

ENVIRONMENT OF PEDIATRIC INTENSIVE CARE: IMPLICATIONS FOR THE ASSISTANCE OF THE CHILD AND THEIR FAMILY

AMBIENTE DE TERAPIA INTENSIVA PEDIÁTRICA: IMPLICAÇÕES PARA A ASSISTÊNCIA DA CRIANÇA E DE SUA FAMÍLIA

ENTORNO DE CUIDADOS INTENSIVOS PEDIÁTRICOS: IMPLICACIONES PARA LA ASISTENCIA DEL NIÑO Y SU FAMILIA

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Objective: to characterize the national and international scientific production on the environment of the Pediatric Intensive Care Unit and its influence on the assistance to the child and their family. **Method:** integrative review conducted from September to December 2018. The sources of information were: LILACS, SciELO, CINAHL, PubMed and CAPES, with temporal clipping emerging from the search (2004 to 2018). **Results:** the 38 selected studies showed the environment in its physical structure; environment as influencer of the health team's behavior and targeting of assistance; environment as a space of exchanges of experiences; and the environment as a mediator of relations between nursing staff, child and their family. **Conclusion:** the environment of a Pediatric Intensive Care Unit should contemplate privacy and comfort for the child and their family, in addition to providing autonomy to the team.

Descriptors: Intensive Care Units, Pediatric. Hospital Design and Construction. Child, Hospitalized. Pediatric Nursing. Health Facility Environment.

Objetivo: caracterizar a produção científica nacional e internacional acerca do ambiente da Unidade de Terapia Intensiva Pediátrica e sua influência na assistência à criança e à sua família. *Método:* revisão integrativa realizada

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de setembro a dezembro de 2018. As fontes de informação foram: LILACS, SciELO, CINAHL, PubMed e CAPES, com recorte temporal emergindo da busca (2004 a 2018). Resultados: os 38 estudos selecionados apresentaram o ambiente em sua estrutura física; ambiente como influenciador nas condutas da equipe de saúde e direcionamento da assistência; ambiente como espaço de trocas de experiências e vivências; e ambiente como mediador de relações entre equipe de enfermagem, criança e sua família. Conclusão: o ambiente da Unidade de Terapia Intensiva Pediátrica deve contemplar conforto e privacidade para a criança e sua família, além de proporcionar autonomia para a equipe.

Descritores: Unidade de Terapia Intensiva Pediátrica. Arquitetura Hospitalar. Criança Hospitalizada. Enfermagem Pediátrica. Ambiente de Instituições de Saúde.

Objetivo: caracterizar la producción científica nacional e internacional sobre el ambiente de la Unidad de Cuidados Intensivos Pediátricos y su influencia en la atención a niños y sus familias. Método: revisión integradora, llevada a cabo de septiembre a diciembre de 2018. Fuentes de información: LILACS, SciELO, CINAHL, PubMed y CAPES, con recorte temporal de la búsqueda (2004 a 2018). Resultados: 38 estudios seleccionados presentaron el ambiente en su estructura física; ambiente como factor de influencia en la conducta del equipo de salud y dirección de la atención; como espacio de intercambio de experiencias; y como mediador de las relaciones entre personal de enfermería, niños y familias. Conclusión: el ambiente de la Unidad de Cuidados Intensivos Pediátricos debe incluir comodidad y privacidad para niño y familia, así como proporcionar autonomía para el equipo.

Descriptorios: Unidades de Cuidado Intensivo Pediátrico. Arquitectura y Construcción de Hospitales. Niño Hospitalizado. Enfermería Pediátrica. Ambiente de Instituciones de Salud.

Introduction

The Intensive Care Unit (ICU) is developed based on the actions of Florence Nightingale. In 1854, the Crimean War occurred, in which England, France and Turkey declared war against Russia. The soldiers died due to precarious conditions, although the mortality rate decreased with interventions of more complex and specialized care, that is, they were classified according to the degree of severity. In this way, the most serious wounded stood next to nursing, with continuous monitoring. Thus, the basic objective of intensive therapy unit is to recover or to support the vital functions of patients in an appropriate psychological and physical environment⁽¹⁾.

