

The Effects of Noise Pollution on Arterial Blood Pressure and Heart Pulse Rate on Doctors in their Dental Offices in Jenin City - Palestine

Majd Sa'abnah, Issam Rashid & Zeid Qamhieh

Abstract:

This study reports the relationship between occupational noise level with arterial blood pressure (systolic and diastolic), and heart pulse rate for sample of doctors (male and female) in their dental offices which was chosen randomly in Jenin City. The mean age of the sample is 40 year. The mean duration of their serving is 13.8 year. Measurements for the noise levels were obtained. The noise level was between (90.5 - 91.7) dB. The arterial blood pressure (systolic and diastolic), and heart pulse rate were measured before and after exposure to noise for four hours. Strong positive correlation (Pearson Correlation Coefficient) was found for all of the measured variables. The mean systolic and diastolic blood pressure, heart pulse rate for the experimental sample are correlated positively with the noise pollution level ($R= 0.629$ for systolic, $R=0.475$ for diastolic), and for heart pulse rate ($R= 0.560$). This study showed that there are significant shifts in mean values of systolic blood pressure, diastolic blood pressure, and heart pulse rate before work and four hours after work. The systolic blood pressure mean for the experimental sample is increased by 4.4 mm-Hg, while the diastolic blood pressure mean is increased by 3.8 mm-Hg, the heart pulse rate mean is increased by 3.6 beat/min. In addition, significant interactions were found between mean values of arterial blood pressure (systolic and diastolic), heart pulse rate, doctors' ages, and duration of serving year.

Email addresses
ashqer@najah.edu