patients (42,9%) were aged between 45 and 64 years, followed by those in the age group 21-44 years (30,1%) and in the third place (25,8%) are the patients aged over 65.

Our study found that the majority of respondents - 73% are unaware of the existence of training centres for patients with metabolic syndrome. These data correlate with the answer to the question "Have you attended training courses for patients with metabolic syndrome?" - 77.9% (762 patients) have not passed training courses for control of the disease.

The training provides a better quality of life and is a major factor in preventing complications of metabolic syndrome (within the secondary prevention). Therefore, we turned our attention to the respondents who have visited training centres. The results of the study showed that 57,2 % of the respondents did not receive the information they needed for self-control of the disease, and 28.2% received this information partly (Figure 1).

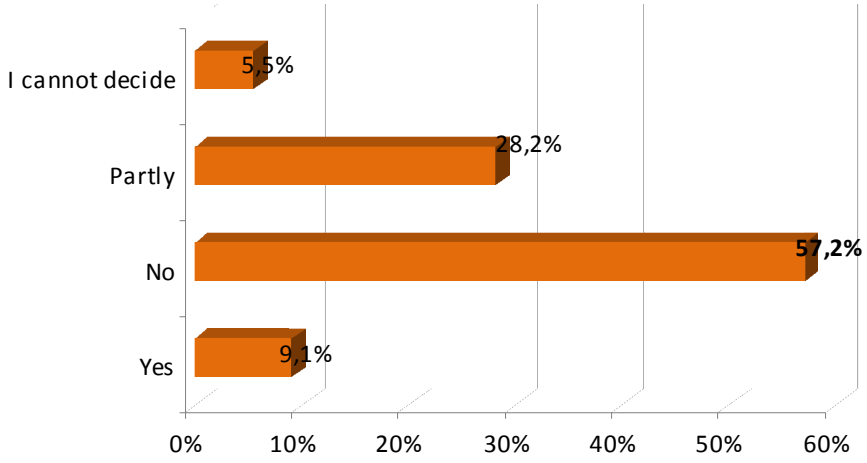

Figure 1: Did you receive the information you needed for self-control of your disease?

Almost half of the respondents (48.9%) evaluated the effectiveness of the training courses as very good and excellent (Figure 2).

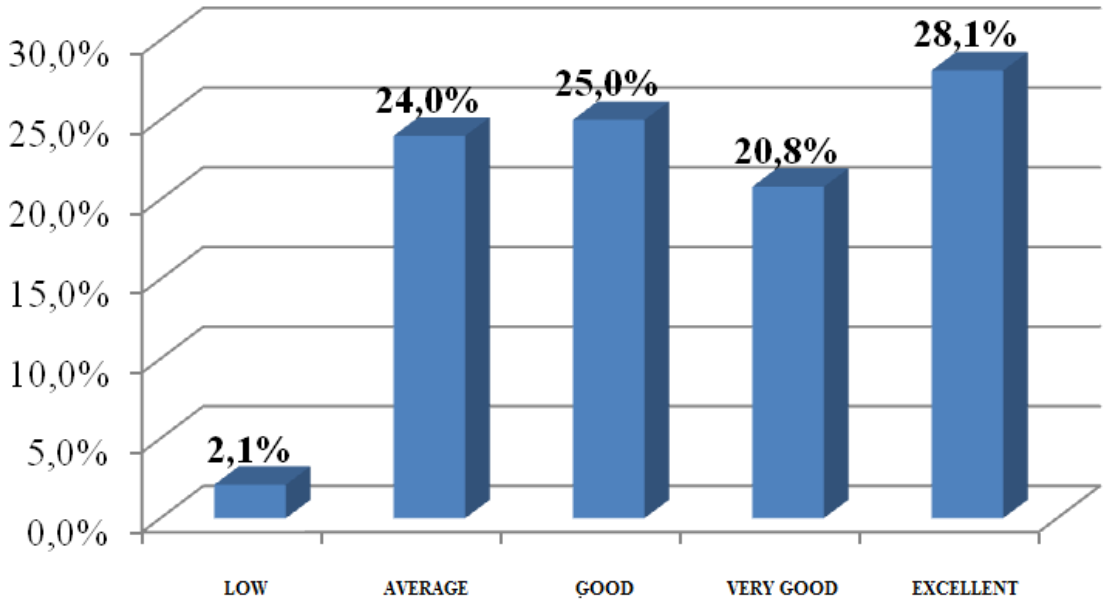

Figure 2: Evaluation of the effectiveness of the training passed by the respondents

Training of patients with metabolic syndrome and their families to cope with the disease is an important moment also in the practical social behaviour. The acquisition of new knowledge and skills associated with the disease, the increase of the health knowledge, the creation of lasting habits that ensure a healthy lifestyle should lead to improving the quality of life of patients and to a better metabolic status, which underpins the prevention of disabling complications.

