

NOISE IN A ROOMING-IN AMBIENCE: PERCEPTION OF USERS AND NURSING PROFESSIONALS

Ruído no alojamento conjunto: percepção das usuárias e dos profissionais de enfermagem

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ABSTRACT

Purpose: to measure noise levels and investigate the perception of nursing professionals and users' health at a reference high-risk pregnancy maternity hospital in the city of Curitiba-PR. **Methods:** crosscut, quantitative study, held at a public hospital rooming-in, where 19 professionals and 77 users' perception was collected by means of interviews, while noise was assessed through an Integrating Bruel and Kjaer 2230 Meter, compensation A calibrated. **Results:** noise levels in all areas of the rooming-in are above the recommended in literature. (35 a 45 dB(A) to the hospital). The higher levels were 67,7dB(A) at the nursing station and 65,3 dB(A) at the visitors' room. Users and nursing professionals are exposed to noise sources from health team's work process, users and health team's behavior, and maternity external noise. Strategies to minimize noise levels and enhance rooming-in ambience are related to actions of the health team's work process, comfort and management. **Conclusion:** noise levels in the rooming-in are above the recommended. Nursing professionals perceive more external noise, while users perceive more internal noise. It was evidenced that high noise levels interfere with the rooming-in ambience and affect daily activities.

KEYWORDS: Obstetrics; Noise Effects; Rooming-in Care; Occupational Health

■ INTRODUCTION

Noise is present in maternity wards, which should be an environment cozy and quiet. Studies on noise in Neonatal Units note that the technologies incorporated to take care of newborns contribute to child survival, but when the sound of instruments joins the cries of babies, the voices of adults and the entry and exit of people, results in a situation of noise pollution¹⁻⁴. High levels of noise can cause hearing loss, increased blood pressure, irritability, tension, low performance and interference in oral communications⁵.

In rooming-in, hospital system in which healthy newborn, soon after birth, remains beside her mother 24 hours a day, despite babies do not

impose changes in environmental sound, they're endowed with behavioral competence that "can express comfort or discomfort". This behavior can sensitize health professionals to introduce changes in the daily work process.²

Noise in hospitals is identified as a risk factor for the privacy and success in breastfeeding⁶, development of the newborn and also for the health of pregnant and women in postpartum^{4,7}. The interruption of sleep and rest, often caused by noise, may negatively influence the recovery process of child health⁸⁻¹⁰. The permanence of the RN in a noisy place, for a period greater than 48 hours, is considered a risk factor for hearing loss¹¹.

High noise levels (above 85 dB (A)) are considered occupational risk for healthcare professionals. These levels can cause hearing loss and influence on health, affecting the lives of workers and the work process^{8,12,13}. In addition, the noisy environment increases the load of professional nursing, originated from surveillance efforts, attention and suffering that can be manifested in complaints of fatigue, insomnia and irritability,

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memory lapses and greater mental effort to accomplish tasks, exposing it to the risk of occupational accidents and technical errors in the execution of their activities.¹⁴

Pregnant women exposed to high levels of noise can have adverse health effects, including irritability and difficulty concentrating, and changes in blood pressure¹⁵. As an effect of noise, it is possible to cardiac acceleration, not only in pregnant woman but also in fetal heart with reduced circulatory volume, peripheral vasoconstriction, increase blood viscosity, high blood pressure, and may also change the position fetus, which can complicate labor^{16,17}. Complications during pregnancy can be caused or aggravated by noise, such as hypertension, hyperemesis gravidarum, premature birth and low birth weight babies¹⁸.

Given these complications, a welcoming environment can be crucial to the well-being of patients and professionals. Speaking of a good host is assumed to be the creation of listening spaces, reception to provide interaction between user and professional, it is also welcoming towards comfort produced by lighting, colors and sounds. That is why the Ministry of Health launched the policy environment: the qualifications of the hospital environment is crucial in the treatment / recovery of patients and the performance of activities of health professionals^{19,20}. The National Policy on Humane Care and Management of SUS – HUMANIZA SUS, in 2003, instituted the ambience as a strategy to achieve the qualification of care and health management in SUS. This policy emphasizes the quality of service and values not only the technical but also the aspects related to the treatment of the physical environment, understood as a social, professional and interpersonal relationships, which should give welcoming attention^{19,20}. Noise is inserted into this policy.

