

**THE ADHERENCE OF THE MULTIPROFESSIONAL TEAM OF A NEONATAL ICU TO THE MINIMUM HANDLING PROTOCOL****LA ADHESIÓN DEL EQUIPO MULTIPROFESIONAL DE UNA UCI NEONATAL AL PROTOCOLO DE MANEJO MÍNIMO****A ADESAO DA EQUIPE MULTIPROFISSIONAL DE UMA UTI NEONATAL FRENTE AO PROTOCOLO DE MÍNIMO MANUSEIO**<sup>1</sup>Bárbara Abrão de Lima<sup>2</sup>Talita Nunes dos Santos<sup>3</sup>Danielle Bonotto Cabral Reis

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**Submission:** 13-12-2024**Approval:** 30-07-2025**ABSTRACT**

**Objectives:** To assess the adherence of the multidisciplinary team to the minimal handling protocol of the neonatal unit of a public hospital in the city of Rio de Janeiro; to identify the routine care provided to patients included in the minimal handling protocol of the neonatal unit; to describe the factors that favor or not the effective adherence of the minimal handling protocol by the multidisciplinary team of the NICU. **Methodology:** Observational study, with a qualitative approach, of the descriptive and exploratory type. Data collection for this study was carried out in two stages. First, the routine care provided to newborns admitted to the neonatal unit and included in the minimal handling protocol was observed. Afterwards, a questionnaire was applied to the health professionals who provide direct care to newborns. **Results:** All interviewees had some level of knowledge about the protocol. Most interviewees considered the protocol important for the newborn due to their clinical condition and communication was considered fundamental in the applicability of the protocol. It was observed that grouping of care did not occur frequently and patients included in the protocol were handled numerous times. **Final considerations:** Given the above, it is clear that the team was aware of the Minimum Handling Protocol, but it is necessary to change the way they intervene to ensure more qualified assistance.

**Keywords:** Infant, Premature; Patient Care Team; Intensive Care Units, Neonatal; Critical Care.

**RESUMO**

**Objetivos:** Verificar a adesão da equipe multiprofissional frente ao Protocolo de mínimo manuseio da unidade neonatal de um hospital público no município do Rio de Janeiro; identificar a rotina de cuidados voltada para os pacientes inseridos no protocolo do mínimo manuseio da unidade neonatal; descrever os fatores que favorecem ou não a efetiva adesão do protocolo de mínimo manuseio pela equipe multiprofissional da UTIN. **Metodologia:** Estudo observacional, com abordagem qualitativa, do tipo descritivo e exploratório. A coleta de dados para este estudo foi realizada em dois momentos. Primeiro foi observada a rotina de cuidados empregada aos recém-nascidos internados na unidade neonatal e incluídos no protocolo de mínimo manuseio. Após, foi aplicado um questionário aos profissionais de saúde que prestam assistência direta aos recém-nascidos. **Resultados:** Todos os entrevistados possuíam algum nível de conhecimento sobre o protocolo. A maioria dos entrevistados considerava o protocolo importante para o recém-nascido devido a sua condição clínica e a comunicação foi considerada fundamental na aplicabilidade do protocolo. Foi observado que o agrupamento de cuidados não ocorria com frequência e os pacientes inseridos no protocolo eram manipulados inúmeras vezes. **Considerações finais:** Diante do que foi exposto, observa-se que a equipe possuía conhecimento do Protocolo de Mínimo Manuseio, porém é preciso modificar a maneira de intervir para garantir uma assistência mais qualificada.

**Palavras-chave:** Recém-Nascido Prematuro; Equipe Multiprofissional; Unidades de Terapia Intensiva Neonatal; Cuidados Críticos.

