https://doi.org/10.23925/2176-2724.2023v35i4e61762

Clinical reasoning and protocols: the vision of the speech therapy team in the oral introduction of neonates in a neonatal unit

Raciocínio clínico e protocolos: a visão da equipe de fonoaudiologia na introdução via oral de neonatos de uma unidade neonatal

Razonamiento clínico y protocolos: la visión del equipo de fonoaudiología en la introducción oral de neonatos en una unidad neonatal

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Abstract

Introduction: Identifying the moment to introduce full oral administration in neonates is challenging. Protocols assist in this process using mostly subjective assessments; however, studies demonstrate the importance of including objective criteria. **Objective**: To analyze the view of the Speech Therapy team on the use of protocols and construction of clinical reasoning in oral introduction in a neonatal unit. **Method**: Qualitative, analytical, exploratory research. Data collection through focus groups and a socio-demographic and technical-scientific profile questionnaire of the participants. **Results**: Three preceptors and three residents between 25 and 39 years old, of different ethnicities, graduated between one and 16 years, from two to 12 years working in Neonatology, participated. They have improvements, courses and three completed postgraduate studies. Five categories of analysis emerged from the focus groups: specialized training as a reflection of the population's health needs; competence building process for

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Received: 19/04/2023
Accepted: 18/01/2024

assistance in neonatology based on the guidelines of the Baby-Friendly Hospital Initiative; alignment of the team's conduct and better monitoring of the evolution of cases; difficulty in applying the protocol in the work process; and suggestions for increments to the protocol based on institutional guidelines. **Conclusion**: The team uses an institutional protocol based on the literature. It is suggested to add objective criteria for better results, helping residents to learn.

Keywords: Premature; Newborn; Intensive Care Units; Suction; Neonatology; Speech, Language and Hearing Science.

Resumo

Introdução: O momento para introdução de alimentação via oral plena em neonatos é desafiador. Protocolos auxiliam nesse processo utilizando majoritariamente avaliações subjetivas, porém, estudos apontam a importância de incluir critérios objetivos. **Objetivo:** Analisar a visão da equipe de Fonoaudiologia sobre utilização de protocolos e construção de raciocínio clínico na introdução via oral em uma unidade neonatal. **Método:** Pesquisa qualitativa, analítica, exploratória. Coleta de dados por meio de grupos focais e por questionário de perfil sociodemográfico e técnico-científico dos participantes. **Resultados:** Participaram três preceptoras e três residentes entre 25 e 39 anos, de diferentes etnias, formadas entre um e 16 anos, de dois a 12 anos atuando em Neonatologia. Possuem aprimoramentos, cursos e três realizaram especialização. Emergiram dos grupos focais cinco categorias de análise: formação especializada como reflexo das necessidades de saúde da população; processo de construção da competência para assistência em neonatologia baseado nas diretrizes da Iniciativa Hospital Amigo da Criança; alinhamento das condutas da equipe e melhor acompanhamento da evolução dos casos; dificuldade na aplicação do protocolo no processo de trabalho; e, sugestões de incrementos ao protocolo baseados em diretrizes institucionais. **Conclusão:** A equipe utiliza protocolo institucional embasado na literatura, ao qual se sugere adicionar critérios objetivos para melhores resultados assistenciais e aprimorar o processo de ensino- aprendizagem das residentes.

Palavras-chave: Prematuro; Recém-Nascido; Unidades de Terapia Intensiva Neonatal; Sucção; Neonatologia; Fonoaudiologia.

Resumen

Introducción: el momento de introducir la administración oral completa en neonatos es un desafío. Los protocolos ayudan en este proceso utilizando evaluaciones mayoritariamente subjetivas, sin embargo, los estudios señalan la importancia de incluir criterios objetivos. **Objetivo**: Analizar la visión del equipo de Fonoaudiología sobre el uso de protocolos y construcción del razonamiento clínico en la introducción oral en una unidad neonatal. **Método**: Investigación cualitativa, analítica, exploratoria. Recopilación de datos a través de grupos focales y cuestionario de perfil sociodemográfico y técnico-científico de los participantes. **Resultados**: Participaron tres preceptores y tres residentes entre 25 y 39 años, de diferentes etnias, egresados entre uno y 16 años, de dos a 12 años trabajando en Neonatología. Cuentan con mejoras, cursos y tres estudios de posgrado terminados. De los grupos focales surgieron cinco categorías de análisis: la formación especializada como reflejo de las necesidades de salud de la población; proceso de construcción de competencias para la asistencia en neonatología a partir de los lineamientos de la Iniciativa Hospital Amigo del Ninõ; alineación de la conducta del equipo y mejor seguimiento de la evolución de los casos; dificultad en la aplicación del protocolo en el proceso de trabajo; y, sugerencias para incrementos al protocolo basados en lineamientos institucionales. **Conclusión**: : El equipo utiliza un protocolo institucional basado en la literatura, al que se sugiere agregar criterios objetivos para mejores resultados de atención y mejorar el proceso de enseñanza-aprendizaje de los residentes.