Research on noise Rooming-in are incipient. There are few studies that express the acoustic conditions or dealing with the analysis of noise in reference to motherhood pregnancy risk. The objective of this research is to measure and analyze noise in the ambience of a Rooming-in and raise awareness of the health effects reported by users and nurses.

■ METHODS

The project was submitted to Comitê de Ética de Pesquisas em Seres Humanos do HC/ UFPR under number 2256.150/2010-06 and approved (CAAE:0150.0.208.000-10). It was used the Informed Consent Free and Clear, which contained

all the necessary guidelines for participation in research, before any procedures.

This was a cross sectional study with a quantitative approach, developed in a public hospital, in the rooming-in, which is a benchmark for health care to high-risk pregnancies in the city of Curitiba / PR. It has 28 beds to serve pregnant women, mothers and newborns, with 16 beds for Rooming-in, six beds for clinical treatment of pregnant women and six beds for mothers whose newborns were admitted to the Neonatal Intensive Care Unit (NICU).

The study subjects were 77 users (mothers and pregnant women), 38 mothers of newborns and 19 nurses.

The sample of users (pregnant and postpartum women) was intentional, limited by the study period – set from February to March 2011. Of all 328 users attended during this period, 81 participated in the study, which corresponds to 23.47%. Four users were excluded by clinical complications which prevented the completion of the interview. Of these, 38 mothers were also selected to answer a questionnaire concerning the behavior of the newborn facing the noise of Rooming. The 19 nurses who participated in this study correspond to 100% of the professionals working at Rooming-in during the study period.

The inclusion criteria of nursing professionals were to be employed by the institution and accept to take part in the research. For the inclusion of users: be pregnant and / or postpartum consistent with the research. In the case of newborns, the mother should accept the answer questionnaire as an interview by the researcher.

The data on the perception of noise and its effects on health were surveyed from February to March 2010, using three different questionnaires prepared by the author with questions open and semi-open, being: one for data collection from newborns, one for pregnant and postpartum women and another for nursing professionals.

The questionnaire for mothers of newborns had questions regarding the conditions of birth (weight, gestational age at birth, mode of delivery) and issues relating to the behavior of the newborn facing the background noise of the rooming. It was taken care to conduct the interviews with the mothers when they weren't breastfeeding, providing general care to the baby, feeding schedules and rest.

The questionnaire administered to pregnant and postpartum women had questions concerning the perception of noise in the Rooming and its health effects, noise times more intense, the main sources of noise, measures to reduce the noise in the unit and questions about health complaints, risk pregnancy, occupation, profession, origin. In the questionnaire

of nursing, were addressed sociodemographic data, training and professional practice, health complaints and issues relating to the perception of noise and health effects.

The noise measurement was conducted from February to September 2011, with the support of a professional Engineering, through a meter sound pressure level, according to the recommendations of NBR-10152/1987, which defines the sound pressure levels for acoustic comfort in different areas of the hospital. The legal criteria established by Brazilian legislation were considered too, Portaria n.º 3214/78 do Ministério do Trabalho e Emprego, Norma Regulamentadora NR-17, Ergonomia e a NBR-10152/2000²¹. The equipment used was the Meter Integrator Ported by the evaluator, brand Bruel & Kjaer, type 2230, properly calibrated. For evaluation of sound pressure levels, the equipment was operated in compensation curve "A". Several measurements were taken, in the mornings, afternoon and evening, by measuring the minimum, maximum, and average level feature provided by measurement equivalent level (Leq) in the unit of rooming.

