ABSTRACT

Objective: to identify nursing diagnoses and interventions in children admitted to the pediatric clinic of a university hospital using ICNP®. Method: a descriptive exploratory study, conducted at the Pediatric Clinic of the Hospital Universitário Lauro Wanderley/UFPB, located in the city of João Pessoa-PB. The population consisted of 271 hospitalized children and sample of 35. For the data analysis, structuration of the data collected and diagnostic reasoning were used. The project was approved by the Ethics in Research Committee of HULW/UFPB, CAAE 0028.0.126.000-08. Results: 366 statements of nursing diagnoses were elaborated, distributed in 42 diagnoses concepts and organized according to basic human needs. Conclusion: the study objectives were achieved and it is believed that the use of these statements may represent a relevant instrument for the improvement of the care of hospitalized children. Descriptors: Nursing; Pediatric Nursing; Hospitalization; Nursing Diagnosis.

RESUMO

Objetivo: identificar diagnósticos e intervenções de enfermagem em crianças internadas na clínica pediátrica de um hospital escola utilizando a CIPE®. Método: estudo exploratório-descritivo, realizado na Clínica Pediátrica do Hospital Universitário Lauro Wanderley/UFPB, localizado no município de João Pessoa-PB. A população foi composta por 271 crianças hospitalizadas e amostra por 35. Para a análise dos dados utilizou-se a estruturação dos dados coletados e o raciocínio diagnóstico. O projeto foi aprovado pelo Comitê de Ética em Pesquisa do HULW/UFPB, CAAE 0028.0.126.000-08. Resultados: foram elaboradas 366 afirmativas de diagnósticos de enfermagem, distribuídos em 42 conceitos diagnósticos e organizados de acordo com as necessidades humanas básicas. Conclusão: os objetivos do estudo foram alcançados e acredita-se que a utilização dessas afirmativas poderá representar um relevante instrumento para a utilização do processo de enfermagem na Clínica Pediátrica, possibilitando a melhoria na implementação da assistência à criança hospitalizada. Descritores: Enfermagem; Enfermagem Pediátrica; Hospitalização; Diagnóstico de Enfermagem.

RESUMEN

Objetivo: identificar los diagnósticos de enfermería y las intervenciones en niños hospitalizados en la clínica pediátrica de un hospital universitario utilizando la CIPE®. Método: estudio descriptivo-exploratorio, realizado en la Pediatría del Hospital Universitario Lauro Wanderley/UFPB, ubicada en la ciudad de João Pessoa. La población estuvo constituida por 271 niños hospitalizados y una muestra de 35. Para el análisis de los datos, la estructuración de los datos recogidos y el razonamiento diagnóstico, el proyecto fue aprobado por el Comité de Ética en Investigación de HULW/UFPB, CAAE 0028.0.126.000-08. Resultados: 366 declaraciones han sido preparadas de diagnóstico de enfermería, distribuidos en 42 conceptos diagnósticos y organizados de acuerdo a las necesidades humanas básicas. Conclusión: los objetivos del estudio fueron alcanzados y se cree que el uso de estas declaraciones puede constituir una herramienta importante para el uso del proceso de enfermería en la Clínica Pediátrica, lo que permite una mejora en la aplicación de la atención de los niños hospitalizados. Descriptores: Enfermería; Enfermería Pediátrica; Hospitalización; Diagnóstico de Enfermería.
INTRODUCTION

Nursing care of hospitalized children has been modified over the years, shifting from a more traditional approach, in which care was based on the excellence of operating under an organizational perspective, to the care centered on the needs of the child, advancing with the inclusion of the family in the process of caring. Under this view, it is emphasized that the evolution of nursing assistance has moved from the hospital admission, which used to break the emotional bond with the child's family, to the rooming-in proposal, which involves the family in the hospitalization, in health promotion and in the disease prevention to their children. Such modifications consist of a project that seeks comprehensive care of the hospitalized child, involving multiple aspects of care for the child and its family in the hospital, with the aim of expanding the care.

It is known that the hospitalization process generates harmful consequences for the child's development, considering the emotional changes imposed by invasive and suffering generating experiences, but also long periods of hospitalization. In this perspective, the change in the family environment is highlighted, where children have to live in an unfamiliar environment with strangers. This fact contributes to feelings of anxiety and fear triggered by the child during hospitalization and, therefore, special attention is expected from the nursing staff in relation to illness and hospitalization, to avoid the negative impact on that in child's development.