The first Brazilian Pediatric and Neonatal Intensive Care Unit (PNICU) was implemented only in 1974 in Sabará Children Hospital in São Paulo, including the most modern equipment for cardiopulmonary monitoring and mechanical ventilation, supported by a medical team associated with diagnostic and therapeutic advances of the season⁽²⁾.

Over the years, technological advances have been modifying the environment of the

Pediatric Intensive Care Unit (PICU), which is a worldwide trend. However, children live with stress and pain due to invasive therapies arising from the technology. This, increasingly advanced, generates physical and mental discomfort, besides negatively affecting the care⁽³⁾.

The ICU is a place with high-tech equipment, designed to patients who require complex care and continuous monitoring. Characterized by an inhospitable environment, with noise, alarms, constant lighting, invasive procedures and handling of professionals, it becomes even more stressful and depressing to the patient⁽¹⁾. This depressing and stressful environment intensifies during the hospitalization of a child, since it emotionally affects all those involved: child, family and healthcare team⁽⁴⁾.

The concern with the influence of the hospital environment in the process of recovery of the patient began with Florence Nightingale, in the 19th century, and is recorded in her book "Notes on Nursing - what it is and what it is not". Written in 1859 and translated into Portuguese in 1989, it defines the hospital environment as a place in which the patient and/or family members are,

and includes health institutions and domicile, in addition to considering the interrelationship between the physical, social and psychological components⁽⁵⁾.

In this way, Florence Nightingale, in her environmentalist theory, considered important the elements to keep a healthy environment, such as: ventilation, provision of fresh and pure air; lighting, brightness and direct sunlight, heat, related to avoiding patients' cooling; cleaning, relating to the prevention of infections; noise, need for observance of silence; odors and nutrition⁽⁵⁾. Furthermore, she highlighted that varieties of objects, shapes and colors also contributed positively to the good mental and physical recovery during the hospitalization⁽⁵⁾.

However, to the day, these environmental elements are still not fully considered by health care professionals. There stands out the intensive care, especially the pediatric one, since there are still extremely cold units, with windows closed and using blinds, which do not allow the entry of natural lighting or the perception of the day/night.

In these environments, the colors are monotonous, often without or with only a few childlike characterizations, and the noise level is high. There are cases in which the physical space of these units does not allow the presence of a companion, by not providing adequate conditions for their rest, even though the art. 12 of Law n. 8,069, of 13 July 1990, reformulated by Law n. 13,257, of 8 March 2016, establishing the Byelaw of Children and Adolescents (BCA), provides that the health care establishments, including neonatal, intensive and moderate care units, should provide conditions for the full-time stay of a parent or guardian, in cases of hospitalization of children or adolescents⁽⁶⁾.

Regarding the current public policies related to the environment theme, in 2003, the National Humanization Policy (NHP) was created, comprising the ambience in health as the physical, social, professional and interpersonal relations that must be related to a health project directed to a welcoming, problem-solving and human attention. The idea of ambience follows

primarily three axes: the ambience as a meeting space for subjects, the production of health and subjectivities; the space as a tool that facilitates the work process; and the comfort-focused space⁽⁷⁾.

The humanization of a hospital facility results from a broad design process, which is not limited to beauty, but concerns the functionality, the field of constructive points that favor the health recovery and ensure the physical and psychological well-being of users, whether patients, companions or employees⁽⁸⁾. For this purpose, this project must perfectly combine architecture, technological, comfort and well-being concepts, complying with laws and guidelines of health agencies⁽⁸⁾. The contribution of architecture for child health is essential, because the design of architectural projects in healthcare environments for the child must foresee that the space is designed for them. In this way, the hospitalization can be understood more positively⁽⁹⁾.

