

## PHYSICAL ACTIVITY IN THE LIFE OF PATIENTS WITH CARDIOVASCULAR DISEASES

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### **Abstrakt**

*Introduction: Cardiovascular diseases (CVD) are the most common non-communicable disease and a leading cause of death. Despite scientific knowledge suggesting that CVD might be preventable to a large extent, cardiovascular diseases in Slovakia account for 50% of overall mortality. The most important condition to prevent CVD is patients' involvement in the management of their own health. Aim: Based on the theoretical analysis and own research, this study aimed to expand the knowledge and investigate patients' awareness of the importance of physical activity in the prevention and treatment of cardiovascular diseases. Methods: This study was supported by the Scientific Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Academy of Sciences under the VEGA Grant No. 1/0825/17 „Recommendations for physical activities in prevention and control of non-communicable diseases and their implementation in the eastern part of Slovakia." The survey participants comprised 361 cardiovascular patients. For data collection, we used a non-standardized questionnaire that contained 29 questions and was designed for a total completion time of 20 minutes under the supervision of an administrator. Results and discussion: Most patients (93.7%) obtained information about their health problems and treatment options from general practitioners. 60.6% of the patients recognized the positive impact of regular PA on their health problem. Up to three-quarters of all patients received such information from nursing staff, of those one-quarter was informed in details and nearly half of all respondents were aware of minimum PA requirements, even for patients at risk. This finding does not correspond with the level of importance patients assign to individual factors influencing the prevention and treatment of CVD. They put the most significant emphasis on diet and nutrition, followed by regular medical checkups, and only one-third recognized the importance of the physical activity. Nevertheless, it reflects the actual state since the same number of patients performs regular PA three times a week or more. Conclusion: The results uncovered attitude discrepancies towards physical activity. While most patients admit the positive impact of PA, only one-third meet the recommendations.*

### **Keywords**

*cardiovascular disease, physical activity, information, patient, therapy*

### **INTRODUCTION**

Cardiovascular diseases (CVD) are the most common non-communicable disease and a leading cause of death rate. (Booth et al. 2012, WHO 2010). Despite scientific knowledge suggests that CVD might be largely prevented, cardiovascular diseases in Slovakia account for 50% of overall mortality (Lipták, 2007). The most

important condition to prevent CVD is patients' involvement in the management of their own health. There is an extensive scientific and practical evidence suggesting that physical inactivity constitutes the most significant risk for non-communicable disease. According to WHO, physical inactivity is now identified as the fourth leading risk factor for global mortality,

which accounts for 3.2 million deaths worldwide. Farrell SW et al. (2013) describes a causal relationship proposing the lack of physical activity (PA) and the resulting low cardiorespiratory fitness are independent predictors of morbidity and mortality with a direct negative impact on the quality of life. PA is considered a cost-effective, non-pharmacological intervention available to all age categories. (Fletcher GF 1996, U.S. Department of Health and Human Services 1996). It also reduces morbidity and mortality in most non-communicable diseases.

The main health-related objective of the society is to improve the overall public health and physical fitness of all individuals. Therefore, sport and physical activity should be actively promoted among healthy persons and persons with multiple cardiovascular (cardio-metabolic) risk factors, who are allowed to perform PA in order to improve the cardiorespiratory system and general fitness (Meško 2009).

## PURPOSE

Based on the theoretical analysis and own research, we aimed to expand the knowledge and investigate patients' awareness of the importance of physical activity in the prevention and treatment of cardiovascular diseases.

## METHODS

This study was supported by the Scientific Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Academy of Sciences under the Grant No. 1/0825/17 „Recommendations for physical activities in prevention and control of non-communicable diseases and their implementation in the eastern part of Slovakia." The survey was conducted from 10/2018 to 2/2019 at 19 cardiology clinics in eastern Slovakia and included 361 patients (154 males and 207 females) with different CVD diagnoses, in particular, hypertension and the small number of heart arrhythmia

diagnosis. The average age of respondents was 57,2 years, 220 respondents fall into the urban resident category, and 140 identified themselves as rural residents. In terms of education, more than three-fourths were secondary school graduates with leaving certification, and one-fourth completed higher education. For data collection, we used a non-standardized questionnaire that contained 29 questions and was designed for a total completion time of 20 minutes under the supervision of an administrator. Most questions were closed-ended, with the option for respondents to elaborate on a specific response and were of a factual nature. The first seven questions focused on sociodemographic indicators, four questions covered patients' medical condition and awareness of the medical condition, 14 questions dealt with PA and awareness of PA, and four questions focused on the selected lifestyle factors.

