PREVALENCE OF OBESITY, OVERWEIGHT AND HIGH BLOOD PRESSURE IN A SUBURBAN COMMUNITY OF MUREŞ COUNTY

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Abstract: *Most diseases are caused by cardiovascular risk factors that can be controlled, treated or prevented, such as hypertension, high cholesterol, overweight/obesity, tobacco use, physical inactivity and diabetes. Globally, cardiovascular diseases are the first cause of death and tend to remain so. The aim of the study was to reveal the actual data on the prevalence of overweight, obesity and hypertension and evaluating the eating habits in a suburban community of Mureş County. We conducted a cross-sectional study based on biochemical and anthropometric data collection from 50 patients, and their questioning on eating behaviour. About 24% of respondents consumed one meal per day, over 40% had a body mass index (BMI) > 28 kg/m^2 and average cholesterol in both genders was recorded as being over 200 mg/dl. We believe that identifying in time the individuals who have an increased cardiometabolic risk is essential in order to prevent complications, representing in fact the first step in developing effective prevention and treatment strategies.*

INTRODUCTION

Worldwide, the prevalence of chronic diseases is growing at alarming rates. Almost 18 million people die every year from cardiovascular disease; also, diabetes and hypertension are major predisposing factors.

The increase in the prevalence of diabetes and hypertension is due to the increase of the prevalence of overweight and obesity, conditions that equalled in recent decades the importance of malnutrition and infectious diseases as major public health problems threatening the developing countries.(1,2,3)

Increasing body mass index (BMI), reflecting a positive energy balance, is not a recent phenomenon. In recent decades, there has been a change in the risk-benefit ratio, so increasing the amount of fat has been recognized as the cause of various diseases.

Obesity is responsible for increased morbidity and mortality annually in the Western industrialized countries. This causes obesity to become, after smoking, the second leading cause of death potentially preventable.(4,5,6,7)

This study is intended to complement the existing data at county level on the prevalence of overweight and obesity. The results will be used to design regional nutritional programmes to promote a healthy lifestyle and improved quality of life, programmes that are absolutely necessary in schools, colleges and in family medical practices.

PURPOSE

The aim of this study was to reveal the actual data on the prevalence of overweight, obesity and hypertension and the relation with the eating habits in a suburban community of Mureş County.

MATERIALS AND METHODS

Data were collected in the family doctor's office in a suburban community of Mureş County and each individual patient filled out a nutrition chart that included: personal data, elements of lifestyle practices (alcohol consumption, water consumption, sweetened juices), anthropometric parameters (weight, height, systolic and diastolic blood pressure) and also biochemical parameters (plasma glucose à jeun, total cholesterol, serum triglycerides).

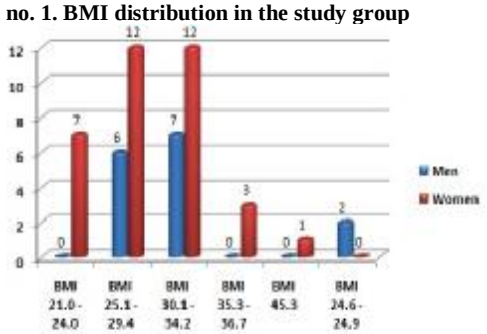
Data were collected between August 1 to December 15, 2014, and the subjects were a sample of the adult population from a suburban community in Mureş County.

Statistical analysis: The data were centralized using the Statistical Package for Social Sciences (SPSS) and Microsoft Office Excel. Height and weight values helped us to calculate the body mass index using the formula weight/ height^2. As recommended by the World Health Organisation (8), we could classify the study subjects as being: underweight, normal weight, overweight and obese.

RESULTS

The sample consisted of 50 participants, aged between 28 to 44 years old, predominantly females, with a rate of 70.1%. The mean age was 39.5 years (minimum age was 28 years old and the maximum, 44 years old). Almost a third of the respondents were characterized with a BMI at the upper limit of the normal value and 36% were characterized as overweight.