Palavras clave: Enfermedades del Prematuro; Recién Nacido; Unidades de Cuidado Intensivo Neonatal; Succión; Neonatología; Fonoaudiología.

Introduction

The preterm newborn (PTNB) demands specific care due to the neurophysiological immaturity affecting key functions such as sucking and swallow. This immaturity is characterized by the presence of muscular hypotonia, decreased oral reflexes, thermoregulatory and gastrointestinal problems, difficulty in maintaining long periods of alertness, cardiorespiratory changes, hyperreactivity to environmental stimuli, among others[1,2,3].

These factors impact the oral-motor-sensory system, causing incoordination of sucking, swallowing and breathing (SSB) functions, slowed oral transit, altered or absent sucking and delayed start of swallowing. Thus, oral feeding (OF) is impaired, requiring the use of a feeding tube until it is possible to transition to OF[3,4].

The speech therapist is the professional qualified to work towards an adequate oral-motor-sensory system, safe and effective swallowing, the promotion of breastfeeding, neonatal hearing screening, the humanization of the environment and interaction with the multidisciplinary team. Their goal in the Neonatal Intensive Care Unit (NICU) is to develop the coordination of orofacial muscle groups involved in sucking and swallowing functions and the coordination between newborns' sucking, swallowing and breathing. This goal is achieved through assessment, diagnosis and intervention[4].

Ordinance No. 930 of May 10, 2012 establishes the guidelines and objectives for the organization of comprehensive and humanized care for newborns (NB) in severe or potentially severe cases, and the criteria for classification and qualification of NU beds within the scope of the Unified Health System (*Sistema Único de Saúde*, SUS). This ordinance determines that the speech therapist must be part of the multidisciplinary team at the Neonatal Intensive Care Unit (NICU), as well as at the Conventional Neonatal Intermediate Care Unit (CoNICU) [5].

There are available tools to assist in the identification of readiness for oral feeding, however, in most of them, behavioral and sensory aspects of PTNB are assessed, potentially leading to the generation of subjective results, and may vary according to the evaluator's perception. This fact may raise questions about the reliability of the results that are found. Criteria such as gestational age (GA) and weight are important in this decision making, but they are not the only ones to be considered[6,7].

The *Oral Feeding Skills-OFS in Preterm Infants* [8] Assessment Protocol is an objective assessment instrument used to identify the readiness for OF. Its application is fast and simple, and no devices are required. The proficiency (PRO) (percentage of volume taken during the first 5 minutes/ total prescribed volume) and rate of milk transfer (RT) criteria are assessed throughout the period required for feeding (ml/min). The classification of oral feeding skills is divided into 4 levels, 1 being the most inefficient, and 4 the most efficient, as measured by the NB's overall transfer (percentage of volume taken ⁄ prescribed volume)[8].

Identifying OF readiness is complex and requires a systematic approach. Transitioning from tube feeding to OF when the PTNB is not yet able can cause greater energy consumption, resulting in weight loss and fatigue, in addition to the risks of aspiration pneumonia, hypoxia, bradycardia, apnea and a longer hospital stay[9,10].

This research aimed to analyze the view of the Speech Therapy team on the use of protocols and construction of clinical reasoning in the introduction of oral feeding in a neonatal unit. Furthermore, this study aimed to make a qualitative listening, through the presentation and discussion of Oral Feeding Skills-OFS in Preterm Infants Assessment Protocol in focus groups[8]. From this listening, it is described how, currently, speech therapists of a NU identify the ideal time for tube removal and which indicators are used.

Methods

This is a qualitative, analytical and exploratory study. It was submitted, assessed and approved by the Ethics and Research with Human Beings Committee (CEP) of the host institution of this research, under CAAE 54553221.2.0000.5454 according to opinion 5.250.232.

