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# Caring for newborns in a NICU: dealing with the fragility of living/surviving in the light of complexity

CUIDANDO DO RECÉM-NASCIDO EM UTIN: CONVIVENDO COM A FRAGILIDADE DO VIVER/SOBREVIVIR À LUZ DA COMPLEXIDADE

CUIDANDO AL RECIÉN NACIDO EN UTIN: CONVIVIENDO CON LA FRAGILIDAD DEL VIVIR/SOBREVIVIR A LA LUZ DE LA COMPLEJIDAD

Patrícia Klock<sup>1</sup>, Alacoque Lorenzini Erdmann<sup>2</sup>

## ABSTRACT

The objective of this study was to understand the meaning of being a nurse and providing care in the Neonatal Intensive Care Unit (NICU) of a general hospital in Southern Brazil, developing an explanatory theoretical model. The Grounded Theory and the Complexity Paradigm were used to develop the Theoretical Model: *Caring for newborns in the NICU: Dealing with the fragility of living/surviving in the light of complexity*. Data was collected from 11 subjects through an open interview, and organized using NVIVO software. A central category was identified: *Dealing with the fragility of living/surviving: a care that is highly complex, sensitive, unique and shared*. Care in the NICU, valuing the everyday interrelationships, aims to address all domains of complex health care, integrating and applying scientific knowledge. It is necessary to practice the strengths already inherent to nursing professionals, in addition to pursuing new strengths, an invitation to new models of care for newborns, their family, and the members of this complex system.

## DESCRIPTORS

Infant, newborn  
Infant, premature  
Intensive Care Units Neonatal  
Neonatal nursing

## RESUMO

Este estudo objetivou compreender o significado do ser e do fazer o cuidado para os enfermeiros em uma Unidade de Tratamento Intensivo Neonatal (UTIN) de um hospital geral do sul do Brasil, construindo um modelo teórico explicativo. Utilizou-se a Teoria Fundamentada nos Dados e o Paradigma da Complexidade na construção do Modelo Teórico: *Cuidando do recém-nascido em UTIN: Convivendo com a fragilidade do viver/sobreviver à luz da complexidade*. Participaram 11 sujeitos. Os dados foram coletados mediante entrevista aberta e organizados no software NVIVO. Identificou-se a categoria central: *Convivendo com a fragilidade do viver/sobreviver: cuidado altamente complexo, sensível, singular e compartilhado*. O cuidado em UTIN, valorizando as inter-relações cotidianas, busca atuar em todas as esferas do cuidado complexo em saúde, integrando e aplicando conhecimentos científicos. É necessário exercitar as potencialidades já inatas dos profissionais de enfermagem e caminhar rumo ao encontro de novas, um convite a novos modos de cuidar do neonato, sua família e os membros deste sistema complexo.

## DESCRIPTORES

Recém-nascido  
Prematuro  
Unidades de Terapia Intensiva Neonatal  
Enfermagem neonatal

## RESUMEN

Estudio que objetivó comprender el significado del ser y del realizar cuidado para enfermeros de Unidad de Tratamiento Intensivo Neonatal (UTIN) de hospital general del sur de Brasil, constituyendo un modelo teórico explicativo. Se utilizó Teoría Fundamentada en Datos y Paradigma de Complejidad en construcción del Modelo Teórico *Cuidando al recién nacido en UTIN: conviviendo con la fragilidad del vivir/sobrevivir a la luz de la complejidad*. Participaron 11 sujetos. Datos recolectados mediante entrevista abierta, organizados en software NVIVO. Identificada categoría central: *Conviviendo con la fragilidad del vivir/sobrevivir: cuidado altamente complejo, sensible, singular y compartido*. La atención en UTIN, valorizando las interrelaciones cotidianas, busca actuar en todas las esferas del cuidado complejo en salud, integrando y aplicando conocimientos científicos. Es necesario ejercitar potencialidades innatas del profesional enfermero y apuntar a encontrar nuevas, una invitación a nuevos modos de atención del neonato, su familia y demás miembros de este sistema complejo.

## DESCRIPTORES

Recién nacido  
Prematuro  
Unidades de Terapia Intensiva Neonatal  
Enfermería neonatal

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## INTRODUCTION

Neonatology is a recent and constantly developing field in health, whether in care or research, with a focus on newborn (NB) care.

