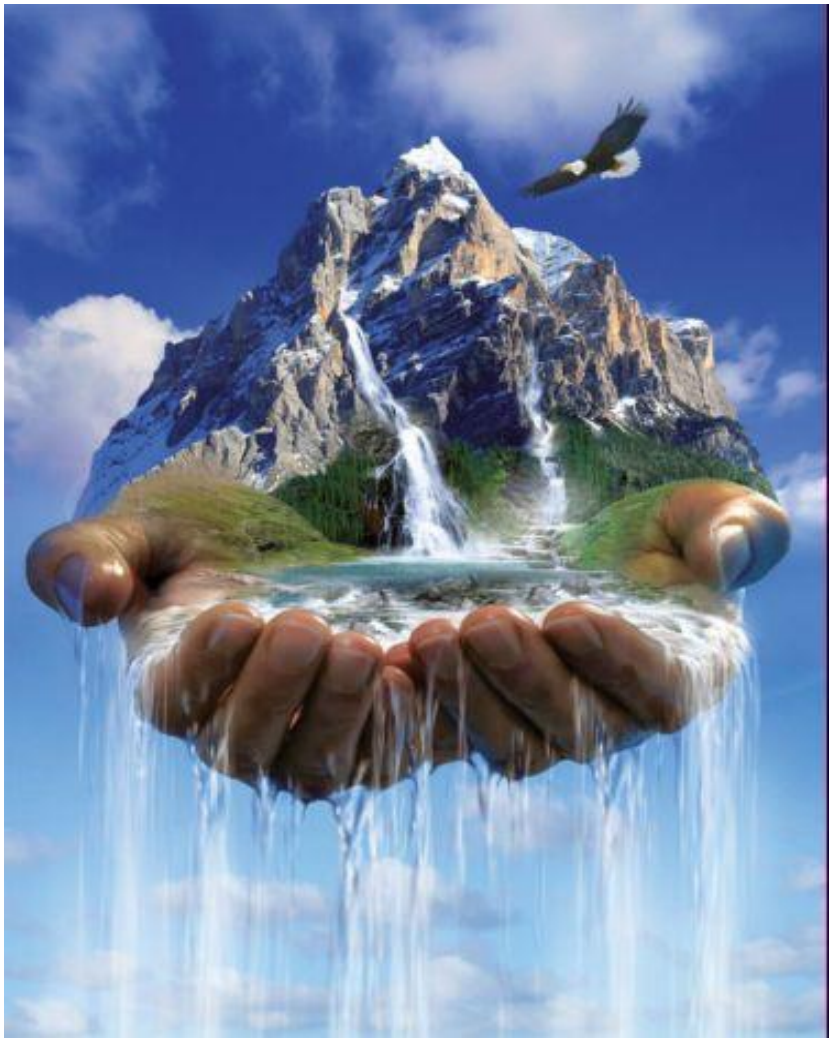
МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
НАЦІОНАЛЬНА АКАДЕМІЯ МЕДИЧНИХ НАУК УКРАЇНИ
НАЦІОНАЛЬНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ імені О.О. Богомольця
ІНСТИТУТ ОЦІНКИ ВІДПОВІДНОСТІ, ГІГІЄНИ ТА ЕКОЛОГІЇ

ЕКОЛОГІЧНІ ТА ГІГІЄНІЧНІ ПРОБЛЕМИ СФЕРИ ЖИТТЄДІЯЛЬНОСТІ ЛЮДИНИ

(ЗБІРКА МАТЕРІАЛІВ НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ З МІЖНАРОДНОЮ УЧАСТЮ)



25 березня 2026 р

м. Київ

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Матеріали науково-практичної конференції з міжнародною участю «Екологічні та гігієнічні проблеми сфери життєдіяльності людини» (Київ, 25 березня 2026 р.) / за загальною редакцією член-кор. НАМН України, професора С.Т. Омельчука. – К., 2026. – 337 с.