The speech therapists of the NU care team and the resident speech therapists of the Multiprofessional Program in Neonatology were invited to participate in the research, totaling eight team members (five preceptors and three residents) who work in the transition to OF and breastfeeding. Speech therapists responsible for hearing screening and rooming-in were excluded.

Six speech therapists—three preceptors and three residents—agreed to participate in the research and signed the Informed Consent Form (ICF) and the authorization term for the use of image and voice. Two preceptors were unable to participate because they were on leave for health reasons.

The production of research data was organized in two stages. In the first stage, a physical and digital copy of the article *"A Novel Approach to Assess Oral Feeding Skills of Preterm Infants"* [8] was delivered for prior reading, along with a copy of the Oral Feeding Skills-OFS in Preterm Infants Assessment Form[11] so that the participants could apply it in practice in order to better know the resource in preparation for the discussion in focus groups. The participants were expected to receive the material a week in advance, according to initial schedule, but due to a date change made so that all could participate in the groups, the team was granted a month for reading and application.

In the second stage, sociodemographic and technical-scientific data was collected through a questionnaire, delivered on the day of the focus groups. Sociodemographic data was distributed and analyzed according to age, race/color, and sex variables. The technical-scientific profile data was related to the institution where the professionals graduated from, time since graduation, period of experience in Neonatology, academic training variables (upskilling, postgraduate degrees, masters, doctorate, among others) and work experience in other areas of Speech Therapy.

Two focus groups were held separately, one only with the preceptors, and the other with the residents, in order to prevent them from feeling uncomfortable to express their opinions in the presence of the preceptors. Each group consisted of three members. The groups were conducted by the same mediator, using a semi-structured guiding script with the topics to be discussed. The topics involved the participants' experiences in neonatal care, how the development of clinical reasoning for OF introduction in the NU is currently carried out, the team's perception of the Oral Feeding Skills-OFS in Preterm Infants Assessment Form[11], reports of the experience of applying the protocol in practice and the team's conclusion on the proposed protocol. These data were recorded through audio and video, duly authorized.

For interpretation of the collected data, an analysis of the content in the thematic modality was performed, through the following steps: transcription of the group discussion, identification of record keeping units, context, and analytical categorization, based on the application of content analysis technique [12].

Results

In order to present the research subjects' profiles, the sociodemographic and technical-scientific data collected are below. To categorize the groups separately, data is divided between groups of preceptors and residents.

The sociodemographic profile of the participants is characterized by six women, between 25 and 39 years old; four of them are White, one is Black and one is *parda* (mixed race), as shown in Table 1.

Table 1. Social demographic profile

Variables	Preceptors	Residents	Total	
			N°	%
Sex				
Male	0	0	0	0
Female	3	3	6	100%
Race/color				
White	2	2	4	67%
Black	0	1	1	16%
Parda (mixed race)	1	0	1	16%
Asian	0	0	0	0
Indígenous	0	0	0	0
Age				
20 - 29 years	1	1	2	33%
30 - 39 years	2	2	4	67%
40 - 49 years	0	0	0	0
More than 50 years	0	0	0	0

Legend: n= total number of participants corresponding to each variable; %= Percentage

The technical-scientific profile is characterized by speech therapists graduated between 1 and 17 years ago, five of them from private institutions. All preceptors have postgraduate degrees in different areas of dysphagia, orofacial motricity and public health with emphasis on the Family Health Strategy (*Estratégia Saúde da Família*, ESF), in addition to upskilling and courses related or not to the area of Neonatology.

During data collection, the residents were undergoing training through the Multiprofessional Residency Program in Neonatology, two of whom completed the program before the end of the research. Additionally, two of them have courses and upskilling related or not to the area of Neonatology.

Five participants—three of them preceptors and one resident—have experience in other areas of expertise: adult dysphagia, language, orofacial motricity, and voice. The experience in the area of Neonatology varies between 1 and 12 years, as shown in Table 2.