**RESUMEN**

**Objetivos:** Verificar la adherencia del equipo multidisciplinario al Protocolo Mínimo de Manejo de la unidad neonatal de un hospital público de la ciudad de Río de Janeiro; identificar la rutina de atención dirigida a los pacientes incluidos en el protocolo mínimo de manejo de la unidad neonatal; describir los factores que favorecen o no la adherencia efectiva al protocolo de manejo mínimo por parte del equipo multidisciplinario de la UCIN. **Metodología:** Estudio observacional, con enfoque cualitativo, descriptivo y exploratorio. La recolección de datos para este estudio se realizó en dos momentos. En primer lugar, se observó la rutina de cuidados utilizada para los recién nacidos ingresados en la unidad neonatal e incluida en el protocolo mínimo de manejo. Posteriormente se aplicó un cuestionario a los profesionales de la salud que brindan atención directa a los recién nacidos. **Resultados:** Todos los entrevistados tenían algún nivel de conocimiento sobre el protocolo. La mayoría de los entrevistados consideró importante el protocolo para el recién nacido debido a su condición clínica y la comunicación fue considerada fundamental en la aplicabilidad del protocolo. Se observó que la agrupación de cuidados no ocurría con frecuencia y los pacientes incluidos en el protocolo eran manipulados numerosas veces. **Consideraciones finales:** De lo anterior se desprende que el equipo tenía conocimiento del Protocolo Mínimo de Manejo, pero es necesario modificar la forma de intervenir para garantizar una asistencia más calificada. **Palabras clave:** Recien Nacido Prematuro; Grupo de Atención al Paciente; Unidades de Cuidado Intensivo Neonatal; Cuidados Críticos.



## INTRODUCTION

The birth of a baby is a time of great anticipation and involves emotional and physiological issues for both mother and baby <sup>(1)</sup>.

The physiological changes that occur are vital for extrauterine adaptation, as the newborn (NB) moves from a thermostable, welcoming environment with its own soundscape to a cooler, brighter, and more stimulating environment <sup>(1)</sup>.

Birth can often be affected by issues that cause premature birth, such as twin pregnancies, cervical ripening, exposure to toxic substances, among others <sup>(2)</sup>.

According to the World Health Organization (WHO), premature birth is birth before a woman completes 37 weeks of gestation. When birth occurs before the 28th week of gestation, the newborn is considered extremely premature <sup>(3)</sup>.

The younger the gestational age, the less developed the preterm newborn's (PTNB) organism is to survive extrauterine life, requiring hospitalization regardless of morbidity and critical perinatal conditions <sup>(4)</sup>.

Detached from the endogenous stimuli received during pregnancy, the PTNB must be subjected to an intensive care environment and stimuli that influence their development. Even if hospitalized without complications, a premature newborn is at risk of developing learning difficulties, visual and hearing changes, and emotional and behavioral issues <sup>(5)</sup>.

The central nervous system (CNS) of premature newborns is fragile and, therefore, is not prepared to face an adverse environment such as the Neonatal Intensive Care Unit (NICU). Therefore, noise, intense lighting, procedures, and intense handling are harmful factors for the newborn, causing neurological changes <sup>(6)</sup>.

Newborns are admitted to the NICU to receive the care necessary for their development. During this period, the multidisciplinary team strives to prevent infections, illnesses, and other physiological problems. At this time, the quality of care provided is crucial, as this is one of the factors that determine the quality of life of these patients <sup>(7)</sup>.

Therefore, it is necessary to implement strategies, such as minimal handling, to facilitate the newborn's restful sleep, aiming primarily at providing safe and high-quality care for these patients <sup>(8)</sup>.

The Minimal Handling Protocol (MHP) has begun to be implemented in NICUs around the world with the aim of reducing the number of manipulations and stimulations of extremely premature newborns. To achieve this, handling must be multidisciplinary, encompassing the procedures performed with the goal of promoting stillness for the newborn, without unnecessary discomfort, facilitating sleep and rest. MHP is an inexpensive technique that requires only team organization <sup>(9)</sup>.

Based on the relevance of these actions, many NICUs have created their own Minimum Handling Protocols. These protocols are indicated for preterm newborns  $\leq 32$  weeks and/or  $\leq 1500$ g and critically ill newborns and establish the following care measures: supine positioning for the first 96 hours (up to the fourth day of life) with the head and trunk in the midline; from the fifth to seventh day, the trunk can be lateralized with the head in the midline; from the eighth day onward, the newborn can be prone when clinical conditions allow; among others <sup>(10)</sup>.