The results of the perception of noise of nursing professionals and users were tabulated and presented in tables. The open questions related to actions that can contribute to the ambience, in the

opinion of nursing professionals and users, were grouped in three main articulators of ambience, as defined by the Ministry of Health: measures related to the work process, the environmental elements that interact with humans, and measures related to optimization of resources for humanized and cozy in health services.

The results of noise measurement (in dB (A)) were tabulated in accordance with the frequencies obtained and presented in Table for comparison and analysis.

For statistical analysis methods were used descriptive statistics (frequency tables) and Statistical Inference (test of difference of proportions). It was carried out a comparative analysis of the perception of noise by mothers and professionals with data from the measurement noise. The neonates weren't underwent neonatal screening.

■ RESULTS

The results of noise measurements in dB(A) of the areas in Rooming-in (Figure 1) show sound pressure levels above recommended by the Brazilian legislation (35 to 45 dB (A) for the hospital environment. The levels more expressive were 67.5 dB (a) at the nursing station, in the morning, and 65.3 dB (A) in the living room, on the afternoon).

SECTOR	PERIOD	CONTINUOUS NOISE Leq dB (A)	MIN	MAX	TERM EVALUATION
Secretary	Morning	64,5	48,0	86,8 (cart)	1 h
	Afternoon	63,7	50,6	96,2 (door's hit)	30 min
	Night	58,7	44,8	71,3	20 min
Nursing Station	Morning	67,5	47,9	84,9 (door's hit)	30 min
	Night	58,0	40,9	60,0	20 min
Aisle	Morning	62,2	49,5	83	30 min
	Afternoon	63,2	46,9	85,3 (door's hit)	30 min
	Night	62,3	47,6	77,8	20 min
Ward 218 (5 beds)	Morning	61,6	44,0	82,0 (door's hit)	1 h
	Afternoon	53,0	46,6	69,4	30 min
	Night	61,9	37,5	81,5	20 min
Ward 206 (Hall of Pediatrics)	Morning	48,6	41,3	64,5	20 min
	Afternoon	56,4	50,6	68,6	20 min
	Night	45,6	40,9	60,0	20 min
Hall (with visitors) 16 às 17h	Morning	65,3	52,4	83,0	30 min
Hall (no visitors)	Afternoon	61,5	50,6	75,6	30 min
	Night	57,2	49,8	76,6	20 min

Figure 1 – Noise levels in areas of the rooming-in

Regarding the users profile, it was found that 83.12% are mothers, married (42.86%), are of reproductive age (77.92%) and have completed basic education (42.86%). The risks gestational more frequent were hypertension (27.27%), gestational diabetes and miscarriage (20.77% each) and infectious diseases (12.98%). Speaking of nursing professionals, there are 89.47% female professionals, the predominant age is between 50 and 59 years (36.84%), 42.11% have tertiary level and 63.16% had been working less than five years in the rooming-in.

Table 1 shows the risks gestational submitted by users, according to the Ministry of Health

classification: individual characteristics and sociodemographic conditions unfavorable to previous reproductive history, obstetric diseases in pregnancy and current clinical complications. The group of diseases in obstetric current pregnancy had the greatest number of cases (total of 73).

As regards the newborns, most were born weighing more than 2500g and gestation to term. According to the report of mothers on the behaviors of newborns in relation to noise, 73.68% mention that newborns sleep more during the day, 39.47% observed more intense crying at night and 68.42% of mothers reported that newborns are frightened by the noise in the environment Rooming.

