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НАУКОВО-ПРАКТИЧНЕ ВИДАННЯ

## УКРАЇНСЬКИЙ НАУКОВО-МЕДИЧНИЙ МОЛОДІЖНИЙ ЖУРНАЛ

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### HYGIENIC ASSESSMENT OF URBAN NOISE LEVELS AT THE HOSTEL

Mehdi Karimi, Mykola Kondratiuk, Anna Blagaia

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Noise is one of the leading factors in urban life. Noise pollution is a triggering factor in cardiovascular diseases development (Favour Chukumela Woko, 2019), psycho-emotional disorders (Manukyan, A. L. et al., 2020). Ukrainian legislation established in 2019 levels of sound allowable in different kinds of premises, including the hostels. Ministry of health of Ukraine issued an order "On the approval of the State sanitary norms of allowable noise levels in rooms of inhabited and public buildings and the territory of residential area" where the day and night levels of noise where specified. According to the document, the hostel rooms should not be exposed to noise levels more than 45 decibels A (dBA) and 35 dBA during the day (8.00-22.00) and night (22.00-8.00), respectively. The sound levels not exceeding 40 dBA were considered appropriate for study (for lecture halls and classrooms, teachers' rooms, conference halls, auditoriums).

**Aim** of the research. The hygienic assessment of urban noise levels in the hostel rooms for medical students.

**Materials and methods**. The room was facing the street. Noise levels were measured 5 times per day (7.00; 10.00; 13.00; 20.00; 23.00) with open and closed windows to receive data on noise in the night and day. Measurement duration was two weeks to receive the data on working days and weekends. Measurements were performed by noise detector m&sen mi 9 mi9 m9, processed by preinstalled program supply. Data on statistical analysis was calculated using IBM SPSS Statistics.

**Results**. 7.00: open window (o) – 41.86±1.610 dBA, closed (c) – 37.79±0.893 dBA; 10.00: o – 44.00±2.689 dBA, c – 38.50±2.929 dBA; 13.00: o – 44.71±2.199 dBA, c – 41.07±4.104 dBA; 20.00: o – 45.79±4.246 dBA, c – 38.93±1.730 dBA; 23.00: o – 40.71±0.914 dBA, c – 38.00±0.679 dBA.

**Conclusion**. The research findings indicate the appropriate noise levels in the hostel room with both open and closed windows during the daytime. However, this time cannot be used for learning in the hostel during the week (the difference between workdays and weekends was not statistically significant) with open windows. Only at 10.00 and 20.00 it was appropriate when the window was closed.

Nighttime (7.00 and 23.00) was critical to rest because the noise level exceeded the allowable (35 dBA) even with closed windows. Nevertheless, students can use the time frame of 23.00 for learning both with open and closed windows. On the contrary, the open window noise level exceeded the allowable level for learning. One of the achievable recommendations suggested was to change the window (its design should be noise proof).

### HYGIENIC ASSESSMENT OF NATURAL ILLUMINATION IN HOSTEL FOR FOREIGN MEDICAL STUDENTS OF III YEAR

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**Introduction** – Daylighting uses light sources that create pleasant and comfortable indoor environment. Daylight is a free natural resource. Allowing natural light into buildings improves health and psychological reactions, and daylight is an inexhaustible resource. The use of daylight in buildings considerably improves the atmosphere and economy. Natural lighting also has the potential to improve mood, health, presentation, and productivity. The paper aims to provide additional information and a better understanding of the hygienic conditions concerning daylight in the hostel for foreign students of NMU.

**Aim** - To perform hygienic inspection in rooms of III-year students of NMU concerning the illumination norms; 2) to measure the natural illumination using Luxmeter; 3) To hygienically assess the received results.

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