

# Pediatric nursing diagnoses in light of the essential needs of children

*Diagnósticos de enfermagem em pediatria à luz das necessidades essenciais das crianças*

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## ABSTRACT

The objective of this research was to gather studies on the development of nursing diagnoses in pediatrics and to relate such diagnoses to the essential needs of children. A theoretical study was conducted based on a review of the literature found in the Cinahl, Embase and Bdenf databases and Pubmed webpage, along with a comparative analysis between the definitions and components of the selected diagnoses, and the contents of the essential needs of children. Ten diagnoses were identified in 17 articles on the development of pediatric nursing diagnoses. Most diagnoses were related to respiratory problems, in addition to pain and nutrition, which correspond to the essential need for safety and physical protection. The diagnoses focused on child development corresponded to the greatest number of essential needs of children. The conclusion is that safety and physical protection is the most frequently identified need in the selected diagnoses and the diagnoses of child development had a greater scope in responding to those needs.

**Descriptors:** Pediatric Nursing; Child Health; Nursing Diagnosis.

## RESUMO

Objetivou-se levantar estudos de desenvolvimento de diagnósticos de enfermagem em pediatria e relacionar tais diagnósticos às necessidades essenciais das crianças. Estudo teórico, de revisão da literatura nas bases Cinahl, Embase, Bdenf, e no portal Pubmed, e análise comparativa das definições e componentes dos diagnósticos selecionados, com os conteúdos das necessidades essenciais das crianças. Foram identificados 10 diagnósticos, em 17 artigos de estudos de desenvolvimento de diagnósticos de enfermagem em pediatria. A maioria dos diagnósticos foi relativa a agravos respiratórios, além de dor e nutrição, os quais correspondem à necessidade essencial de proteção física e segurança. Os diagnósticos voltados ao desenvolvimento infantil tiveram correspondência ao maior número de necessidades essenciais das crianças. Concluiu-se que a necessidade de proteção física e segurança é a mais contemplada nos diagnósticos selecionados e os diagnósticos de desenvolvimento infantil tiveram maior abrangência de resposta a necessidades.

**Descritores:** Enfermagem Pediátrica; Saúde da Criança; Diagnósticos de Enfermagem.

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## INTRODUCTION

Nursing practices should be based on theoretical benchmarks that represent specific themes of the nursing practice and the population served. The specificities of nursing practice, in the care dimension, are guided by nursing theories and corresponding clinical models. The systematization of nursing care, based on theoretical models, enables means to organize customer information, analyze and interpret such data, provide care and evaluate the results of the care process<sup>(1)</sup>. In Brazil, the systematization of caregiving, via the nursing process, has been consolidating itself as a means of providing better quality nursing care to users, by paying attention to their health needs, as well as a means of delimiting a professional setting<sup>(2)</sup>.

When it comes to childcare, the specificities to be considered correspond to the child's status as a developing subject and their consequent vulnerabilities. Among the theories developed to meet and scientifically support the practice of nursing<sup>(3)</sup>, no one considers the child as the main concept, nor represents the relations and conceptions inherent in the development process, which results in reduced attention to their real needs<sup>(4)</sup> when implementing the nursing process.

The understanding of these specificities determined the creation of the Brazilian Early Childhood Legal Framework<sup>(5)</sup>. This legal framework establishes that every professional who works with children should incorporate into their practices up-to-date knowledge about child growth and development, as well as child rights. This movement is supported by the evidence about the importance of childhood for the constitution of the human being. The first years of life lay the foundation of the entire process of physical, emotional and social development: the child brain reaches most of its cellular growth and establishes trillions of synapses up to age 2-3; the foundations of self-esteem, sense of morality, responsibility and empathy, learning capacity and social relationship are established up to age 5-6<sup>(6)</sup>.