However, nursing child assistance has certain peculiarities concerning the care, since they must consider the consequences of hospitalization for the child and the integration of the family into the entire process. In this sense, to be effective, such assistance must carry on through the use of the nursing process, besides nursing terminologies that name the elements of the practice - diagnosis, nursing interventions and outcomes.

The Nursing Process consists of a methodological tool that guides the professional nursing care and the documentation of professional practice. Its organization includes five interrelated, interdependent and recurrent steps: Data Collection or History of Nursing, Nursing Diagnosis, Planning, Implementation and Evaluation of the assistance, and its applicability must be based on a theoretical framework to guide the execution of this process in a deliberate, systematic and continuous way.

The nursing diagnosis, one of the major focus of this study, can be defined as a phase of the nursing process, as a process of thought or as a word or expression that is used to communicate an idea - a nominal category or the name of the diagnosis. In this perspective, the development of nursing diagnoses is made possible by identifying the specific needs of the patient, through the observation of the data collected with the help of a nursing history. Its construction serves as a basis for nursing interventions, contributing to the implementation of the nursing process and, consequently, the quality of care provided.

The development of standardized nursing languages consists of an intense challenge to facilitate communication and information among nurses. It is known that currently, the Nursing offers several classification systems; however for the development of this study, the International Classification for Nursing Practice (ICNP®) was selected. In this context, the study aimed to develop affirmative diagnoses and nursing interventions for hospitalized children in the pediatric clinic of a university hospital using ICNP®.

METHOD

Descriptive-exploratory study, conducted at the Pediatric Clinic of the Hospital Universitário Lauro Wanderley/HULW, a public institution and teaching hospital of the Universidade Federal da Paraíba/UFPB, located in the city of João Pessoa-PB. Before its completion, the research project was appreciated by the Ethics in Research Committee, of the HULW/UFPB, in compliance with the ethical aspects envisaged in Resolution number 196/96 of the Ministry of Health®, having obtained the CAAE 0028.0.126.000-08 and approval protocol number 014/2008 for the development of the research.

The study population consisted of 271 children who were hospitalized at the clinic between the months of October 2010 to April 2011, period established for data collection. The sample comprised 35 children which were selected considering the following inclusion criteria: age between 0 to 5 years; at first hospitalization; accompanied by their legal guardian, who accepted to take part in the study, confirming with the signing of the informed consent.

For data collection, a structured instrument called ‘History of Nursing for...
Nursing diagnostics and interventions using...

children of 0 to 5 years was used, it was developed based on the Horta’s Basic Human Needs and used at the time of admission to the Pediatric Clinic. The medical records of the children interviewed were also used as a source of secondary research in order to obtain further relevant information about the health status and treatment options, which were not possible to be obtained at interview.

To process the data collected in the study, the instruments were numbered and the variables contained therein were coded and inserted into individual frames, built in Word for Windows, numbered according to the frequency in which data collection was held. This structure, containing the information necessary for construction of diagnoses, interventions and outcomes, resulted in a database organized into columns as follows: first column Identification - the child’s name initials, followed by age, gender, origin and education of their companion, second column indicators of basic human needs, and the third column the hypothesis of nursing diagnoses.

The next step consisted of clinical reasoning, whereby the diagnostic hypotheses were built, which were submitted to the judgment of the advisor and researcher for the definition of nursing diagnosis. Statements were then constructed regarding results and nursing interventions, based on studies performed previously in Pediatric Clinic and ICNP® Version 1.0.7-8

RESULTS

According to the information obtained, it was observed that of 35 children, 48.6% were from the age group 1 to 3 years old, 51.4% were male while 48.6% of children were female; and 68.6% were from their homes. Regarding the educational level of the family, it was revealed that 42.8% had incomplete primary education.

Regarding the construction of nursing diagnoses in children aged 0 to 5 years, the Horta’s basic human needs was considered, and the diagnostic reasoning process and ICNP® Version 1.0 were used, so that, 366 nursing diagnoses were elaborated, distributed in 42 diagnostic concepts, with 6 being positive, 33 negatives and 3 being risk diagnoses, with an average of 8.7 diagnoses per hospitalized child.

