

# ORIGINAL ARTICLE



# Support provided by healthcare professionals to the mothers of newborns in the neonatal unit

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#### **KEYWORDS**

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#### **ABSTRACT**

**Objective**: To evaluate the support offered by health professionals to mothers of newborns admitted to the neonatal unit.

**Methods:** Descriptive cross-sectional study with a quantitative approach conducted at the Regional Hospital of Tucuruí, in the state of Pará, region of the Brazilian Amazon, where 33 mothers who had newborn children admitted to the neonatal unit responded to the structured adapted version of the NPST (Nurse Parent Support Tool).

**Results:** Most were aged 20-34 years (48%), married or in a stable relationship (69%), multiracial (87%), housewife (57%), with up to 11 years of study (72%). The scores for the NPST subdomains were 3.39  $\pm$  1.65 (Communication and Information Support), 4.13  $\pm$  1.33 (Emotional Support), 3.93  $\pm$  1.46 (Incentive Support), and 4.21  $\pm$  1,27 (Instrumental Support). The findings revealed unsatisfactory communication and information support from health professionals to mothers, although they expressed satisfaction with the care provided.

Conclusions: The perception of scarcity of human resources and health education, verified in this study, weakens the communication process during hospitalization and influences the mother's well-being, leading to a decrease in the efficiency of the support provided. The improvement in this area can lead to better results in daily practice. The replication of this study to other locations can lead to more significant assistance to mothers of hospitalized neonates and provide new technologies and strategies in health education.

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#### INTRODUCTION

The neonatal unit is a hospitalization service focused on integral care of severe or potentially severe newborns, with an articulated chain of specialized progressive care. It is divided into the neonatal intensive care unit (NICU) and the neonatal intermediate care unit (NIMCU). Newborn hospitalization, especially in the NICU, is a common source of stress and fear for both parents, especially to the mother<sup>1</sup>. In this scenario, their presence is essential to the newborn's clinical and affective improvement, while separation leads to a worse prognosis and slow development<sup>2</sup>.

Regardless of the different lengths of stay and conditions of hospitalization, there can be trauma and stress for both parents due to factors such as the hospital routine, events and procedures to which the infants are exposed, the equipment used, biomedical terms not entirely understood by the parents, and fear of losing the newborn<sup>3-5</sup>. Maternal difficulties are closely related to the physiological changes inherent to the pregnancy and puerperium, and mothers of newborns who need hospitalization are more susceptible to endocrine alterations, such as increased cortisol, decreased prolactin, and emotional stress<sup>6,7</sup>.

The National Humanization Policy (PNH), launched in 2003 by the Ministry of Health, has applicability in the scenario of the Unified Health System (SUS) and provides for the inseparability in the daily life of health services through six fundamentals: welcoming, participative management and co-management, setting, expanded shared clinic, valorization of work and workers, and defense of users' rights. Therefore, it bets on autonomy and protagonism of users as a link between the team and the beneficiaries, providing a favorable environment for a comprehensive health care process<sup>8,9</sup>.

In the hospital environment, the application of PNH should positively interfere in the coexistence between the mother and the team. In the understanding of the newborn's hospitalization, it influences the adoption of motivational practices and qualified listening by the team<sup>9</sup>. However, gaps in what it concerns its implementation are related to the lack of training and professional information and the difficulties of reconciling technicality with humanized practices.

Due to the importance and implications of the theme in the scope of Brazilian public health, seeking actions that promote advances in the practices of health services offered to the mother and child and reflect improvements in their reception, this study evaluated the assistance offered by healthcare professionals to mothers during their newborns' hospitalization in the NICU.

## **METHODS**

# Ethical aspects

This is a cross-sectional descriptive study conducted from June to September 2016. This research complied with the requirements established in the Nuremberg Code and the Declaration of Helsinki. It was based on the principles of bioethics present in Resolution

Nr. 466/12 from the National Health Council of Brazil. The research began after approval by the Ethics and Research Committee of Santa Casa de Misericórdia do Pará Foundation, number 1.572.513/2016.

## Place of study

Data collection occurred at the NICU of the Regional Hospital of Tucuruí (HRT), located in the Pará state, Brazilian amazon region. The municipality of Tucuruí has a 2,086 km² extension area and an estimated 113,659 inhabitants in 2019.Located around the Tucuruí Hydrapower Complex, it composes the integration region called Tucuruí Lake, also formed by the municipalities Breu Branco, Goianésia do Pará, Itupiranga, Jacundá, Nova Ipixuna, and Novo Repartimento, part of the 11th Regional Health Department of Pará. The registered infant mortality rate is 14.61 deaths for every 1,000 live births 10.