The adoption of the Essential Needs of Children<sup>(7)</sup>, as a baseline to guide the systematization of care, was proposed to encourage care propositions that respect the specificities of children and provide a safe context for their development, thus enabling them to reach their potential and favoring healthy social functioning<sup>(5)</sup>. This reference framework was conceived based on scientific evidence about the needs of children for their growth, development, and learning<sup>(8)</sup>. Such needs are: continuous supportive relationships; safety and physical protection; experiences that respect individual characteristics; experiences appropriate to development; setting of boundaries, organization and expectations; stable, supportive communities that foster cultural continuity<sup>(7)</sup>. It was observed that this framework covers the various dimensions of child development described in the Bioecological Theory of Human Development, broadening the focus of attention and

giving rise to professional actions that support the reaching of children's intellectual, social, emotional and physical potential<sup>(4)</sup>.

Aiming to contribute to the construction of nursing science focused on childcare, this study surveyed studies on the development of pediatric nursing diagnoses and sought to relate these diagnoses to the essential needs of children.

## METHOD

This is a theoretical study based on an integrative literature review.

The integrative literature review<sup>(9)</sup>, which involved studies focused on the development of pediatric nursing diagnoses, was carried out in January 2018 and had as guiding question, "which pediatric/child health nursing diagnoses were submitted to research processes, such as accuracy tests or clinical validation, for development or improvement?". The descriptors "nursing diagnosis", "child", and "pediatric nursing", were applied on the Cinahl, Embase, Bdenf databases and Pubmed webpage. The inclusion criteria were: studies published up to the time of survey (the absence of filtering by the date of publication aimed at retrieving the largest possible number of studies); studies on nursing diagnoses assessed through validation tests or accuracy tests, on a population of children over 29 days of life; publications in English, Portuguese or Spanish. Studies that had their scopes limited to surveying the prevalence of nursing diagnoses in pediatric units were excluded.

The selected articles were organized<sup>(9)</sup> in a table containing: reference, language, objective, method, result and conclusion. The titles of the diagnoses and their defining characteristics were then extracted from the table to be classified according to the essential needs of children. Elements not reported in the article but available in the taxonomy, such as defining characteristics or related factors, were retrieved from reference text<sup>(10)</sup> and included in the analysis.

The analysis of the diagnoses was driven by the question, "What is the scope of the diagnosis, regarding the essential needs of children?". A comparative analysis was performed with the Essential Needs of Children as a theoretical reference<sup>(7)</sup>, according to a previous study<sup>(11)</sup>. The comparative analysis involved making several readings of the material related to the content of the diagnoses, either presented by the taxonomy or proposed by the authors, as well as the reference, verifying the meanings to be compared. These meanings may refer to the definition of the diagnosis and description of its elements and the needs of the reference. The analysis considered the titles of the diagnoses, their definition and their components: defining characteristics, related factors and risk factors.

These elements were analyzed to identify correspondences with the definitions of the Essential Needs of Children.

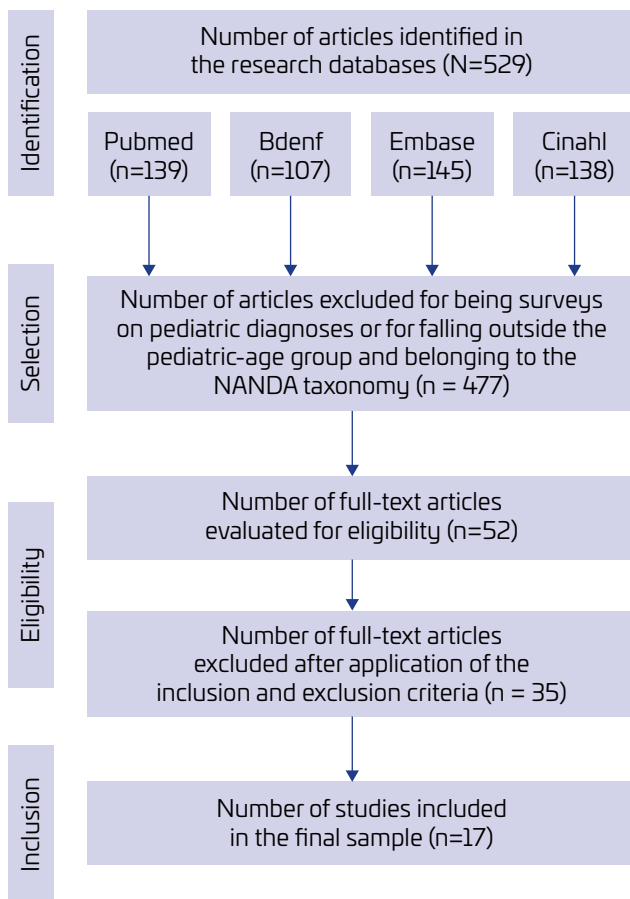
Then, a table was prepared containing the diagnosis and its elements, originating from the taxonomy or from the new proposal, to organize and present the correspondence between the contents and the essential needs.