This study is justified by the importance to draw a panorama in relation to the ambience of the PICU, which will support the knowledge of the nursing team about the influence of the environment for the assistance to the child and their family in this environment, thereby promoting a more humane and welcoming care. The ambience of the PICU must offer comfort, well-being and safety to children and their families, in addition to providing autonomy for the team, enabling the use of the space as a tool that facilitates health production, which confers the importance of researching the theme and its relevance for science and society.

The objective of this research is to characterize the national and international scientific production on the environment of the Pediatric Intensive Care Unit (PICU) and its influence on the assistance to the child and their family.

Method

The chosen method was the integrative review, which consists of constructing a broad analysis of the literature, obtaining a thorough

understanding of a particular phenomenon based on previous studies⁽¹⁰⁾.

This type of review is prepared in six stages: identification of the theme and selection of the research question, establishment of the inclusion and exclusion criteria for the selection of samples, categorization of studies, assessment of studies included in the review, interpretation of results and presentation of the review⁽¹⁰⁾.

Thus, the review was developed from the following guiding question: What is the influence of the environment of the pediatric intensive care unit in the assistance to the child and their family?

The search, held between September and December 2018, began with the selection of descriptors (DeCS) pertinent to the themes: care humanization, pediatric intensive care units, hospitalized child, pediatric nursing, hospital architecture, environment, health institutions, hospital planning, hospital restructuring and environment, and environmental health. These descriptors were combined in pairs, using the Boolean operator *and*, for research purpose, at the following sources of information: Literature Latin American and Caribbean Health Sciences (LILACS), Scientific Electronic Library Online (SciELO), Coordination for Higher Level Personnel Improvement (CAPES), Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Public Medline (PubMed).

For the selection of studies, the following inclusion criteria were used: research articles, review researches, historic and documentary researches, dissertations and theses, in Portuguese, English and Spanish, fully available and developed at pediatric intensive care units.

The exclusion criteria were experience reports, clinical studies, researches conducted at specialized pediatric intensive care units, such as oncology, cardiology and orthopedics, once, in these units, the treatment provided to the environment is already differentiated, due to chronicity of diseases and the time of hospitalization of children.

The temporal clipping was opened, resulting in the year 2004, when first publication about

the theme was identified at the sources of information, until the year 2018.

At the portal of theses and dissertations from CAPES, when using the same combination of descriptors, and as done at other sources of information, the search returned more than 20,000 studies. Thus, only the following descriptors were used: hospital architecture, health institutions environment, hospital planning and hospital restructuring, without conjugation, all in upper case and between quotes.

