



THE INFLUENCE OF METABOLIC SYNDROME TO CARDIOVASCULAR EVENTS IN A TEN-YEAR PROSPECTIVE STUDY

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The aim of the study was to evaluate frequency of cardiovascular events (myocardial infarction, stroke) among the individuals with metabolic syndrome (MS).

Materials and methods

The study design was prospective. The study was started in 2003 to assess the risk factors, clinical components, diagnostic criteria of MS. The end of the study was 2013. The 45 years old and older citizens of Lithuanian district have participated in the study. 1115 individuals (562 men and 553 women) were randomly selected in 2003. 116 (10.40 %) individuals from the previous study had died, 33 (2.96 %) moved to other living place. 966 individuals were invited to the repeated study. 538 respondents: 278 (51.70%) men and 260 (48.30%) women participated in the repeated study in 2011-2013. The age of the individuals was 55 to 92 years. At the repeated study MS was identified according NCEP /ATP III.

Cardiovascular pathology was confirmed by conclusions of cardiologist and neurologist.

Statistical analysis

Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS v. 20.0). The data was presented as average, standard deviation. To compare the differences between groups with normal distribution Student – t test was used. To compare the differences between averages when distribution was not normal or the group was less than 20 Mann-Whitney U test was used.

To compare frequency in different groups Chi - square (precision Fisher criterion) criterion was used. The probability of a certain variable, in case of a certain factor, was evaluated by calculating the odds ratio (OR) and its 95 % confidence interval (CI) using the one way logistic regression analysis.

The significant level of $p < 0.05$ was checked as statistical significant.

Results

MS was repeatedly identified to 236 (43.90%) individuals: 100 (35.97%) men and 136 (52.31%) women.

During the study myocardial infarction (MI) was confirmed to 40 (7.43%) individuals taken part in the study, stroke - to 23 (4.28%) individuals.

The OR of MI between individuals with MS and without MS was 1.80 (95 % CI 1.67-1.97), $p < 0.05$.

The OR of stroke for individuals with MS and without MS was 2.05 (95 % CI 1.21-2.54), $p < 0.05$.

According to the data of the study, occurrence of MI was higher in the group of individuals with MS than to individuals without MS, respectively 23; 9.75% vs. 17; 5.63%, $p > 0.05$. The occurrence of stroke was higher in the group of individuals with MS, accordingly 14; 5.93% vs. 9; 2.98%, $p > 0.05$. Comparing the frequency of MI between genders, the pathology was found more frequently in women's group : 14; 10.30% vs. 9; 9.00%, $p > 0.05$. The frequency of stroke was equal in both groups, accordingly 7; 5.15 % vs. 7; 7.00 %, $p > 0.05$.

