I. SUMMARY

Cardiovascular diseases (CVD) involving heart and blood vessel diseases are the most common cause of hospitalization in Poland. CVDs occur in women later by about 8-10 years compared to men and therefore the overall risk assessed in comparable age groups is lower in women. CVD diagnosis increases after menopause due to the hormonal disturbances that occur at that time. However, the high risk of developing CVD in women associated with smoking does not depend on age.

The most common cardiovascular diseases include: hypertension, coronary heart disease and myocardial infarction, stroke, peripheral artery disease, chronic heart failure, cardiac arrhythmias. Atherosclerosis which is an underlying cause, develops for many years without any symptoms and is usually at an advanced stage before its first manifestation. Recently more and more research has been conducted to find preventive strategies against the development of atherosclerosis, one of the main causes of ischemic heart disease. It was observed that subclinical atheromatous processes develop among young adults and even among teenagers. Early implementation of preventive measures can significantly reduce the risk of the disease.

The risk factors for CVD are: high Body Mass Index, low physical activity, excessive alcohol consumption, tobacco use, diabetes, hypertension or hyperlipidemia, genetic factors. Proper diet and physical activity are the most important factors in preserving good health. In the eighties of the last century there was a renaissance of interest in the Mediterranean diet, one of the highest rated diets in the context of prevention of cardiovascular diseases.

The fundamentals of the Mediterranean diet were formulated on the basis of dietary habits of people living in the Mediterranean countries. Its features are:

- high consumption of fruits, vegetables, potatoes, legumes, nuts, whole grains, olive oil as the main source of fat, herbs such as oregano, garlic, basil, thyme, rosemary, sage,
- moderate consumption of fish and seafood, milk and dairy products (mainly cheese and yoghurt), wine, mainly for meals,
- low consumption of meat and meat products,
- consumption of local, seasonal fresh products.

In numerous studies, the influence of the Mediterranean diet on the risk, as well as, the death rate in CVD was assessed. According to the latest scientific reports, appropriate eating habits, but also other life style factors can reduce the problems associated with the risk of developing CVD.

The aim of the study was to analyze of the risk factors and prevention of cardiovascular diseases among young women, with particular emphasis on the Mediterranean diet model. The study was conducted after the consent of the Bioethical Commission from the Medical University of Bialystok given its approval: Resolution nr: R-I-002/344/2014. In order to accomplish the aim we used an original self-developed questionnaire, 3- day 24-hour dietary interviews, International Physical Activity Questionnaire – full version, anthropometric measurements, blood pressure measurements.

The research was conducted from December 2014 to January 2016 among 244 female students from local colleges aged 18-25. In the term of the research a self- developed questionnaire has been used comprising the data about: personal and family history/predisposition, eating habits such as the frequency of eating certain groups of products, overall health condition, nutritional status, lifestyle, alcohol use, tobacco use as well as 24-hour dietary records repeated three times. The participants also answered questions about the presence of CVD in the closest relatives (siblings, parents, grandparents), possible risk factors (smoking, alcohol consumption). Data that has been collected was introduced in the Dieta 5 software, IŻŻ, Warszawa, and on this basis the following were calculated: content of individual nutrients in the diet, the ratio of monounsaturated acids to saturated acids, alcohol intake and the Mediterranean Diet Score. Along the research anthropometric measurements were taken, as well as, blood pressure measurements. The research group was divided into three sub-groups: overweight, normal body weight and underweight. The statistical analysis was performed with the SPSS 21 software (SPSS Inc., Chicago, USA). Further analysis was conducted using statistical tests Shapiro-Wilk, ANOVA, Kruskal-Wallis and the CHI2 independence test, as well as, Spearman's correlation test.

The obtained results showed that implementation and knowledge about the Mediterranean diet among the study participants was low. Just little over half of the women had knowledge about the Mediterranean diet, as one of the preventive measures against CVD and cancers. Body Mass Index was mostly at a proper level. High consumption of fish and whole-grains was found among women who had high knowledge of the Mediterranean diet, what was reflected in MDS of 5 to 7. High consumption of fats, especially saturated fats, that correlate with CVD was observed in the underweight group. Dietary vitamin A, C and E were mostly appropriate in all groups. Additionally, it is known that they came from natural ingredients, because only two respondents declared that they were taking multivitamin preparations. In the own study, sodium significantly exceeded recommended intake in all subgroups. High blood pressure was observed in overweight group. As far as biochemical

parameters are concerned such as: glucose, total cholesterol, low-density lipoprotein (LDL), high-density lipoprotein (HDL), triglycerides no differences between the groups were observed. The occurrence of hyperlipidemia in the family of respondents was definitely characteristic of the overweight subgroup. Most women declared alcohol use. Smoking was reported by 14% of women, which is alarming, as the age of initiation of smoking was the teenage age of participants. Most women presented insufficient level of physical activity. In particular subgroups no significant differences in the physical activity coefficient were found. Nutrition and lifestyle are among the key health determinants.

Improper nutritional behavior in young women may result in negative health consequences. Knowledge of the principles of good nutrition and healthy lifestyles would help to prevent poor dietary habits and promote health more effectively. It is also worth noting the legitimacy of performing biochemical tests at a young age, because it will allow for the diagnosis of abnormalities, will give the opportunity to quickly introduce preventive measures such as changing eating habits and lifestyles, which in turn will allow to postpone the onset or avoid the risk of occurrence of non-communicable diseases. The obtained results can be used for prophylaxis in the form of increasing young people's awareness of the impact of their nutrition on the functioning of the body.