

## Evaluation of the effects of three risk factors, smoking, BMI and underlying heart disease rates in patients requiring cardiac surgery in Karaj and Tehran 2011

M. Modir falah Rad<sup>1,\*</sup>, H. VatanPour<sup>1</sup>, M. Sistani Zad<sup>2</sup>

<sup>1</sup>Department of Toxicology, School of Pharmacy, Shahid Beheshti University of Medical Science, Tehran, Iran

<sup>2</sup>Department of Clinical Pharmacy, School of Pharmacy, Shahid Beheshti University of Medical Science, Tehran, Iran

**Background and Aims:** Coronary Heart Disease (Coronary Artery Disease) is the first cause of death in most modern societies. Accordingly, in this study the effects of three risk factors of smoking, BMI and underlying heart disease in need of heart surgery patients were studied.

**Methods:** In this prospective descriptive study, in 2011, 300 heart patients of in Tehran and Karaj hospitals were selected randomly and were examined. The questionnaire contains information collected on demographic characteristics, BMI, smoking, dietary habits, quality of physical activity, family and the underlying disease, type of cardiac surgery and number of angiography was performed. Data was analyzed by the mean and standard deviation statistics and  $\chi^2$  test analysis was used to explain correlation between qualitative data. To accelerate and increase the accuracy, the statistical software of SPSS18 was used.  $P < 0.05$  was used for significant levels.

**Results:** Angiography was performed on all subjects that 87.6% had resulted to surgery after angiography. In heart surgery, balloon, angioplasty and heart valve surgery were 35.2, 11.4 and 6.7 percent respectively. 91.4 % of people were without stent. The effect of BMI ( $\chi^2 = 2.62$  and  $p$ -value = 0.632), smoking ( $\chi^2 = 0.92$  and  $p$ -value = 0.814) and underlying disease ( $\chi^2 = 3.88$  and  $p$ -value = 0.56) had no significant effects on heart surgery. However, effect of pack year smoking on heart surgery was significant ( $\chi^2 = 14.01$  and  $p$ -value = 0.016). The effect of BMI ( $\chi^2 = 14.332$  and  $p$ -value = 0.047) and pack year smoking ( $\chi^2 = 13.091$  and  $p$ -value = 0.02) on heart surgery of men was significant.

**Conclusions:** Smoking for long-term and high BMI in men are the most important risk factor in heart disease and cardiac surgery. Thus, culture in reducing smoking and increasing physical activity reduces heart disease and the risk of surgery.

**Keywords:** Smoking, BMI; Underlying heart disease; Heart surgery