ABSTRACT
A comprehensive health care to children implies in caring for their development, by perceiving the needs based on a suitable reference to children’s specificities. This theoretical study aimed to analyze the “irreducible needs of children” frame of reference, based on a child development theory. We performed a comparative analysis between the contents of children’s irreducible needs and the components of the Bioecological Theory of Human Development. An extensive correspondence was verified among the components of the Bioecological Theory and the following essential needs: ongoing nurturing relationships; experiences tailored to individual differences; developmentally appropriate experiences; limit setting, structure and expectations; stable, supportive communities and cultural continuity. The need for physical protection, safety, and regulation is not explicit in the elements of the theory, although it is also verified in their definitions. We concluded that the irreducible needs’ reference can support nurses in health care and in child development promotion.

DESCRIPTORS
Health Services Needs and Demand; Child Development; Health Promotion; Child Care; Pediatric Nursing.
INTRODUCTION

Children’s health care demands a theoretical reference support, adequate to the specific characteristics of the developing subject, aiming a comprehensive care. This study addresses the needs in its interface with human development, proposing the Children’s Essential Needs as a frame of reference to child health care.

Today it is well known that neural synapses are activated through the stimuli received by the child and that the prenatal period, as well as the first years of life, is fundamental to a great development of the brain. Early childhood interactions directly affect the brain circuit, setting the emotional and intellectual development[15]. In addition to the quality of care, nutrition, and absence of situations such as maternal depression, substance abuse during and after pregnancy, trauma, and abuse are crucial[2-3]. The child’s exposure to stressful situations and other adversities, as well as the lack of stimuli, can cause serious and lasting damages or delays in its global development[4-6]. Although brain development starts two weeks after conception and reach maturity in the third decade of life[6], the period from prenatal up to 3 years of age is critical to the formation, and damages in this initial phase may reach irreversible dimensions[1-4].

The acknowledgment of the importance in considering development during health care has already been stated in laws and guidelines regarding child health care. Thus, US guidelines define quality and results in the health care to children, adolescents, and families if: children, young people, and families receive care that supports growth and development; the needs of children, young people, and families are identified and prioritized, and services are offered to meet them[8]. In Brazil, the Marco Legal da Primeira Infância (Legal Framework of Early Childhood), approved in 2016, established the formulation of public policies and programs focused on promoting the integral development of children, from birth to the age of 6 years, as a priority. Also, the qualification of professionals on the specificities of early childhood was highlighted as paramount[8].

To take the children’s development process as a permanent focus of health care promotes an integral care, centered on the child. Given this perspective of meeting the children’s needs, to care means, in nursing, to provide resources and opportunities to the development and the “child health defense, based on a sensitive view and a committed practice”[9].

Health interventions, in any assistance level in which the children are attended, can favor their development or not. This justifies the delimitation of essential needs’ spheres that permit the elaboration of parameters for evaluating professional care.

However, it can be observed that the approach to the theme in the health literature has not considered the children specificities and their development process, which can lead to a reduced health care to their real needs. What can be seen is the use of concepts that were elaborated for the adult population, as is the case of the basic human needs by Wanda Horta[8-9], in Brazil, or by Maslow, in international studies[10-11]. This motivated the search for elements to support the elaboration of a reference aimed to children, which leads us to Brazelton and Greer’s reference: “The irreducible needs of children – what every child must have to grow, learn, and flourish”[12]. For more than one decade, I have studied this frame of reference and applied it in nursing education.

Its authors explain that the essential necessities of survival and integral development of children compose a set of needs postulated for children “of any ethnic origin, social class, physical and mental condition since they provide the cornerstone to the emotional, social and intellectual capabilities of highest level”[12]. Based on such necessities, they proposed the experiences and types of fundamental cares around which families, education, assistance, social security, legal and health systems should organize[12-13]. These necessities are[12-13]: ongoing nurturing relationships; physical protection, safety and regulation; experiences tailored to individual differences; developmentally appropriate experiences; limit setting, structure and expectations; stable, supportive communities and cultural continuity.

However, this reference is not widespread in the health area, since we have found one single study on nursing that used it. This study concluded that “the safety of the child, permeated by the essential needs, contributes to effective balance in its growth and development”[10]. In addition, such referential was not systematically analyzed to verify its potential in guiding actions that promote child development, which would justify its adoption in the health care.