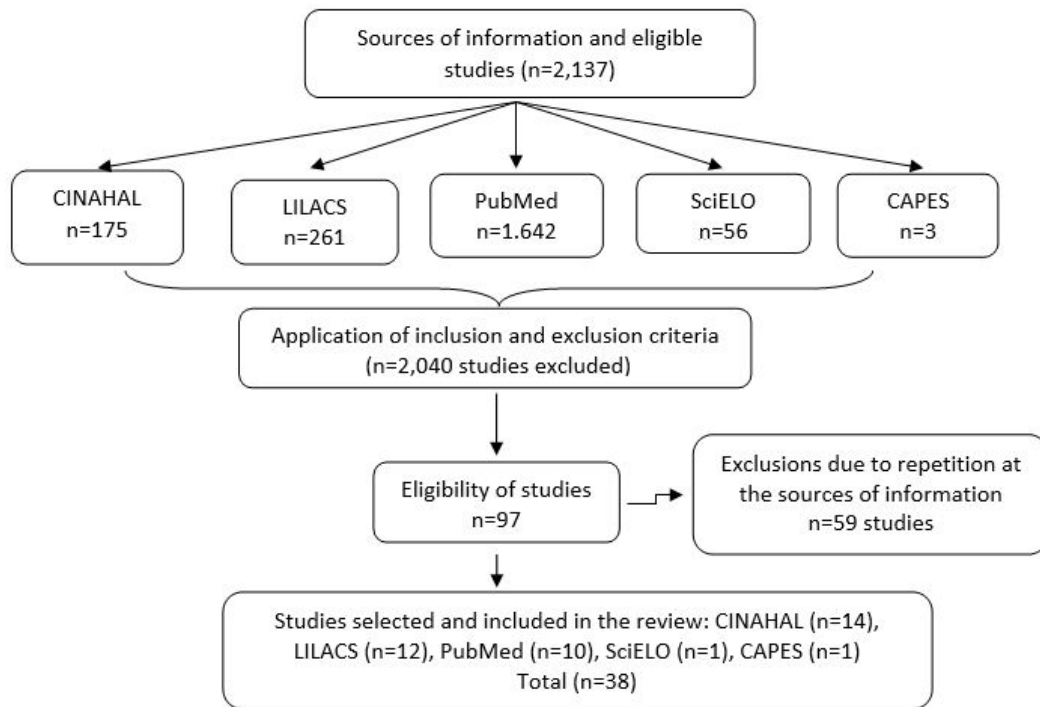
After the search and the application of inclusion and exclusion criteria, the abstracts were read. To facilitate the process of thematic analysis, the studies included were organized into a synoptic chart to synthesize information such as title, reference, objectives, category of authors, type of study, participants/sample, scenario and origin. Nevertheless, for the presentation in this article, it had to be reduced.

After organizing the selected articles entered into the synoptic chart, floating readings were made, in addition to clippings of interest, complying with the research objective, identifying thematic categories and subcategories and establishing the classification by level of evidence.

The study in question was not submitted for consideration by the Research Ethics Committee, because it did not use humans as research subjects.

Results

The initial bibliographical survey resulted in 2,137 studies. Two independent reviewers read the titles, abstracts and descriptors, aiming to check if the publications met the study objective. The inclusion and exclusion criteria were applied, resulting in 97 studies, which showed adherence to the theme of the PICU environment and its influence in the assistance to the child and their family. Subsequently, 59 repeated publications were excluded, resulting in 38 selected publications, as shown in Figure 1.

Figure 1 – Illustrated diagram of the methodological path to identify the selected studies

Source: Created by the authors.

Chart 1 shows the 38 articles selected according to title, journal and year of publication, from the most recent to the oldest.

Chart 1 – Selection of Publications on environment of the Pediatric Intensive Care Unit (continued)

Title	Journal	Year
Pediatric Critical care in Resource-Limited Settings – Overview and lessons learned	Frontiers in Pediatrics	2018
Parental stressors in a Pediatric Intensive Care Unit	Rev Chil Pediatr	2018
Nurses' reflections on benefits and challenges of implementing family-centered care in pediatric intensive care units	Am J Crit Care	2018
Meta-synthesis about man as a father and caregiver for a hospitalized child	Rev Latino-Am Enfermagem	2017
Missed Nursing care in Pediatrics	Hospital Pediatrics	2017
Humanization of nursing care for the Family at the pediatric intensive care unit	Cogitare Enferm	2016
Pediatric ICU: the meaning of taking care in the mother's perspective	Rev Fund Care Online de Pesquisa	2016
PICU: lives pulsing between organic stability and subjective instability	Doctoral Thesis. UFMG	2016
Parents' perceived satisfaction of care, communication and environment of the Pediatric Intensive Care Units at a Tertiary Children's Hospital	Journal of Pediatric Nursing	2016
Characterizing the ambient sound environment for infants in intensive care wards	Journal of Paediatrics and Child Health	2016

Chart 1 – Selection of Publications on environment of the Pediatric Intensive Care Unit (continued)