<table>
<thead>
<tr>
<th>Needs</th>
<th>Nursing Diagnoses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygenation</td>
<td>Impaired breathing pattern (45.7%); Dyspnea (40.0%); Tachypnea (17.1%); Productive cough (11.4%)</td>
</tr>
<tr>
<td>Nutrition</td>
<td>Normal nutritional status (54.2%); Decreased appetite (20.0%); Changed nutritional status (17.1%); Weight loss (14.2%)</td>
</tr>
<tr>
<td>Hydration</td>
<td>Dehydration (17.1%); Fluid and electrolyte imbalance (11.4%); Risk for dehydration (17.1%); Risk for fluid and electrolyte imbalance (34.2%)</td>
</tr>
<tr>
<td>Elimination</td>
<td>Diarrhea (17.1%); Constipation (11.4%); Vomiting (2.8%)</td>
</tr>
<tr>
<td>Sleep and Rest</td>
<td>Preserved sleep and rest (74.2%); Difficulty falling asleep (17.1%)</td>
</tr>
<tr>
<td>Exercise</td>
<td>Decreased force level (14.2%); Impaired ambulation (5.7%)</td>
</tr>
<tr>
<td>Body care</td>
<td>Preserved body hygiene (34.2%); Impaired body hygiene (5.7%)</td>
</tr>
<tr>
<td>Physical integrity</td>
<td>Pale skin (68.5%); Impaired skin integrity (45.7%); Dry skin (2.8%)</td>
</tr>
<tr>
<td>Thermoregulation</td>
<td>Hyperthermia (28.5%); Hypothermia (2.8%)</td>
</tr>
<tr>
<td>Neurological regulation</td>
<td>Convulsion (8.5%)</td>
</tr>
<tr>
<td>Immune regulation</td>
<td>Risk of infection (45.7%); Allergy (8.5%)</td>
</tr>
<tr>
<td>Growth regulation</td>
<td>Normal childhood development (65.7%); Changed child development (20.0%)</td>
</tr>
<tr>
<td>Electrolyte regulation</td>
<td>Edema (20.0%)</td>
</tr>
<tr>
<td>Vascular regulation</td>
<td>Preserved peripheral perfusion (2.8%)</td>
</tr>
<tr>
<td>Perception</td>
<td>Pain (42.8%); Decreased vision (2.8%); Impaired hearing (2.8%)</td>
</tr>
<tr>
<td>Safety</td>
<td>Anxiety resulting from hospitalization (88.5%); Agitation (34.2%)</td>
</tr>
<tr>
<td>Communication and recreation</td>
<td>Communication preserved (5.7%); Impaired communication (25.7%); Interrupted recreational activity (42.8%)</td>
</tr>
<tr>
<td>Learning</td>
<td>Lack of knowledge of the mother regarding the disease (40.0%)</td>
</tr>
</tbody>
</table>

Figure 1. Distribution of nursing diagnoses per basic human need, identified in hospitalized children. João Pessoa, 2011.

Figure 1 shows the distribution of nursing diagnoses identified in children/companion of the study in 18 basic human needs. It is evident that of the 42 diagnoses concepts 12 reached a percentage equal to or greater than 40.0%: Impaired breathing pattern, Dyspnea, Normal nutritional state, Preserved sleep and rest, Pale skin, Impaired skin integrity, Risk of infection, Normal childhood development, Pain, Anxiety resulting from hospitalization, Lack of knowledge of the mother in relation to disease and Interrupted recreational activity.

Of these the most common diagnoses were Anxiety resulting from hospitalization with 88.5%, Preserved sleep and rest with 74.2%, Pale skin with 68.5% and Normal childhood development 65.7%.

Considering the need to develop a care plan also directed to implement the actions, the study carried on with the development of nursing interventions, considering the diagnoses identified from basic human needs, the health framework of the hospitalized child.
and the viability of implementation of these interventions in the pediatric clinic.

For the construction of nursing interventions, the ICN criteria of utilization of the ICNP® Seven Axis Model Version 1.0 were followed, with the mandatory inclusion of a term of the Axis Action and at least one Target term, which may be from the axis: Focus, Means, Time, Location, Customer, except from the axis Judgment. Figure 2 shows the nursing interventions developed for the most prevalent diagnoses.

![Figure 2. Distribution of nursing interventions, according to the most prevalent nursing diagnoses identified in hospitalized children. João Pessoa, 2011.](image)

<table>
<thead>
<tr>
<th>Nursing diagnosis</th>
<th>Nursing intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety resulting from hospitalization</td>
<td>To identify and reduce environmental stressors; To support the child and/or the companion in facing the anxious behavior; To offer fun activities aimed at reducing tension; To listen carefully, allowing the child and/or companion to express feelings verbally; To provide the child the opportunity to engage in the therapeutic activities.</td>
</tr>
<tr>
<td>Preserved sleep and rest</td>
<td>To encourage the patient in maintaining the pattern of sleep and adequate rest; To orient on the importance of satisfactory rest for the child’s recovery; To discuss with the patient/family the measures of comfort that provide a peaceful sleep; To maintain a calm and safe environment during bedtime; To monitor the sleep pattern and amount of sleeping hours.</td>
</tr>
<tr>
<td>Pale skin</td>
<td>To identify changes in the systemic circulation; To evaluate results of blood tests; To encourage intake of food items rich in iron, according to necessity; To identify triggering/aggravating factors.</td>
</tr>
<tr>
<td>Normal childhood development</td>
<td>To encourage activities that foster development; To provide relevant information about normal development; To encourage the companion to play activities that stimulate child development.</td>
</tr>
</tbody>
</table>