Table 1 – Characterization of users of rooming in relation to gestational risks grouped according to health ministry (N = 77)

GESTATIONAL RISK FACTOR	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY
1- INDIVIDUAL CHARACTERISTICS		
Drug Addiction	5	6,49
Smoking	5	6,49
Age	2	2,6
Alcoholism	2	2,6
Depression	2	2,6
Obesity	1	1,3
2- PREVIOUS STORY REPRODUCTIVE		
Abortion	16	20,77
Cesarean Delivery	1	1,3
Obstetric Antecedents	1	1,3
Multiparity	1	1,3
3- CLINICAL INTERCURRENCES		
Infectious Diseases	10	12,98
Renal Insufficiency	6	7,79
Convulsion	4	5,19
Cardiopathy	4	5,19
Changes In Thyroid	2	2,6
Stroke	2	2,6
Lymphoma	1	1,3
4- OBSTETRIC DISEASES AT CURRENT PREGNANCY		
Hypertension	21	27,27
Gestational Diabetes	16	20,77
Bleeding	10	12,98
Changes In The Developing Fetus	7	9,09
Changes In Amniotic Fluid	5	6,49
Multiple Pregnancy	5	6,49
Preterm Labor	2	2,59
Severe Anemia	2	2,59
Coagulation Disorders	2	2,59
Uterine Cyst	1	1,29
Gigantomastia	1	1,29
Hyperemesis	1	1,29

Table 2 presents data on the perception of internal and external noise by nursing professionals and users.

The noise level from the external environment was not measured in this study. Regarding perception of noise, it was considered high by

84.21% of nursing professionals and by 49.35% of users. The maximum internal noise measured (96.2 dB (A) noise coming from the beat caused by the doors) is considered high by 62.34% of the users and 47.37% of nursing professionals.

Table 2 – Perception of nursing professionals and users on the internal and external noise (N=96)

PERCEPTION	NURSING PROFESSIONALS (n = 19)		USERS (n = 77)	
	ABS. FREQ.	REL. FREQ.	ABS. FREQ.	REL. FREQ.
EXTERNAL NOISE				
high	16	84,21	38	49,35
average	2	5,26	22	28,57
low	1	10,53	16	20,78
No answer	0	0	1	1,30
INTERNAL NOISE				
high	9	47,37	48	62,34
average	9	47,37	16	20,78
low	1	5,26	13	16,88

Table 3 shows the main sources of noise of Rooming, as perceived by the respondents.

The main sources of noise (78.95%), in the nursing professionals view, are the phone and the conversation. This perception meets the noise levels measured in this study: 67.5 dB (A) at the nursing station. In the opinion of the users, the

most significant sources of noise are the beats of doors (68.94%) and crying babies (64.94%). This perception is also consistent when compared to the maximum noise level found in the wards: 82.0 dB (A).

Table 4 presents the period in which noise is considered more intense in the rooming-in.

Table 3 – Perception of noise sources in rooming by nurse professionals and users (N=96)

PERCEPTION OF NOISE SOURCES	NURSING PROFESSIONALS (n = 19)		USERS (n = 77)	
	ABS. FREQ.	REL. FREQ.	ABS. FREQ.	REL. FREQ.
Conversation	15	78,95	47	61,04
Babies	11	57,89	50	64,94
Noise of doors	10	52,63	53	68,83
Activities of general practitioners	12	63,16	41	53,25
Phone	15	78,95	20	25,97
Family's visit	9	47,37	21	27,27
Medical visit	8	42,11	19	24,68
Nursing shift change	4	21,05	3	3,90
Instruments in use	5	26,32	40	51,95
Radio	6	31,58	3	3,90
Bell	9	47,37	-	-
Pray	1	5,26	-	-

Table 4 – Period in which the noise is more intense in rooming according to nursing professionals and users (N=96)

PERIOD OF THE DAY	NURSING PROFESSIONALS (n = 19)		USERS (n = 77)	
	ABS. FREQ.	REL. FREQ.	ABS. FREQ.	REL. FREQ.
Morning	9	47,37	40	51,95
Afternoon	4	21,05	11	14,29
Night	3	15,79	10	12,99
All day	1	5,26	15	19,48
No answer	2	10,53	-	-

In the opinion of 51.95% of the users and 47.37% of nursing professionals, the morning is the period with higher noise.