Such procedures should be avoided in the first 72 hours of life, a period during which any sudden change in blood flow to the developing brain can lead to the development of intraventricular hemorrhage <sup>(11)</sup>.

Therefore, the purpose of this study was to assess adherence to the protocol by the multidisciplinary team of a NICU in a public hospital in the city of Rio de Janeiro; to identify the care routine for patients enrolled in the NICU's minimal handling protocol; and to describe the factors that favor or hinder effective adherence to the minimal handling protocol by the NICU multidisciplinary team.

## METHODOLOGY

This is an observational, qualitative, descriptive, and exploratory field study conducted in the Neonatal Intensive Care Unit of a maternal and child hospital in the city of Rio de Janeiro.

Several professionals from the multidisciplinary team work in this setting, including on-call physicians, on-call nurses, nursing technicians, nutritionists, physical therapists, occupational therapists, speech therapists, social workers, psychologists, and medical residents, resident nurses, and multidisciplinary teams.

The study participants were healthcare professionals working in the NICU. Professionals who provided direct care to newborns were included in this study, and those on sick leave or vacation during the data collection period were excluded.

Data collection for this study occurred at two different time points. First, the routine care provided to newborns admitted to the NICU and who met the criteria of the minimal handling protocol was observed.

At this time, the care provider was assessed, as well as how long the care provider handled the infant, what was done, whether or not the care provider was grouped with another provider, and how long the infant remained unhandled.

The institution's protocol recommends minimal handling for preterm newborns  $\leq 32$  weeks and/or  $\leq 1500$ g and critically ill newborns. It establishes the following care measures: changing diapers and checking vital signs every 6 hours; grouping procedures/care, observing the newborn's signs of stress, interrupting procedures whenever the newborn shows signs of stress;

and organizing routine care/exams to coincide with the newborn's sleep/wake cycles.

The observation period took place between July and November, over six days chosen to allow for observation on different shifts.

The limited number of days allocated for observation is justified by the need to wait for patients to meet the criteria for inclusion in the PMM.

After the observation period, a questionnaire was administered to healthcare professionals providing direct care to newborns. This questionnaire included four open-ended questions about the protocol to assess their knowledge of the topic and their opinions on the factors that facilitate and/or hinder protocol implementation. The sample size was closed based on data saturation.

Different methods were used for each variable. The data obtained during observation were analyzed using simple

descriptive statistics, based on simple percentages and arithmetic means. Simple descriptive statistics and Bardin's content analysis were used to assess the content of the interviews.

This research complied with the ethical principles for research involving human subjects and was submitted for approval by the Research Ethics Committee in compliance with Resolution 466/2012(12) of the National Health Council, under opinion No. 6,167,662/2023 and CAAE No. 70595523.0.0000.5269.

## RESULTS AND DISCUSSION

The results obtained were distributed into three categories, where the analysis of the observation content will be presented initially, followed by the degree of knowledge of the interviewed group about the Minimum Handling Protocol and subsequently the opinions of the interviewees.

### Observation of the NICU care routine

**Chart 1** - Observation time on each data collection day

Observation day	Observed time	Period
20/jul	390 min	08:30 to 15h
08/aug	300 min	13h to 18h
13/sep	240 min	08h to 12h
06/oct	300 min	13h to 18h
11/oct	310 min	13h to 18:10
20/nov	280 min	07:30 to 12:10

Table 1 shows the days on which the care routine was observed. Data were collected over six days, three in the morning

shift and the other three in the afternoon shift. On average, observations lasted four hours each day.