Figure no. 1. BMI distribution in the study group



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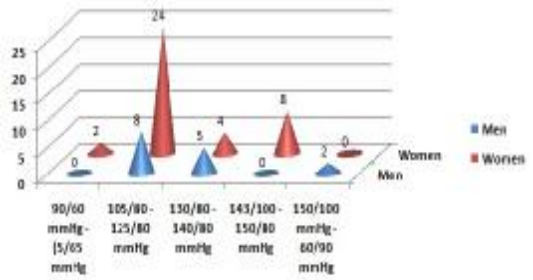
Average BMI was 29.46 kg/m^2, the average weight was 83.1 kg, the average for women was 78.5 kg and 93.9 kg for men. In the category characterized as overweight, 36% were overweight with a BMI between 25.1 - 29.6 kg/m^2, 38% presented grade I obesity, 6% had grade II obesity, and 2% had morbid obesity (figure no. 1).

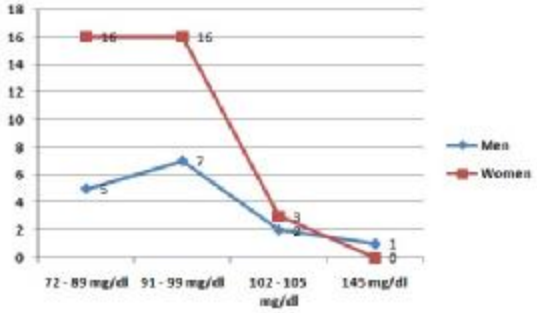
Another objective of the study was to identify differences in the values of biochemical indicators in women compared to men. In terms of blood pressure, a share of 64.2% of the respondents had systolic and diastolic blood pressure between 105/80 - 125/80 mmHg, and 35.8% were in the range of 130/80 - 160/90 mmHg (figure no. 2).

Figure no. 2. Hypertension prevalence in the study group



Average glucose in the study group was situated at the value of 91.48 mg/dl, average glucose in women was 89.8 mg/dl glucose and average glucose in men was 95.3 mg/dl (figure no. 3).

Figure no. 3. Glucose values in the study group



We studied the triglyceride and cholesterol indicator values, triglyceride value of the entire batch was 152.2 mg/dl, the triglyceride average value for women was 130.2 mg/dl, for men, it was 203.4 mg/dl (figure no. 4). Cholesterol average across the entire sample was 211.2 mg/dl, the average value in women was 204.5 mg/dl; in men, the average value for cholesterol was 226 mg/dl (figure no. 5).

Figure no. 4. Triglyceride values in the sample

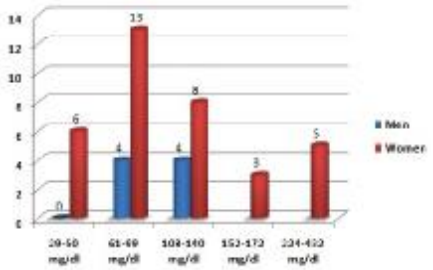
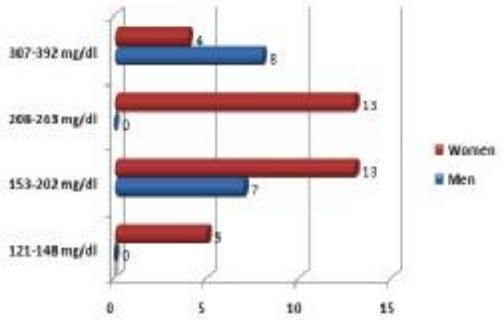


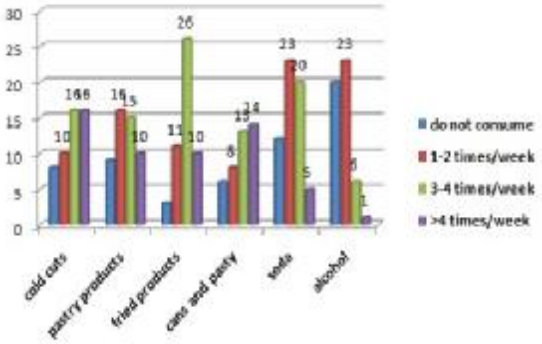
Figure no. 5. Cholesterol values in the group



Further on, we followed some of the elements of lifestyle and eating habits. To the question: "How many meals do you take daily?", a total of 12 subjects responded "once a day" and 23 people reported consuming 2-3 meals/day, with an average meal consumed, 3-4 meals/day.