As a result of increasing scientific and technological advances in this area, the survival rate of preterm and low-weight newborns has significantly increased, leading to a change in the child mortality profile. This new reality entails the need for professional improvement and updating, from a humanistic perspective, especially for neonatal nursing team professionals. Other bottlenecks are involved, such as the longer hospitalization time, with the early and extended mother-child-family separation, lower incidence and prevalence of breastfeeding, greater exposure of the newborn to complications, with severe sequelae and greater demand for special and high-cost care<sup>(1)</sup>.

In general, uncertainties, instability, immediacy and variability permeate routine at Intensive Care Units (ICU), which can generate professional stress<sup>(2)</sup>. At the same time, these factors require committed and trained professionals, conciliating competency, agility and technical skill with sensitivity to perceive each newborn's individual needs. The Neonatal Intensive Care Unit (NICU) team, especially considering nurses here, deals with difficult emotional situations. The weakness and suffering of an extremely premature infant, death, relatives' feelings of anxiety and insecurity are constant in their daily professional reality. Often, these factors come with events that simultaneously demand technical skill, specific and updated knowledge, agility and sensitivity, which can make these workers feel both physically and mentally stressed.

Among these characteristics, a gap is perceived in knowledge about the adversities these professionals and relatives face, how they perceive themselves in shared care practice, delivered to such a unique, singular and fragile being.

Therefore, all statements about the posture of NICU health professionals are extremely pertinent with a view to care quality. It is also important, however, to get to know these professionals' needs in their work context<sup>(3)</sup>.

As the NICU emphasizes material resources and technology, this contributes to automatized behaviors, in which there is no room for dialogue and critical reflection, also due to continuous emergency situations, patients' severity and the service's accelerated dynamics<sup>(4)</sup>.

To avoid work from becoming mechanic and inhuman, professionals need to be equipped to deal with daily situations, receiving psychological help and learning to ad-

minister feelings experienced in care practice<sup>(5)</sup>. In view of the NICU environment as unique, singular/plural, which is currently going through a disorganization/reorganization process of the work process, as a stage for different forms of positive/negative interactions, a closer look at the nurses is justified, in the attempt to understand how they exercise and share their care practice as a part of this system.

This study aimed to: understand the meaning of being and practicing care for nurses at an NICU of a general hospital in the South of Brazil, constructing a theoretical explanatory model.

## METHOD

A qualitative study was developed, using Grounded Theory as the methodological framework<sup>(6)</sup>.

This research was developed at the NICU of a General Hospital in the South of Brazil. The maternity the unit is part of offers 117 beds, including the following sectors/units: gynecology and obstetric screening, Obstetric Center (OC), Rooming-In (RI), Breast-feeding Encouragement Central (BEC), milk dispensary neonatology unit and hotel. The latter receives puerperal mothers of preterm and/or low-birth-weight newborns after obstetric discharge, whose children remain hospitalized at the neonatal unit.

The NICU, created in October 1995, offers 16 beds in total, six for intensive care, six for intermediary care and four for minimal care. The team comprises eight nurses, 36 nursing technicians/auxiliaries and 11 neonatologists, besides speech, language and hearing, psychology, nutrition and social services.

The study participants were the subjects who permitted understanding the research problem. According to the adopted method, sampling was constructed based on the combination of concepts, in line with the researchers' theoretical sensitivity to identify the gaps that needed to be considered.

The number of participants and respective sample groups took form along the data collection and analysis process, identifying concepts, creating categories and connections, with a view to reaching the proposed objective. The groups and participants were established to grant density to the initial categories, in line with Grounded Theory recommendations.

In the belief that the study object was situated in the dimension of care practice in the NICU context, the first sample group comprised nurses working at this sector. In addition, participants had to be working at the NICU for at least 06 months and be interested in participating in

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the research. Thus, this group consisted of 06 nurses, all women, between 29 and 44 years of age, who had been working at the NICU between 6 months and 8 years.

The second sample group contained subjects who evidenced a better understanding of care practices in daily reality at the NICU. Five mothers participated whose children were hospitalized at the NICU. They were between 18 and 32 years old, were married, had a job and it was their first experience with a premature child. Although all of them were married, the fathers were absent due to employment.

