

# The impact of risk factors on the development and severity of coronary artery stenosis

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**Introduction:** Coronary artery disease (CAD) is the main cause of death worldwide. There are many risk factors for the development of coronary heart disease and, therefore, coronary artery stenosis. Some of them are modifiable and some cannot be influenced.<sup>1-3</sup> The goal of this research was to determine the impact of risk factors on the development and severity of coronary artery stenosis.

**Patients and Methods:** By reviewing the data of the Cardiology Laboratory of the University Hospital Centre Zagreb, a total of 116 subjects participated in the research, and the data were collected for the period of December 2021. The impact of predictor variables on heart rate, the severity of coronary artery stenosis and the number of arteries affected in the tested population was examined by multiple regression analysis and general regression model. The results are shown in the form of a Pareto t-value diagram.

**Results:** The incidence of the atypical/typical (NSTEMI/STEMI) myocardial infarction for the overall examined population was 43%. Mean values and standard deviations of the number of arteries affected by stenosis were slightly higher in subjects who experienced myocardial infarction ( $1.8 \pm 0.9$ ) compared to those who did not ( $1.5 \pm 1.1$ ), however, the difference between the two groups was not statistically significant ( $P = 0.1501$ ). Out of all the variables used in the model, according to the results of beta coefficients and their significance, the following variables have a statistically significant contribution: diabetes ( $\beta = 0.38$ ;  $P = 0.0174$ ), body mass index ( $\beta = 0.35$ ;  $P = 0.0275$ ) and smoking ( $\beta = 0.29$ ;  $P = 0.0371$ ).

**Conclusion:** By analyzing the results, a statistically significant difference was confirmed for the variables diabetes, smoking and body mass index between subjects who experienced heart attack in relation to those who did not. A statistically significant correlation was also confirmed between the number of vessels affected by stenosis and the predictor variables age and hyperlipidemia. Statistically significant difference between those who experienced it and those who did not was confirmed only for the anterior descending branch of the artery and the left marginal branch of the coronary artery.

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## LITERATURE

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