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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

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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.

Methods and Materials Used: 10 rooms were selected in hostel no.7, 5 facing towards sunlight and 5 not facing towards sunlight.

The level of illuminance was obtained for each of the rooms using the Luxmeter. Each reading was observed 3 times a day; morning 10:00am, Afternoon 14:00, Evening 18:00 and performed trice to normalize the values. Mesurements ere performed withing one month to consider all weather variations.

Technical specification of luxmeter tmd2725 Ambient Light Sensor Non-wakeup (ams AG); range: 0...1; resolution: 0.01 (1%); power: 0.08mA. Product Parameters – Supply Voltage [V] -1.7 - 2.0, I²C Bus -1.8, Programmable - Gain, integration time, interrupt Integrated Capabilities - ALS, Prox, IR LED, Recommended Operating Distances [cm] <15, Temperature Range [°C] - 30 to 85, Packages - Surface mount module, pin count 8.

The formula defined daylight factor as the ratio of the actual illuminance at a point in a room (lux) and the illuminance available from an identical unobstructed sky was used in calculations.

Data were processed statistically.

Results: During the research, the data obtained from 10 rooms of III course students, it was found that the building orientation of hostel no. 7 has divided rooms into two faces; one facing toward South-East; other – North-West.

Maximum Lux; 10:00am – 4458±7.34, 14:00pm – 63895±34.72, 18:00pm - 982± 8.99 (21 July, 2020), Minimum Lux; 10:00am – 163± 1.96, 14:00pm -1641± 3.94, 18:00pm – 64± 0.59 (25 July, 2020). Average Lux of Rooms Facing towards direct sunlight(outside): 10:00am - 1203±2.72, 14:00pm – 4951±7.39, 18:00pm - 461±2.45. DF (daylight factor) Morning: R2-0.9%, R5-1.8%, R6-1.5%, R7-0.94%, R9-1.8%; Afternoon: R2-2.0%, R5-2.9%, R6-3.9%, R7-3.6%, R9-3.1%; Evening: R2-1.9%, R5-1.25%, R6-1.16%, R7-1.3%, R9-1.4%.

Average Lux of Rooms not facing towards direct sunlight(outside): 10:00am – 353±1.8, 14:00pm – 3951±6.87, 18:00pm - 243±1.35. Df (daylight factor) morning: R1-0.5%, R3-0.4%, R4-1.8, R8-0.53%, R10-0.9%; Afternoon; R1-1.38%, R3-1.8%, R4-2.3%, R8-1.2%, R10-1.8%; Evening: R1-1.7%, R3-0.9%, R4-1.03%, R8-0.4%, R10-0.7%.

Conclusion. The rooms which are facing towards the sunlight are having normal illumination while comparing with the norms (1.0%) excepts for dawn and dusk (morning time & evening time). Contradictory the rooms which are not facing towards the direct sunlight are not having sufficient natural lighting or are very close but still below the norms and thus require artificial illumination;

Recommendation – The rooms which are not facing direct sunlight are not receiving adequate illumination (rooms – R1, R3, R4, R8, R10) and the require artificial lighting at the required timings.

HYGIENIC STUDY OF THE ARTIFICIAL TRANS-FAT AND SODIUM LEVEL CONTENT IN FOOD AND THE RATE OF CONSUMPTION AMONG GULF AREA UNIVERSITY STUDENTS

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Actuality: The food labels unbelievably hold the key for studying chronic modern life morbidly.

Artificial trans fats, which has been banned by Food and Drug Administration (FDA) and other global administrations, and a high-level sodium diet contributes to dangerously high levels of heart diseases, which is considered the first cause of death worldwide.

Purpose: The hygienic assessment of the presence of trans fats and assessing the level of sodium in the most consumed products by university students.

Objectives: (1) To perform a hygienic inspection in food shops, markets about common brands. (2) To assist the presence of artificial trans fats and level of sodium. (3) To hygienically assess the received results.

Materials and methods: To figure the consumption pattern (1) A questionnaire, done by us, was answered by 104 of residents and citizens university students in the gulf area aging (17-28), Saudi Arabi n=25, Kuwait n=32, Oman n=16, United Arab Emiratis n=20, Bahrain n=3, Qatar =3, Iran n=4, Iraq=1, (2) To examine several foods providing markets, (3) Statistical processing by MS Excel, IBM SPSS statistic.

Results: A study was done on 40 types of snack brands (Chocolate bars, bakery, chips...etc.) show that 43.9% of products contain artificial trans fat (partially hydrogenated fat, vegetable shortening, margarine). From higher to lower in the percentage of trans fat: coffee creamers, chocolate bars, and baked snacks. The most consumed goods according to the questionnaire are potato chips, deep-fried fast food, cookies, and chocolate bars with 68,