

The knowledge of medical staff on the impact of noise on neonatal intensive care units patients and its application in practice.

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Introduction: Noise is an undesirable environmental factor, the control and limitation of which should be standard in every ICU. Its impact can have negative effects on both the mental and physical health of the body. Particularly sensitive to the negative impact of noise are newborns and especially prematurely born children, who are characterized by high multi-organ immaturity. The negative impact of noise can be reduced by appropriate behavior of medical personnel based on a high level of knowledge of the impact of sounds on newborns.

Aim of the study: The aim of the study is to analyze the knowledge of medical staff on the impact of noise on newborns staying in the Neonatal Intensive Care Units and to evaluate its use in practice.

Materials and methods: 104 respondents working in neonatal wards participated in the study. The survey was conducted online using social media. The study was conducted using the diagnostic survey method with the use of a self-designed questionnaire. The first part of the questionnaire concerned the aspects of knowledge on the impact of noise on hospitalized newborns, the second: socio-demographic issues of medical staff.

Characteristics of the study group: Respondents who took part in the survey are mainly women (99%). The age of the respondents is in the range of 21-58 years. The average age of respondents is 36. The surveyed group is dominated by those with higher education, either at the bachelor's (35%) or master's (48%) level.

Respondents' profession

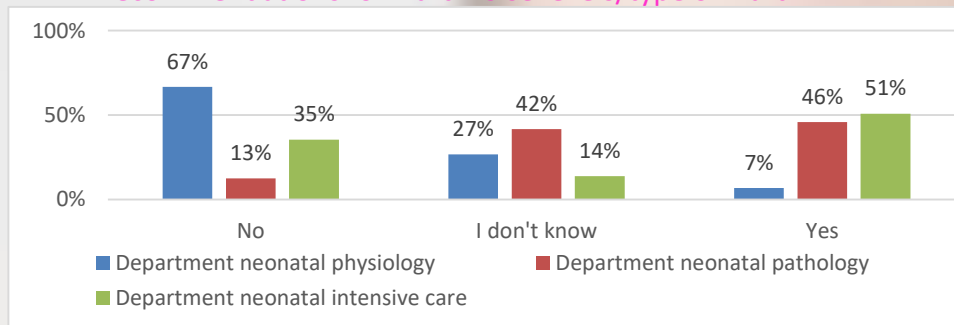
Profession	% N	N
Doctor	7,7%	8
Nurse	25,0%	26
Midwife	67,3%	70

Respondents' place of work

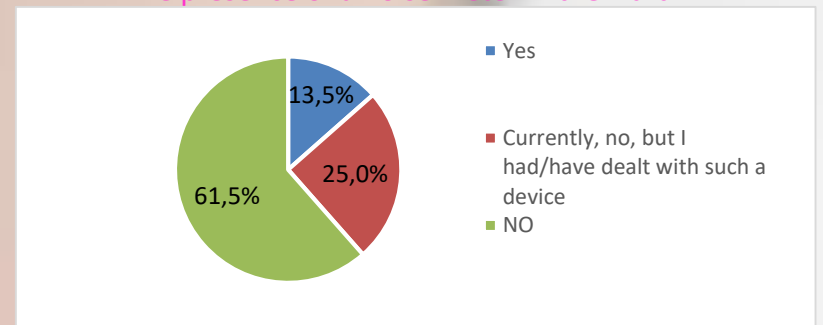
Hospital department	% N	N
neonatal physiology	14,4%	15
neonatal pathology	23,1%	24
	62,5%	65

Results: From the declarations of those surveyed, it appears that training on the impact of noise on the newborn is not common in the workplace. In addition, this topic is not discussed sufficiently in the course of teaching/education. Almost all respondents indicate that there is a need for such training (98%). Employees' knowledge of ward noise standards varies widely from one workplace to another. Among respondents, the vast majority declare that there are no noise meters at their workplace that give a visual signal of exceeding sound intensity limits.