Table 2. Technical-scientific profile

Variables	Preceptors	Residents	Total	
			N°	%
Training time				
1 - 5 years	1	3	4	67%
6 - 11 years	0	0	0	0
12 - 17 years	2	0	2	33%
More than 17 years	0	0	0	0
Training Institution				
Private	3	2	5	83%
Public	0	1	1	17%
Length of experience in neonatology				
1 - 5 years	1	3	4	67%
6 - 11 years	1	0	1	16%
12 - 17 years	1	0	1	16%
More than 17 years	0	0	0	0
Education				
Postgraduate studies	3	0	3	50%
Training course	2	1	3	50%
Courses	3	2	5	83%
Residency	0	3	3	50 %
Master	0	0	0	0
Doctorship	0	0	0	0
Acting in other areas of Speech-Language Pathology and Audiology				
Voice	1	1	2	33%
Orofacial motricity	2	1	3	50%
Audiology	0	0	0	0
Adult Dysphagia	2	0	2	33%
Language	2	1	3	50%
Other areas	0	0	0	0
Only neonatal	0	2	1	33%

Legend: n = Total number of participants corresponding to each variable; %=percentage

Focus group outcomes

Out of the six participants, four read the article (three residents and one preceptor), and two preceptors partially read it. Among the justifications given, one of the participants reported that she did not have time to complete the reading, and the other explained that the methodology and language used in the article did not attract her total interest in deepening the study.

Only one preceptor used the protocol in her care practice. The other participants reported that there was no difficulty in understanding the resource. They argued there was a lack of planning to apply the protocol in the NICU routine due to the great demand for care. Data regarding the reading and application of the article is presented in Table 3.

Table 3. Article's lecture and aplication

Variables	Preceptors	Residents	Total	
			N°	%
Read full article	1	3	4	67%
Did not read the article	0	2	2	33%
Applied the protocol	1	0	1	16%
Did not Apply the protocol	2	3	5	83%

Legend: n= total number of participants corresponding to each variable; %= Percentage

The data collected from the focus groups were analyzed together, gathering the reports from preceptors and residents. These data were transcribed and analyzed[12]. The guiding cores and analytical categories that were found are presented in Table 4.

Table 4. Guiding nuclei of research and categories of analysis

Guiding Nuclei of Research	Categories of analysis
1st: Participants' experience in neonatal care	1st: Specialized training as a reflection of the population's health needs
2nd: Construction of clinical rationale for oral introduction	2nd: Process of building competence in neonatal care based on BFHI guidelines
3rd: The team's perception about the protocol of Oral Feeding Skills in Neonates, based on the reading of the proposed article	3rd: Advantages of using the protocol related to theoretical support, alignment of the team's conducts and better monitoring of the evolution of cases 4th: Disadvantages of the use of the protocol related to the mostly quantitative analysis and difficulty of application due to routine 5th: Increments to the protocol based on institutional guidelines.

Legend: BFHI= Baby Friendly Hospital Iniciative

The quotes that best represent each category were selected. In order to identify the contribution of each group, residents were identified as R1, R2, and R3, and preceptors as P1, P2, and P3. The categories found are below:

1st Guiding Core – Participants' experience in neonatal care

When participants were asked about their experience in neonatal care, an analytical category emerged:

Category 1: Specialized training as a reflection of the population's need for health:

> *"... in undergraduate studies there is no mention of Neonatology and I think that's why no one goes to Neonatology. It's all about dysphagia in adults, the elderly, those who have a stroke or sclerosis, Alzheimer's, these things. No one talks about dysphagia in children, even less in newborns. In regards to premature, what I was taught in college involving newborns was the tongue test, the hearing test that must be performed now, and breastfeeding, only those. But no one talks about the difficulty of the baby's dysphagia..."* R3

2nd Guiding Core – Development of clinical reasoning for OF introduction

When participants were asked about the process of developing clinical reasoning for OF introduction in daily practice, an analytical category emerged:

Category 2: Competence building process in neonatal care based on the guidelines of the Baby Friendly Hospital Initiative (BFHI):

> *"...Well, I think it depends on the baby and the difficulties they present. Usually the first thing I do is to assess if there is a rooting reflex, sucking, the oral readiness of the baby. Depending on the case, if the mother is present and I can see there is a good sucking and rooting reflex, I like to already*

introduce breastfeeding. If the baby has some oral alteration, I work on it, stimulating with NNS until the reflexes are present with good coordination, so that I can start to introduce a volume through finger feeding, and then, move to breastfeeding, if possible. Otherwise, I will work with finger feeding and, depending on the baby's evolution, I will think about which tool will be used later, how this OF will actually look..." P1

3rd Guiding Core – Team's perception on the Oral Feeding Skills-OFS in Preterm Infants protocol, based on the reading of the proposed article:

When participants were asked about the perception of the proposed protocol, three analytical categories emerged:

Category 3: Protocol use advantages related to theoretical support, teamwork alignment and better monitoring of the case evolution:

"... yes, it stops at: I did it yesterday and it worked, so it's good. No, but today I'm going to do what I think it's right, then see how the baby is, and then I'm going to think if what she said was ok, otherwise I'm going to change. I learned with time, not just by going there and doing it. So I think that for those who are starting, it is good, and for those who already have experience, it is also good for continuity. It's simple, the doctor performs one exam a day and has a baseline, it is not what each one thinks. The baseline was established from a study, with a lot of consensus, and, based on this, everyone understands that, for some reason, there was a change. So everyone speaks the same language that will be recognized wherever they go. And in the real world where we live, outside of here, everyone will ask: So? What is the protocol you used and what are we going to say?..." R1

Category 4: Protocol use disadvantages related to an analysis that is mostly quantitative, difficulty of application due to routine:

"... I think it is much valid for research because this will promote even the work of Speech Therapy in this area. The purpose of the research is to quantify what we already do in practice, but we do not exactly count the minutes, there is no such accuracy. Performing a qualitative analysis is different..." P3

Category 5: Increments to the protocol based on institutional guidelines:

*"...As I said, these protocols provide guidance and are much valid, but I don't think they can be restrictive. So we have to use it as a guidance, but clinically reasoning on top of that. They are super valid for us to have a technical support of what we are doing, to show that I didn't just do something out of my head. I have the support of a protocol and it is like this. It's not everyone working the way they think it must be done, but following a protocol. There are cases that will not be in the scope of the protocol and will be discussed, but we are applying clinically reasoning on that case and deciding that we need to go another way. But I agree with what P1 said, that we must observe in a more qualitative and non-quantitative way, because it varies a lot. The baby may accept everything in one feeding, and then nothing in the other. They change a lot. We observe them over the days and they change the pattern, then improve acceptance. Gradually the baby changes and improves the pattern, and we have a better result. It is difficult to determine that in a sample, in this case, in the type of work that we have in a single sample, the data that we need. I think I would need something more long-term, observing qualitatively and not quantitatively. But I think protocols are much valid so we can have a kind of work standardization in the moments that we need to discuss and do something differently from the protocol, but I think we need an orientation, in order to end this thing of each one does it in their own way, everyone wants to reach the same goal and the goal is the same. So we have our daily discussions, in order to achieve a team consensus for each case, but I think it is much valid to have a protocol that guides the team as a whole..."*P3

As a proposal for the study, the Oral Feeding Skills-OFS in Preterm Infants Assessment Protocol[8] was presented to the team. This resource includes objective data of the skills using PRO and RT measures throughout the period required for feeding (ml/min). With these results, it is possible to classify oral skills into 4 levels:

Level 1: PRO < 30% and RT < 1.5 ml/min

>> Low oral feeding skill and low feeding endurance (high fatigue).

Level 2: PRO < 30% and RT > 1.5 ml/min

>> Low oral feeding skill and high endurance (low fatigue).

Level 3: PRO >30% and RT < 1.5 ml/min.

>> High oral feeding skill and low endurance (high fatigue).

Level 4: PRO > 30% and RT > 1.5 ml/min.

>> High oral feeding skill and high endurance (low fatigue).

The higher the level, the better skill conditions for oral feeding the NB has. Table 5 shows the assessment criteria currently used by the team at the NU and the assessment criteria of the proposed protocol Table 5.

Table 5. Difference between the protocol used and the proposed protocol

Evaluated Items	Speech-Language Pathology and Audiology Attendance Record – Neonatal ICU	Protocol oral feeding skills in neonates
Behavioral and motor aspects	✓	X
Reactivity and tone	✓	X
Respiratory conditions	✓	✓
Saturation O2	✓	✓
Oxygen support	✓	X
Heart rate	✓	✓
Oral reflexes: search and sucking	✓	X
Protective reflexes: nausea, cough and bite	✓	X
Readiness	✓	X
Coordination S/D/R	✓	X
Suction rhythm	✓	X
Oral intake duration	✓	✓
Prescribed volume	✓	✓
Total Accepted Volume	✓	✓
Maternal presence	✓	X
Breastfeeding	✓	X
Translactation/FingerFeeding Technique	✓	X
Complications	✓	✓
Utensils	✓	X
Probe-complemented volume	✓	X
Volume accepted in the first 5 minutes (ml)	X	✓
Transfer rate (ml accepted orally: min)	X	✓
Proficiency (oral 5 ml ml: prescribed ml)	X	✓
Oral Feeding performance (orally accepted ml: prescribed x 100 ml)	X	✓
Oral Feeding Skill Level Rating	X	✓

Legend: ✓ = Items evaluated in both protocols; X = Missing items in the protocol.