In the perception of the environment in relation to noise, more than half of professionals (52.64%) claimed that the exercise of their professional activities generates no noise; 50.65% of users believe that their behavior generates noise that affects the

health of newborn infants. Users and nurses are unanimous that the loud noise damages the health of patients. There were no statistically significant differences among users and nurse practitioners regarding the perception of their behavior generate noise.

Table 5 shows the health complaints reported by the study subjects.

Table 5 – Complaints of nursing professionals and users of rooming-in (N=96)

COMPLAINTS	NURSING PROFESSIONALS (n = 19)		USERS (n = 77)	
	ABS. FREQ.	REL. FREQ.	ABS. FREQ.	REL. FREQ.
Fatigue	12	63,16	46	59,74
Stress	9	47,37	-	-
Anxiety	9	47,37	65	84,42
Changes in blood pressure	9	47,37	24	31,17
Changes in vision	7	36,84	19	24,68
Sleep disorders	6	31,58	30	38,96
Irritability	6	31,58	48	62,34
Jitters	5	26,32	45	58,44
Circulatory problems	5	26,32	-	-
Heart problems	4	21,05	-	-
Gastrointestinal Problems	4	21,05	32	41,56
Bother	4	21,05	-	-
Tinnitus	3	15,79	23	29,87
Hearing Loss	3	15,79	10	12,99
Constant headache	2	12,53	24	31,17
Difficulty understanding speech	1	5,26	16	20,78

NOTE: The subject could indicate more than one health problem.

Anxiety and irritability were the factors most often cited by users with 84.42% and 62.34%, respectively, while tiredness and stress are the most relevant complaints of nursing professionals with 63.16% and 47.37%.

Table 6 shows the alternatives that can help in reducing noise. Professionals and users believe that awareness exercises of silence and music therapy can help minimize noise in rooming-in.

Table 6 – Strategies that minimize noise in rooming-in (N=96)

SUGGESTIONS	NURSING PROFESSIONALS (n = 19)		USERS (n = 77)	
	ABS. FREQ.	REL. FREQ.	ABS. FREQ.	ABS. FREQ.
EXERCISES OF SILENCE'S PERCEPTION				
Yes	17	89,47	74	96,10
No	1	5,26	-	-
Maybe	1	5,26	-	-
Don't know	-	-	2	2,60
No answer	-	-	1	1,30
MUSIC THERAPY				
Yes	18	94,74	60	77,92
No	1	5,26	12	15,58
Don't know	-	-	5	6,49

Table 7 shows the actions that can contribute to the ambience of the Rooming-in, in the opinion of nursing professionals and users. The shares were grouped taking into account the three axes of the Policy of Humanization SUS (2003 and 2007).

When comparing the responses of healthcare professionals and users, through the test of difference in proportions, there is a significant difference in all actions. In the Actions Related to suggestions on Work Process, the response rate is significantly higher among health professionals, while for Actions Related to Management, the proportion is significantly higher among users.

■ DISCUSSION

Noise levels found in this study are above those recommended (Figure 1), both by NBR-12.179/1992 as the NBR-10152/2000. The literature shows the identification of elevated levels also in other hospitals: between 60 and 70 dB (A) in UCIP¹³; 62.3 dB(A) 55.3 to 72.2 dB(A) sound pressure during the shift change and above 50 dB(a) in UCIN³, 59.5 dB (a) in intermediate care unit neonatal⁴. So now there is scientific consensus that noise levels in hospitals are high but are insufficient to cause hearing loss.

Regarding the AC users, most of them are aged between 18 and 35 years, an age group in which the gestational risk is usually lower gestational²².

However they showed severe obstetric diseases. Most are married or have a stable relationship. There was also the prevalence of these factors in other research, there are some similarities in age and family stability of this population²³.

The gestational risks of the users that justify their stay in rooming-in of reference to pregnancy risk were hypertension, diabetes, infectious diseases and abortion, which require more care. Just as was seen in public hospital, whose maternity is also a reference to pregnancy risk²⁴. These facts demonstrate that the factors that characterize this pregnancy are the same, but the frequency with which they appear may vary²⁵.