**DISCUSSION**

The use of the nursing process contributes to the quality of the care provided; besides, it allows a more detailed knowledge of the context of the child health and offers subsidies that should guide care. In this sense, the stages of identification and elaboration of nursing diagnoses, interventions and outcomes are of paramount importance for the operationalization of this process, in order to systematize nursing care, to individualize the care provided to hospitalized children and to encourage the registration of the professional work.

The fact that the nursing diagnosis *Anxiety resulting from hospitalization* has been the most common in children aged 0 to 5 years, reflects the greater vulnerability of children in relation to the emotional consequences resulting from hospitalization, since the anxiety appears as the response to the stressor imposed by hospitalization. With regard to terminology, anxiety resulting from hospitalization is a feeling of fear and apprehension caused by the process of hospitalization, through the separation from the family environment and significant people, so that in most cases, its incidence in children is related to their permanence in an unfamiliar environment that causes them fear, surrounded by strange people who are unfamiliar to them and a daily routine different from the usual.

It is known that the harmful consequences acquired by children as a result of hospitalization, especially if dealing with anxiety, can undergo positive and negative influences, considering factors such as the information received, health team conduct, age of the child or adolescent and its development, duration of hospitalization and parental attitudes during hospitalization. In this sense, we emphasize the importance of the presence of the parent or guardian in the process, helping in the recovery of the child and fulfilling the right to exercise their role as caregiver, as law 8.069/1990 of the Child and Adolescent Statute ensures.

Considering that children are not always able to clearly express their needs and fears and that hospitalization tends to be a traumatic experience, because of the aggressions under the hostile environment, because of unknown people and procedures that cause pain and suffering, there is the need for preparation of the institution and staff during child care, trying to explain the procedures and routines so that the child will feel comfortable with the hospital environment.

The diagnosis of *Preserved sleep and rest* also had high prevalence in the study, constituting a positive diagnosis that can be defined by a situation where there is no change in the usual way to rest or sleep, keeping sleep patterns and normal rest. This fact can be explained due to good housing conditions of the pediatric clinic of the hospital school, since most of the wards have a structure that includes individualized beds, upholstered chairs for companions and air conditioning. The quality of nursing care is also noted, since the identification of this diagnosis requires special attention in order to promote a peaceful environment for sleep and rest of hospitalized children.
Whereas, in many situations, the intensification of procedures and techniques in the care of hospitalized children becomes necessary, which directly influences the quality of their sleep and rest, it is believed that there is a need to prioritize what is most important to the child in that moment - under these conditions it is primordial that sleep and rest are respected. Thus, sleep constitutes a necessary and crucial factor, and even referred to as universal human right, since, to maintain health, everyone needs to sleep.11

In this perspective, the intense handling of the child, held by the multidisciplinary team, interferes in reducing the time allocated to sleep and rest, generating a behavior typical of stress. Furthermore, it is known that the forced awakening complicates the process of reconciliation of the sleep after the end of the handling, behavior already disproved by Florence Nightingale, in the 19th century, when she defended the concept that a good nurse should never allow a patient to be intentionally or accidentally awaken, because if it is awaken from its first sleep, it would hardly be able to conceive it again, missing not only sleep, but also the ability to sleep.12

Given this and considering sleep and rest as needed for health recovery, especially the one from hospitalized children, it is highlighted the relevance of nurses’ performance through direct or indirect care, related to the environment, with the aim of providing better sleep and rest conditions to the child, thus interfering in the process of recovery through care.13

The diagnosis of Pale skin is identified when the child presents the lining tissue outside the body slightly stained or with a lower color than the physiological color. This medical condition is quite evident in hospitalized children and can be related to impaired tissue perfusion due to several pathologies. Tissue perfusion consists of the blood flow through the peripheral tissues to transport oxygen, fluids and nutrients at the cellular level. Such a condition may be associated with not only the coloring of the skin, but also its temperature, decrease in the arterial pulse, changes in arterial blood pressure, wound healing and body hair growth.14