**Table 1-** Research participants according to sample group – Florianópolis – 2009

Sample group	Total participants	Participants	Pseudonym
I	06	Nurses	Edna/Elaine/Elisa/Estela/Eugênia/Eva
II	05	Mothers with infants hospitalized at the NICU	Magali/ Maria/ Mariana/ Marta/ Milena

Data were collected between February and May 2009. Strictly following Grounded Theory recommendations, data collection and analysis happened concomitantly. As soon as the researcher had transcribed the recorded interviews, the respective data were immediately analyzed. Then, new interviews were scheduled and texts were transcribed.

Open interviews were used for data collection, based on initial questions aimed at answering the following research question: How do nurses experience care in their being and practice at an NICU? The questions were adapted according to the subject group and its relation with the research problem.

After the interview and transcription, the collected information was inserted in NVIVO® software, working on a license purchased through a GEPADES funded research project, with a view to organization and classification. Comparative Analysis was the methodological strategy used for data analysis. As soon as data collection had started, data were coded or analyzed. Open coding, axial coding and selective coding were applied for substantive data analysis. This resulted in 19 subcategories and three categories.

The central category emerged from the inter-relations between the categories that emerged in this study, called *Living with the fragility of living/surviving: highly complex, sensitive, singular and shared care*.

## RESULTS

The research and analysis process of the collected data, constructing/deconstructing/reconstructing relations and integrations among the categories and subcategories, resulted in the theoretical model displayed in Picture 1.

The phenomenon *Living with the fragility of living/surviving: highly complex, sensitive, singular and shared care*

Thus, in total, the study involved 11 participants. This number was sufficient when the testimonies offered no new relevant information for the research, characterizing theoretical data saturation.

The ethical aspects complied with National Health Council Resolution 196/96. UFSC Institutional Review Board approval was obtained on December 15<sup>th</sup> 2008, under protocol number 368/08.

Table 1 displays the number of participants according to the sample group and the pseudonym they received.

was structured through the following categories: Seeking knowledge and competences; Managing care at the NICU and Experiencing singularities at the NICU. Subcategories accompany each category, identified in italics.

### *Seeking knowledge and competences*

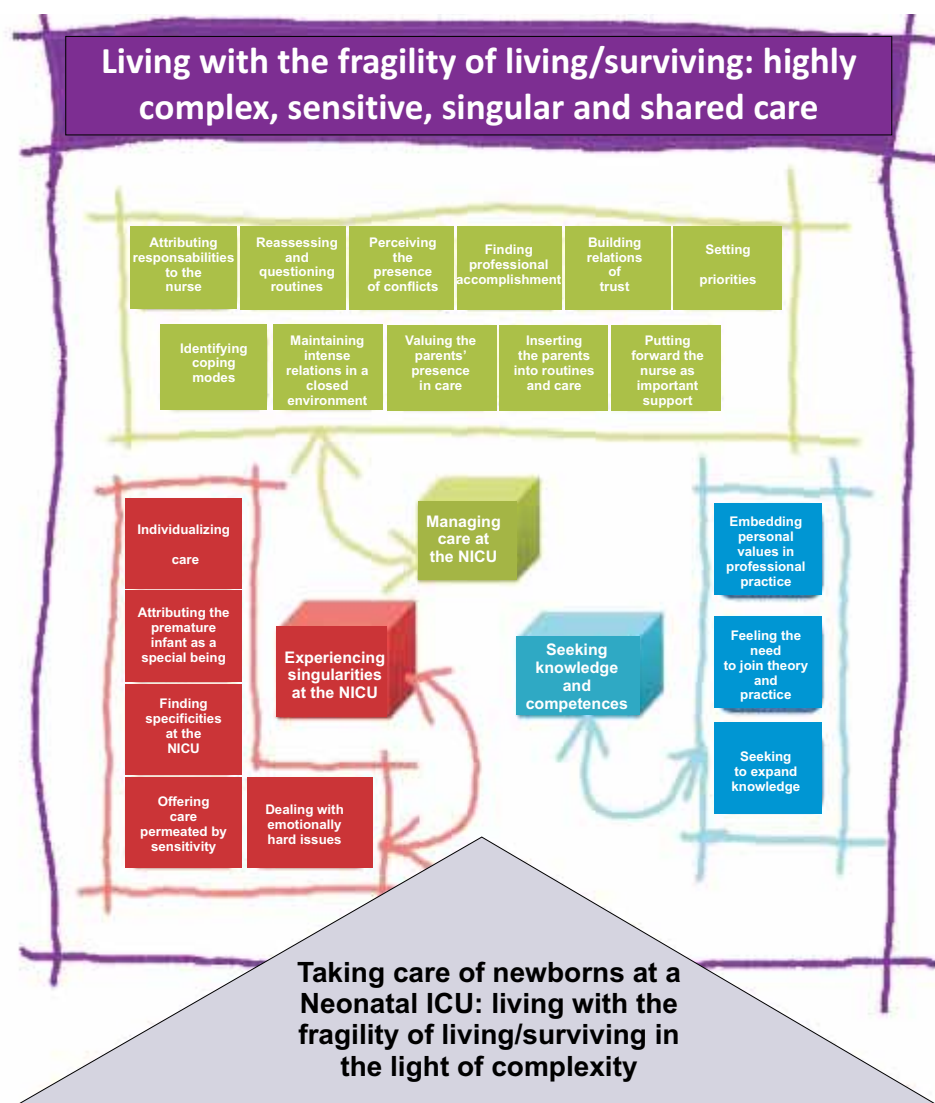
The category *Seeking knowledge and competences* reveals the nurses' need to review and expand the knowledge that sustains their professional skills, granting support to the development of their professional practice and safety for decision making. It comprises the subcategories *Seeking to expand knowledge*, *Embedding personal values in professional practice* and *Feeling the need to join theory and practice*.