**Table 01** - Characterization of newborns cared for by professionals observed during data collection.

<b>Diagnostics</b>	<b>N</b>	<b>%</b>
CNS Pathology	1	11,1
Pathology of the cardiopulmonary system	2	22,2
PMT	6	66,6
<b>Gestational age</b>	<b>N</b>	<b>%</b>
Extreme preterm (<28s)	2	22,2
Very preterm (28s A 31s6d)	4	44,4
Moderate preterm (32 A 33s6d)	0	0
Late preterm (34s A 36s6d)	0	0
Term (>37s)	3	33,3
<b>Weight</b>	<b>N</b>	<b>%</b>
Extremely low weight (<1000g)	3	33,3
Very low weight (<1500g e ≥1000g)	3	33,3
Low weight (<2500g e ≥1500g)	1	11,1
Appropriate weight (≥2500g)	2	22,2
<b>RNs who received direct assistance from each category</b>	<b>N</b>	<b>%</b>
Nurse	3	33,3
Nursing technician	9	100
Physician	9	100
Physiotherapist	6	66,6
Surgeon	1	11,1
X-ray Technician	1	11,1

Table 1 presents the profile of the newborns cared for by the professionals observed during data collection. Regarding diagnoses, approximately 66% were

premature, which is confirmed by the description of gestational age. Among the full-term newborns, two had a

cardiopulmonary system pathology and one had a central nervous system pathology.

Regarding weight, 33% of the patients cared for had extremely low birth weight, 33% were very low birth weight, and 11% were low birth weight. Only 22% of them had a normal birth weight.

When observing the professionals who handled these patients, it was found that

all newborns received direct care from doctors and nursing technicians. Approximately 33% and 66%, respectively, were handled by nurses and physical therapists, and approximately 11% by x-ray technicians and surgeons.

**Chart 02 - Handlings observed in each newborn and intervals**

Patient/variable	Number of manipulations (N=56)	Average of manipulations	Grouping of manipulations	Average interval between manipulations (minutes)	Number of manipulations every 360 minutes (6 hours)
<b>RN1</b>	3 times in 390 minutes	1 every 120 minutes	No	145 (50-240)	2,8
<b>RN2</b>	7 times in 690 minutes	1 every 98 minutes	Yes	96,4 (7-250)	3,6
<b>RN3</b>	8 times in 690 minutes	1 every 86 minutes	Yes	93,2 (6-230)	4,1
<b>RN4</b>	4 times in 240 minutes	1 every 60 minutes	No	70 (55-85)	6,0
<b>RN5</b>	4 times in 300 minutes	1 every 75 minutes	No	70 (20-100)	4,8
<b>RN6</b>	13 times in 890 minutes	1 every 68 minutes	Yes	31,8 (3-95)	5,2
<b>RN7</b>	7 times in 590 minutes	1 every 84 minutes	No	65 (10-100)	4,2
<b>RN8</b>	5 times in 310 minutes	1 every 62 minutes	No	50,5 (7-150)	5,8
<b>RN9</b>	5 times in 280 minutes	1 every 56 minutes	No	25 (3-45)	6,4

Table 2 presents the information collected during the observation of routine care for newborns enrolled in the Minimal Handling Protocol. Nine newborns were observed for varying numbers of days, totaling 56 handling procedures.

Of the 56 handling procedures observed, professionals organized themselves to group the care provided on only three occasions. The lack of care grouping in the NICU is also evidenced in other studies<sup>(13)</sup>.

Minimal handling is directly related to care grouping, as the newborn is the core of this care, and professionals must act collaboratively, prioritizing the patient's needs<sup>(13)</sup>. However, individual handling procedures were observed for a single procedure, demonstrating a lack of systematic organization and effective communication among professionals.

Furthermore, two patients were handled five times in a period of approximately 300 minutes. This resulted in short rest periods, with intervals of less than 10 minutes between handling procedures.

Sleep plays a significant role in newborn energy management. The younger the gestational age, the greater the demands on the motor and autonomic systems, resulting in little energy to interact with the environment and regulate sleep patterns<sup>(14)</sup>.

Therefore, when newborns are overstimulated and deprived of rest periods, their physiological instability can significantly worsen, resulting in cardiorespiratory changes and negative energy balance<sup>(14)</sup>.

The total average was one manipulation every 79 minutes, meaning the number of manipulations was less than one per hour (60 minutes).