As positive points of this protocol, the participants mentioned the daily use of this resource can ensure teamwork alignment, since patients are seen by different speech therapists, who need to follow the same line of reasoning to maintain a consistent therapeutic plan.

It is also pointed out that this data enables the NB's daily evolution monitoring, allowing changes and adjustments in the work for each case, in addition to assisting in the development of this planning, for example, by using the oral skill levels. Additionally, the oral skill levels show that numerical data is a key indicator to point out the importance of speech therapists in Neonatology, and can also guide multiprofessional discussions, especially with the medical team.

Discussion

The limitations found in the study are related to the reduced number of participants. The non-adherence to reading and application of the resource in practice also hindered the discussion and perception in focus groups. Interest in the study topic arose from the residents' experience and reporting regarding the difficulties pointed out in the development of the clinical reasoning about identifying the ideal moment to carry out the transition from

tube feeding to OF, and the hypothesis that the use of a specific protocol could solve these questions.

With the inclusion of the speech therapist in the neonatal environment and the increase in care demand, studies have emerged to promote the scientific basis in speech therapy work, and to provide knowledge of the characteristics and specificities related to this population. Clinical assessment is an essential item, as it is through it that the needs of each patient are identified, enabling the outline of the appropriate therapeutic planning and the work to be done with the multidisciplinary team [13,14].

The use of protocols promotes standardization in services, in addition to the monitoring of the daily evolution of each newborn, favoring the analysis and confirmation of results of the work that has been developed. It is through indicators and objective data that the importance of speech therapy intervention with newborns is evidenced, especially with PTNBs[14].

The analysis of existing protocols points to subjective aspects, and the findings may vary according to the perception of different evaluators, which consequently can lead to actions that diverge from the needs of each patient[6,7].

Based on the categories that were found, it was possible to analyze and understand the team's clinical reasoning development process. The discussion of these findings is the next step.

The participants initially reported no previous contact with the area of Neonatology during their undergraduate studies. The preceptors learned it in the work routine, and the residents were inserted in the scope of teaching through the Multiprofessional Residence in Neonatology.

The National Curriculum Guidelines of the Undergraduate Degree in Speech Therapy define the speech therapist as a professional with generalist, humanist, critical and reflective training. The essential content of the Undergraduate Degree in Speech Therapy must include: Biological and Health Sciences; Social and Human Sciences, and Speech Therapy Sciences that include Speech Therapy specialties related to the areas of hearing, oral and written language, voice, speech, fluency, and orofacial and cervical myofunctional system [15].

Therefore, the undergraduate student in Speech Therapy will have access to all areas that are indispensable for their training as a generalist. For postgraduate cases, the candidate must take in-person or distance learning *lato sensu* postgraduate programs, multiprofessional residency programs and/or master and doctoral programs.

The insecurity in neonatal care reported by the participants is related to the need for specialized education, as all of them referred to the lack of initial knowledge of the neonatal area and the fear of treating PTNBs. This issue was more evident in the initial experiences reported by the preceptors, as their learning occurred during work, due to the need of knowing the area in order to offer quality care.

Regarding the process of development of clinical reasoning, the preceptors reported they do not use a specific protocol. This development is based on the current literature, on other resources and on the observation of the NB's state in clinical practice. According to the residents, there is difficulty in building clinical reasoning because they do not have a specific protocol to follow during the transition to OF.

The development of clinical reasoning in the context of training can be benefitted by the use of interprofessional education (IPE), since collaboration between different professionals, through joint work towards learning, can stimulate the leadership skills of these students, highlighting their individual characteristics, promoting autonomy in thinking and acting together with existing knowledge and incentives for problem solving[16].

The team uses the "Record of Speech Therapy - NICU Consultations" sheet for daily evolution in the medical records. In this sheet, several items for the NB's oral feeding are assessed. In order to understand what the literature indicates as fundamental for OF introduction, a search was performed to compare the items assessed by the team and the findings in literature.