The HRT Pediatric Service has 20 hospital beds, eight NICUs, and 12 NICUs. Its multi-professional team consists of five neonatologists, ten nurses, 25 nursing technicians, three speech therapists, three physiotherapists, and other support professionals, such as a social worker, psychologist, nutritionist, neurologist, ophthalmologist, orthopedist, general surgeon, cleaning service infectious diseases and agents. Aiming at the decentralization of health care, the transport of neonates from the city or other regions to HRT is done by ambulance or plane, respectively. Newborns are received via hospital bed regulations, both from the public and private networks<sup>11</sup>.

Furthermore, the humanized care recommended by the hospital provides for the use of the maternal-kangaroo method in the NICU since the multiprofessional team encourages mothers to breastfeed. For this, the newborn's stability time in the unit is respected, with colostrotherapy or gavage being offered after evaluating clinical conditions<sup>11</sup>.

# **Participants**

The study included literate mothers of all ages who daily visited their newborns admitted to the hospital's NICU for at least 10 days. Under different lengths of hospitalization, premature newborns weighing less than 1,500 g or gestational age less than 32 weeks are allocated to the neonatal unit. Mothers excluded were those who had cognitive impairment, whose newborns remained hospitalized for less than ten days or died during that period, who did not attend daily visits, and indigenous.

The mothers were chosen intentionally, as they stayed longer in the neonatal unit with the child than the father, who is usually present at the visit and medical report.

# Instruments

A structured questionnaire entitled Maternal Perception About Support in the Neonatal Unit (MPASNU) was used, divided into two parts: Part I - Identification - intended for the sociodemographic and economic characteristics of the mothers, consisting of 16 multiple-

choice questions; and Part II - Guiding Questions - using an adapted version of the Nurse Parent Support Tool (NPST), a questionnaire developed by Miles, Carlson and Brunssen (1999)<sup>12</sup>, and cross-culturally adapted and validated for the Portuguese language by Rosseto, Martins and Mejias<sup>13</sup>.

The NPST consists of 21 closed questions: 1-never; 2-rarely; 3-sometimes; 4-most of the time; 5-always; and two open questions - not included in the study analysis. The general score is obtained by the arithmetic mean of the answers to the questions, adding the value of each item and dividing the total sum by the number of items completed. It consists of four dimensions, following the Likert scale: Communication and Information Support Provided to the Family, Emotional Support, Incentive Support, and Instrumental Support. Regarding the interpretation of the instrument, the higher the score obtained on the scale, the greater the mother's satisfaction with nursing care.

## Data collection procedures

The HRT neonatal unit has standards and routines available in manual form. Visits by parents and grandparents from different places in the state of Pará are allowed, at pre-established times, namely: mothers make daily visits, corresponding to the feeding schedule (every three hours): at NIMCU 8 am, 11 am, 2 pm, and 5 pm; at the NICU, 11 am, 2 pm and 5 pm; fathers have daily access from 4 pm to 5 pm; and grandparents' visits occur on Saturdays, from 10 am to 11 am.

Information about the newborn's clinical status is provided daily by the doctor and nurse at the neonatal unit's stipulated time. At the time of discharge, educational measures are developed to promote safety to the mother clearly and objectively regarding home care.

The research protocol was applied at the discharge of the newborn. The meeting was previously scheduled and held privately in the unit's waiting room after the mother visited the newborn. The questionnaires were answered after signing the Free and Informed Consent Form. The researcher remained close to the mothers to clarify possible doubts while they answered the MPASNU. Each one took about 20 min to complete the questionnaire.

# Data analysis

Descriptive statistical analysis of the quantitative variables (frequencies, arithmetic mean, percentage, standard derivation) was performed using the Minitab 3.0 and Microsoft Office Excel software (2013).

## **RESULTS**

Thirty-three mothers of newborns admitted to the neonatal unit of HRT were studied. Table 1 describes the sample's sociodemographic characteristics, which make up the first part of the MPASNU script.

The results of the second part of the MPASNU questionnaire, the NPST, and their respective mean scores and standard deviations were expressed by

domains, expressed in Figure 1. The mean scores obtained for each item in the domains are described in Table 2.