The nursing diagnosis of pale skin in children identified in the study highlights the compromise of tissue perfusion and its failure to nourish the tissues due to oxygen reduction. It is noteworthy that this impairment may be related to disturbances of gas exchange, hypervolemia, hypovolemia, decreased hemoglobin concentration in the blood and reduced oxygen transport through the alveolar wall and/or capillary membrane.15 In this sense, it is required the attention of the nurse in order to identify the factors causing/contributing to skin pale in hospitalized children, seeking to associate with the pathology and develop a plan of care focused on determining the degree of organ involvement, maximizing tissue perfusion and promotion of children and family welfare.15

The Normal childhood development is characterized as a positive nursing diagnosis and can be defined as a normal and progressive process of growth and physical development, according to the approaching of the age periods of growth and development from birth. For normal childhood development there must be an interaction between cognitive, linguistic and motor abilities with emotional and social conditions in the development.2

Results of studies on this topic indicate that the better the quality of environmental stimulation available to the child, the better their cognitive performance. Moreover, there is a positive association between the level of maternal education and the quality of environmental stimulation received by the child. Maternal education was positively associated with a better organization of the physical and temporal environment, with a greater opportunity of variation in daily stimulation, with availability of materials and games suitable for children and with a greater emotional and verbal mother and child involvement.16

The vast literature indicates the risk factors for child development. However, the whole discussion is focused on the need for knowledge of each of these factors by professionals who work with childhood and adolescence, minimizing beliefs and personal issues that may contradict the identification of such risk, as well as to be aware of their importance as possible analysts and able to intervene, aiming at the welfare of the child or adolescent.17 In this regard it is noteworthy that nursing care should focus on the identification of risk factors in child development, in order to identify them previously. The nurse must enable an environment conducive to the needs of the hospitalized child, but also guide its family about the need to establish ties and incentives for their physical and cognitive development.

The conjuncture of families staying with the hospitalized children rises the need for these families to also be targeted for care from the nursing team, whereas that the welfare of one influences the other, it is
important that professionals’ actions aim at stabilizing the child and family in a humanized way. This thus justify the need for elaborating nursing diagnoses and interventions designed to both mother and child, with the intention of including the family in the care process.

It is believed that the act of caring goes beyond the hospitalized child and also involves its family in this context. It is important that the nursing team has a good relationship with the child’s family, because there is a great demand generated by the needs of the family companion. Furthermore, it is considered that nursing establishes a permanent bond with the family, since it remains 24 hours with the child and shares the whole process of caring.

Nursing interventions are considered strategies used by nurses to promote, maintain and restore the health of the patient, based on nursing diagnoses, to achieve the results established and solve altered human responses. Thus, nursing interventions are part of the care plan, which is plotted in order to eliminate or reduce a nursing diagnosis, aiming to reach the pre-established goal or result.

In this sense, the nursing interventions drawn were distributed and organized according to the nursing diagnoses and basic human needs. In order to allow a greater proximity to the clientele of the Pediatric Clinic, interventions were developed taking into consideration the age group established for the research, as well as the presence of the family at the time of hospitalization, culminating in the nursing care of the mother–son binomial.

The nurse that adjusts the inter-relationships with clients and their families is able to plan a humanized care and promote a trust relationship for the quality of care. With this, it is undeniable the contribution of the identification of nursing diagnoses and interventions, both as a form to implement the nursing process and guide the care provided, or for the fact of providing a more detailed picture of the health of hospitalized children and thereby perform a more targeted assistance.

**CONCLUSION**

The construction of affirmative nursing diagnosis, the main focus of this work, allows more detailed knowledge of the context of children’s health and enables the use of the Nursing process, as essential to the quality of the care provided. The development of diagnostics, from the empirical indicators identified and the International Classification for Nursing Practice (ICNP®), becomes relevant in order to allow the targeting of nursing actions, through interventions to be implemented by the nursing team.

Nursing care of hospitalized children has some specificity, such as the need to elaborate nursing diagnosis not only for the child, but also for the family and especially to its companion, who is usually the mother. In this sense, stands in the course of this study, the relevance of the performance of activities with the aim of including the family in nursing care, guiding them with necessary information, inserting them in the care of the hospitalized children, allowing continuity in the execution of its role and guaranteeing them the right to stay in the hospital. However, it is recommended that further research with the objective of reviewing the affirmative diagnoses and nursing interventions, performing the clinical validation in order to verify the applicability of these statements in the care of children. Thus, there is the possibility of integration of scientific knowledge and practical knowledge, as well as the use of a unified language for documentation of nursing practice in the pediatric clinic of the HULW/UFPB.

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