The first set of assessed items looks at behavioral, motor, reactivity and tone aspects. Behavioral aspects are an important indicator for feeding readiness [9]. A study carried out to evaluate the relationship of the behavioral state in the PTNB sucking patterns showed that NBs in the alert state had better overall performance, a higher number of suctions per block, presence of SSB coordination and better RT when compared to NBs in the sleep state, indicating that the alert state contributes to a better feeding performance [17].

The second set of assessed items includes the monitoring of the cardiorespiratory pattern in order to track any changes or complications during care. This monitoring is important, since prematurity

has a direct impact on the cardiorespiratory system and, consequently, brings losses to the feeding process [1,18].

Cardiorespiratory parameters should be observed during oral feeding, as they may clinically assist in the dysphagia diagnosis. The clinical assessment of swallowing, associated with the observation of clinical signs that suggest penetration/aspiration, and the monitoring of vital signs, help the speech therapist to achieve a more measurable evaluation, since the clinical signs and clinical evaluation of swallowing do not provide objective data on the dynamics of swallowing[14,19].

A study carried out to verify cardiorespiratory parameters through heart rate (HR) and respiratory rate (RR) before and after oral feeding, related to GA at birth and the level of oral feeding skill in PTNB, highlights the importance of observing RR and HR in addition to saturation during feeding[20].

The third set of assessed items refers to oral rooting and sucking reflexes, protective reflexes, feeding readiness, SSB coordination and sucking rhythm. The PTNB may present a decrease or absence of oral reflexes, muscle hypotonia, difficulty in the performance of oral motor skills, SSB incoordination, among others[1,3,21].

Prolonged use of a tube favors changes in SSB coordination, deprivation of adequate sensory stimuli, alteration of sensitivity, and may lead to modifications or delay in the development of the stomatognathic system [21,22,23]. For this reason, speech therapy intervention for the adequacy of the oral-motor-sensory system should be performed as soon as the PTNB presents clinical conditions.

The fourth set of items aims to record the total time of the OF offer, the total prescribed volume, and the volume accepted during the consultations. This data is objective and part of the set of items assessed in the Oral Feeding Skills-OFS in Preterm Infants Assessment Protocol [8]. In this case, the team does not use the RT and PRO measures and the classification of oral skill levels, prioritizing the aforementioned subjective data of feeding readiness.

This study was conducted in a hospital that has the title of Child Friendly Hospital. The Baby Friendly Hospital Initiative (BFHI) was conceived by the World Health Organization (WHO) member states in 1991, with the objective of ensuring the practice of breastfeeding and the prevention of early weaning. Campaigns are carried out to encourage breastfeeding in hospitals, in addition to the implementation of national policies to ensure the right to breastfeed.[24]

For this reason, mothers' attendance to breastfeeding stimulation consultations is an important data in the newborns' medical records. In the routine of the NU that was researched, the team faces challenges related to the promotion of breastfeeding because of the unsystematic and sporadic maternal attendance in the NU. Maternal absence is justified by several reasons, whether due to socioeconomic issues, distance from hospital, absence or limitation of the maternal support network, among others.

Many of these mothers evolve with very low milk production, as they cannot maintain the lactation stimulation. There are cases where even with stimulation, the stressful conditions involved in NU hospitalization do not favor the maintenance of lactation. This finding corroborates a study carried out to analyze milk production, sleep quality and anxiety of mothers of newborns admitted to the NICU. The results showed that these mothers had lower milk production and extraction in the human milk bank. This fact was related to moderate levels of anxiety and poor sleep quality [25].

The mothers' attendance data in the unit help the team to guide the actions to be taken, prioritizing exclusive breastfeeding and the transition from tube to breast, when possible, considering the conditions of both mother and newborn. In cases where it is not possible to maintain exclusive breastfeeding, a cup supplement is used, as recommended by the BFHI, in order to avoid the use of artificial nipples [26].

When breastfeeding is not possible due to NB's disabling conditions, or when supplement is required, but not viable with a cup in a safely manner, such as in cases of craniofacial malformations, neurological disorders, syndromes, among other diagnoses,[14] or for specific maternal causes, bottles are used after discussion with the multidisciplinary team and exhaustion of other possibilities.

