

225. ELABORATING AN INTEGRAL INDICATOR FOR EVALUATING THE OCCUPATIONAL ENVIRONMENT

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Basics. One of the difficulties in the modern hygienic evaluation is studying the multitude factors of occupational environment. A standard environment does not give rise to any problems, but for a dynamic environment a feasibility study should be carried out, because sometimes in some sections of time a factor may exceed the allowed limit, but its action is not harmful because other factors of occupational environment are far from this limit.

From a groundless point, the occupational environment is composed of several factors that are a part of more groups of factors and indicators that can be assessed by the different regulatory frameworks. Based on the given rules 89/654/CEE and FRR 2.2.2006-05; RNI 2.2.4.548 -96 or on each component of the occupational environment from the normative documents for each factor as for example Noise, Lighting, Temperature, Humidity, Vibration, ultrasound, Infrasound, actual temperature, CO₂, CO, and others.

Methods. In the hygiene-based literature (Ким Дж, МЬЮЛЛЕР Ч. У., Клекка У.Р. 1989) lies the idea of creating the so-called "integral Indicator for evaluating the occupational environment" (ИЕАО) that he believes should be determined after a canonical relation of a discriminant type, and constitutes a multiple unidimensional parameter that represents the action of factors that determine the occupational environment.

$$\text{ИЕАО} = -30,87 + 0,19 \text{ Noise} + 0,24 \text{ Vibration} + 0,006 \text{ Infrasound} + 0,0065 \text{ C.U.}$$

This indicator characterizes the total action of the harmful factors of the environment. The value of this indicator changes depending on the intensity of the action of these factors, in other words the higher the action of the factors the lower the total value of the indicator for the occupational environment is, but if the negative action decreases and the occupational environment becomes more comfortable for the activity-the value of the following indicator increases and can be classified according to the sanitary regulation in three groups (Bobrov A. F., Mironica I. N., 1998).

Results. Basically, if the indicators of different occupational environment parameters differ a lot, then the multiplicity of results can be analyzed by the deviation method through Sigma which shows an effective average of the given fact. We have tested the working environment of the Chisinau municipal public transport drivers and through 20 complex measurements of all activity environment factors we have concluded that the work in the given branch is in class III-B, according to the rules 2.2.4.548 -96 RNI.

Conclusions. The sample should be widened up to 150 evaluated cars under the statistical control formula. It has also been discovered the need to carry out wider measurements, namely to perform the calculation at smaller intervals throughout the year in all seasons, and at every hour of activity. Another useful thing that has to be performed is the assessment of all the factors of the occupational environment at the same time.

Key word: public transportation, occupational environment, hygiene, factors, IIEAO.

226. THE HYGIENIC APPRECIATION OF THE NOISE

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The "noise pollution" represents the presence of noise in the environment, which causes discomfort. From the physical point of view, noise is a succession of sounds with different frequencies and intensities. The noise is based on the sound, which can be defined as the change in pressure detected by the human ear. Sound is a vibratile phenomenon, which broadcast as waves, and it is transmitted through different media at different speeds. Sounds can be simple or compound, harmonic or disharmonic. From the medical point of view, noise is any sound that causes discomfort for the human body. Noise pollution has a negative impact on the entire human body, causing from mild fatigue to serious neurotic states and even auditory organ trauma. The most affected because of the noise is the neurovegetative balance. People get tired faster, get nervous, sleep disturbances occur, headache, permanent migraines, loss of appetite and anemia. After a certain period of time, the persistent noise can affect circulatory functions, heart rate and blood pressure, can cause stomach neurosis. Other consequences of noise are states of fear and discomfort, malaise and diminishing attention. Injuries caused by noise concerns eardrum rupture or damage of the organ of Corti. Auditory organs are in a strong link with the central nervous system, in this way different types of noise can affect any tissue of the body.

Methods and materials. For noise measurements we used the sound meter RIFT-004 which allows mobile and dynamic noise assessment of the external environment. Measurements conducted in Chisinau on the trolleybus route 22, which are represented in the table below show that the noise level exceeds accepted standards and sanitary norms.

Measurement address (station)	Time (first, rest day)	Level (dB)	Time (second, workday)	Level (dB)
Gradina botanica	8.10	63	11.10	77
Valea Crucii	8.20	65	11.20	74
Str. Burebista	8.35	67	11.36	76
Bd. Cuza-Voda	8.50	8.50	68	11.53
Bd. Decebal	9.00	9.00	64	12.04
Str. Zelinski	9.10	9.10	68	12.15
Spitalul Municipal 1	9.15	9.15	70	12.20
UNIC	9.30	9.30	70	12.35