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REGULARITIES OF INFLUENCE OF A COMPLEX OF FACTORS ON THE DEVELOPMENT OF PREMATURE INFANTS

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Introduction: It is considered that premature infants have an increased risk of loss of hearing, violation of cerebral functions, and sensory development as a result of noise influence. Also bright neonatal intensive care units illumination may be implicated as a cause of retinopathy - the leading cause of infant blindness in the premature infants. The aim of our study was to examine the adverse effects of noise and bright light on the premature infants in the neonatal intensive care units.

Materials and methods of research. For the 2011 – 2015 years period 162 premature infants were inspected, of them: 74 (45.7%) boys and 88 (54.3 %) girls. The average gestational age of these children was 32.59 ± 2.86 weeks and the average mass was (1976.52 ± 629.53) g (min are 740.00 g, max – 4400.00 g), average height was (43.54 ± 4.52) cm (min was 31.00 cm, max was 55.00cm. During our researches the main attention was focused on studying the effects of bright light on the premature infants, who needs nursing in NICU for a long period of time. This period could last several days or several weeks, even months using medical equipment. Our diagnosis of retinopathy included history of present illness.

Results of research. Models of logistic regression were used for the study of influence of unfavorable factors to environment on the health state and premature newborns development in the dynamics of supervision in which a dependency variable takes on a value of one in case of presence sign and zero in case of its absence, which is related to the specific of data. All models were statistically meaningful on a xi-square criterion. Values of indices Kok's and Snell's and R-

square were near to 0.2, that testifies to sufficient explanatory connection of the got models.

Our studies confirm that using double-wall incubators and capes on them decreased light levels from 7 to 15 lx. Research and estimation of the noise loading was conducted by the hygienic methods. Our diagnosis of hearing loss included history of present illness.

Conclusions. The bright light should be considered as one of the adverse factors of the complex of factors influencing on the development of premature infants. Effects of bright light may cause the violation of growth, development and differentiation of the visual analyzer in premature infants. Incubators and capes reduce lighting levels to 760 lx and should be encouraged to reduce the effects of bright light in the neonatal intensive care units. So, organization of protective regimen is obligatory in the neonate intensive care unit. It is necessary to decrease light levels. We recommend replacing fluorescent, incandescent lamps by LED lamps. We recommend double walls incubators and capes to reduce the effects of bright light in the neonatal intensive care units.

Artificial lung ventilations, resuscitation systems, aspirators, and incubators are the sources of high noise levels in the NICU. Noise can be considered as a factor that could to complicate nursing of premature infants. So, we proposed an algorithm to reduce the noise in NICU. We are proposing to make outside of hearing premature infants the Artificial Lung Ventilation, alarm signals of resuscitation. Currently, we continue to study the impact of noise stress on the development of preterm infants, namely their neurological condition, taking into account the previous neurological status and neurological status of children in the clinical examination. It is possible to do the conclusion on results a design, that simultaneous influence of increased levels of physical factors will promote probability of that for prematurely born children violation of the state of the central nervous system will be marked on the 7th day, the myotonus hypotension on the 7th day of stay in the department for newborn. At present, we will continue to study the impact of bright light on the development of preterm infants.