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Development of premature infants caused by complex conditions of environmental factors in the neonatal intensive care units

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Introduction: According to the WHO, perinatal conditions belonging to the diseases with the largest environmental contribution and is included in the aggregate fraction of total global burden of diseases, which are expressed in DALYs (disability adjusted life years). In fact, DALY is the amount of the major categories of diseases and health conditions caused by environmental factors. Specifically considered here are «modifiable» environmental factors realistically amenable to change using available technologies, polices, and preventive and public health measures.

Objective: The *aim* of the study was to *examine* the development of premature infants in complex conditions of environmental factors in the NICU.

Material and research methods: Participants have been divided into 2 groups: I (61) newborns with very high levels of a set of physical environmental factors (noise, light, electromagnetic fields, humidity and temperature) and II group (control) (57) premature with low levels of physical environmental factors.

Results and their discussion: Scientists study problems of nursing premature infants. But, used medical equipment generated noise and electromagnetic fields, disturbed biological rhythms and disrupted microclimate. The highest noise levels in the NICU № 1 – 74 dBA, while the NICU № 2 – 56 dBA. Artificial lung ventilations, resuscitation systems, aspirators, and incubators were the sources of high noise levels in the NICU.

Conclusions: In the NICU with very high of noise levels 62,3% (62,5±4,85) of children's reacted to the noise with maximum score, indicating a relatively high incidence of adverse impact sound pressure levels (statistically significant difference by Fisher criterion at  $p < 0,05$ ). In the NICU with low of noise levels 45% (49,4±5,09)

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