

## Decision making for nursing rehabilitation in intensive care: foci of care\*

Tomada de decisão em enfermagem de reabilitação nos cuidados intensivos: focos de atenção

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### ABSTRACT

**Objective:** to understand the focus of care developed by nurses specialized in adult intensive care rehabilitation. **Methods:** qualitative study with a focus group session with six nurses, specialists in rehabilitation nursing, who have roles in the intensive care of three hospitals. The information transcribed was submitted to content analysis. **Results:** regarding the profile of participants, three were female and three were male, with ages varying from 28 to 51 years old, with a mean of 39.33 years old (standard deviation=7.32). Through data analysis, two categories emerged: Sedated Clients and Awake Clients. **Conclusion:** when the client was sedated, the care was focused on the processes of the respiratory and musculoskeletal systems that were compromised. When he was awake, more elements related to those body processes became foci of care, in addition to other elements related to the psychological process, to the phenomenon of status, and to self-care.

**Descriptors:** Decision Making; Intensive Care Units; Nursing Process; Rehabilitation Nursing.

### RESUMO

**Objetivo:** compreender os focos de atenção que os enfermeiros especialistas em enfermagem de reabilitação desenvolvem nos cuidados intensivos de adultos. **Métodos:** estudo qualitativo, que realizou uma sessão de *focus group* onde participaram seis enfermeiros especialistas em enfermagem de reabilitação, com funções em unidades de cuidados intensivos de três hospitais. A informação transcrita foi submetida à análise de conteúdo. **Resultados:** quanto ao perfil dos participantes, três eram do gênero feminino e três do masculino, com idades entre 28 e 51 anos, média de 39,33 anos (desvio-padrão=7,32). Através da análise dos dados emergiram duas categorias: Cliente sedado e Cliente acordado. **Conclusão:** quando o cliente estava sedado, os focos de atenção associavam-se aos processos do sistema respiratório e musculoesquelético que se encontravam comprometidos. Quando estava acordado, emergiram mais focos relativos a estes processos corporais, acrescentando outros focos que respeitavam ao processo psicológico, ao fenómeno status e ao autocuidado.

**Descritores:** Tomada de Decisões; Unidades de Cuidados Intensivos; Processo de Enfermagem; Enfermagem em Reabilitação.

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## Introduction

Nurses Specialized in Rehabilitation Nursing (NERN) are present in 92.0% of the Portuguese Intensive Care Units<sup>(1)</sup>. These specially trained professionals have knowledge and experience, and are responsible for decisions regarding health promotion, prevention of secondary complications, treatment, and rehabilitation, maximizing the potential of their clients<sup>(2)</sup>.

The Portuguese Order of Nurses attributes the title of NERN to the nurses who have a specific formation, going through a specialization course or a master's course after becoming licensed. There, they develop the following specific competences: caring for people with special needs through their life cycle, including all contexts of the practice of care; training the person with disabilities, activity limitations and/or who has reservations about participating, in order to reinsert them and aiding them to restart exercising citizenship; and maximizing functionality, strengthening the capabilities of individuals. As a result, in their contexts of professional practice, NERNs conceive, implement, and monitor unique nursing rehabilitation plans, to attend to the needs of care they find in each individual<sup>(2)</sup>.

The nursing process is a continuous and organized cycle, which includes primary evaluation, identification of priorities and nursing diagnoses, planning of interventions and results expected, implementation of interventions, and final evaluation. The concept of focus is, according to the International Classification for Nursing Practice (ICNP), a pertinent field of care for nursing<sup>(3)</sup>. It guides decision making, which is a central aspect of the discipline of nursing, since it impacts on the quality of the care provided.

The continuous involvement of the NERNs in the units is imperative, since they intervene, mostly, at the level of neurological, cardiac, respiratory, and orthopedic functions<sup>(2)</sup>, all of which are essential rehabilitation care for the population under intensive care<sup>(4)</sup>. Rehabilitation nursing, however, is a specialty that exists in few countries in the world. It includes

specific care with specific objectives, which makes it important, justifying the advancement of its worldwide construction and consolidation<sup>(5)</sup>. This aspect of the theme is reflected in the scarcity of studies that are developed by nurses in the field of rehabilitation for intensive care, when compared to studies developed by other rehabilitation professionals, which was verified in a literature review. On the other hand, the national projects of scientific investigation developed in this context seem to be related to the creation of master's courses in nursing rehabilitation, since most investigations were conducted in association with them.