Thus, when considering the importance of knowledge in daily NICU reality, the subcategory *seeking to expand knowledge* was identified, evidencing the need for professional recycling, motivated by the emergence of new technologies aimed at responding to the demands deriving from scientific and technological advances in premature infant care.

I think that it's no use just to research and not be able to revert it into practice, because I believe that the main goal is to offer some gain to practice. (Edna).

Thus, the existence of professional gratification was observed, associated with personal accomplishment, in nurses who deal directly with the fragility involved in NICU care, revealing the subcategory *embedding personal values in professional practice*:

Sometimes we try to share but I perceive that, often, in practice, we include personal issues (...) experiences from home, experiences from one's family, experience of life really and which we embed there in care, either when giving orientations to a mother at the moment of discharge, when talking with a grandmother, or during practice, so you end up embedding personal things in your professional life(Elaine).



**Picture 1** – Revealing the theoretical model: CARING FOR THE NEWBORN IN THE NICU: Living with the fragility of living/surviving in the light of complexity – Florianópolis – 2009

In the NICU context under analysis, the concern with the articulation between research and practice is evidence, revealing the subcategory *feeling the need to join theory and practice*.

The NICU nursing team has valued the search for new knowledge that entail theoretical and practical gains in this area, demonstrating commitment to offer better living conditions to the infant who needs intensive care and support to the parents in coping with this process, in view of the possible consequences and changes in life that will occur.

#### **Managing care at the NICU**

This category highlights the interventions adopted in daily neonatal care with a view to conducting nursing practice, attending to needs and demands that facilitate care and make improvements feasible through management. The subcategories are *Attributing responsibilities*

*to the nurse*, *Setting priorities*, *Finding professional accomplishment*, *Putting forward the nurse as important support*, *Building relations of trust*, *Maintaining intense relations in a closed environment*, *Perceiving the presence of conflicts*, *Identifying coping modes*, *Reassessing and questioning routines*, *Inserting the parents into routines and care* and, finally, *valuing the parents' presence in care*.

The first two subcategories, *Attributing responsibilities to the nurse* and *Setting priorities*, refer to the responsibilities assumed or delegated to the nurse. Complying with management tasks does not always equal targets reached, they often happen randomly, but in a centralized way, attending to unexpected demands that come up and require agility and skill so as not to jeopardize neonatal care quality.