## RESULTS

Figure 1 summarizes the process of research and selection of publications.

The final sample consisted of 17 articles, published between 2009 and 2016, 5 articles from 2009 to 2012, and 12 articles from 2013 to 2016. Of these, 11 (64.7%) were published in English or Spanish, and 6 (41.1%) in Portuguese, with Brazil being the country of origin of all the studies. Regarding the type of study: 15 were cross-sectional, 1 was a systematic literature review, and 1 one was experimental.

Ten nursing diagnoses were identified: 4 were related to the respiratory system and were found in 13 publications; 4 were related to child development and found in 2 publications; 1 was related to pain, found in 2 publications; and 1 was related to nutrition, found in 1 publication (Table 1). The analysis of



Source: Research database.

**Figure 1.** Flowchart of the study selection process. São Paulo, SP, 2018.

the diagnoses according to the Essential Needs of Children<sup>(7)</sup> showed that the vast majority of articles corresponded to the Need for Safety and Physical Protection, and only one diagnosis covered all the essential needs (Table 1).

## DISCUSSION

This study showed that there was a small number of publications referring to validation tests or tests on the development of pediatric nursing diagnoses, these being mostly national studies and having been published by the same group of authors. Studies surveying nursing diagnoses were found in a greater number, which may be related to the need of the health services to map the clients attended to and draft care guidelines.

The vast majority of studies addressed diagnoses related to respiratory problems, which is possibly due to the epidemiological profile of children in Brazil. Respiratory diseases, mainly pneumonia, asthma and bronchiolitis<sup>(29)</sup>, account for 16% of the hospitalization of children aged 0-5 and for up to 40% of the care provided in outpatient services. Although the mortality rate for these conditions has decreased in the last decade, it is still considered the fifth most prevalent cause of death in childhood<sup>(30)</sup>.

The most frequent nursing diagnosis, among those related to respiratory problems, was “Ineffective airway clearance”<sup>(12-19)</sup>. It refers to a very common condition in children, because of the anatomical characteristics of the airways and their inability to mobilize secretions without help. The other nursing diagnoses identified, “Ineffective breathing pattern”<sup>(20-22)</sup>, “Impaired spontaneous ventilation” and “Impaired gas exchange”<sup>(23)</sup> are related to situations of greater impairment of respiratory function and their attribution implies interventions of immediate character.

The nursing diagnoses “Acute pain”<sup>(26,27)</sup> and “Imbalanced nutrition: less than body requirements”<sup>(28)</sup> may be present in several clinical situations, as main or associated diagnoses. Such diagnoses are also prevalent in childcare. Pain is considered an important warning, and it should give rise to the immediate intervention of the nurse, aiming to ensure the quality of care. Imbalanced nutrition may be the cause of the clinical situation that leads the child to health care; however, it is frequently a consequence of illness: children tend to decrease their food intake in acute illness as well as in chronic or complicated clinical conditions.