Title	Journal	Year
Nurses' perceptions of pediatric intensive care unit environment and work experience after transition to single-patient rooms	American Journal of Critical Care	2016
Nursing work environment, patient safety and quality of care in pediatric hospital	Rev Gaúcha Enferm	2016
Comparison of staff and family perceptions of causes of noise pollution in the pediatric intensive care unit and suggested intervention strategies	Noise Health	2016
Dominance of paternalism in family-centered care in pediatric Intensive care unit: an ethnographic study	Comprehensive Pediatric Nursing	2015
Evidence-Based Review and Discussion points	American Journal of Critical Care	2015
Impact of noise on nurses in pediatric intensive care units	American Journal of Critical Care	2015
What impact do hospital and unit-based rules have upon patient and family-centered care in the pediatric intensive care unit?	J Pediatr Nurs	2015
Nursing working environment and patient safety at pediatric units	Doctoral Thesis. UNICAMP	2015
Health facility environment as humanization strategy care in the pediatric unit: systematic review	Rev Esc Enferm USP	2014
The presence of the father/caregiver in the hospital context: integrative review	Rev Enferm UFPE on line	2014
The lived experience of parents of children admitted to the pediatric intensive care unit in Lebanon	International Journal of Nursing studies	2014
Humanization of healthcare: perception of a nursing team in a neonatal and pediatric intensive care unit	Rev Gaúcha Enfermagem	2013
Noise level of the PICU: observational study	Online Brazilian Journal of Nursing	2013
The experience of critically ill children: a phenomenological study of discomfort and comfort	Dynamics	2013
An Office or a bedroom? Challenges for family-centered care in the pediatric intensive care unit	Journal of child health care	2012
Factors influencing sleep for parents of critically ill hospitalized children: A qualitative analysis	Intensive and Critical Care Nursing	2011
The family's role in their children's hospital care	Rev Enferm UERJ	2010
Humanization: social representations of the pediatric hospital	Rev Gaúcha Enfermagem	2009
Psychological suffering interfering in the maternal desire of taking care of a child hospitalized in the pediatric intensive care unit	Online Brazilian Journal of Nursing	2009
Occupational stress and repercussions on the quality of life of pediatric and neonatal intensivists physicians and nurses	Rev Bras Ter Intensiva	2009
Healthy psychology and hospitalized child	PSIC-Revista de Psicologia da Vetor Editora	2008
Parent bed spaces in the PICU: effect on parental stress	Pediatric Nursing	2007
Practice guidelines for music interventions with hospitalized pediatric patients	Journal of Pediatric Nursing	2007

Chart 1 – Selection of Publications on environment of the Pediatric Intensive Care Unit (conclusion)

Title	Journal	Year
Hospital humanization: professional satisfaction in a pediatric hospital	Rev Bras Enferm	2006
Noise level in a pediatric intensive care unit	J Pediatr (Rio J)	2005
Noise levels in PICU: an evaluative study	Pediatric Nursing	2005
Preventing ICU syndrome in children	Pediatric Nursing	2004
Guidelines and levels of care for pediatric intensive care units	Pediatrics	2004

Source: Created by the authors.

Of the 38 publications, 21 (55%) were in the international scenario, contemplating countries like the United States, Iran, Jordan, Canada, Japan, Australia, England and Iran, and 17 (45%) were national, being 36 (95%) articles and 2 (5%) theses. Regarding the type of study, 15 (39%) were qualitative, 11 (29%) quantitative, 9 (24%) reviews, 2 (5%) observational and 1 (3%) did not indicate the type of study in the text.

The level of evidence of the studies was evaluated according to the Oxford Center for Evidence-Based Medicine. According to this criterion, 17 (45%) articles had level 4, 15 (39%) level 2C and 6 (16%) level 5⁽¹¹⁾.

In relation to the participants, 11 (29%) were performed with health teams (nurses, technicians, assistants, physicians, physiotherapists, psychologists); 10 (26%) with parents; 1 (3%) with children; 2 (5%) used more than one category of participants for data collection, such as parents and team, or team and children; and 14 (37%) used other forms of data collection, such as comments and literature review.