If, on the one hand, taking charge of unit coordination represents a functional burden, when solved, these func-



tions grant nurses the feeling of being competent and accomplished professionals, characterizing the subcategory *Finding professional accomplishment*.

The subcategory *Putting forward the nurse as important support* emerges when nurses are concerned with welcoming the doubts/insecurities/anxieties of the intensive care infant's parents and relatives and share the care offered:

in the other room they teach how to wrap them in the cotton diaper, wash the face first, wash the head, then put them kind of in a sitting position with their back on our hands, then, turn them and take them again to wash the back and bottom, I've already learned it a bit (Magali).

Thus, the subcategory *Building relations of trust* gains strength as the team's credibility among the parents increases:

I go [home] because I know that they are well taken care of, sometimes even better than with me, I go at ease, without thinking whether something happened, or if something won't, but I know that they are well taken care of (Magali).

In view of the questions appointed until date, the subcategories *Maintaining intense relations in a closed environment* and *Perceiving the presence of conflicts* emerge, in which daily life aspects gain peculiar characteristics in comparison with open hospitalization units. One fundamental aspect in these questions that come up in the relations and interactions that happen in a close care environment is the attempt to reorganize and reconstruct bonds by facing them, called *Identifying ways of coping* as a subcategory.

The subcategory *Reassessing and questioning routines* results from existing exchanges among professionals, infants and families, which enhance interactions and changes in the care offered:

there has been a lot of exchange ever since I got here, and this exchange exists among the professionals who work here, among the families and with the patient, who is the infant (Eva).

The subcategory *Inserting the parents in routines and care* extends care to these infants' family, making them fundamental in this process of coping with their child's hospitalization. Therefore, ways are created to make their presence with their child feasible:

I liked it here that they are not just concerned with the infants, they are also concerned with the mothers, food, breakfast, lunch, there's a place to sleep, I don't know what it's like in other places... (Mariana).

The team attempts to welcome anxieties, insecurities, feelings of guilt, transforming them and creating a window for hope, evidenced in the subcategory *valuing the parents' presence in care*.

*Finding professional accomplishment* is the subcategory that covers aspects appointed as inherent in daily reality in the NICU context, such as donating oneself to nursing work at the NICU and identified facilities, feeling satisfaction with one's daily role. Working as an NICU nurse is seen as a dream come true:

when I managed to go there it was kind of my dream come true, so I gave my heart and soul to the unit, I think that's why I feel this satisfaction with being in a place I wanted, where I believe I could be (Edna).

### **Experiencing singularities at the NICU**

The category *Experiencing singularities at the NICU* comprises the subcategories *Finding specificities at the NICU*, *Offering care permeated by sensitivity*, *Dealing with emotionally hard issues*, *Individualizing care* and *Attributing the premature infant as a special being*.

In the subcategory *Finding specificities at the NICU*, aspects emerge that classify care in the complex NICU environment as singular and shared, going through changes and reorganizations since the start of neonatal care and until today.

The way the infant's particularities are perceived and felt is also highly valued in care, through the subcategory *Offering care permeated by sensitivity*:

I think that, because they are so tiny, defenseless, because they don't call when they're in pain, so a lot comes from observation, because that's what you do (...) adults arrive and say: *it's hurting* or *I'm hungry*, but not the baby, it involves all of your perception, you observe and see that he's not well, or even his position which shows that he's not well and, often, you look in a position in which they are marveled, with their hands wide open, and a calm face, I think that guides a lot of what you do, because they are defenseless little beings, who need you, that's what I say, the adult complains, these little angles do not complain, although they show signs, they give you signs that they're well or not (Elisa).

It is observed then, when applying sensitivity in NICU care, the team enhances adaptation and comfort in dealing with/coping with/experiencing moments of suffering, from different perspectives, constantly present in daily care, as revealed by the subcategories *Dealing with emotionally hard issues* and *Individualizing care*:

Getting to a premature patient is different because he doesn't talk, he manifests himself through gestures, through position signs, sometimes eye contact, signs of pain that are considered today and that formally weren't that much for premature treatment. So this non-verbal communication requires that you really see him as a special being (...) I think that's really what the premature is: *it's a distinguished care in the language of silence* (Eva).

