14-1 Gender differences in seasonal variation of risk factors for acute myocardial infarction in eastern Taiwan

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**Objectives:** The purposes of this study were to determine whether men and women differ in risk factors for acute myocardial infarction (AMI) during the four seasons of the year.

**Materials and methods:** Medical records of 2,086 (women: 693) patients hospitalized with a confirmed AMI were reviewed retrospectively from the region’s only medical center in eastern Taiwan. The onset date of 544 patients (women: 178) was in spring, 493 patients (women: 165) in summer, 474 patients (women: 155) in autumn, and 575 patients (women: 195) in winter. Risk factors of age, percentage of smoking (smoking%), percentage of diabetes (diabetes%), percentage of hypertension (hypertension%), total cholesterol, and body mass index were assessed. In each season, logistic regression model was used to calculate the odds ratio (OR) and 95% confidence interval (CI) of women compared to men by risk factors.

**Results:** In spring, women presented significantly higher values in age (OR 1.022; 95%CI 1.012–1.031) and diabetes% (OR2.373 : 95%CI 1.554–3.625), significantly lower in smoking% (OR 0.187; 95%CI 0.145–0.240). In summer, women presented significantly lower values in body mass index (OR 0.907 : 95%CI 0.856–0.960) and smoking% (OR 0.222; 95%CI 0.134–0.367). In autumn, women presented significantly higher values in age (OR 1.033; 95%CI 1.012–1.053) and total cholesterol (OR 1.009 : 95%CI 1.004–1.013), significantly lower in smoking% (OR 0.168 ; 95%CI 0.098–0.289). In winter, women presented significantly higher values in diabetes% (OR 1.845 : 95%CI 1.250–2.725), hypertension% (OR1.550 : 95%CI 1.001–2.402), and total cholesterol (OR 1.008 : 95%CI 1.004–1.012), significantly lower in smoking% (OR 0.188 : 95%CI 0.119–0.297).

**Conclusion:** The differences between women and men in risk factors for AMI did present seasonal variation in eastern Taiwan. This finding would provide further insight into medical climatology in preventing serious cardiovascular events.

**Keywords:** Acute myocardial infarction, Seasonal variation, Gender difference, Risk factor