A study conducted in the city of São Paulo found that preterm newborns were handled approximately 45 times in six hours (360 minutes), meaning they received more than seven manipulations per hour<sup>(14)</sup>. In

another study, each participating newborn received an average of 1.6 manipulations per hour<sup>(13)</sup>.

These data demonstrate that strategies to reduce the number of manipulations are being widely discussed and implemented. However, this handling still needs to be better organized and refined to ensure more qualified and humanized care.

During data collection for this study, the same professional was observed handling a newborn twice in a row, demonstrating, in addition to a lack of communication, a lack of care planning.

It is important to note that on several days, patients included in the protocol were handled outside the routine hours established by the department.

The minimal handling protocol at the institution where the study was conducted establishes a care routine with six-hour (360-minute) intervals between handlings. However, the longest period without handling observed was 250 minutes.

As reported in the interviews, complications interfere with the implementation of the PMM. However, only six events occurred that justified handling outside of the scheduled hours, such as temperature checks, regurgitation, and the use of Kangaroo Care.

### Interviewees' Knowledge of the PMM

Sixty-five professionals working directly with newborns were interviewed: 7 physicians, 8 medical residents, 10 nurses, 8 nursing residents, 28 nursing technicians, and 4 physical therapists. They answered three questions about the Protocol: Question 1: Are

you familiar with the PMM? Question 2: Have you been instructed about the PMM? Question 3: What are the criteria for inserting the patient?

Table 2 presents the professionals' responses to these three questions, organized by professional category.

**Table 02** - Professionals' responses regarding the minimal handling protocol

Question/ Professional	Physiotherapy		Nurse on duty		Resident nurse		Physician on duty		Resident physician		Nurse technician	
	N	(%)	N	(%)	N	(%)	N	(%)	N	fi (%)	N	(%)
<b>Question 1</b>												
Yes	4	100	10	100	8	100	7	100	8	100	27	96,43
No	0	0	0	0	0	0	0	0	0	0	1	3,57
<b>Question 2</b>												
Yes	3	75	7	70	0	0	5	71,43	3	37,5	25	89,29
No	1	25	3	30	7	87,5	2	28,57	5	62,5	3	10,71
Did not answer	0	0	0	0	1	12,5	0	0	0	0	0	0
<b>Question 3</b>												
Right	0	0	1	10	0	0	0	0	1	12,5	1	3,57
Partially right	4	100	7	70	7	87,5	7	100	6	75	18	64,26
Wrong	0	0	2	20	1	12,5	0	0	1	12,5	8	28,56

Question 1 asks how many professionals consider themselves familiar with the minimum handling protocol used at the reference NICU used in the study. With the exception of nursing technicians, where one professional stated they were unfamiliar,

all respondents considered themselves familiar with the MMP.

Question 2 highlights the professionals who received guidance on the reference institution's Minimum Handling Protocol. Overall, approximately 32% of respondents did not receive guidance on the

protocol. When analyzed by category, this figure is higher among residents; 62% of medical residents and 87% of nurse residents reported not receiving guidance upon joining the institution. In the other categories, the number of professionals who received guidance was 75% among physical therapists, 71% among on-call physicians, 70% among on-call nurses, and 89% among nursing technicians.

Knowledge about which patients should be included in the Minimal Handling Protocol is expressed in question 3. All physical therapists and on-call physicians partially understand which patients are indicated for inclusion in the protocol. Only 13% of medical residents, 10% of nurses, and 4% of technicians answered correctly. No nursing residents answered correctly, but approximately 84% are familiar with at least one criterion for including a patient in the protocol.

### Interviewees' opinion on the Minimum Handling Protocol

Interviewees were asked two questions about protocol implementation: What is your opinion of the protocol? What facilitates and/or hinders adherence?

Analysis of the interviews revealed that everyone has a positive opinion of the PMM.

Based on the participants' responses, three categories were organized to reflect the team's perspective: importance for the

newborn; the impact of the protocol on work dynamics; and determining factors for its applicability.