Considering the gap in the knowledge about this theme, with its focus on the role of the NERNs, we considered that the experience and perspective of these professionals will make it possible to increase the scientific knowledge in the field of nursing, especially regarding the decision-making process, contributing for the quality of the care provided in this context of work.

With the current relevance of the theme in mind, the guiding question of this study was: What are the foci of care developed by Nurses Specialized in Rehabilitation Nursing in the intensive care of adults?

As a result, our objective was to understand the focus of care developed by nurses who specialize in rehabilitation in the intensive care of adults.

## Methods

This was a qualitative study, carried out according to the Consolidated Criteria for Reporting Qualitative Research (COREQ).

The selection of participants was in accordance with a non-probabilistic and intentional convenience sample. Considering the objective of this investigation, the following inclusion criteria were determined: being a NERN; providing specialized care in nursing rehabilitation to adults hospitalized in Intensive Care Units for at least one year; and accepting the audio recording of the session. The study also determined the

exclusion of those who were absent due to personal reasons or medical leave, even if they were active professionals.

At first, 12 NERs who had specialist roles in the intensive care units of the three central hospitals in the North of Portugal were invited. Six nurses, eligible according to the criteria above, participated in the study. Regarding the three central hospitals, the participants were a NERN from one hospital, two from another, and three from a third one, who worked in five different units. Nurses who refused participation after being contacted via phone or e-mail did so due to being unavailable to meet at the same date, hour, and place as the others. The participants met in a pre-scheduled date, January 21st, 2020, in a reserved room in the higher education institution *Escola Superior de Saúde de Santa Maria*.

After participants were recruited, the decision to participate in the study was confirmed. It was clarified that their participation was voluntary and that they could abandon the research at any moment, without any form of reprisal. They were clearly informed about the objective of the study and of the estimated duration of each session, as to prevent them from abandoning the study early, during the session itself. The participants were asked to give their free and informed consent to participate in the study, and gave their authorization for the recording of the session.

The focus group was chosen as the most appropriate technique for data collection. At first, a script was structured to guide the group. It was elaborated by the authors themselves, including themes and aspects that needed to be discussed and a set of predetermined key-issues that could answer to the objective of the study. These issues were in accordance with the foci of attention in rehabilitation nursing that participants developed with their clients. Furthermore, sociodemographic variables were collected from the participants, namely regarding their age, gender, and professional categorization.

To guarantee the reliability of the data collected, the session was recorded in audio using two re-

orders, to guarantee that all interactions during the session were recorded as well as possible. Furthermore, to improve the efficacy of the process, a team of three moderators participated, two of whom had experience moderating focus groups. One moderator focused on conducting and pushing forward the discussion, while the others handled the recording devices, logistic conditions, physical environment, responded to unexpected interruptions and took notes according to their own observations of the behavior of participants during the session. Each session was expected to last approximately 120 minutes, due to the number of predetermined question and their characteristics. However, the discussion was dense, and data saturation was reached quickly, leading to a meeting of 105 minutes.

Later, the focus group session was transcribed as close as possible to reality and complemented by the field notes from the moderators. Each participant was identified by a code that included the letter N, for nurse, and a number from 1 to 6. The number represented the order in which the person intervened in the focus group session. Furthermore, to legitimate the session, its transcription was sent to the participants via e-mail. No participant found any issues in it. During the investigation, data confidentiality was guaranteed at all times. The focus group does not allow for anonymity between the participants of the group and the investigator, but the data collected was used exclusively for this investigation and no data that could allow identification was recorded. The information transcribed was the object of content analysis<sup>(6)</sup>.

The content analysis includes explanation, systematization, and expression of the content of messages, so logical and justified deductions can be made regarding their origins: who emitted them, in what context, and/or what effects one is attempting to cause with them. For the analysis to be valid, the category of communication fragmentation followed the rules of: exhaustion (until data saturation was reached), exclusivity, objectivity, and adequacy or pertinence. It was organized in three stages: pre-analysis, material

exploration and treatment of the results found, and interpretation<sup>(6)</sup>. This process was manual, and no qualitative analysis software was used. Considering the terms that integrate ICNP, version 2019<sup>(7)</sup>, two categories emerged from content analysis: Sedated Clients and Awake Clients.

To guarantee that the ethical principles that are inherent to the investigative process were respected, an opinion was requested from the Ethics Committee at *Escola Superior de Saúde de Santa Maria*, and the committee approved the study (registered in the Ethics Committee under the number 2020/06).

