

The Effect of Noise Pollution on Arterial Blood Pressure and Pulse Rate of Workers in the Hospitals of Nablus City-Palestine.

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Abstract:

This study analyzes the association of noise pollution level with systolic and diastolic blood pressure and heart pulse rate of workers in hospitals in the operating rooms (OR), neonatal intensive care units (NICU) and intensive care units (ICU). The sound pressure level (SPL) values in all studied hospitals are high compared with the recommended value which is 45.0 **dB(A) in the daytime**.

The arterial blood pressure (Systolic SBP and Diastolic DBP) and heart pulse rate (HPR) were measured for 95 workers (55 males and 40 females) which is the sample of workers in hospitals in Nablus city. The ages of workers are ranged from 20 to 73 yr. The duration of employment of those workers in the current job is ranged from 1 to 47 yr. In this study SBP, DBP and HPR are correlated positively (P-value < 0.050) with the occupational noise levels in all studied hospitals. Whereas the Pearson coefficient correlation (R) values of SBP, DBP and HPR in all selected hospitals are ranged from 0.546 to 0.906 of SBP, from 0.617 to 0.799 of DBP and from 0.658 to 0.869 of HPR. Moreover, this study showed that there are significant shifts in mean values of SBP, DBP and HPR before work and after 5 hours at least in all selected hospitals. Significant correlation was found between mean values of SBP, DBP and HPR with the duration of employment and age. Whereas the difference between means of SBP, DBP and HPR before and after work are 6.34 (mmHg) of SBP, 5.11 (mmHg) of DBP and 5.31 (beat/min) of HPR.