Our study confirmed the positive role of the good cooperation between patient, medical and social specialists "in a team" to achieve a healthy lifestyle of the respondents. The offered information from medical specialists assisted in varying degrees 66.5% of the respondents to develop a healthy lifestyle (Figure 3).

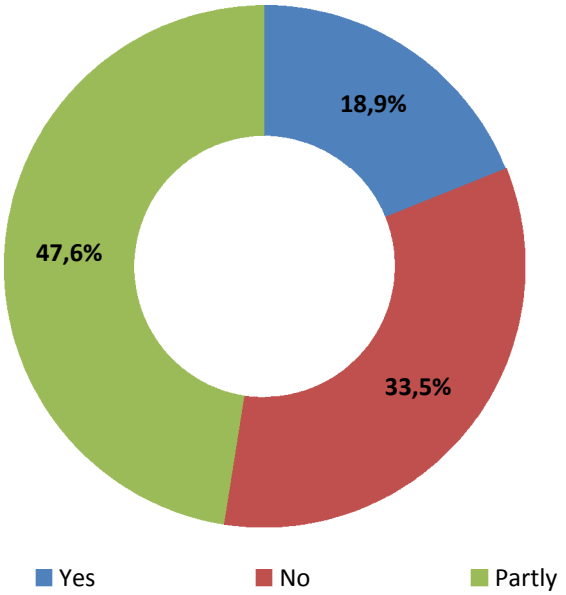

Figure 3: Did the information obtained from health specialists help you to develop a healthy lifestyle?

Engagement of GPs is to carry out training of patients with metabolic syndrome, even at the moment of diagnosing the disease. In the treatment plan of these patients a specific diet treatment is necessary, consulted with a nutritionist, physical therapy and consultation with a number of other medical specialists if there are complications and co-morbidities.

The conducted study found that 47,9 % of the respondents had complications of metabolic syndrome registered by a specialist and 63,2% have other diseases.

In most cases, the training of the GP represents professional instructions and providing information materials. GPs from the primary care network do not have in their work schedule regulated time for training of patients with metabolic syndrome and at every meeting with the patient they need to devote time to his training.

These models of training are not effective enough; sometimes the information is presented insufficiently with lack of individual approach.

Important to the success of the training is the adequate communication with the patient, the active cooperation between the medical specialist and the trainee, and the inclusion in the training process of members of the family who will support the implementation of self-control and the efforts to change lifestyle. Building an adequate model of coping behaviour in the patient is a guarantee for favourable impact on the metabolic syndrome and delay of the complications and disability

Analysis of the control of risk factors

The components of metabolic syndrome are:

- dyslipidemia;
- hypertension;
- obesity;

- hyperinsulinemia and insulin resistance;
- abnormal glucose homeostasis (NGT, increased fasting glycaemia, type 2 diabetes mellitus);
- defects in haemorheology (increased fibrinogen), fibrinolysis (increased concentration of PAI-1) and chronic inflammation (CRP).

Metabolic syndrome is not always seen in its complete form. The listed components of metabolic syndrome are independent risk factors and lead to an increased risk of developing type 2 diabetes mellitus (DM2) and cardiovascular diseases. Therefore, early detection and control of metabolic syndrome may have an impact not only on the prevention of diabetes but also of cardiovascular diseases.

The risk factors most often recognized as key to defining the diagnosis metabolic syndrome are atherogenic dyslipidemia (elevated serum levels of triglycerides, elevated apolypoprotein B, low HDL cholesterol and high LDL cholesterol), increased blood pressure and increased plasma concentrations of glucose. In most cases of metabolic syndrome central type obesity and insulin resistance are found.

In the study carried out by us we tried to find if the patients were familiar with the need to control the level of fat in the body, the frequency of this control, the need for measuring and monitoring the blood pressure and blood sugar levels.

The study results show that 36.9% of the respondents monitor the fat levels in their body through laboratory tests, and 63.8% are unaware of the frequency of this control.

In Table 1 and Table 2 the results of the carried out study showing the distribution of the respondents according to their latest tests of HDL - cholesterol levels respectively in men and women are presented.

Table 1: Distribution of the respondents - men according to their recent laboratory tests of HDL – cholesterol

HDL – cholesterol for men	Number of respondents	Proportion in %
HDL – cholesterol under 1,0 mmol/l	294	81,7
HDL – cholesterol over 1,0 mmol/l	66	18,3
Total men	**360**	**100,0**

The results show that 81,7% of the respondents were men with HDL-cholesterol below 1,0 mmol/l, which is one of the criteria for the presence of the metabolic syndrome. In women, 60,2 % of the respondents were with HDL-cholesterol below 1,3 mmol/l indicative of metabolic syndrome in them.

Upon reading the last results with respect to fasting glucose it was found that 71,5% of the respondents were with fasting glucose more than 5,6 mmol/l - two thirds of the patients have this factor included in the criteria for metabolic syndrome.