These six nursing diagnoses refer to domains of diagnostic taxonomy<sup>(10)</sup> that address aspects of physical, mechanical or biochemical functioning; they were already included in taxonomy and studies have tested the components in clinical situations. Thus, compared to the essential needs of children<sup>(7)</sup>, these diagnoses corresponded to the need for safety, physical protection and regulation, which addresses the functioning,

**Table 1.** Distribution of the analyzed diagnoses, by the essential need they relate to. São Paulo, SP, 2018.

Diagnosis title	Definition (proposal or taxonomy)	Elements of the diagnosis	Essential needs
Ineffective airway clearance <sup>(12-19)</sup> .	Domain 11: safety/ protection. Class 2: physical injury. Inability to eliminate respiratory tract secretions or obstructions to keep airway clear <sup>(10)</sup> .	Change in respiratory rate; Change in breathing pattern; Absence of cough; Cyanosis; Difficulty verbalizing; Dyspnea; Excess sputum; Restlessness; Wide eyes; Orthopnea; Respiratory adventitious noises; Decreased breathing sounds; Ineffective cough.	Safety and physical protection
Ineffective Breathing Pattern <sup>(20-22)</sup> .	Domain 4: activity/rest. Class 4: cardiovascular/ pulmonary responses. Definition: inspiration and/ or exhalation that does not provide adequate ventilation <sup>(10)</sup> .	Assume three-point position; Nasal flaring; Bradypnea; Reduced vital capacity; Increased anteroposterior chest diameter; Decreased expiratory pressure; Decreased inspiratory pressure; Dyspnea; Altered chest excursion; Prolonged expiratory phase; Orthopnea; Abnormal breathing pattern; Pursed-lip breathing; Tachypnea; Use of accessory muscles to breathe; Decreased minute ventilation.	Safety and physical protection
Impaired gas exchange <sup>(23)</sup> .	Domain 3: elimination and exchange. Class 4: respiratory function. Definition: excess or deficit in oxygenation and/or elimination of carbon dioxide in the alveolocapillary membrane <sup>(10)</sup> .	Nasal flaring; Headache upon awakening; Confusion; Abnormal skin color; Diaphoresis; Decrease in the level of carbon dioxide (CO <sub>2</sub> ); Dyspnea; Abnormal blood gas values; Hypercapnia; Hypoxemia; Hypoxia; Restlessness; Irritability; Abnormal breathing pattern; Visual disturbance; abnormal arterial pH; Drowsiness; Tachycardia.	Safety and physical protection
Impaired spontaneous ventilation <sup>(23)</sup> .	Domain 4: activity/rest. Class 4: cardiovascular/ pulmonary responses. Definition: inability to initiate and/or maintain independent breathing that is suitable for life support <sup>(10)</sup> .	Apprehension; Increased heart rate; Increased carbon dioxide partial pressure (PCO <sub>2</sub> ); Increased metabolic rate; Decreased cooperation; Decreased partial oxygen pressure (PO <sub>2</sub> ); Decrease in arterial oxygen saturation (SaO <sub>2</sub> ); Dyspnea; Restlessness; Increased use of accessory muscles; Decreased tidal volume;	Safety and physical protection
Readiness for enhanced infant development <sup>(24)</sup> .	“Constant changes in the maturation of physical, cognitive and psychosocial structures that can be improved and are sufficient for the infant to achieve increasingly complex functions in their motor skills, social thoughts and relationships, and	1- Physical domain: Shows satisfactory growth, with expected anthropometric indices (weight, length, head and brachial circumference, triceps and subscapular skinfolds) for the infant’s age and sex and performs gross and fine motor skills according to age standard; 2- Cognitive domain: Properly expresses their initial perception and processing skills and expresses language according to age standard;	Appropriate experiences for development; Safety, physical protection;

Continue...

Table 1. Continuation.