After reading the selected articles, the studies were grouped according to the addressed theme and divided into categories and subcategories to facilitate discussion of the results, according to Chart 2.

Chart 2 – Thematic categories and subcategories

Thematic categories	Thematic subcategories
Environment	Environment as a humanization strategy Physical space: individual/shared room Noises Influence of the environment on work and quality of life of the team Unit structure and organization
Humanization	Effects of hospitalization on children Family insertion, participation and their relationship with the team Team perception/satisfaction Family satisfaction regarding child care Playful activities
Experiences of hospitalization	Parental View Children's view Team view
Family-centered care	Parental view

Source: Created by the authors.

Discussion

The literature revealed a significant number of publications addressing the environment of the PICU in their results. The research on the PICU characteristics, four thematic categories were identified as relevant points and with emphasis in the researches. The environment was presented with the following perspectives: environment in its physical structure; environment as influencer of the health team's behavior and targeting of assistance; environment as a space of exchanges of experiences; and the environment as a mediator of relations between nursing staff, child and their family.

Among the elements of the environment, such as noise, lighting, temperature, odors and ventilation, only the noise element had evidence in the studies. This point sets a limitation of these studies in relation to the configuration of the PICU environment, once the other elements also affect patients' recovery, according to the Environmentalist Theory of Florence Nightingale.

The ambience has been understood as a pillar for the humanization of the pediatric unit, because a space directed to children as aid in the healing process has confirmed importance. Furthermore, architecture stands out as a way to provide well-being to the child and the family, in addition to facilitating the development of the working process of health professionals^(9,12).

Another issue identified was the preference for individual rooms instead of shared rooms, once the nurses reported better conditions of exposure to sunlight, in addition to improvement in the sleep-wake cycle of children. Moreover, the nurses revealed less noise in individual rooms. However, the noises (alarms of the monitors and conversations of the team) negatively influenced the sleep of children in both configurations⁽¹³⁾.

In relation to noise in the PICU, the studies are unanimous in stating that it exceeds the recommendations of national (35 dBA to 45 dBA)⁽¹⁴⁻¹⁵⁾ and international (30 dBA to 40 dBA) agencies⁽¹⁶⁾, and the highest levels in the diurnal period. Furthermore, the highest noise in these units come from health professionals, followed

by alarms of the equipment used⁽¹⁷⁻²³⁾. The exposure to high levels of noise leads nurses from critical care units susceptible to having their productivity affected, impairing their ability to make decisions and to regulate their emotions, which affects the quality of care⁽²⁰⁾.

Concerning the influence of the environment on work and quality of life of the team, professionals perceived the environment as favorable to health care practice and patient safety. In contrast, the working environment was also considered favorable to professional practice, but variables such as emotional exhaustion and job satisfaction were predictive in the safety requirement⁽²⁴⁻²⁵⁾.

In another study, more than half of the pediatric nurses interviewed stated ceasing to perform some type of care in their work shift due to shortage of materials/equipment and workplaces with a high number of patients in relation to the number of nurses, influencing the safety and quality of care provided to the child⁽²⁶⁾.

The quality of life of health professionals who work in intensive therapy was investigated in a study, which identified, among doctors and nurses who worked in these units, high efforts, many psychological and physical demands, in addition to the unsafety in the workplace, with repercussions on the quality of life of these professionals⁽²⁷⁾. Furthermore, the PICU is a standardized territory, where clinical protocols mediate the power relations between professionals, and there is an intense affective involvement between children and professionals. These deal with their personal limits, with death and with unstable experiences from the work routine⁽²⁸⁾.

In relation to the structure and organization of the PICU, studies provide some minimum guidelines for the unit, such as: organization and management structure, personnel, hospital facilities and services, drugs, equipment, training and continuing education aiming to help hospitals ensure a more adequate care to the patient. Furthermore, for the creation of an ICU, especially in low-income environments, in addition to all planning and specific resources,

the main investment must be permanently done in the nursing and medical teams, to provide a conducive environment for a quality assistance⁽²⁹⁻³⁰⁾.