У матеріалах науково-практичної конференції з міжнародною участю **«Екологічні та гігієнічні проблеми сфери життєдіяльності людини» (Київ, 25 березня 2026 р.)** висвітлено актуальні питання гігієни, екології та громадського здоров'я: хімічну й біологічну безпеку, якість повітря, води та харчових продуктів, вплив шуму, мікропластику, пестицидів і воєнних чинників на здоров'я населення. Основний акцент зосереджено на міждисциплінарному підході до оцінки ризиків, профілактики захворювань, розвитку кадрового потенціалу, гармонізації національних практик із європейськими стратегіями та післявоєнного відновлення України.

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Електронна версія збірника містить додаткові публікації, що з технічних причин не увійшли до друкованого примірника.

increases, sleep patterns are disrupted: even a sound at 50 dB can shift sleep to a superficial phase, and waking up to the sharp sound of a siren at night can provoke a state of hyperarousal, making further rest impossible. Special attention should be paid to frontline cities such as Kharkiv, Mykolaiv, Kherson, Zaporizhzhia and others, where the intensity of combat noise is at its highest.

Retraumatisation through sound triggers is particularly dangerous. Residents of Ukraine who have survived numerous shellings report involuntary reactions to everyday sounds – thunder, the rumbling of a truck, the hum of a lawnmower, or even the sharp slamming of a door. These previously neutral stimuli become conditioned danger signals, triggering a physiological stress response. Thus, the experience of acoustic terror literally rewrites the perception of the sound environment, turning everyday space into a constant source of threat.

Conclusion. Acoustic terror is one of the least visible but most destructive components of the modern hybrid war. Responding to this challenge requires a comprehensive approach: developing a psychological support network, implementing acoustic protection protocols in schools, hospitals and shelters, and systematically monitoring combat noise levels and their impact on public health. Ukraine has de facto become a testing ground for studying a new type of armed conflict, obliging domestic and international medical science to provide a comprehensive research response. The health of those who live in a daily hell of noise demands it.

THE IMPACT OF URBAN NOISE POLLUTION ON THE PSYCHOEMOTIONAL STATE OF THE POPULATION

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Introduction. Urban noise pollution is an important health risk factor in the context of urbanization. According to WHO, excessive noise exposure is associated with sleep disturbances, irritability, reduced mental performance, and other adverse effects on physical and mental well-being (WHO, 2018; WHO, 2022). Under current

conditions, the urban noise burden is generated not only by transport and household or industrial sources, but also by sound stimuli related to military actions, which may increase anxiety and psychoemotional tension in the population. Therefore, studying the impact of urban noise pollution on the psychoemotional state of the population is relevant and socially significant.

Objective. To investigate the impact of urban noise pollution on the psychoemotional state of the population based on respondents' subjective assessment.

Materials and methods. A questionnaire survey was conducted in February 2026 using Google Forms in accordance with the requirements of the Law of Ukraine «On Personal Data Protection». The study involved 51 respondents (33 females and 18 males) from different age groups. The questionnaire included items on the socio-demographic characteristics of respondents, subjective assessment of noise levels at the place of residence, major noise sources, duration of noise exposure, and its possible impact on psychoemotional status. Descriptive statistical methods were used to determine frequencies and percentage distributions of responses, 95% confidence intervals (CI), and for multiple comparisons of categorical data – χ^2-Pearson.

Results and discussion. The largest proportion of respondents in the survey were aged 18-25 years, accounting for 56.9% (CI: 43.3-69.5) (χ^2=19.14; p≤0.001). Among all respondents, the largest proportion lived in residential districts, accounting for 37.3% (CI: 25.3-51.0). The proportion of respondents living in the city center was 23.5% (CI: 14.0-36.8), in the private sector 19.6% (CI: 11.0-32.5), and near industrial areas 17.6% (CI: 9.6-30.3). Greater sensitivity (response) to noise was found among women (χ^2=19.23; p≤0.001): 69.7% (CI: 52.5-84.4) of women gave ratings of 4 and 5 points, whereas among men this proportion was 22.2% (CI: 5.8-45.4). The largest proportion of respondents, according to subjective assessment, were exposed to increased noise for more than 8 hours per day, accounting for 37.3% (CI: 25.3-51.0) (χ^2=13.05; p=0.005); however, overall sex differences for this indicator were not statistically significant.