It has been found – in the city of São Paulo – that mortality resulting from hypertension is responsible for 66.9% of deaths in the postpartum period and 34% during pregnancy. The causes of death are stroke (44.4%), acute pulmonary edema (24.6%), and coagulopathies (14.1%)²⁶. It can be concluded that the diseases that lead postpartum women to death are of social impact²⁷, which can be prevented or controlled with measures of attention to prenatal care, childbirth and puerperium.

Regarding the perception of mothers about the effects of noise on RN, observed that newborns sleep more during the day, and get scared and shaking with the noise of the hospital environment. It was found that noise can generate some reactions,

Table 7 – Actions that can contribute to the ambience of the rooming according to nurse professionals and users

RESULTS	NURSING PROFESSIONALS (n = 19)		USERS (n = 77)		P
	Rel. Freq.	Abs. Freq.	Rel. Freq.	Abs. Freq.	
Actions related to the work process					
Exercises of perception of silence	19	100,00	63	81,82	
Body awareness exercises	16	84,21	-	-	
Increased ability of health professionals	6	31,57	62	80,52	
Education of employees	13	68,42	34	31,17	
Patient education	13	68,42	20	25,97	
Decrease sound volume of electronic equipment	5	19,31	2	2,59	
Talking lower	9	47,37	-	-	
Change bath time RN	-	-	2	2,59	
Sub Total	81	53,3	183	29,7	0,0000*
Actions related to comfortability					
Be careful when opening and closing the doors of the wards	17	89,47	48	62,34	
Using bright alarms	15	78,95	-	-	
Encourage music therapy	17	89,47	-	-	
Encourage reflection on practice of religious activities in the routine-care service	14	73,68	-	-	
Decrease in traffic around the hospital	-	-	1	1,29	
Sub Total	63	66,3	49	12,7	0,0000*
Actions related to management					
Perform maintenance of supplies and equipment	17	89,47	74	96,10	
Measuring noise periodically	16	84,21	42	54,55	
Perform maintenance in the doors of the wards	1	5,26	72	93,51	
Reducing the number of patients per ward	-	-	43	55,84	
Reducing the number of people who circulate daily in the service	-	-	43	55,84	
Make soundproofing	1	5,26	21	27,27	
Improving infrastructure (sanitary valves make much noise)	2	10,52	23	29,87	
Determine the law of silence	2	10,52	4	5,19	
Adjustments and maintenance service catering (food carts are noisy)	-	-	3	3,90	
Placing signposts of silence	2	10,52	13	16,88	
Removing the gas tank in front of maternity	2	10,53	17	22,07	
Sub Total	43	20,6	355	41,9	0,0000*

Statistical test: analysis of proportions – significance level of 5%

like isolation from social interaction, altered sleep and rest, hypoxia, increased intracranial pressure and blood pressure, sleep apnea and bradycardia^{10,28} and, in this study, may have some relation to the intensity of the babies cry, more intense at night, as 39.47% of users²⁹⁻³¹.

The users were unanimous in stating that the noise in Rooming-in affects the baby's health slows the recovery of patients and affect the rest of newborns and mothers. Research³² who studied the reactions of the RN towards the noise checked that waking from sleep and crying (often accompanied by agitation) is a way of expressing discomfort, restlessness and stress.

The noise from the external environment is considered high by nursing professionals, while the internal noise is considered high by the users. One possible explanation for this result is that when confronted with the ambience of hospitalization and for being out of their natural environment, users have a negative perception of the noise characteristic of the hospital environment, mostly from the working process of the healthcare team. The professionals have created mechanisms for adaptation and naturalization³³. In addition, noise informative – like the audible sounds and crying babies – alert professionals about changes in the clinical picture and may be considered together with the work process and influence the practices and decision making.

The internal stressors perception depends on the characteristics of each person, involving personality, beliefs, expectations and anxieties. The external stressors are external situations that interfere with health as lighting and noise working environment, ie, an interaction occurs constantly between the individual and ambience, from the specific contexts³⁴.

