

## The typical caring action of nursing in relation to sleep-wake cycle of preterm infant

### O típico do cuidado de enfermagem ao prematuro em relação ao sono e a vigília

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#### ABSTRACT

A qualitative study, grounded on social phenomenology of Alfred Schütz was conducted to understand the typical caring action of nursing technicians regarding the sleep-awake cycle of premature babies admitted at a neonatal unit. Nine members of a nursing staff from a public hospital of São Paulo participated through semi-structured interviews. Through the data analysis emerged the category “acting to preserve the wellbeing of premature babies”, based on the staff knowledge, experiences and previous beliefs about the interpretation of signs from the babies, on the importance of sleep, and on the effects of environmental stimuli over this human being. These actions are directed with the intention to improve the quality of nursing care for babies at neonatal unit with the aim to promote their early hospital discharge without any sequel. We concluded that actions from nursing technicians meet the neonatal developmental care model. We recommend the thematic inclusion of the neonatal care individualization and its family in the training of nursing technicians.

**Descriptors:** Sleep; Wakefulness; Neonatal Nursing; Intensive Care Units, Neonatal.

#### RESUMO

Pesquisa qualitativa fenomenológica realizada com o objetivo de compreender o típico da ação de cuidar dos técnicos de enfermagem em relação ao sono e vigília de recém-nascidos prematuros internados em uma unidade neonatal. Participaram nove sujeitos vinculados a um hospital público do município de São Paulo, por meio de entrevistas semiestruturadas. A categoria “agir para preservar o bem-estar do prematuro” está ancorada em conhecimentos, experiências e crenças prévias dos profissionais em relação à interpretação dos sinais emitidos pelo prematuro; a importância do sono; e os efeitos dos estímulos ambientais. Esta ação é direcionada pelo desejo de realizar assistência com qualidade, garantindo alta hospitalar mais precoce e sem sequelas. Conclui-se que o agir dos técnicos de enfermagem vai ao encontro do modelo do cuidado desenvolvimental do prematuro. Recomenda-se a inclusão da temática sobre a individualização do cuidado ao prematuro e de sua família na formação dos técnicos de enfermagem.

**Descritores:** Sono; Vigília; Prematuro; Enfermagem Neonatal; Unidades de Terapia Intensiva Neonatal.

## INTRODUCTION

The application of the developmental care model to assist preterm babies since their birth have been related to the impact in pain and stress reduction on their brain<sup>(1-7)</sup>, better clinical stability favoring weight gain, promotion of better behavioral organization of the baby, with reduction in enteral feeding time and bleeding complications, besides the promotion of the adaptation of the family<sup>(8)</sup>.

This model of care preconizes the change in the care environment, implementation of measures to promote self-regulation, adequate handling and position of the newborn, cooperative planning of care, breastfeeding, sleep protection, skin-to-skin contact, parenting involvement in their child care and an individualized relationship with the newborn, therefore indicating respect towards this being<sup>(3-5,8-11)</sup>.

A study of sleeping effects on the emotional and social development of the infant identified that sleeping during the day can propitiate an opportunity to the preterm to “regroup” or “reorganize” himself, with effects on learning and cortisol regulation; besides the effects on the quality of parenting and the mother-baby bond<sup>(10,12)</sup>.

In a systematic review<sup>(11)</sup> including 627 preterm babies, the authors did not find any evidence that developmental care increases newborns’ clinical results and neurological development in short and long term. Yet, the authors referred that the central focus of this care model is the human interaction. Thus, developmental care is considered a standard of better practices for neonatal care in neonatal units<sup>(8)</sup>.

All nursing team professionals have the role to organize the environment in a neonatal unit, under guidance of a nurse, they should plan the assistance in an individualized manner, facilitating the interaction between parents and children because developmental care practice needs involvement of the healthcare team and parents to identify behavioral signals of the premature<sup>(8)</sup>.

In Brazil, considering nursing technicians as the largest number in the nursing team who execute care actions towards the preterm, questions raise about how those professionals incorporate developmental care premises in their practice and what mobilize them in this sense.

Thus, the comprehension of nursing technicians’ practice is fundamental for the adoption of developmental care principles, seeking to characterize their care actions, the underlying reasons and what mobilize them to perform a practice contemplating care related to preterm’ sleep-wake.