In the study sample, noise was most often perceived as a factor acting throughout the entire day (49.0% (CI: 35.9-62.3)), whereas the morning period (3.9% (CI: 1.1-

13.2)) was least often associated with maximum noise perception; no significant sex differences were found for this indicator. Most respondents perceived noise at the place of residence as a constant or regular factor, accounting for 56.9% (CI: 43.3-69.5), and this perception was significantly more frequent among women (72.7% (CI: 55.8-84.9)) than among men (27.8% (CI: 12.5-50.9)) (χ^2=13.42; p=0.004). Most respondents rated the noise burden in their area as moderate to high, with the most typical values being 6-7 points (19.6% (CI: 11.0-32.5) and 15.7% (CI: 8.2-28.0), respectively); no statistically significant sex differences were found for this indicator. A considerable proportion of respondents stated that noise significantly affected their sleep quality, accounting for 64.7% (CI: 51.0-76.4), and this effect was much more pronounced among women, at 87.9% (CI: 72.7-95.2), while among men the impact on sleep was more often described as «partial» at 55.6% (CI: 33.7-75.4) (χ^2=22.00; p<0.001). Regarding the impact of noise on work capacity or learning ability, 64.7% (CI: 51.0-76.4) of respondents gave an affirmative response, and this effect was significantly more pronounced among women, at 78.8% (CI: 62.2-89.3), compared with men, at 38.9% (CI: 20.3-61.4) (χ^2=10.50; p=0.005). Among all respondents, 45.1% (CI: 32.3-58.6) reported experiencing palpitations or increased blood pressure under conditions of intense noise; among women, the response «yes» was most common, at 57.6% (CI: 40.8-72.8), whereas among men the most common response was «did not pay attention» at 55.6% (CI: 33.7-75.4) (χ^2=19.14; p=0.016). Analysis of responses regarding the conditions experienced due to noise showed that respondents most frequently reported fatigue, at 76.5% (CI: 63.2-86.0), and sleep disturbances, at 72.5% (CI: 59.1-82.9). More than half of respondents also reported reduced concentration, at 54.9% (CI: 41.4-67.7), and headache, at 52.9% (CI: 39.5-65.9). Nearly half of respondents reported irritability, at 49.0% (CI: 35.9-62.3). At the same time, increased anxiety was noted by 23.5% of respondents (CI: 14.0-36.8), whereas only 9.8% (CI: 4.3-21.0) selected the option «do not feel any impact». Fatigue, reduced concentration, and sleep disturbances were significantly more common among women.

The most common method of protection against noise among respondents was closing windows, at 49.0% (CI: 35.9-62.3), whereas nearly one-fifth of respondents

either used soundproofing or did not take any protective measures at all. No statistically significant sex differences were found in the nature of protective behavior. Despite the prevalence of complaints related to noise exposure, most respondents (78.4% (CI: 65.4-87.5)) did not consider it a reason to change their place of residence; no significant sex differences were found for this indicator.

Conclusion. The study showed that urban noise pollution is a significant factor negatively affecting the psychoemotional state of the population. Most respondents perceived noise as a constant or regular exposure acting predominantly throughout the day and associated with a moderate to high noise burden. The most frequent adverse manifestations were fatigue, sleep disturbances, reduced concentration, headache, and irritability, as well as decreased work capacity or learning ability; some respondents also reported autonomic reactions, including palpitations or elevated blood pressure. Women were found to be more sensitive to noise exposure and more likely to report a pronounced negative impact of noise on sleep, work capacity, concentration, and overall well-being. The findings confirm the relevance of urban noise pollution as a public health issue and highlight the need for further improvement of preventive measures aimed at reducing noise exposure and minimizing its adverse effects on health.

HYGIENIC ASSESSMENT OF BEHAVIORAL FACTORS OF MICROPLASTIC EXPOSURE AMONG MEDICAL STUDENTS

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Background. Microplastics are among the most relevant environmental factors that continuously enter the human body through air, food, and water. In hygiene science, it is important not only to study the toxicological mechanisms of its action and the specific pathways by which contaminants enter the human body, but also to develop preventive measures for specific population groups, particularly youth. Medical students represent a special population: on the one hand, they have a higher level of