Thus, the objective of our study was to analyze the children’s irreducible needs based on a development theory.

METHOD

This is a theoretical study based on bibliographic sources and reflective analysis, guided by the Bioecological Theory of Human Development[13]. Contents of the descriptions and elements of this theory were compared with the contents of children’s irreducible needs, to verify convergences and divergences between them.

The choice for this theory of human development was based on the knowledge of the past decade about child development, which showed clearly the effects of person-environment interaction[1-4]. The bioecological theory pioneered the approach of development in such perspective. Besides, it understands the biological factors and evolutionary processes not only as boundaries to human development, but also as imperative impositions regarding environmental conditions and necessary experiences to fulfill the human potentialities[13]. Thus, we understand that this theory can determine the requirements or care demands that respond to human needs concerning child health and development.

The bioecological theory defines development as a process of continuity and change of biopsychological characteristics of individuals, in the course of life and generations. It happens on the basis of four interacting elements: the process, the person, the context, and the time[15]. These elements, briefly described next, constitute the Process-Context-Time model (PPCT).
The comparative analysis showed that the children’s irreducible needs have an extensive correspondence with components of the bioecological theory, as shown in Chart 1 and in following description of the results.

**Chart 1** – Correspondences between the irreducible needs of children and the Bioecological Theory of Human Development – São Paulo, São Paulo, Brazil, 2016.

<table>
<thead>
<tr>
<th>The Irreducible Needs of Children</th>
<th>Correspondence in the Bioecological Theory of Human Development</th>
</tr>
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<tbody>
<tr>
<td>Need for ongoing nurturing relationships</td>
<td>Process, context and time elements.</td>
</tr>
<tr>
<td>Need for physical protection, safety and regulation</td>
<td>Theory definition. Implied in the four elements.</td>
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<tr>
<td>Need for experiences tailored to individual differences</td>
<td>Process, context and person elements.</td>
</tr>
<tr>
<td>Need for developmentally appropriate experiences</td>
<td>Theory definition.</td>
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<tr>
<td>Need for limit setting: structure and expectations</td>
<td>Process and person elements.</td>
</tr>
<tr>
<td>Need for stable, supportive communities and cultural continuity</td>
<td>Context, process and time elements.</td>
</tr>
</tbody>
</table>

Explaining the “need for ongoing nurturing relationships,” a nurturing relationship comprises interaction processes that are affectionate, safe, empathetic, emotionally motivating, and interesting, between caretaker and the child[12]; continuity refers to the balance of several interactions along the day, with caretakers that are part of the child’s life and have its confidence[12]. The interaction must provide the sensitive care that makes the child feel wished for, wanted or beloved[12]; from it follows the proper development of the central nervous system in the small child, providing the basis for developing and learning, besides the ability to relate to others[12]. Thus, emotions are the architects, drivers or internal managers of the mind; and emotional interactions are the basis of cognition and most intellectual abilities of a child, of its creativity, of abstract thinking skills, and of social skills[12]. In the first years of life, children learn to regulate their feelings and behaviors. Later, they learn to act on their environments for obtaining more pleasant sensations or eliminating the unpleasant ones, to label their feelings and to reflect on them[12].

The correspondence of this need with the elements in the bioecological theory was verified in the contents: “every child needs to participate in progressively complex activities” (element: process and context), “on a regular basis, for extended time periods of its life” (element: time), “with people to whom it develops a strong mutual emotional attachment” (element: process), “to develop the intellectual, emotional, moral and social aspects”[18]. The situation in which such reciprocal system of interactions occurs is that one where an “irrational attachment of the adult, commonly known as love” exists, which can be operationally studied in its functional manifestation – the adult–child interaction. In other words, when there is the presence of a reciprocal system, involving reinforcement, modeling and mutual attachment[15] (element: process).
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The need for physical protection, safety, and regulation expresses that survival and full development depend on favorable conditions for the maintenance of physical and physiological integrity\(^\text{12-13}\). The need for physical protection is met through the promotion and maintenance of body integrity, and prevention and treatment of harms and diseases\(^\text{13}\). Regulation refers to the child’s legislation and measures for protecting against potentially harmful agents to their development, such as alcohol, drugs, tobacco, environmental pollution, contamination of water and food, chemicals, whereas the vulnerability of children to these agents is different from that of the adult. The need for physical safety stems from the combination of these demands and refers to the offering of protecting environments against physical and physiological damages.