The aim of this study was to understand the typical caring action of nursing technicians in relation to sleep-wake of preterm newborns admitted in a neonatal unit.

## METHOD

Qualitative study, grounded on social phenomenology of Alfred Schütz, defined as “*the study of the way people experience their daily lives and attribute meaning to their activities*”<sup>(13)</sup>.

The study was conducted in a neonatal unit of a state hospital in São Paulo, composed by 12 beds distributed as medium risk I and II nurseries, semi-intensive care room and 10 beds for neonatal intensive care unit. The nursing team is composed by a supervisor nurse, an assistance nurse and nine nursing technicians in each work shift.

In the unit, there are protocols for the prevention of environmental noise and luminosity reduction. Daily, four resting moments are programmed denominated “quiet time”, of one hour duration each, reduction of lights in the environment, cessation of neonate manipulation and lowering the professional’s voice tone.

Nine nurse technicians attending the inclusion criteria participated in the study. The criteria were: to be a collaborator with the neonatal unit and to be involved in activities at the intermediate care room; and the exclusion criteria were: to be a collaborator on vacation or in leave of absence, and to be covering time off. The delimitation of sample size was defined during data

collection based on speech convergence and on the phenomenon understanding.

Data collection was performed in 2010, through semi-structured interviews, recorded and focused in the leading question: How is your care with premature neonatal regarding sleep-wake in the neonatal unit? What is your aim while performing such care?

For data analysis, steps recommended by researchers<sup>(14)</sup> of the phenomenology of Alfred Schütz were used aiming to attentively focus on what was presented in common, that is, seeking “reasons why” and “reasons for” revealed by their testimonies and identified in meaning units, that ended up forming concrete categories emerged from the experience, allowing a description of the nursing technicians experience at the end.

The study development was in accordance to national and international research ethic norms involving human beings, and it was submitted to the Ethics in Research Committee of the researcher’s institution and it was approved under the protocol number CEP 1745/09.

## RESULTS

The nursing technicians try to act to preserve the premature baby’s wellbeing in the neonatal unit, through the execution of sleep-wake care, sustained by knowledge acquired (*reason why*) from physiological and behavioral neonatal responses, beliefs of the importance of sleep for the premature, from the effects of environmental stimuli and the routine established in the neonatal unit. Professional action is characterized by careful manipulation of the preterm; reduction of environmental stimuli in the neonatal unit; taking care of the preterm basic needs; communication with the preterm; organization of preterm promotion; sleep preservation and maintenance of preterm circadian rhythm.

Professional motivations for preterm care have as expectations (*reasons for*), to provide quality nursing assistance for this client, aiming to decrease the

admission time and to propitiate hospital discharge with no sequels.

### Reasons why

In this study, the reasons for acting of nursing technicians are based on theoretical knowledge and in personal and professional experiences regarding the importance of sleep for the preterm.

Professionals recognize that sleep promotes growth and development; restitution of the energy; tranquility; stress reduction; health recovery and a stable clinical scenario for the preterm. They still refer that preserving the preterm sleep is a care that organizes them, because they become more tranquil, protected, with their vital functions stable and daily weight gain. *Sleep is fundamental, for stabilizing, as well as gaining weight (E8).*

Nursing technicians use the interpretation of preterm behavioral answers from environmental stimuli, touch and manipulation as a way to recognize their condition. Decoding of signs emitted by the baby has the intention to propitiate a better neonatal organization and a sleep period that favors their clinical stability.

*In the manipulation, just from opening the incubator and touching (baby), some even push the hand, they push our hand, they want to say that we are bothering. When you put them in a position that they like, ventral position, for example, they like it a lot and stay quiet, they relax and sleep, you see their features very relaxed (E2).*

Another aspect that sustains the professional’s action is the knowledge of environmental stimuli effect (sound, light and frequent manipulation) on the child’s sleep. For the professionals, the neonatal unit is an environment that needs to keep a higher control routine regarding the newborn’ clinical conditions, imposing the presence of many monitoring equipment and higher number of health professionals, which makes difficult to recognize behavioral and physiological clues emitted by the

newborn. The child's instability leads to manipulations which, when associated with a noisy environment, determines a short period of sleep. Excess of the preterm manipulation, sound of alarms and the professionals' voices makes a regular or quiet sleep difficult.