In terms of humanization, there is need for an assistance thinking of the damage that hospitalization can cause to the hospitalized child. A study highlighted the need for greater attention from the psychology team to hospitalized children in the PICU, once they remain restricted to bed, demanding nurses' constant awareness of the aspects of immediate care, besides meeting their physical and psychological security needs. This study also says that, the PICU requires clear protocols in relation to sedation and analgesia, as well as the introduction of a pain assessment tool suitable for ventilated and sedated children⁽³¹⁻³²⁾.

Regarding the family inclusion and participation in the PICU, changes in the organization of the pediatric units to ensure this insertion are not well defined yet, requiring better organization of care practice. In contrast, the shared care in the PICU environment provided to mothers the recognition of their maternal role, usually lost due to hospitalization. In this case, the mothers reported that they felt useful and valued when inserted in their children's care and acknowledged the role of the nursing team as supportive of maternal involvement in care during the hospitalization⁽³³⁻³⁴⁾.

Another study appreciated this need for the team recognize the maternal role during hospitalization, which stated that the hospitalization resulted an increased mental suffering for the mother, who could feel unable and unwilling to take care of her son. Therefore, health professionals would need to support them and learn to deal with this situation⁽³⁵⁾.

Only one study highlighted the father in the quality of the child's caregiver during hospitalization, demonstrating that, during this process, a change occurs in the family relationship and employment and parenthood is suppressed in the hospital environment⁽³⁶⁾.

The analyzed texts also reveal the need to adapt the environment and physical structures for permanence of companions in the hospital

environment. A study observed reduced stress of parents with a new configuration of the PICU, which included bed for the permanence of companions. However, parents reported that the space, with this new configuration, became reduced. In addition, another study emphasized the importance to guide parents in relation to the procedures performed in the unit and alert them that they do not need to stay in the unit, even with a suitable place to rest⁽³⁷⁻³⁸⁾.

Regarding this aspect, parents had difficulty to decide whether remain at the bedside during the night. This decision is often based on the child's condition, confidence in the team, social support available, as well as how the team would see the decision. Interestingly, parents had no suggestion of how the hospital staff could help solve this challenge⁽³⁹⁾.

Parents considered the family permanence in the PICU as problematic, considering their need to leave the unit to use the bathroom and eat – they could not eat at the bedside –, because leaving the child alone generated frustration. This parents' condition increased at night, because the reduced staff meant delays in responding to the parents' request to return to the unit. Furthermore, parents found much resistance to their full and active participation in the care with their children. These barriers evidenced the hierarchy between the nurse and the parents during hospitalization⁽⁴⁰⁾.

In relation to the satisfaction of the team with the humanization of the environment of the PICU, professionals considered the working environment comfortable to carry out their functions. Nonetheless, some reported the need for improvements, especially in the support given to them, suggesting training, improvement of the hospital environment and the quality of care. On the other hand, the issue of physical structure, lack of support and stimulus to motivation were considered as non-humanized actions in the institution, reinforcing the lack and the involvement of institutional management in the deployment of the PNH⁽⁴¹⁻⁴²⁾.

The humanized care, according to the family, went through concepts such as good

relationship, education, respect, attention and care. For the family, the nursing team provided humanized care regarding technical aspects and organization of the environment. In contrast, they characterized attitudes such as distraction, personal conversations and lack of kindness not humanized⁽⁴³⁾.

A study corroborates the aforementioned findings when informing that more than half of the interviewed parents were not satisfied with the noise level of the PICU, with the time spent by nurses at the bedside and with the way the health team prepared them for the admission of the child⁽⁴⁴⁾.