There are few contents in the bioecological theory that relates directly to the need for physical protection, safety, and regulation. However, the theory describes that people who establish affective relationships should be committed to the child’s welfare and development, preferably for life (elements: process and time). It also highlights that child care may be strongly marked by personal attributes, since these can instigate or disrupt the development\(^\text{15-16}\) (element: person). Even the attributes concerning demand, which stimulates or discourages environmental reactions, are qualities of personal stimulus such as a smiling and responsive baby versus a fussy or difficult to console baby\(^\text{15}\) (element: person). It considers that environmental responses are individual responses regarding the context, and also are associated with cultural patterns: for example, physical attractiveness is a demand characteristic that is differently perceived in diverse cultures\(^\text{15}\) (element: context).

According to the need for experiences tailored to individual differences, since each child presents unique physical and emotional characteristics, it is not adequate to offer standardized and rigid care\(^\text{12}\). Addressing to the different temperaments, physical and sensory skills, responses to environment, and development rhythms increases the likelihood of achieving a healthy and integral development\(^\text{12}\). The differences and peculiarities of each child should be accepted as an important part of normal development, putting aside rigid expectations, to then learn to perceive and follow their behaviors, providing assistance that considers their singularity\(^\text{12}\).

The need for experiences tailored to individual differences is highlighted in the bioecological theory, according to which the person who is active in its development interacts with the context, in accordance with its biopsychosocial characteristics of disposition, bioecological resources, and demands, influencing the proximal processes. The person characteristics dovetail to each other, finding its meaning and full expression in specific environmental contexts such as family. There is an interaction of the person’s psychological characteristics with the environment, and in a manner that those one of the aspects cannot be defined without referring to the other\(^\text{17}\) (elements: person and process). The bioecological model singles out the experience\(^\text{16,18}\) as a critical point, because characteristics of an environment which are relevant to the human development include its objective properties and how they are experienced by the person.

In other words, both subjective and objective elements direct the development\(^\text{17}\) (elements: person and process).

The need for developmentally appropriate experiences is based on the pattern of steps or stages in the process of child development. The gradual dominance on distinct capacities as a basis for the ones following should act as a requirement to the offer of appropriate experiences, enabling the child to succeed in acquiring the skills of each step and adding new interactions to the previous in an evolutionary continuum that accompanies the individual demands of each child, respecting the different rhythms\(^\text{12}\).

We did not find corresponding contents to the need for developmentally appropriate experiences in this perspective of stages or steps in the elements of the bioecological theory. Nevertheless, we observed a correspondence in the development definition of the theory: “the phenomenon of continuity and change of the biopsychological characteristics of human beings as individuals and groups, which extends along the human life cycle, through the successive generations, and along the historical time, both past and present. Whereas objective and subjective elements direct the course of human development; the first are perceived and modified by human beings in the successive stages of their life cycle\(^\text{10}\).”

Still on the need for developmentally appropriate experiences, there are stages of evolutionary functional capabilities, which explain how the cognitive, motor, linguistic, emotional, and social skills work together in helping the child learn to deal with its world\(^\text{12}\). This is consistent with the bioecological theory, which explains the competences of the being in relation to the ability of effectively operating in certain types of tasks and assignments, performed in a given context in its everyday life\(^\text{15}\). The need for limit setting, structure and expectations is justified because these components are essential to the learning of social coexistence\(^\text{12}\). It explains that the child needs to develop the capacity for empathy, that is, for considering the other in its unique characteristics; as well as to develop the capacity of identifying and pursuing its important goals, balancing its own expectations and the external ones\(^\text{12}\). Limits that are established in an adequate manner, encouragement, and recognition of its achievements and goals promote discipline and help the child to establish its own objectives. Children develop trust, intimacy, empathy, and bonding when they receive affection caring\(^\text{12}\).