In order to improve milk production, supplemental nursing system is a strategy used both to stimulate lactation and to promote adequate stimulation of the oral-motor-sensory system, aiding in the development of the stomatognathic system and promoting emotional satisfaction [27].

Based on all items, it is possible to observe that the criteria used are aligned with current literature. The records in the medical record are aligned with

the main authors in the area. As it is a teaching hospital, the use of a more detailed resource about the criteria to be assessed and recorded during care, as well as a flowchart, can be of great assistance in the learning process, since this was a point reported by the residents as something they would like to have in practice.

The residents reported they experience difficulties in accepting suggestions related to new protocols and studies by the preceptors. They indicated the lack of space for notes as a negative point of the record sheet. During the development of this research, the sheet used to record attendance at the NU underwent changes based on the team's suggestions and on the outcomes from the discussion held after reading the proposed protocol [8], which indicates that an update and change process was started, with learning and improvements for the team in mind.

The following items were added: protective reflexes, heart rate, total accepted volume, prescribed volume, OF offer time, and supplemental nursing system, in addition to increasing the writing space for care reports.

These points corroborate the literature, which increasingly shows a concern to scientifically support clinical practice in Neonatology, through studies and protocols that assist in daily care [8]. The use of indicators to highlight the positive impact of speech therapy has become increasingly common. Without the use of protocols, it is difficult to demonstrate the results obtained in the assistance[14].

Most of the positive points were made by the group of residents, who read the article and showed greater approval of the resource. The residents emphasized the resource can bring more security to clinical practice as, by following this resource, it is possible to precisely identify the moment to start with OF, in addition to their belief that it can assist in the learning process.

Among the negative points raised by the participants, the analysis of data that is mostly quantitative was highlighted. They report that the quantitative analysis has no applicability in daily practice, but for academic purposes, since it is necessary to assess the patient's profile as a whole. Qualitative analysis goes beyond RT and PRO or the classification level of oral skills; they argue that only the numerical indicator is insufficient to support the actions. Literature considers this data important in clinical practice, complementing and not replacing data already evaluated[11].

The logistics for application of the resource was another issue raised. The NU that was the focus of the research has 30 NICU beds, 26 CoNICU beds and 4 beds in the Kangaroo Intermediate Care Unit (KICU), with the entire unit served by the speech therapy team.

An issue that was raised is that with the routine and number of patients, it is not possible to measure the time of offer with the certainty required by the protocol for PRO and RT calculations. The annotations that are currently made are not as accurate as the resource recommends, and contain an approximate average of the total offer time. Therefore, preceptors believe the resource does not fulfill its objective due to lack of precision.

All the observations about negative points were made by the group of preceptors, who believe the assessment of subjective data, together with clinical practice, provides greater security so that they can take their own actions.

The proposed protocol [8] was carried out in a context in which the use of bottles is part of the routine at the unit, with bottle being used as the first oral experience, instead of breastfeeding. The use of this resource in the NU observed in this research must be adapted to the reality of the institution, which is part of the BFHI, and follow the institutional guidelines.

All participants favored the use of protocols in daily care, but they believe that it is not enough to just follow the resources without clinical reasoning. With positive and negative points, the Oral Feeding Skills-OFS in Preterm Infants Assessment Protocol[8] was considered a good resource, but it needs to be adapted according to the institutional guidelines in order to be implemented, taking into account the patients' profiles, and should be used as complementary data together with the parameters that are already currently assessed.

Conclusion

The team uses an institutional protocol based on literature, and it is suggested to add objective criteria to it for better care outcomes and to enhance the residents' teaching-learning process.

The use of subjective data, as pointed out in the analytical categories (behavioral and motor aspects, among others) is important, and jointly with these,

it is increasingly necessary to rely on objective data in order to achieve results that do not depend only on the evaluator's perception, providing more reliable data, in addition to reinforcing the importance of speech therapy for PTNB.

The proposed protocol is insufficient due to the lack of aspects that assess breastfeeding. It is suggested to create a protocol according to the institutional guidelines based on BFHI, taking into account the evaluation of subjective data already recorded by the team in their routine, together with the objective data pointed out in the proposed protocol. It is important to remember that no protocol is superior to the other, but the creation of a new resource with both assessments, focused on the profile of PTNBs who are treated, can further enrich the work already being performed.

It is crucial to carry out further studies to understand how the clinical reasoning of speech therapists is built, both at undergraduate and postgraduate level and in other services, since the number of research participants was reduced.

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