## Results

Regarding the profile of the six participants of the study, three were female and three male. Their age varied from 28 to 51 with a mean of 39.33 (standard deviation = 7.32). Four worked in multipurpose units while two worked in units specialized in cardiothoracic surgery. Regarding their time as professionals, it varied from 6 to 29 years. Their experience in intensive care, specifically, varied from 3 to 29 years. Three participants had only worked in intensive care. Regarding their time as NERNS, it varied from 4 to 12 years.

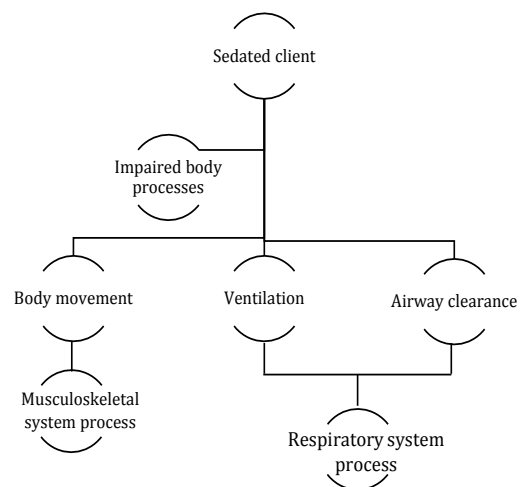
Considering the content analysis carried out and considering the perspective of participants about foci of care in Intensive Care Unit Rehabilitation Nursing, two categories emerged: Sedated Clients and Awake Clients. They are represented schematically in Figures 1 and 2.

### Sedated Clients

The information from the discourse of the participants indicates that, when the client is sedated, the foci is developed to prevent the negative effects of the immobility generated by sedation and mechanical ventilation, and therefore, are associated to impaired bodily processes, namely, to musculoskeletal processes that refer to a focus on Body Movement, as the

following records indicate: *When sedated, we are very responsible for this role... of minimizing as much as possible the impact that would be caused by the immobility, the lack of conditioning and use... it is much more related to the perspective of body movement (N2). We normally identify muscle movement in all of them (N5).*

On the other hand, the respiratory system process is also impaired when associated to the foci Ventilation and Airway clearance: *Normally ventilation is impaired in all of them (N5). Airway clearance... (N1, N2, N3, N4, N5).*



**Figure 1** – Schematic representation of the category Sedated Client. Porto, Portugal, 2020

### Awake Client

After the sedation period is over, when confronted with an awake client, Ventilation was still a relevant focus, from the perspective of participants: *Especially from the point of view of ventilatory weaning, to minimize complications (N2).*

On the other hand, foci such as Cognition, Knowledge, and Ability were also considered by the respondents, when they mentioned that, considering an awake client who: *From the perspective of the cognitive domain is intact... we enter in the domain of knowledge, of ability (N2). The capacity of memorizing and understanding, sometimes, is also affected, which makes it more difficult... our work (N2).*

Still considering the foci Knowledge and Ability, the discourse of the participants also referred to

the foci Cough, Expectoration, and Airway Clearance, as the following records indicate: *It is important for the diseased to be able to carry out certain feats, namely the clearing of airways, the technique of coughing* (N2). *Within airway clearance, coughing and expectoration* (N3).

Regarding the foci Attention, Concentration, and Orientation, the participants stated that: *There is a lot of neurosurgical patients and cognitive training, attention training, concentration training, training of their orientation in space and time, which is also an area we cover* (N3).

Similarly, the attention foci Adherence to Rehabilitation Regime emerged from the discourse of the participants when they referred to clients that: *Refused*

*to collaborate* (N3). Swallowing, which is often impaired in people in critical conditions, was another focus the respondents considered: *Her swallowing is impaired* (N5). There are also foci related to self-care, in the sense of being independent: *Getting dressed or undressed* (N3). *Self feeding* (N3, N4).

As the complexity demanded from daily life activities increases, other foci emerged: *Turning* (N3); *standing* (N3); *self transferring* (N2, N3, N4, N5, N6); *walking* (N2, N3, N4, N5, N6); *ventilated walking* (N3); *balance* (N2, N3, N5, N6). Regarding the compromised musculoskeletal system process, the Paresis focus emerges: *People with neurosurgical diseases... require facial motricity training* (N3).