In relation to playful activities in the PICU, in critical environments, only one study reported music therapy as a way to strengthen the use of music as complementary and alternative approach to soothe, relax, entertain, being even considered a sedative and pain relief. This study also stated that, to the date of the study, there were no convincing data indicating any deleterious effects on patients' outcome, even critically ill children⁽⁴⁵⁾.

Two studies addressed parents' experiences in relation to hospitalization of children. In one of them, the parents classified it as a journey into the unknown and described their experience in the PICU as strange, new and mysterious. In addition, they reported the environment of the PICU was different from the rest of the hospital, and that the need for comfort made them seek a healthier environment. Moreover, the parents' identified the three dimensions of stressors: the clinical dimension, considered the most stressful; emotional; and the communication with the team, regarded as the least stressful⁽⁴⁶⁻⁴⁷⁾.

Only one study demonstrated the experience of hospitalization in the children's view. These cited as elements of discomfort: fears, worries, sorrows, invasive interventions, absence of important people, excessive noise and boredom. In contrast, the elements of comfort were: visit of parents and friends, presence of their favorite stuffed animal, entertainment and leisure activities and thoughts to go home, where they would be able to perform activities such as running, sleeping and waking up spontaneously⁽⁴⁸⁾.

In relation to family-centered care, an ethnographic study examined its dynamics in a PICU in Iran. The participants' comments allows for identifying that this unit has a paternalistic background and the social atmosphere is far away from the concepts of family-centered care, since the environment was not appropriate for children, parents were often separated from their children during the hospital stay, there was limited participation of parents in relation to the care of their children and communication was not interactive⁽⁴⁹⁾.

This study also discusses that the staff should be convinced that, besides acquiring knowledge, experience and skills to apply high technology to meet the physical needs of children in critical condition, they should also consider the emotional needs of patients and their families and build efficient and reciprocal communications, adopting the regulations directed to family-centered care, such as parents' 24-hour monitoring. Another intervention that should be performed in the unit was parents' education about their role in relation to the participation in the care of their child⁽⁴⁹⁾.

Another study found a balance between theory and quality of care of nurses as main finding for executing family-centered care. This balance was characterized mainly in situations as schedule of visits and the presence of family at the bedside and physical changes in the unit from a shared open space for private individual rooms. This study also emphasized the importance of nurses be involved in decisions about the best way to implement family-centered care⁽⁵⁰⁾.

On the other hand, another study identified the existence, in another PICU, of a wide divergence between practices advocated in the family-centered care, as theorized and described in the pediatric literature, and the experiences lived by family members⁽⁵¹⁾.

A limiting factor of this study was that the through random search returned many articles relevant to the topic, mostly written by architects specialists in constructions of health facilities. Nevertheless, since they were published in Annals of scientific events, they do not appear in the sources of information used in the search.

Conclusion

The PICU is still mostly present as units focused on the curative treatment of pathologies. In these places, the professionals work exhaustively and under stressful conditions, hindering the implementation of the care centered on the child and their family, especially in the establishment of a harmonious relationship between the family and the team.

There are also advantages, mainly related to the sleep of hospitalized children and the relationship between the team and the family, in units with individual rooms in comparison to the shared rooms.

Furthermore, regarding the physical environment of the PICU, professionals still care little about the influence of environmental factors in the child's recovery process, once the only element addressed in the studies was the noise. Therefore, further studies are necessary to address other elements including comfort and safety during the stay in the PICU, such as lighting, ventilation, temperature, physical space, use of arts, leisure and childlike characterizations in the unit, allowing for a more humanized assistance for the child and their family.

This review showed the need for further researches on the topic of the ambience of the PICU, in order to allow for building a theoretical-practical basis for implementing an assistance centered on children and their families in this peculiar and stigmatized space, which is the intensive care.

Considering the above, the results of this study will help guide the activities developed in the PICU, anchor the qualification and direct care practice, in addition to organizing the spaces of care to the child and their family.

Collaborations:

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