Table 2:. Distribution of the respondents women according to their recent laboratory tests of HDL – cholesterol

HDL – cholesterol for women	Number of respondents	Proportion in %
HDL – cholesterol under 1,3 mmol/l	372	60,2
HDL – cholesterol over 1,3 mmol/l	246	39,8
Total women	**618**	**100**

In terms of triglycerides the results of the study show that 79,9 percent of the respondents were with triglycerides over 1,7 mmol/l, ie these patients have this factor included in the criteria for metabolic syndrome (figure 4).

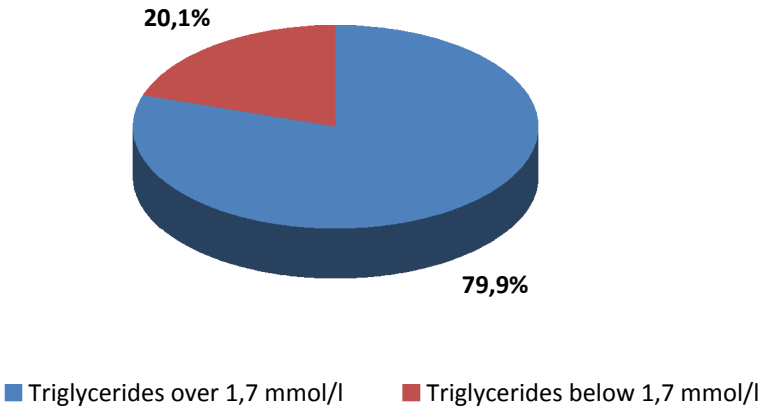

Figure 4: Distribution of the respondents according to their recent laboratory tests of triglycerides

Other criteria for assessing the presence of the metabolic syndrome is the presence of high blood pressure values ≥135/85 mmHg. In this regard, we asked the patients what their usual blood pressure was. The results show that 72,9 % of the respondents were with AN≥135/85 mmHg, once a week the blood pressure being measured by 37,5% of respondents, while 34,7% measured it only when visiting the GP or a specialist (Table 3).

Table 3: Distribution of the respondents according to the frequency of blood pressure measurements

Frequency of blood pressure measurements	Number of respondents	Share in %
Every day	108	10,9
Twice a day	18	1,8
Several times a week	94	9,6
Once a week	366	37,5
Only when visiting the GP / specialist	339	34,7
Do not measure it	54	5,5
Total	978	100,0

The next question of the study found that 24,8 % of the patients were trained to properly measure their blood pressure, but three-quarters of respondents (75,2%) could not measure it properly. This result emphasizes the need to train the patients in the necessary preliminary preparation before measurement and the method of conducting the test.

Factors that affect the blood pressure in healthy individuals can be divided into two groups:

- Endogenous - age, sex, race, body mass, heredity, etc.
- Exogenous: most often these are factors influencing in short intervals - stress, nutrition, physical activity, vibration, noise, climatic conditions, geographical features, etc.

At the exogenous factors a change in the environment or lifestyle is possible and right here is the focus of the efforts of people for change and prophylactic influence in high risk groups or in the entire population. In this respect it is necessary to focus the efforts of medical specialists in the process of training patients with metabolic syndrome for disease self-control.

CONCLUSION

From the so presented results the following conclusions can be made:

1. Almost three quarters (73%) of the respondents are unaware of the existence of training centres for patients with metabolic syndrome, and 77,9% have not passed training courses for control of the disease.
2. The given information by medical professionals has helped entirely only 18,9% of the respondents to develop a healthy lifestyle.
3. Almost two-thirds of the patients are not aware of the need to control the level of fat in the body, the frequency of this control, the need for measuring and monitoring of blood pressure and blood sugar levels.
4. Targeted training of the patients with metabolic syndrome by a team of specialists is necessary for self-management of the disease.

REFERENCES

Baykova D (2010), Functional Foods. National training campaign for healthy nutrition: "Nutrition and chronic diseases", October, Sofia, Bulgaria.

Vizeva M., Vizev Kr., Vodenicharova A. & Petkov V. (2013), Medical and social aspects of health care in adult patients with type 2 diabetes, *Health and Science Magazine, issue 2,* pp 12-15.

Vizeva M. & Vizev Kr. (2011), Diabetes and premature aging, Twenty-eight scientific and technological session, *Contact, Interdisciplinary idea into action,* pp. 168-177.

Meigs JB, Wilson PW, Fox CS, Vasan RS, Nathan DM, Sullivan LM & D'Agostino RB (2006), Body mass index, 18. Metabolic syndrome and risk of type 2 diabetes or cardiovascular disease, *J Clin Endocrinol Metab, 91*, pp. 2906–2912.

Vizev K., Vizeva M. & Alexandrova M. (2010), Lifestyle and Social interaction and lifestyle of persons with Metabolic syndrome, 31^{-st} Balkan Medical Week, October, Athens, Greece.