Regarding the items presented in Table 2, the highest and lowest averages were, respectively, Instrumental Support (4.21 ± 1.27), related to "most of the time" according to the criteria used on the Likert scale, and Communication and Support to Family Information, with an average response of  $3.39 \pm 1.65$ , a value that corresponds to "sometimes" in the criterion used on the scale. The second presents the largest number of questions of all items. The questions "Helped me talk about my feelings, anxieties or concerns", "It allowed me to decide whether I wanted to stay or leave during technical procedures", "Include me in discussions to make decisions about my child's care", "It helped me to know the names and roles of the team members who took care of my son", had the lowest average of the entire series surveyed, with 2.97, 2.52, 2.30 and 2.70, respectively.

Emotional Support had an average of  $4.13 \pm 1.33$ , representing the category "most of the time" on the scale. Still, in the Incentive Support, the answers had an

**Table 1** — Sociodemographic characterization profile of mothers of neonates admitted to the neonatal unit of the Hospital Regional de Tucuruí, Pará, Brazil, 2016 (N = 33).

Variables	n	%
Age (years-old)		
≤ 19	12	36
20-34	16	48
≥ 35	5	15
Marital status		
Married / Stable Union	23	69
Single	10	30
Skin color		
Multiracial	29	87
Others	4	12
City of origin		
Tucuruí	13	39
Goianésia do Pará	5	15
Pacajá	4	12
Novo Repartimento	3	9
Others	8	24
Ocupation		
Housewife	19	57
Others	14	42
Educational level (years of study)		
1 to 8	12	36
9 to 11	12	36
12 to 14	8	24
15 to 18	1	3
Family income (in minimum wages)*		
< 1	11	33
1 to 3	20	60
> 3	2	6
Number of children		
1	16	48
2	6	18
≥ 3	11	33

\*Minimum wage at 2016 = R\$ 880.00

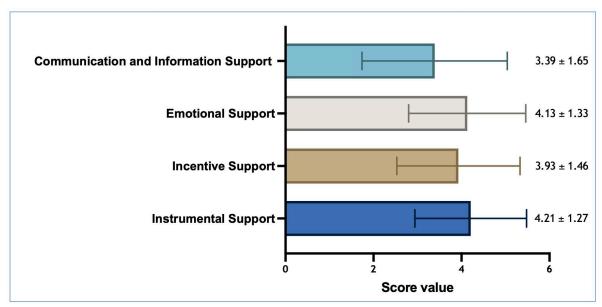


Figure 1 — Mean scores  $\pm$  standard derivation per domain obtained from the questionnaire applied to mothers of newborns admitted to the neonatal unit of the Hospital Regional de Tucuruí, Pará, Brazil, 2016 (N = 33).

**Table 2** — Mean scores per item obtained from the questionnaire "Nurse Parent Support Tool" (NPST), applied to mothers of newborns admitted to the neonatal unit of the Hospital Regional de Tucuruí, Pará, Brazil, 2016 (N = 33).

Itens of de questionnaire	Mean ± SD (Likert scale)
Communication and Information Support Provided to the Family	
P01- Helped me talk about my feelings, worries, or concerns	2.97 ± 1.57
P02- Helped me to understand what was being done to my son (for example: exams, treatments, as medications)	nd 4.15 ± 1.20
P05- It let me decide whether I wanted to stay or leave during technical procedures	2.52 ± 1.66
P06- Answered my questions satisfactorily or indicated someone who could answer them	4.27 ± 1.23
P07- Informed me of changes or improvements in my son's health condition	4.27 ± 1.10
P08- It includes me in discussions to make decisions about the care of my child	$2.30 \pm 1.67$
P09- Helped me understand my son's behavior and reactions	$3.79 \pm 1.65$
P12- Paid attention to my concerns or anxieties	3.55 ± 1.48
P14- It helped me to know the names and roles of the team members who took care of my son	2.70 ± 1.76
Emotional Support	
P13- Demonstrated concern about my well-being (for example: sleep, food, etc.)	3.12 ± 1.71
P19- Gave good care to my child.	$4.70 \pm 0.68$
P21- Were optimistic about my son (a)	$4.58 \pm 0.66$
Incentive Support	
P04- Made me feel important as the parent	4.55 ± 0.97
P11- Allowed me to know that I was doing something good by helping my son	3.88 ± 1.56
P16- Encouraged me to ask questions about my child	3.12 ± 1.67
P18- It allowed my involvement in the care of my child whenever possible	4.18 ± 1.18
Instrumental Support	
P03- Taught me how to take care of my son	3.67 ± 1.43
P10- Guided me on how to comfort my child during or after the procedures	$3.30 \pm 1.61$
P15- Gave my son good care	$4.82 \pm 0.64$
P17- Was sensitive to my son's special needs	4.52 ± 0.97
P20- Met my son's needs at the right time	$4.76 \pm 0.56$

SD, standard deviation.

average of  $3.93 \pm 1.46$ , but two of the four questions had an average above 4, comprising "It allowed me to be involved in the care of my child whenever possible" and "It made me feel important as a parent", with scores of 4.18 and 4.55, respectively.