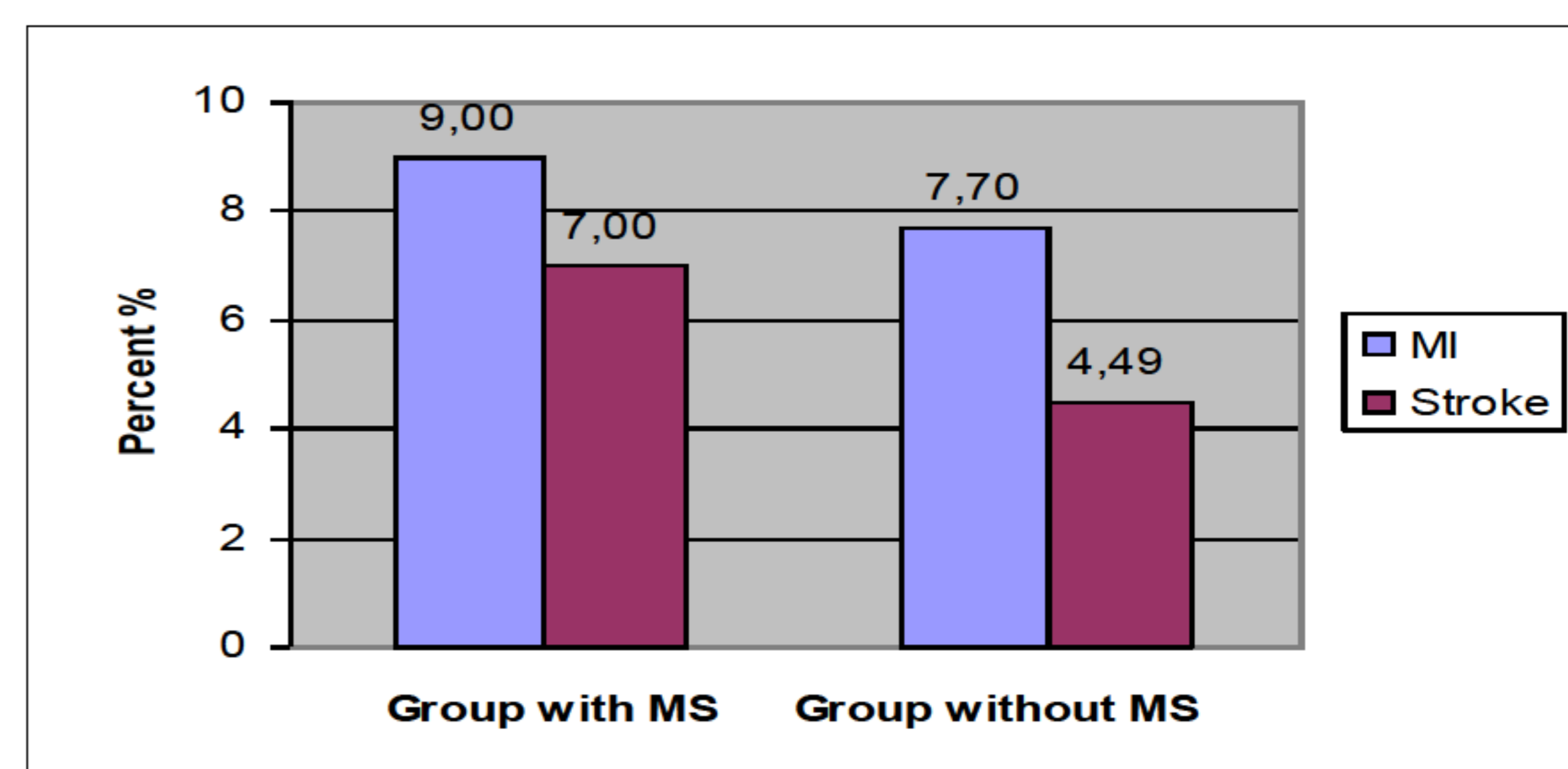


Fig.1. The prevalence of cardiovascular events in men's group

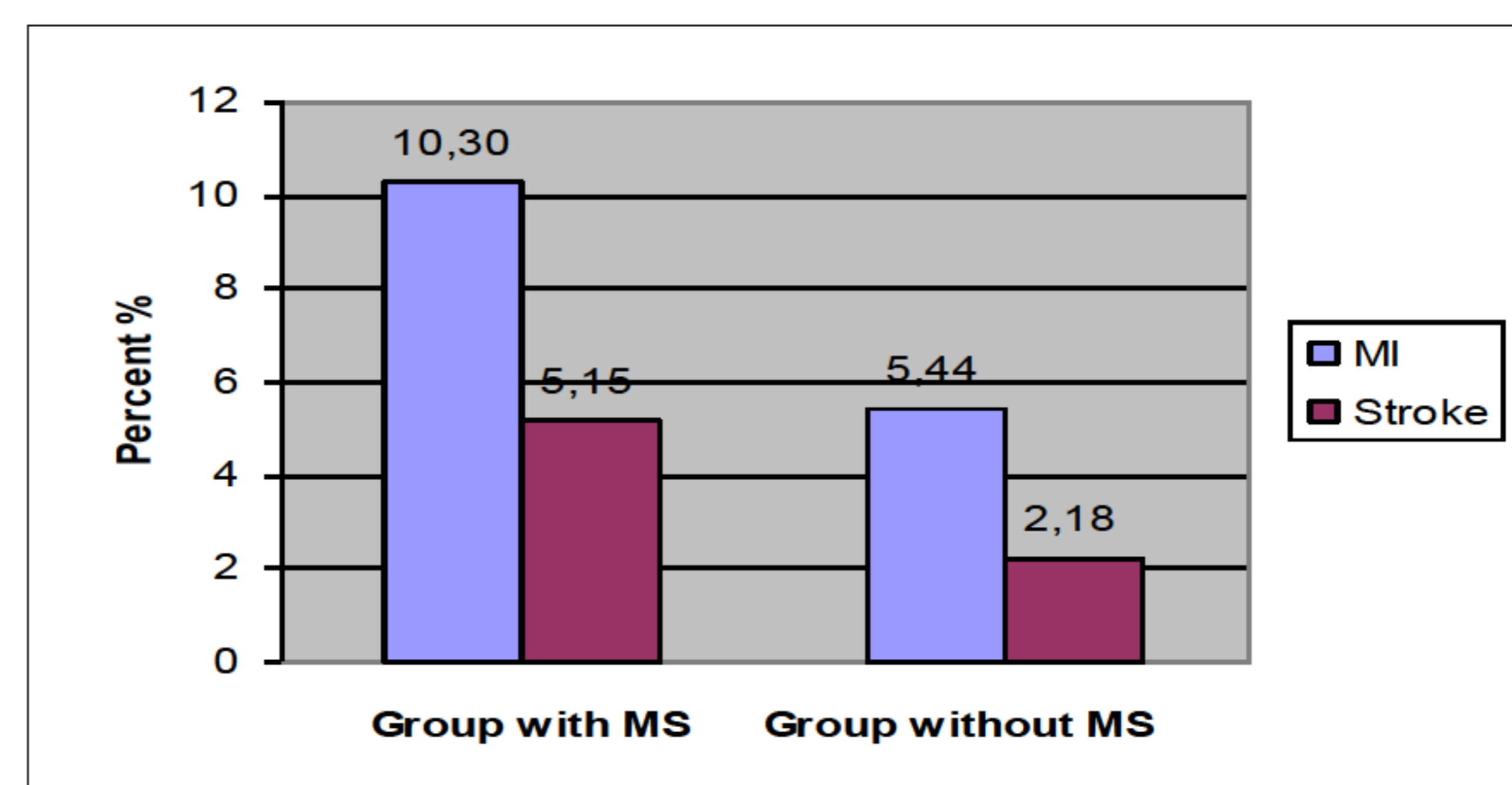


Fig.2. The prevalence of cardiovascular events in women's group

Conclusion

Individuals with identified MS have 1.80 and 2.05 times higher statistically significant probability, respectively, for MI and stroke events, than individuals without MS.