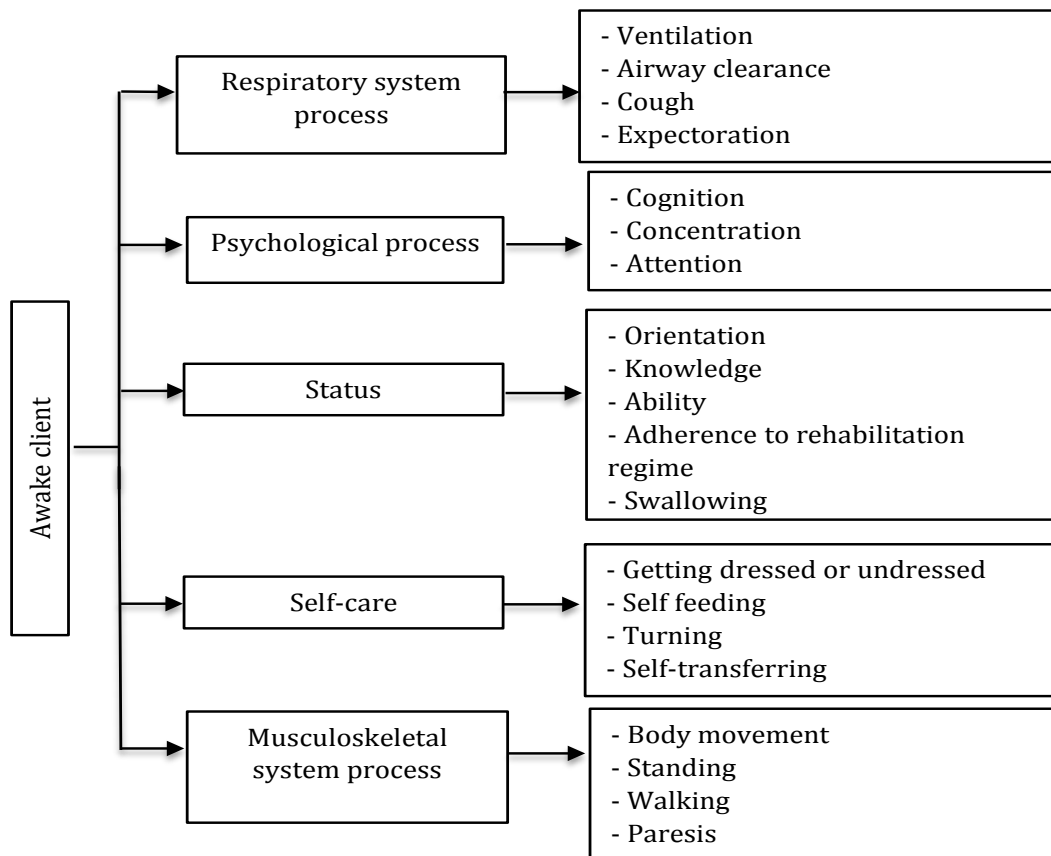


Figure 2 – Schematic representation of the category Awake Clients. Porto, Portugal, 2020

## Discussion

This study, especially considering the size of its samples, has limitations, and its results cannot be generalized due to the subjectivity inherent to its qualitative nature. Further studies should be developed to better appreciate this phenomenon, investigating the perspective of nurses who specialize in nursing rehabilitation and are working in other Intensive Care Units.

The interventions carried out by the NERNs and guided by the care foci in rehabilitation nursing can contribute to improve the outcomes of the population under intensive care, making the presence of these professionals essential in these units. Their decision making must be based on the best scientific evidence available, on the theoretical referents of the discipline, and on the several stages of the nursing process. As a result, even though, as mentioned above, the results of this study cannot be generalized, they can be useful as support for the decision-making process of NERNs in this specific context.

The participants emphasized the need to minimize the impact of immobility on people in critical conditions, which is corroborated by evidences according to which the musculoskeletal strength diminishes from 1 to 1.5% per day, starting at the moment the client is restricted to the bed<sup>(8)</sup>. Indeed, when body movement is impaired due to the immobility demanded by the state of sedation and the need for invasive mechanical ventilation, muscular weakness is a possibility. This, associated to the inefficacy of the ciliary body, diminishes the efficacy of the cough, contributing to the accumulation of secretions and increasing the risk of respiratory infections<sup>(9)</sup>. This is the foundation that explains why Ventilation is another focus of attention identified by the NERNs who participate. The same is true for Airway Clearance, both impaired in these clients.

On the other hand, after sedation is finished, while dealing with an awake client, the respondents still consider Ventilation to be an important focus, as

they attempt to achieve a successful ventilatory weaning. It has been shown<sup>(10-11)</sup>, indeed, that with the implementation of an early rehabilitation program, there were less days under ventilation (11.7 vs. 9.3 days). This suggests that the NERNs have an essential role in the Intensive Care Units, since their interventions make it possible to improve the outcomes of the clients, both in the short and long terms.