Diagnosis title	Definition (proposal or taxonomy)	Elements of the diagnosis	Essential needs
	knowledge aspects (learning, memory, language, thinking, judgment and problem solving) <sup>(24)</sup> .	3- Psychosocial domain: Establishes mutual relationship with parents and/or primary caregivers according to age standard and demonstrates social behavior patterns according to age standard.	
Readiness for enhanced child development <sup>(25)</sup> .	Definition: standard of care that is sufficient to support and strengthen the child's development <sup>(25)</sup> .	Evidence of the child's bond with the caregiver; Child's needs met; Favorable family environment for development; Favorable economic conditions; Support of health professionals; Bond with parents; Breastfed child; Appropriate social context; Support from the caregiver to experience stressful situations (entry into daycare centers, hospitalizations, family changes, etc.).	Continuous sustaining relationships. Experiences that respect individual characteristics. Safety, physical protection and regulation; Appropriate experiences for development. Setting boundaries, organization and expectations. Stable and supportive communities that foster cultural continuity.
Risk for delayed development <sup>(25)</sup> .	Definition: risk of delay in child development due to exposure that negatively affects development <sup>(25)</sup> .	Diseases; Genetic disorders; Congenital disorders; Sensory disorders; Be classified as a developmental risk according to a standardized assessment scale; Inadequate growth (head circumference, weight and height far below expected for age); Prematurity and/or low weight.	Safety, physical protection;
Delayed child development <sup>(25)</sup> .	Definition: child classified as having developmental delay according to the developmental assessment scale adopted as a reference <sup>(25)</sup> .	Difficulty or inability to perform skills typical of the age group; Difficulty or inability to perform psychosocial skills typical of the age group; Difficulty or inability to perform cognitive skills typical of the age group; Difficulty or inability to perform motor skills typical of the age group; Difficulty or inability to perform language skills typical of the age group.	Appropriate experiences for development; Safety, physical protection and regulation;
Acute Pain <sup>(26,27)</sup> .	Domain 12: comfort. Class 1: physical comfort. Definition: unpleasant sensory and emotional experience associated with, or described in, actual or potential tissue injury (International Association for the Study	Change in appetite; Change in physiological parameter; Self-reported intensity using standardized pain scale; Self-reported pain characteristics using standardized pain instrument; Distraction behavior; Expressive behavior; Protective behavior; Hopelessness; Diaphoresis; Muscle spasm that minimizes the movement of the affected area; Evidence of pain using a	Safety, physical protection and regulation;

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**Table 1.** Continuation.

Diagnosis title	Definition (proposal or taxonomy)	Elements of the diagnosis	Essential needs
	of Pain); sudden or slow onset, of mild to strong intensity, with anticipated or predictable termination and lasting less than three months <sup>(10)</sup> .	standardized list of pain behavior for those unable to communicate verbally; facial expression of pain; Focus on themselves; Narrow focus; Position to relieve pain; Dilated pupils; Representative reports pain behavior/changes in activities.	
Imbalanced nutrition: less than body requirements <sup>(28)</sup> .	Domain 2: nutrition. Class 1: ingestion. Definition: insufficient nutrient Intake to meet metabolic needs <sup>(10)</sup> .	Change in taste; Aversion to food; Wound oral cavity; Abdominal cramps; Diarrhea; Abdominal pain; Capillary fragility; Weakness of the muscles necessary for swallowing; Weakness of the muscles required for chewing; Perceived inability to eat food; Incorrect information; Insufficient information; Food intake less than recommended daily intake (RDI); Insufficient interest in food; Pale mucous membranes; Incorrect perceptions; Weight loss with adequate food intake; Excessive loss of hair; Body weight 20% or more below ideal; Hyperactive bowel noises; Satiety immediately after eating food; Insufficient muscle tone.	Safety, physical protection and regulation;

\*We have used the NANDA-I nomenclature translated into Portuguese.

balance and maintenance of physiological systems and health, requiring care for maintenance of physical and physiological integrity. This finding corroborates the identification of nursing diagnoses surveyed in child-health research<sup>(11,31)</sup>.

Nursing diagnoses related to child development cover a greater number of needs met when compared to the theoretical reference and were propositions of new diagnoses. This factor is relevant because the previously developed diagnosis of childhood developmental delay was excluded from recent NANDA-I publications, on the grounds that there were no studies with clinical evidence for its use<sup>(10)</sup> and there is no diagnosis of promotion of child development in taxonomy. The importance of reviewing these diagnoses was also corroborated by a theoretical study<sup>(32)</sup> that showed they had insufficient coverage of the child development phenomenon.