The knowledge of these aspects and the behavioral answers from the children to these stimuli are the reasons that lead nursing professionals to elect their interventions regarding sleep and vigil.

*There is such a big movement inside the ICU as well as in the nursery, and the voice, the equipments, alarms [...] It is something that unfortunately we don't have much success here inside the nursery, no... (E8).*

These actions are characterized by minimal and careful manipulation, reduction of environmental stimuli, taking care of the preterm's basic needs, communication, promotion of the preterm organization, preservation of sleep and maintenance of a rhythm.

Minimal manipulation was revealed as the concentration of activities of the unit's health team, so the care provided to the preterm is centralized, performing many actions at the same time and less frequently.

*We avoid to the maximum to manipulate the babies, because all that we need to do we try to do all at once, to control the vital signals, if there is scheduled medication we do that, because the least we manipulate the baby, the better it is for him, for the nap time, because he ends up resting better...(E6).*

Another way of acting is making a gradual approach of the infant, characterized by the waking up the baby before the procedures, in a cautious and slow manner, avoiding scaring and stressing him.

The care of the baby's basic needs is present in the nursing technicians' speeches, as a determinant factor for the preterm to have a tranquil and long lasting sleep in

the neonatal unit. Professionals try to keep the comfort through constant change of positions, heating, providing a calm environment and organization of the baby through the use of rolls and cushions. When those needs are taken into account, the team perceive that the neonatal sleeps peacefully and only wakes up to eat or in the presence of pain.

The communication with the preterm is understood as an approach that respects their readiness for interaction with the other. Strategies described for communication are: to speak with the neonatal before and during the procedures and manipulations, explaining what is being done by the professional as a way to avoid rejection behaviors. Nursing technicians recognize stress or removal signals emitted by the preterm, and promote their organization, through contingency strategies or by reduction of manipulation.

Professionals perceive that when performing an invasive procedure without assessment of the child's readiness, it generates the intensification of crying, irritation and stress. Thus, they believe that when they reduce touch to the minimal possible and when they preserve the neonatal sleep schedule, they promote their rest and make them become more organized.

Another category that points out the social action of this group to promote wellbeing is the maintenance of a rhythm for the preterm, defined as the determination of time schedules to perform care so that preterm adapts to routines in the neonatal unit.

### **Reasons for**

In this study, the reasons for, is promotion of quality nursing assistance, as early hospital discharge for the newborn with no consequences.

In the nursing technician's speech, the search to propitiate an effective care with quality to the preterm is evident, bringing tranquility and treating him in an affectionate and empathetic way.

Professionals have the frequent need to improve their knowledge, therefore keeping the quality of newborn care and thus promoting a safe care.

*I think that always have to keep improving more, searching for more to give the baby more comfort and protection possible. (E4).*

When perceiving that assistance is being beneficial to the newborn, bringing them health recovery, professionals feel satisfied and accomplished. Gratitude is intensified when they evaluate the growth of the baby at the follow up agenda.

*Because is rewarding you finding a mom, that came for a consultation and see that the baby is well, big, you know that you gave your best and that this had an effect (E9).*

Nursing technicians refer that they take care of the preterm with love, so he can gain weight faster and be discharged from the hospital in good conditions without any future dependence.

## DISCUSSION

Social action is “a conduct between two or more people, projected by the actor in a conscious way”; which is intentional and have a subjective meaning which direct the actor, who can be oriented to the past, present and future<sup>(13)</sup>.

In this study, social action from the nursing team is the preservation of the preterm wellbeing. This action is influenced by their knowledge and past experiences, and it is directed to the reduction of the effect of neonatal unit in the health condition of the preterm. Many actions unveiled in the professional’s speeches are based on developmental care presumption.

This care model refers to philosophical combinations and intervention techniques focused on the child as the central figure in the neonatal unit, promoting comfort,

growth and development, always respecting their individualities<sup>(15)</sup>.

