THE EFFECTS OF ACUTE AND CHRONIC MENTAL STRESS
ON CARDIAC FUNCTION
Mark Wilson, Lorraine Conroy. University of Illinois at Chicago, Chicago, IL, USA
10.1136/oemed-2014-102362.236

Objectives The main objective of this study is to investigate the effects of chronic and acute stress on blood pressure, heart rate variability and an indicator of cardiac contractility. The study also aims to describe the degree to which various demographic and lifestyle factors modify the observed effect.

Method Chronic stress was assessed with a validated questionnaire, the Perceived Stress Scale. Acute stress was the level of stress experienced from the performance of a simple mental challenge on a scale from 1–100. Heart rate variability is calculated from heart rate measurements recorded via a heart rate monitor. Cardiac contractility index is derived from the amplitude ratio of the first to second heart sounds, as recorded with an electronic stethoscope. Measurements for each of the parameters were taken before and after performance of the task. Pre-task measurements were used as baseline data and related to reported chronic stress levels. Acute stress levels were compared with the difference between pre- and post-task cardiac measurements.

Results Average acute stress level was 17/100. A statistically significant increase in cardiac contractility index was found for acute stress, while no significant change in either HRV or heart rate was noted. Subjects with high chronic stress showed a significantly reduced cardiac contractility than those with low chronic stress, while no difference in HRV was found between groups.

Conclusions Acute and chronic stress exerts differing inotropic effects on the heart, while no chronotropic effect was observed.

THE COMBINED EFFECTS OF HIGH EMOTIONAL DEMANDS AND LOW JOB CONTROL AT WORK ON SUICIDAL IDEATION IN KOREAN SALES AND SERVICE WORKERS
1,2,3Jin-Ha Yoon, 4Sei-Jin Chang. Institute for Occupational Health, Yonsei University College of Medicine, Seoul, Korea; 2Department of Preventive Medicine, Yonsei University College of Medicine, Seoul, Korea; 3Department of Preventive Medicine, Wonju College of Medicine, Yonsei University, Wonju, Korea; 4Institute Occupational and Environmental Medicine, Wonju College of Medicine, Yonsei University, Wonju, Korea
10.1136/oemed-2014-102362.238

Objectives Suicide rates have increased worldwide, and suicide is the second leading cause of death below the age of 60 in Korea. Hence, loss of the working years due to suicide is very important issue in occupational health. We examined the effects of high emotional demand and low job control on suicidal ideation in sales and service workers.

Method A total of 1995 participants (824 men and 1171 women) were recruited in this study. Suicidal ideation, high emotional demand and low job control were estimated by self-report questionnaires from the 4th Survey. Odds ratios (OR) and 95% confidence intervals (95% CI) for suicidal ideation was calculated by gender using the logistic regression analysis.

Results People who experienced high emotional demands (OR: 2.07 in men, OR: 1.97 in women) or low job control (OR: 1.96 in men, OR: 1.33 in women) were more likely to experience suicidal ideation, after adjusting for age, household income, and employment characteristics (paid vs. self-employed workers). The combined effects of emotional demands and job control revealed that workers with high emotional demand and high job control (OR: 1.93 in men, OR: 1.60 in women) and high emotional demand and low job control (OR: 4.60, OR: 2.69 in women) had a higher risk for suicidal ideation, compared to workers with low emotional demand and high job control, after controlling for age, household income, and environmental factors.