Among the proposed diagnoses, two referred to the promotion of child development: “Enhanced infant development”<sup>(24)</sup> and “Readiness for enhanced child development”<sup>(25)</sup>. The first<sup>(24)</sup> has, in its definition and defining characteristics, content restricted to characteristics and abilities of the child, specifically the acquisition of skills in the physical, cognitive and psychosocial domains, thus

corresponding to the need for appropriate experiences for development. This need is based on a maturational perspective of the organism, in which the child progresses in the various areas according to their own rhythm.

The other diagnosis of child development promotion<sup>(25)</sup> is based on a definition of child development that considers the interaction between the child and the care they receive as a central aspect of the promotion. Given that the diagnostic elements presented by the authors address issues of the child and the environment, relationships with caregivers and health professionals, and social and economic conditions, it was found that it addresses the need for ongoing sustaining relationships, the need for experiences that respect individual characteristics, the need for safety, physical protection and regulation, the need for appropriate development experiences, the need for the setting of boundaries, organization and expectations and the need for stable, supportive communities that foster cultural continuity.

The gap in the agreement between the essential needs of children and the proposed promotion diagnoses highlights the need for further clinical studies that contribute to their improvement and with the identification of the most effective version for the practice.



One of the studies focused on the proposition of a diagnosis on delayed development: “Delayed child development”<sup>(25)</sup>. It addresses the needs for safety and physical protection, and appropriate experiences for development, as its elements contain aspects that relate to the acquisition of language, motor, cognitive and psychosocial skills expected for each age group. This study contributed in providing scientific evidence for the inclusion of diagnosis in taxonomy and practical application.

The last diagnosis related to child development refers to a risk diagnosis entitled “Risk for delayed child development”<sup>(25)</sup>, which was linked to the need for safety, physical protection and regulation. The elements that make up this diagnosis differ from the current risk diagnosis of NANDA-I, and further studies for their improvement will also be able to contribute providing evidence that supports them.

Unlike other diagnoses, developmental diagnoses are specific to the child population and may contribute to nurses’ approach to the surveillance of child development, which is an important health indicator<sup>(33)</sup>. Looking at children’s development complies with the principles and recommendations of the “the Brazilian Act for the Early Childhood”<sup>(7)</sup>.

This integrative review made it possible to identify correspondences of the nursing diagnoses raised with all the essential needs of the child, emphasizing safety and protection. Studies that use the child’s essential needs as a theoretical reference for the development of diagnoses can help broaden the focus of attention, strengthening health promotion. In light of this reference, the use of nursing diagnoses as a tool for the organization of care can stimulate interventions favorable to physical, intellectual and emotional development, and to appropriate and safe family and social relationships<sup>(4,7,11)</sup>, from the perspective of integrality in health<sup>(34)</sup>.

This study evidenced the need to increase research on the improvement of pediatric nursing diagnoses. It is worth noting the emerging interest of researchers to improve studies on diagnoses intended to child development, as such diagnoses are the tools that enable the comprehensive and integrated participation of nurses in child-health surveillance.

## CONCLUSION

The analysis of nursing diagnoses gathered from studies focused on the development of pediatric nursing diagnoses from the perspective of children’s needs, made it possible to draw a panorama of the current knowledge on the subject and to point out the gaps for the continuity of diagnosis research. The study showed little variability in pediatric nursing diagnoses already analyzed in research on content and clinical validation, these diagnoses mostly pointing out the need for

safety and physical protection, which demonstrates that this is an area with few studies.

Thus, it is important to carry out studies on improvement in nursing diagnoses that address the other essential needs of children, in order to enable nurses to base their actions on scientific evidence with validated content and greater coverage of children’s needs.

Hopefully this study will encourage nurses to consider the Essential Needs of Children in nursing diagnoses, in light of the potential such a tool has to broaden perspectives.

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