After completing the questionnaire, the respondents obtained a colorful brochure containing recommendations on PA and a healthy lifestyle with regard to their diagnosis.

## RESULTS AND DISCUSSION

At first, we investigated the level of information patients had about their medical condition. If the patients reported sufficient information, we were further inspecting the source. We found that more than half of the respondents (55.7%) had ample information about their diagnosis. 37.1% were somewhat informed but opened to more detailed information. Only 7.2% had no diagnosis-related information.

Most patients (93.7%) obtained information about their health problems and treatment options from general practitioners. 60.6% of them recognized the positive impact of regular PA on their health problem (Fig. 1). Up to three-quarters of patients received such information from nursing staff, one-quarter of them, highly detailed.

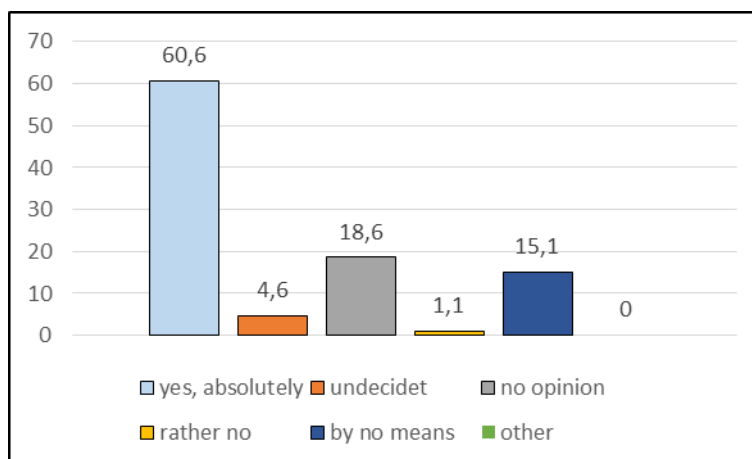


Fig. 1 Impact of PA on health condition (%)

This finding does not correspond with the level of importance patients assign to individual factors influencing the prevention and treatment of CVD. They put the most significant emphasis on diet

and nutrition, followed by regular medical checkups, and only 38.2% recognized the importance of the physical activity.

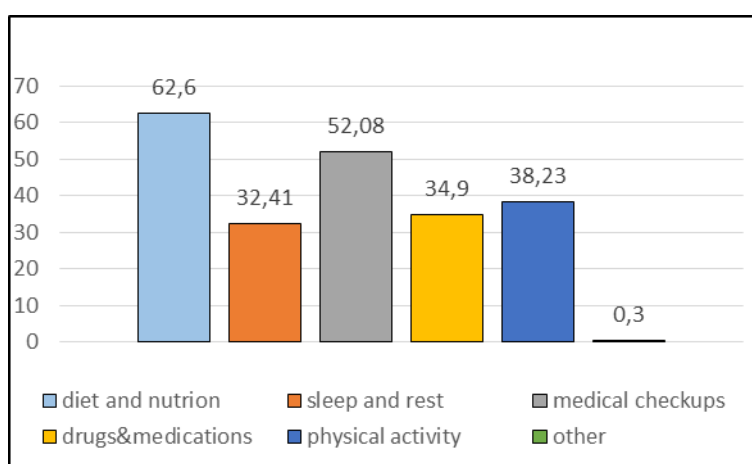


Fig. 2 Factors influencing the prevention and treatment of CVD (%)

Therefore we investigated the role of doctors and nursing staff in providing information about the importance of PA in the prevention and treatment of CVD. More than a quarter of patients (26.6%) reported that had detailed information. Less than half (46.9%) recall that some information was mentioned in general, 13.4% of patients were informed from other sources. 6.9% would welcome such

information, and only 6.3% of patients did not consider such information necessary. Nearly half (44.6%) of all respondents were aware of minimum PA requirements, even for patients at risk. Even though 14.6% of subjects had partial information on this topic, they did not find it important. Up to 40.1% of patients did not obtain such information at all, but 12.6% of them were particularly interested.