## **DISCUSSION**

The sociodemographic characteristics of the study participants showed a predominance of multiracial mothers, aged between 20 and 34 years, married or in a stable relationship. They had between 1 and 11 years of study and an income of 1 to 3 minimum wages. The racial/ethnic characteristics of the sample represent the population of the region. However, it is worth mentioning that this reality is uncommon to the whole country, where there are differences due to the formation territorial and areas of certain races/ethnicities predominance, which generates variable results according to the region analyzed<sup>14</sup>.

Considering that pregnancy is physiologically favorable in 20 to 29 years, 51.51 of the women in this research were outside the ideal age group. However, it is essential to note that, although pregnancies at a much younger or older ages are considered high-risk (increasing the likelihood that the newborn will be admitted to a NICU), the age factor alone is not a predictor of complications in pregnancy and the puerperium. Psychosocial and demographic factors should also be considered 15-17.

Paternal presence is vital since prenatal care, considering that there must be co-responsibility with the baby. During the hospitalization period, their presence is beneficial for creating the affective bond<sup>18,19</sup>. The fact that most women in the study declared themselves to be married or in a stable relationship may indicate the paternal presence in the baby's life, although a limitation regarding the lack of data cannot make precise whether the partner is the baby's father and how is the family relationship. Health professionals must advise couples on parental participation in the daily life of the neonatal unit, as well as offering even greater support to single mothers<sup>20</sup>.

In the study, the subscale Support for Communication and Information obtained the lowest average, similar to studies developed in USA<sup>21</sup>, Poland<sup>22</sup>, and Turkey<sup>23</sup> in which this item also obtained low scores. This shows weakness in the team's communication relationship with mothers and a gap in the quality of care provided, emphasizing the need to continue applying the PNH guidelines in Brazilian health services<sup>24-26</sup>.

Emotional Support was well evaluated and ranked second in the NPST subscales, in contrast to other studies in the USA<sup>21</sup> and Poland<sup>22</sup>, in which it was poorly

evaluated. However, a study developed in China obtained a result similar to that found in the present study, which may represent a cultural difference about the care provided by the nursing staff to mothers or about the mothers' perception of emotional support<sup>31</sup>.

Donabedian Triad<sup>27</sup> proposes the evaluation of health care based on three aspects: structure, process, and result. Within the "process", the care provided to patients is part of a set of actions that includes interaction with the health team<sup>28</sup>. In this context, the lack of communication led to the mothers' insufficient knowledge about the procedures, equipment, and conduct applied to the child<sup>21</sup>.

The Incentive Support subscale obtained a good average, which was also found in other similar studies<sup>21,22</sup>. The answers given to "It encouraged me to ask questions about my child" and "It allowed me to know if I was doing something good to help my child" highlighted the need for establishing continuing education so that the team understands the need to encourage family members to help create a link in the healthy growth and development of the newborn<sup>16,29-32</sup>.

Finally, Instrumental Support was the subscale that obtained the highest average, consistent with that found by several researchers<sup>21,22,32-34</sup>. However, other responses from the same domain, with worse assessments, may be related to the mothers' restricted access to maternity, making this exchange between professionals and the newborn's parents unfeasible<sup>21</sup>. This factor, combined with possible changes in the parents' stay in the maternity ward, can be the object of changes and improve the care provided to the newborn and his mother.

The small sample size can be considered a limitation of this research. Furthermore, as restrictions related to the place where the research was conducted, there was a limitation of the mothers' full-time stay in the neonatal unit, the time restriction for medical appointments, and the need for prior scheduling for the researcher to meet the mothers.

This study opens the development of new research, emphasizing new ways of thinking and doing health education through recreational activities and technologies in the area.

# **CONCLUSION**

This research showed that the prevalence of negative responses from mothers refers to Communication Support compared to the other supports - Emotional, Incentive, and Instrumental. It corroborates the importance of the Brazilian National Humanization Policy practice in maternal and child health care during newborns' hospitalization.

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## Indications about the contributions of each author:

Conception and design of the study: SSG, KCC, AGC Analysis and interpretation of data: ERS, JHSR, SFLA, BTPD

Data collection: SSG

Writing of the manuscript: ERS, JHSR, SFLA, BTPD

Critical revision of the article: KCC, AGC

Final approval of the manuscript\*: SSG, KCC, AGC, ERS, JHSR, SFLA, BTPD

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