When the NERNs who participated in this research deal with an awake client whose cognition is intact, foci such as Knowledge and Ability emerge. Cognition, therefore, has a particular relevance, since cognitive changes can make the work of the nurses more difficult, when Rehabilitation is concerned. These findings are associated with the bibliography consulted for this work, concerning the indication, by some authors, of cognitive sequelae and delirium as some of the complications that originate from hospitalization in Intensive Care Units, what is known as Post-Intensive Care Syndrome (PICS)<sup>(12)</sup>.

Therefore, it was possible to identify factors that condition the interventions of the participants, when they referred to clients who do not collaborate and refuse care, impairing the Adherence to Rehabilitation Regime. This focus, as well as Cognition, Attention, Concentration, and Orientation is not included in the Document Standards for Nursing Care in the Nursing Rehabilitation Specialty<sup>(13)</sup>, elaborated by the Portuguese Order of Nurses, even though participants recognize it as a determinant with regard to the process of rehabilitation that can impact on the process of decision making.

Furthermore, the foci Cough and Expectoration were also identified, referring once again to the bibliography consulted for this work and associated with authors who state that assisted cough, directed cough, and mechanically assisted cough (mechanical insufflation-exsufflation) are necessary for an appropriate ventilatory weaning, since they promote the clearance and permeability of the airways<sup>(14)</sup>. Therefore, it is essential for the client to present a cough that is sufficient to maintain their airways permeable, and

as a result, the NERNs decision-making process must be based on the reinforcing of its teaching, instruction, and training.

From the perspective of participants, other problems can be identified, namely, dysphagia, which is related to the foci Swallowing or Ability to swallow. Effectively, there are evidences according to which post-extubation dysphagia is a preoccupation of clients hospitalized in Intensive Care Units<sup>(15)</sup>. In a prospective observational study, the authors verified that post-extubation dysphagia has a high incidence, and clients with graver conditions and/or underlying neurological conditions are under the greatest risk. Also, for most clients, the dysphagia identified during intensive care remained during their entire hospitalizations, associated to other negative clinical outcomes. However, respondents indicated that, in the context of their practice, they end up not being able to respond to all the needs for rehabilitation care, leaving some of them unattended, which is the case of swallowing. This finding corroborated Schefold and collaborators<sup>(16)</sup>, according to whom post-extubation dysphagia is an often neglected issue.

On the other hand, the foci related to selfcare, which emerged from the needs for autonomy/independence, going from the care for one's personal hygiene to more complex daily life activities, were found to be relevant by the participants. In fact, the sequelae resulting from intensive care hospitalization, specifically the physical, functional, cognitive, and mental sequelae, translate into a diminution in the health and productivity of survivors<sup>(12)</sup>, potentially leading to disabilities and dependency in selfcare. However, still concerning selfcare, participants did not mention the foci Grooming, Bathing, and Toileting, which integrate personal hygiene. This could be due to the conditions inherent to Intensive Care Units, which, normally, do not have a bathroom for the clients.

Promoting the independence and the greatest satisfaction possible for the person, to preserve their self-esteem, are among the objectives of rehabilitation<sup>(2)</sup>. This is the reason why Walking, with or without walking devices, and even Walking with the

aid of a ventilator were aspects that participants considered in their practice, albeit not much, due to their time handicaps.

Therefore, concerning the focus Balance, highlighted by the participants, and considering especially its importance for fall prevention, some authors indicated that, during their hospitalization in Intensive Care Units, especially for clients subjected to long periods of immobility, the loss of lean tissue leads to a diminution in muscle strength and potency, which can affect balance and increase the number of falls, in addition to diminishing their aerobic capabilities<sup>(17)</sup>.

Finally, still regarding the process of the impaired musculoskeletal system, the focus Paresis emerged, a focus that is often identified in neurosurgical clients. In fact, there are people who need intensive care in the post-operative period of neurosurgeries, periods in which Paresis can present itself as a sequela, depending on the part of the brain where the lesion is located. These people require rehabilitation care<sup>(18)</sup>.

## Conclusion

It is extremely important to distinguish the stage in which the client is. As a result, it is essential to list a set of foci that are related to the needs of care of the clients in each of these stages. When the clients were sedated, the foci were related to the process of the musculoskeletal system and to the process of the impaired respiratory system. When they were awake, other foci were added in the respiratory and musculoskeletal systems, in addition to further foci, associated to the psychological process, the phenomenon of status, and to selfcare.

## Collaborations

Prazeres VMP, Ribeiro CD and Marques GFS contributed for the conception and project, data analysis and interpretation, and article writing, also taking part in the relevant critical review of the intellectual content and the final approval of the version to be published.

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