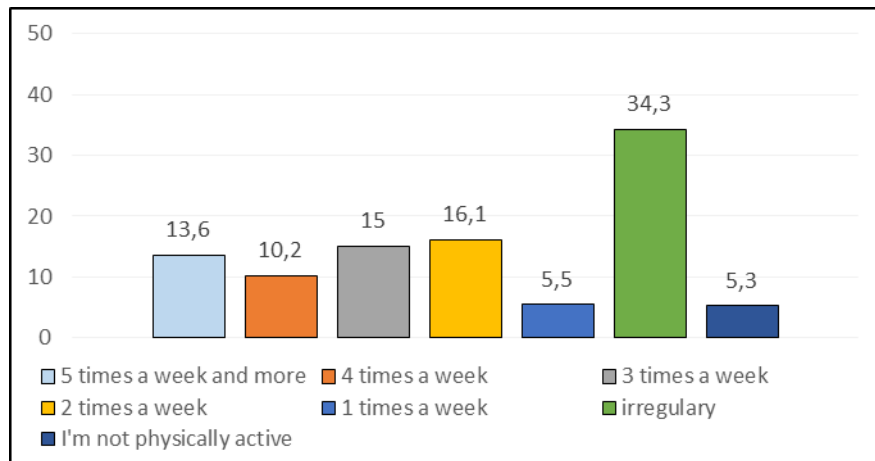


Fig. 3 Frequency of PA (%)

In assessing factors that influence the prevention and treatment of CVD, we found that 38.2% of respondents considered PA to be the most important tool. This finding strongly correlates with

responses regarding the frequency of PA (Fig.). Nearly the same numbers of patients (38.8%) performed PA at least three times week or more.

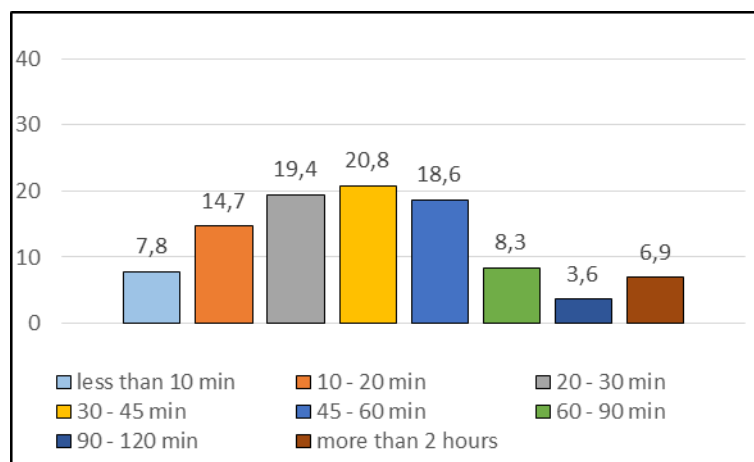


Fig. 4 Duration of PA (%)

Assessing physical activity, we found that nearly three-quarters of respondents preferred housework and gardening; more than 50% favored brisk walks and hiking. It was interesting to find out that 28.8% of respondents actually took part in any particular sport and recreational activity. Fig. 4 presents a daily duration of physical activity. The results show that more than

three-quarters of respondents reported more than 20 min duration of physical activity. In further investigation we found, that subjects in this subgroup were physically active (optimally aerobic) from 20 to 60 min. However, our experiences and type of PA performed by patients in this survey suggested that these activities were carried out at moderate intensity. Data on

PA intensity obtained from the specially designed Borg scale with attached examples confirmed this assumption, 70.1% reported moderate PA ranging from "no effort" to "little effort" Only a quarter (24.9%) of respondents performed vigorous activity characterized by sweating and rapid breathing.

## CONCLUSION

As expected, the results showed difference in attitude towards physical activity. Patients are well informed about their health condition and the importance of PA for the prevention and treatment of CVD. Furthermore, while most patients admit the positive impact of PA, only one-third meet the recommendations. Patients mostly perform moderate-intensity PA with little or no effort, which strongly correlates with findings in the general population. This fact calls for effective interventions in education, which should stress the importance of PA within the reflection of socio-economic changes. This paradigm is valid for healthy people as well as people with health diseases.

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