The main sources of noise, according to professionals, were the conversation, visits from family members and the activities of professionals. Users have attributed the noise to the sound of the doors and crying babies. It can be found an asymmetric relation of the biggest source of noise: for professionals, sources are linked to the work process and service routines, which can be verified by analyzing the noise levels at the nursing station (67.5 dB (a)) and living room (65.3 dB (a)). For the users, the sources are linked to the attitude of professionals and coexistence in the maternity hospital, perception befitting the maximum noise level measured on the ward (82.0 dB (A)).

Professionals and users realize that the noise is more intense during the day, confirming measurement results of noise levels (Figure 1), as was also observed in other studies^{2,13}. A research⁴ found to be the night period the loudest. In this

research, the result can be attributed to the intense rhythm of the technical activities from the health team in the morning, as well as the large movement of people in terms of medical visits and clinical practice of students that happen routinely in the morning.

Physiological effects of noise may change heart rate and blood pressure, as well as influence the digestive process and rest^{4,35}. It is, therefore, a warning that noise in hospitals has harmful implications to the health of users and workers.

The perception of silence is suggested by professionals and users as a strategy to minimize noise in the rooming-in. This demand is urgent as the first axis of the Ambience presented by the Ministry of Health²⁰. The utmost respect for silence may be stimulated, taking the opportunity for each one listen. The body awareness, that isn't mentioned by any user, receives the approval of nursing professionals. The body awareness enables hear the sounds of the body, such as breathing, the heartbeat and the voice. A survey³⁶ found that 99% of mothers perceive the bodily manifestations of babies through the tears.

The education and skills of health workers and patients, as an action that contributes to the ambience hospital, were aspects considered relevant to nurses and little meaningful for users. In a study⁸, a re-education of the professionals' team was cited by parents as a necessary step to reduce noise in the NICU. The ambience nurture alternation in power relations between professionals and users, especially when the coaches are willing to participate in the world of user experiences³⁷.

On the shaft related to comfort, the care in action to close doors and windows were considered relevant for professionals and users. Ministry of Health recommends the use of dampers in doors, sinks, drawers, bins and surfaces for manipulation of materials.

Nurse practitioners showed appreciation for music therapy. Mothers who have children at a hospital sing their favorite songs to babies, which make them feel useful to the children, even when they are in intensive care³⁷. The professionals also indicate alarms bright as strategies ambience.

On the shaft concerning the management, professionals consider the maintenance of materials and equipment and noise measurement as actions that can contribute to improving the ambience. The users consider the maintenance of equipment and the doors of the wards. A study³⁹ results showed the "before and after" of a structural reconstruction within a NICU. Among the structural measures, were performed as follows: reduction of beds and increased spacing between them, location of

office, nursing station and local information request outside the main nursery, installation of ventilation and air conditioning system. Among the operational measures, they used interventions such as education staff, reducing the volume of alarms, use of plastic instead of metal drawers and wastebaskets, limiting conversations near the bed. After the reconstruction, the sounds still remained high: indicate the need for constant monitoring.

It is worth reflect, finally, that the word “rooming-in” has the verb “room”, from the French *loger*, the meaning of welcoming. Professionals considered themselves co-responsible for the smooth progress of the work, including the concern with silence within the host, such as the primacy of actions related to the process of working to contribute with ambience (axis 1). Silence, coupled with music therapy and with caution when opening / closing doors and windows, fit between actions relating to comfortability (axis 2), provide the resources needed humanizing, related to the fact common to all: the birth, when fragility on which depends the rest of our lives.

By entering this temporarily ambience, users leave out one of your daily life and start to live a little familiarity with the location where they are being cared for, where professionals are unknown, and living a whirlwind of feelings and emotions²³. This makes them more sensitive to noise, by mixing pain and suffering. And they need the silence because are experiencing a special moment in their lives. Noises, like the beats of the doors, are the first thing that calls attention to them and cause irritability and difficulty concentrating. Thus, they indicated actions related to management (third axis) the maintenance of materials and doors as actions to contribute to ambience.