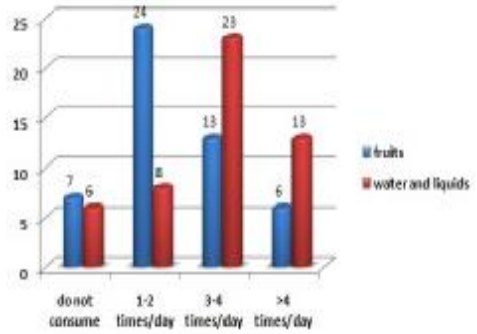
Cold cuts consumption was represented by an average of 3 times/week, 8 subjects did not consume cold cuts at all, and 16 people ate cold cuts about 3-4 times/week, 16 subjects ate over 4 times/week. The meal average containing pastries was about 2 times/week, 9 people said they never ate pastries and 15 persons had consumed 3-4 times/week (figure no. 6).

Figure no. 6. Frequency of unhealthy food consumption



Consumption frequency of canned and pasty products is represented by an average of 3 times/week, 6 people did not consume these products at all, 13 people have consumed about 3-4 times/week and 14 people mentioned their consumption over 4 times/week. Fruit consumption in the study group was represented by an average of once a day, 7 people did not consume fruits at all, 24 subjects consumed fruits about 1-2 times/day (figure no. 7).

Figure no. 7. Frequency of fruits and water consumption



In the sample, 20 people did not consume any alcohol, the sample average was once a week, 23 subjects had consumed alcohol 1-2 times/week while 6 people have consumed alcohol 3-4 times/week.

We also aimed at the fluid intake in the group we studied; the frequency of daily consumption of water was about 2 cups. Of all respondents, a total of 8 used to drink 1-2 glasses of water/day, 23 persons drunk 3-4 glasses/day and 13 patients had a consumption of more than 4 glasses/day.

DISCUSSIONS

Our data point out the high prevalence of overweight in our group, only 18% were within the normal weight range while the remaining subjects recorded weight values which according to BMI scale (9) had an overweight status (36%) and obesity grade I and II. Average weight recorded in women was 78.5 kg, which is lower than the average weight of 93.9 kg in men.

Regarding the obesity degrees, grade I obesity predominates compared with grade II and III (38.2% versus 6.4%, respectively, 1.4%).

Our study shows a higher prevalence of hypertension in women, 24.2% compared to men 14.8%, representing a share of 38% of the total sample compared with the results of another study in which the prevalence of hypertension was 28% and 42% for hypercholesterolemia (10), we assume that eating canned and pasty products has great influences, products rich in salt and food additives, food consumed in an increased amount of more than 4 times/week by 28 % of the subjects.

Our results show a 90.3% prevalence of hypercholesterolemia, the mean cholesterol in men was 226 mg/dl, a value close to that of women 204.5 mg/dl, both exceeding the average normal value of cholesterol by 50 mg/dl.(10) In our research, about 46% of the studied rural population recognized alcohol consumption between 1-2 times/week, compared with other results on the consumption of alcoholic beverages, where almost one third (30.5%) answered affirmatively.(10)

A similar study concluded that 85.4% of the studied population consumed fruits daily (10) compared with the present study in which a share of 48% reported daily fruit consumption.

CONCLUSIONS

The study results provide information on various aspects of lifestyle, also registered a low frequency of fruit consumption and water as well associated with an increased consumption of meat in a small suburban community.

We believe that identifying in time the individuals with an increased cardiometabolic risk is essential in order to prevent complications, representing in fact the first step in developing effective prevention and treatment strategies.

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