

The Effect of Noise Pollution in Arterial Blood Pressure and Heart Pulse Rate on Schools' Children at Jenin City – Palestine

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Abstract:

This study reports the association of noise pollution level with blood pressure (systolic and diastolic) and heart pulse rate in schools' children. The test sample schools consist of six different schools chosen randomly in Jenin city. The measured sound pressure levels (SPL) in all tested schools were found to be above the standard international acceptable levels. Strong positive correlation (person correlation coefficient) was found between sound pressure levels in the sample schools from one side and blood pressures ($R=0.285$ for both systolic and diastolic) and heart pulse rate ($R=0.273$) from the other side. The average change rate of systolic and diastolic blood pressures were found to be about 5 mm-Hg and 2.7 mm-Hg for every 75dB/hr change in SPL values, respectively. Also, the average rate of change of heart pulse rate was found to be about 5beats/min which reflects the strong correlation between changes of systolic blood pressure and heart pulse rate.