The three axes of ambience help in the construction of space as therapeutic environment, once they provide greater reflection and participation of individuals and ensure the welfare of human interaction, with smells, colors, lights and sounds of soundscapes, and by favoring optimization of resources.

Finishing with Heidegger, host is synonymous with inhabiting, meaning “guard”. Paraphrasing philosopher in considerations about dwell, it could be said that in the ambience of rooming-in, the nursing inhabit (welcome) to the extent that save. Save isn't rid users and newborns from the dangers of death, disease, complications, etc., yet let them “free to leave something in your own place,” what happens

when pregnant women, mothers and newborns can experience the ambience of good inner-being and complete satisfaction as users of the health system. Lead someone to its essence involves two verbs that have special meaning for nursing professionals: wait for the manifestation of newborns in their mysteries, and lead them to their mothers, to unfold itself, comprising up while as finite beings and in constant process of building human⁴⁰.

Given the results of this study and in front the requirement that researchers have to submit the results to the community studied, in order to obtaining benefits for her, it seems appropriate to present an initiative that some other proposals of Humaniza SUS, since values of sound pressure levels found in this study are higher than those recommended by the competent institutions. It is recommended:

- a) Gather the studies already conducted by nurses from UFPR about noise in hospitals and show them in form of presentations to managers and professionals;
- b) Prepare a program for noise reduction in HC involving the ambience of each sector, if possible relying on the advice of Audiologists and Engineers;
- c) Recommend to practice environment for students early in their clinical practice in hospitals.
- d) Considering the importance of the tripartite design Humaniza – SUS (managers, professionals and users) the working process has implications in ambience and therapy of users and demonstrated the importance of listening to them. Moreover, it was showed the relevance of strategies proposals: the noise interferes with the ambience of the service, generating need for action to fix the faults mentioned.

■ CONCLUSION

It was found in this study that the noise levels are high in all areas of the rooming-in. However, such levels are insufficient to cause hearing loss. It was also noted that people do not always see themselves making noise.

Nursing professionals perceive more noise from the external environment, while most users perceive the internal noise. The noise interferes with the ambience of Rooming and negatively affects the daily activities of nursing and patient recovery.

RESUMO

Objetivo: mensurar os níveis de ruído e levantar a percepção dos profissionais de enfermagem e usuárias de Alojamento Conjunto em uma maternidade de referência para gestação de alto risco em Curitiba-PR. **Métodos:** estudo transversal, quantitativo, realizado em alojamento conjunto de um hospital público, no qual a percepção foi levantada por meio de entrevistas com 19 profissionais e 77 usuárias, e o ruído foi avaliado por meio de Medidor Integrador marca Bruel e Kjaer tipo 2230 calibrado na compensação "A". **Resultados:** os níveis de ruído em todas as áreas do Alojamento Conjunto estão acima do recomendado pela literatura (35 a 45 dB(A) para ambiente hospitalar). Os valores mais expressivos foram de 67,7dB(A) no posto de enfermagem e 65,3 dB(A) na sala de visitas. Usuárias e profissionais de enfermagem estão expostos a fontes de ruído advindos do processo de trabalho da equipe de saúde, do comportamento dos usuários, dos funcionários e de ruído externo da maternidade. Estratégias para diminuir o ruído e melhorar a ambiência do AC estão voltadas para ações relacionadas ao processo de trabalho da equipe de saúde, a confortabilidade e a gestão. **Conclusão:** o ruído do Alojamento Conjunto está acima do preconizado. Profissionais de enfermagem percebem mais o ruído externo, enquanto as usuárias mais o ruído interno. Constatou-se que o ruído elevado interfere na ambiência do AC e afeta as atividades diárias dos profissionais e pacientes.

DESCRITORES: Obstetrícia; Efeitos do Ruído; Alojamento Conjunto; Saúde Ocupacional

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