Recommendations for ward noise levels/type of ward



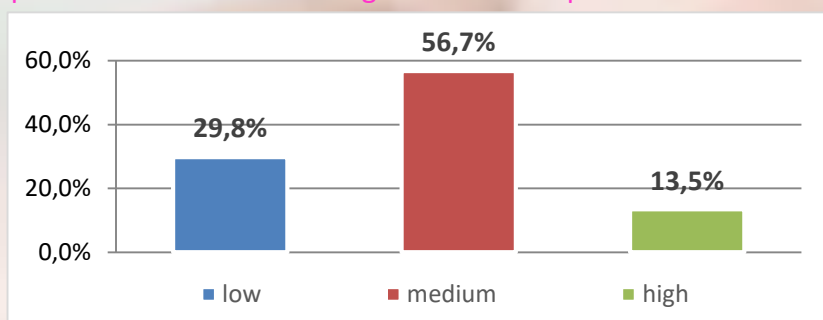
The presence of a noise meter in the ward



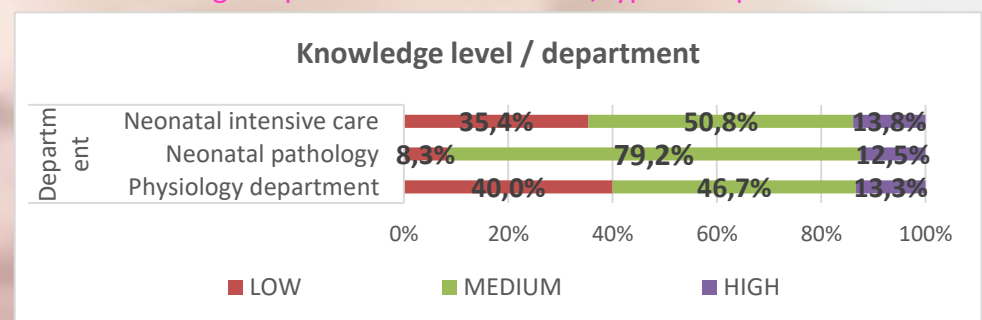
The vast majority of wards use incubator covers (always 63% or often 19%) and special nests of soft material for newborns (always 67% or often 21%) as an element of noise reduction.

Just over a third of respondents were able to answer the question about the permissible maximum noise level in the newborn room during the day without error. The percentage of those who indicated the correct answer to the question about the permissible noise level in a newborn's room during the night was even lower, at just 25%. The medical staff's knowledge of acceptable temporary and transient sounds in the newborn room fared slightly better. In this case, almost 36% of respondents indicated the correct answer.

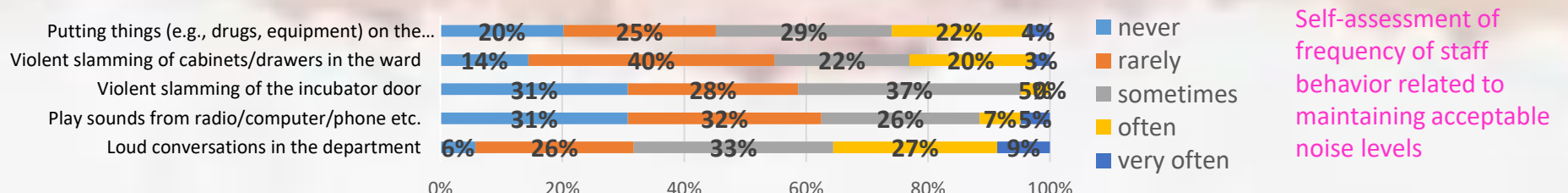
Respondents' level of knowledge about the impact of noise on newborns



Knowledge of permissible noise levels/type of department



The questionnaire also included questions that addressed the subjective assessment of behaviors related to maintaining appropriate noise levels in the hospital environment. According to the respondents' declarations



Self-assessment of frequency of staff behavior related to maintaining acceptable noise levels

Conclusions: 1. In neonatal pathology wards and ITN, noise standards and recommendations are more common than in physiology wards. 2. Employees caring for a newborn need training on the sources and impact of noise on the baby. 3. It is necessary to limit the noise generated by the staff, e.g. loud conversations, slamming furniture, placing objects on the incubator or moving equipment. 4. Job satisfaction translates into care in reducing the negative impact of noise on patients.