### The importance of the Minimum Handling Protocol for the newborn

The importance of the Minimal Handling Protocol for newborns was prevalent during the interviews. Its relevance was related to the clinical severity of the newborns included in the protocol, the need for neuroprotection for optimal development, to reduce repercussions, and to maintain greater clinical stability.

*[...] better outcomes for life and after hospitalization. This reduces the incidence of neurological impairment. E46*

*It was structured to protect the patient from hemodynamic changes that could lead to intracranial hemorrhage. E10*

*I believe it is a necessary and important protocol [...] given their physiological immaturity and the risk of germinal matrix hemorrhage. [...] E35*

During hospitalization, newborns are exposed to various invasive procedures and excessive handling, which can cause a range of adverse effects and developmental changes (15).

It is essential to implement measures to increase the survival of patients admitted to a NICU, aiming to minimize, or even eliminate, any complications that may affect them (9).

## The impact of the protocol on work dynamics

The impact on work dynamics was also frequently cited, as the protocol is simple to use, low-cost, and assists with the department's logistics. However, some professionals reported that, despite its importance, the protocol is not adhered to as required and that the team needs to be trained and educated to implement it.

*Establishing defined times for block handling effectively guides care. E45*

*[...] however, a lack of team awareness ultimately hinders adherence to the protocol.. E32*

Protocols are important to support healthcare practice by improving and minimizing the variability of procedures <sup>(16)</sup>. Furthermore, they favor the use of scientifically based practices, being constructed and supported by evidence-based practice <sup>(16)</sup>.

## Determining factors for the applicability of the protocol

The last question recorded the determining factors for the applicability of the minimal handling protocol, forming the third category. During the analysis, similarities were observed between the factors that facilitate and hinder adherence to the protocol, with their presence or absence being the determining factor in defining it.

Therefore, the responses were grouped according to the idea proposed in the statement: relationships within the

multidisciplinary team; lack of training and guidance on the protocol; the ratio of staff to patients; and the newborn's clinical condition.

The relationship within the multidisciplinary team was the most frequently cited factor among the issues that interfere with the applicability of the protocol, as communication between staff was considered a crucial condition for the protocol's proper functioning. Furthermore, it was reported that the different categories have their own handling schedules and sometimes prioritize their own work, failing to work in sync with the other staff.

*[...] everyone wants to do their job at their own pace without respecting the newborn's timing[...] E50*

*Facilitates: Communication between multidisciplinary teams, alignment of newborn care. E30*

*People focus on doing their own work, not realizing the importance of others' work. E37*

Establishing dialogue within the interprofessional team fosters rapport and recognition of each other's work, which is crucial for safer and more humane care <sup>(17)</sup>. Interprofessional communication is a skill for effective and collaborative interaction between different professionals <sup>(17)</sup>.

Communication and teamwork are skills that can be acquired through education and training <sup>(18)</sup>. This narrative corroborates the importance of periodic professional training, which strengthens not only dialogue but also problem-solving, the use of new

technologies, and the provision of more qualified patient care.

Interviewees emphasized that team awareness of the repercussions of excessive handling facilitates protocol adherence.

*Knowing the purpose of the requested measures, why they are performed, and what complications they are intended to prevent facilitate adherence. E10*

*Adhering to a protocol requires that it be well-communicated among the team and that periodic training be conducted so that the team understands how to implement it, the indications, and especially the importance for the newborn. E02*

Training is geared toward educating staff, enabling them to develop skills, knowledge, and concepts that change their habits and behaviors <sup>(19)</sup>.

When this concept is applied to the topic of this study, it is important to emphasize that these new skills promote more qualified care for inpatients, resulting in fewer long-term repercussions.

The relationship between the number of patients and staff also impacts the applicability of the minimum handling protocol. During interviews, some staff reported that insufficient staff makes it impossible to follow correct handling schedules, as the demands for care become too extensive. Qualified care also requires that the staff-patient relationship be in accordance with pre-established standards.

