IMPACT OF INCREASED NOISE LEVELS AT PUBLIC EVENTS IN KHOREZM REGION ON POPULATION HEALTH

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In recent years, the growing frequency of mass public events using powerful sound systems, particularly at weddings and celebrations in the Khorezm region, has raised public health concerns. Urbanization and the widespread use of amplified music contribute to increased environmental noise levels. According to the World Health Organization, prolonged exposure to noise levels exceeding 60 dB adversely affects the central nervous system, cardiovascular function, and immune regulation. These effects may contribute to the development of stress-related disorders and a decline in overall quality of life. Therefore, understanding the health implications of noise pollution in public gatherings is of great relevance.

The aim of this study was to assess the impact of elevated sound pressure levels on the physiological and psycho-emotional parameters of individuals frequently exposed to noisy environments, and to compare them with individuals in acoustically safe conditions.

The study included 60 volunteers aged between 20 and 40 years, divided into two equal groups. Group 1 (control) included 30 individuals who regularly attended events with noise levels not exceeding 55 dB. Group 2 (experimental) included 30 individuals who were present for at least one hour at events where the noise level exceeded 65 dB. Data collection methods involved questionnaires assessing headache, irritability, and sleep disturbances; measurements of blood pressure and heart rate before and after exposure; audiometric evaluation of hearing thresholds; and serum cortisol level determination.

The results showed that participants in the experimental group had a 35% average

increase in cortisol levels ($p<0.05$), with 63% reporting sleep disturbances and 47% experiencing tinnitus. Temporary increases in blood pressure (by 10–15 mmHg) were observed in 53% of participants. Increased irritability and reduced concentration were reported by 70% of individuals. These changes were significantly more pronounced than those observed in the control group, where such complaints were minimal or statistically insignificant.

The findings indicate that exposure to noise levels above 60 dB during public events has a significant negative effect on human psychophysiological health. There is an increased risk of stress-induced disorders, decreased mental performance, and reduced quality of life. It is essential to implement sanitary regulations for noise control, promote the use of sound level monitoring devices in public spaces, and apply administrative measures in cases of excessive noise exposure.