Thus, the subcategory *Considering the premature infant as a special being* emerges:

Seeing so tiny things and they get out, sometimes I think that it's not because of what we do, it's because we're here to win. They have this energy, they have this trajectory (...) It can be a little old device, but if they have the strength to live, they won't even think about that device... how these children are born, they're not even intubated, tiny, 700 grams, they're not even put on the respiratory, why? They've got vital strength, right? (Elisa).

I, as a person seeing the premature outside the uterine nest, seeking life and you trying there, somehow, to give comfort, support and affection, you create affection, a bond, he's very distinguished... (...) They're really unique, they pass you a... how should I express it, a constant search for life which I think the human being abandons (Eva).

## DISCUSSION

Visualizing CARE FOR THE NEWBORN AT THE NICU in an explanatory theoretical model elaborated based on Grounded Theory implies seeing care as highly complex, sensitive, singular and shared, in view of the fragility of neonatal Living/Surviving at the NICU. Looking at the phenomenon presupposes the interaction and interconnection of inseparable aspects appointed in this study as Seeking knowledge and competencies; Managing care at the NICU and Experiencing singularities at the NICU.

Through a mechanic and simplifying focus, care for human beings is frequently offered in parts/fragments. Thus, nursing care, seen based on intersubjective connections, permits acknowledge the human being, whether professional or patient, beyond the biologicistic model. In other words, care is expressed based on a non-linear dynamics that gives rise to a countless number of interactions, relations and associations needed to feed to nursing care system in a broad and complex way<sup>(7)</sup>.

In this context, human beings influence and are influenced by this complex system, adapting themselves through the search for new perspectives about themselves and about the care that is offered and shared. Their ability to reflect permits feedback on themselves, allowing them to acknowledge themselves as subjects capable of thinking about themselves and considering themselves as the object of this reflection<sup>(8)</sup>.

The predisposition to seek further knowledge, believing in the reality one is inserted in and through which one establishes relations and interactions, motivates and drives nurses to seek information, themes, studies that support and improve their professional practice at the NICU. This predisposition implies new perspectives on the management of the care practices developed, driving nurses to discover new forms of acting, jointly, acknowledging the value of complexity in the singularity of their being and doing.

Thus, when seeking new knowledge and competencies, nurses create windows for new health practice that consider sensitivity, evidencing the need to use a new framework that can comprise the intersubjectivities and interactions in the NICU context.

Nurses help infants to become as humanely as possible in a particular life situation, that is, to become, when they direct their care at these infants, seeing them as a whole, seeking ways to value their potential, in view of their limitations and psychobiological immaturity. Nurses should not also take interest in their wellbeing, but also in their being-better<sup>(9)</sup>, also because, often, an affective bond is established among team, mother and child, which is gratifying for the staff who dealt with the child the entire time<sup>(10)</sup>.

When dealing with the fragility and sensitivity taught and learned with regard to premature infants, nurses develop singular/plural skills, which distinguish their care, integrating conduct changes and offering new perspectives on the process of living/surviving in neonatology.

## CONCLUSION

By addressing neonatal care and considering its constituent aspects, this research shows that NICU care is strengthened as one of the constantly developing Nursing areas, with a view to systemically conciliating important technological advances for the infant's survival with approaches that value interrelations in daily NICU reality. Efforts are made to act in the different spheres of complex health care, ranging from support services for the hospital and its managers to the academy, so as to avoid compartmentalized and isolated activities, integrating and applying scientific knowledge, with gains for professional practice.

The central category comprises points that characterize neonatal care changes over the years, in which the search for the infant's survival, through technological advances, takes new care forms, through sensitivity towards the fragile.

The phenomenon of the process of understanding the care NICU nurses experience in their contact with the fragility of living/surviving can be seen from the perspective of the elaborated theoretical model, graphically represented in the picture above.

It should be highlighted that this model can be applied in other temporal and spatial contexts, based on its abstraction; it admits modifications and the incorporation of new elements aimed at knowledge improvements regarding neonatal nursing care, inviting towards continuous and complex critical reflection on the appointed phenomenon. Thus, the guiding questions of this research invite towards the broadening of new research horizons, so that the possible studies indicated here permit going deeper into health and academic organization research.

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