*There's a shortage of staff, a lot to do, and therefore, you have to come in (to handle the newborn) before the scheduled time. E40*

*The large number of hospitalized children makes things difficult, because at the scheduled time, we, technicians "assigned" as newborns, may be caring for someone else. This means there's no synchronization with another professional's schedule. E45*

The Federal Council of Medicine's opinion No. 24/2019 establishes a ratio of one on-call physician for every ten patients or fraction thereof in highly complex care units <sup>(20)</sup>.

COFEN Resolution 743/2024, which addresses nursing staffing, suggests a ratio of one professional for every 1.33 patients in intensive care, with 52% of the team being nurses. Furthermore, a technical safety index of at least 15% of the total staffing should be added to the staffing ratio <sup>(21)</sup>.

The clinical condition of hospitalized patients is another obstacle to implementing a routine with less handling. The occurrence of adverse events was cited as a factor that makes repeated handling inevitable, as was the need for frequent examinations and procedures due to the newborn's critical condition.

*Adverse events inherent to the clinical condition that require a break from the protocol. E22*

*The severity of the case makes it difficult. E30*

*Easier handling in more severely ill babies. E13*

Finally, the presence of visual signals indicating that the patient is included in the PMM was mentioned as an important

instrument that facilitates adherence to the protocol. These warnings, in addition to being considered important by the multidisciplinary team, are also recommended in documents such as the Nursing Care Handbook for Newborns under Minimal Handling<sup>(22)</sup>.

*Improve visual signaling of times. E09*

*Facilitates: indication of handling times in the incubator. E13*

*Facilitates: minimum handling sign in the AI (heated incubator). E34*

## FINAL CONSIDERATIONS

This study analyzed adherence to the Minimal Handling Protocol by the multidisciplinary team of a Neonatal Unit in a public hospital in the city of Rio de Janeiro, as well as the factors that contribute to effective adherence. Thus, it was clear that, despite being familiar with the protocol, the team still needs training to enhance their knowledge of the MDP. Furthermore, effective communication and a cohesive team are essential to ensuring successful implementation of the protocol.

Regular training allows the multidisciplinary team to be prepared to recognize the clinical conditions and diagnoses that make a patient eligible for the Minimal Handling Protocol. Furthermore, when a professional is fully aware of the potential harms of an action, they become more attentive and provide more humane care.

Communication, on the other hand, is a crucial tool for orderly and qualified care

and was the greatest challenge identified by interviewees in implementing the protocol. When the multidisciplinary team fails to establish a clear dialogue, care becomes disorganized, and the newborn ceases to be a priority.

Communication also favors grouping care, a mechanism that helps reduce the time newborns are exposed to stimuli. However, during data collection, it was observed that this practice is not yet routine within the unit.

Although the institution has an established protocol and qualified professionals, it is still necessary to implement actions that strengthen the practice of minimal handling within the NICU.

The demands within a Neonatal Unit are extensive due to the patients' clinical conditions, and this creates an overload on professionals. As a result, relationships between staff and even work routines become strained, hindering the care process. Therefore, tools are needed to facilitate the implementation of the PMM.

Visual signs on the incubators of newborns included in the protocol already exist and, as reported by the team, they are an important tool for implementing the protocol. However, it is necessary to reinforce with the team the importance of correctly following the guidelines and stipulated schedules.

Care within a Neonatal ICU is focused on ensuring the survival and quality of life of hospitalized newborns. This work requires professionals to act with affection and

dedication. However, it is training that ensures qualified and humanized care, and the practice of minimal handling brings numerous benefits to the patient, as reported in the interviews.

Given the above, it's clear that the team is familiar with the Minimum Handling Protocol, but interventions need to be modified to ensure more qualified care. It's clear that with small adjustments, it's possible to train the team to adopt this strategy.

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### Author Contributions:

**Bárbara Abrão de Lima:** Study conception and planning; data collection, analysis, and interpretation; final draft of the published version.

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**Danielle Bonotto Cabral Reis:** Study conception and planning; drafting, critical review, and final approval of the published version.

**Declaration of conflicts of interest:** None.

**Funding Sources:** No funding was provided for this research.

**Scientific Editor:** Ítalo Arão Pereira Ribeiro. Orcid: <https://orcid.org/0000-0003-0778-1447>