However, it is still observed in those professionals’ speech that besides worries with the preterm individuality, it is not always possible to guarantee it, once the goal of their actions is the maintenance of a rhythm for the preterm. So that, to undertake a routine with rigid time schedule for eating, sleeping, hygiene and change of diapers makes difficult the face-to-face relationship, as preconized by the developmental care model.

Schütz refers “my peer is always someone in particular, not any other, but somebody that for me have a name and particularities”<sup>(13)</sup>. In this study, nursing technician’s speech reveals compromise with face-to-face care, with respect and decoding signals emitted by the preterm. When they interact by face-to-face relationship, as a mode to became closer and interact with the preterm, they are capable of interpreting behavioral states of the newborn before, during and after manipulation and identify signals of non-adaptation to the extra uterine environment. The authors refer this individualized care as an intervention performed on an adequate moment and in a way to respect neonatal readiness<sup>(15)</sup>.

The humanization of neonatal care does not only consists of caring for the premature, but it is also of great importance to include the family in the baby’s care, aimed to facilitate early bond and attachment, preparing the parents for newborn home care after discharge. However, in this study, the family is still not considered by nursing technicians as support to preserve preterm wellbeing regarding sleep-awake.

The insertion of parents in newborn care is part of developmental care strategies, because it favors the child’s neurological development and facilitate affective bond between them, and it also serve as learning to parents, to care for their child at home, providing more safety for them<sup>(16)</sup>.

In this study, professionals pointed out minimal and careful manipulation, with decrease of environmental

stimuli as noise and luminosity as important factors to reduce discomfort provoked to the newborn in neonatal unit and promotion of a longer period of sleep. Another aspect revealed was professionals' communication with the newborn before and during manipulations, to keep them organized.

Although the developmental care benefits demonstrated in many studies<sup>(1,3-4,7-8,17)</sup>, a recently published systematic review about this theme<sup>(11)</sup> affirms that this practice does not bring evidence regarding neuro-developmental results improvement in short and long term. This aspect needs clinical studies about effectiveness of this care with isolated assessment in each action proposed by this model.

It is important to highlight that the preservation of the baby's wellbeing brought up in this study refers to the nursing technicians speech, but still remains not revealed is the behavior of the nurses and other healthcare team members in a daily routine of the neonatal unit.

The use of the developmental care model by Iranian nurses in a neonatal intensive care unit was assessed regarding individualized care, environment and support for the parent-child relationship. Results showed that 76% of nurse's actions are congruent with premises of these model of care. Thus, they recommend training for all health team about this aspect and less relation number of patient per nurse. Besides that, the adoption of structural and functional measures for the effectiveness of the developmental care<sup>(18)</sup>.

In another research about barriers reported by nurses to provide developmental care, lack of knowledge about the method, limitation of the family time in the neonatal unit, lack of communication skills to discuss this questions with the parents, lack of time due to work load and low autonomy when providing neonatal care were identified<sup>(19)</sup>.

In the international literature there are no studies focusing on developmental care practice involving nursing technicians, as it is a characteristic of the nursing working division in Brazil. However, in the national literature, it was also not found any research with these subjects. A guess can be made about the barriers for implementation of this care model on the nursing technicians' perspective, from the results of researches with nurses, considering that they are hierarchically under the nurse supervision.

The present research, as it is a qualitative study about the speech of nursing technicians regarding the preterm care in relation to sleep-wake, brought out a facet of this phenomenon, still keeping hidden how this care happens in a daily routine of the health team, revealing barriers for its implementation and evidence regarding the benefits of this care by clinical studies.

## CONCLUSION

Nursing technicians act to preserve the preterm wellbeing inside the neonatal unit, by execution of care during sleep-awake, sustained by knowledge of the neonatal physiological and behavioral answers, beliefs about the importance of sleep for the preterm, effects of environmental stimuli and routine established in the neonatal unit.

The nursing technicians' motivations for premature care have as expectations the quality nursing assistance for this client, aimed to reduce the length of hospitalization and propitiate hospital discharge without sequels.

The nursing technicians' actions to preserve preterm wellbeing meets the developmental care model, it is moved by a face-to-face relationship with the newborn, although sometimes it is provided in a routine manner and with no inclusion of the family in this context.

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