Such need is evident in the elements of the bioecological theory: “The establishment of a strong emotional attachment, on a mutual basis, leads to internalization of the activities and of the affection feelings expressed by the parents, and motivate the interest and engagement of the child in activities that encourage exploration, elaboration, and imagination\(^\text{18}\) (elements: process, person and context); it was verified “progressively greater advantages in the use of strategies that gave greater emphasis to discipline and parental demands […]” and “patterns of parental behavior, such as negligence, abuse or domination, can […] trigger genetic potentials to developmentally bad adapted behaviors, which disrupt the proximal processes and produce disorder in human development\(^\text{18}\)” (elements: process, person and context).
The need for stable, supportive communities and cultural continuity is constituted of the feeling of belonging to a family or community group, as well as of the exchanges that happen between people\(^\text{(12)}\). The community and the culture structure the context to meet the child’s needs, and provide support for the families and, consequently, for the child to develop. There are different levels of communities organization\(^\text{(12)}\): 1) first level – the community offers protection, physical safety and a sense of internal regulation (communities that are characterized by fear and danger are unable to provide safety); 2) second level – there is ability to provide a coherence and relationship sense among the distinct members; the community joins in defense of common demands without concern to individual cultural differences; the well-being of children is an organizing principle (versus a fragmented community); 3) third level – there are means of communication between members, in search for intentional goals and for understanding of diverse expectations and cultural patterns; sharing of symbols, values or broader ideals than individual values or beliefs; defense of values such as equality, human rights, justice or environmental protection (versus groups that gather around polarized beliefs that lead to fear, mistrust and aggression); 4) highest level – the communities are characterized by the capacity of self-reflection and active future planning.

This need was the first explored in the bioecological theory, initially based on the Ecology of Human Development, “the scientific study of the progressive mutual adaptation throughout the life cycle, between an active growing human being and the changing properties in the immediate contexts where the developing person lives. In this process, the person is affected by the relations between this immediate context and the distant ones, being all of these dovetailed.”\(^\text{(15)}\) (element: context). The close relatives, friends, neighbors, members of religious groups, and professionals of family support and childhood protection programs, besides offering child care, ensure the assistance to single parents or other supports\(^\text{(18)}\). The extent to which a system of reciprocal interactions can be accomplished and maintained “depends on the degree to which the other social structures of protection and monitoring provide the place, time, reference and reinforcement to the systems and its participants”\(^\text{(19)}\) (elements: context and process). “The degree of stability, consistency, and predictability over time, in any element of any level of the constituent systems of an ecology of human development, is crucial to the effective functioning of the system in focus. The extremes of disorganization and rigidity in the functioning structure represent danger to the growth of psychological potential, and some degree of system flexibility is a great condition to human development”\(^\text{(17)}\) (elements: process, context, and time).

Thus, we verified that all the needs correspond to the bioecological theory. At the same time, we verified that the main explanatory contents of the PPCT model are included in the set of irreducible needs, showing its comprehensiveness and correspondence with the development theory.

**REFLECTIONS AND IMPLICATIONS FOR NURSING**

An extensive correspondence was observed between the irreducible needs of children frame of reference and the elements of the Bioecological Theory regarding ongoing nurturing relationships; experiences tailored to individual differences; limit setting, structure and expectations; stable, supportive communities and cultural continuity. On the need for developmentally appropriate experiences, the corresponding contents of the theory are less expressive, and such a correspondence is not so evident in the need for physical protection, safety, and regulations.

The absence of explicit and specific contents in the bioecological theory concerning the need for physical protection, safety, and regulation, possibly occurs because these needs are directly related to survival and physical health, not being a focus of the development theory. The correspondence was inferred in contents related to demand characteristics of the Person, which can stimulate environmental cares that are more responsive to the child’s global needs. It could also be identified in the definition of development – “phenomenon of continuity and change of the biopsychological characteristics of human beings”\(^\text{(16)}\) – because biopsychological characteristics relate to the organic aspects of the person such as disposition or forces that are imbricated with physical and mental health. Since this dimension is the basis of survival and physical and physiological maintenance, fundamental to the development process, it is justifiable to consider it as essential.

Concerning the need for developmentally appropriate experiences, the bioecological model does not address the standard stages, as referred to in the irreducible needs\(^\text{(12)}\), although it mentions successive stages of the life cycle. The models of standardized stages or steps are based on the organism’s maturation perspective, in a natural process, which does not correspond to principles of the bioecological theory. Such theory criticizes the scientific conceptions of a context-free development, by stating: “the person’s characteristics are defined, conceptually and operationally, with no reference to the environment; being presumed to have the same meaning, regardless culture, social class or context in which they are observed or where the person lives”\(^\text{(23)}\).

In this sense, the notion of standardized stages could be replaced by a more contextual view, which considers development as a phenomenon of continuity and change of the biopsychological characteristics, concerning Processes of reciprocal interaction of the Person–child with its context, and not as a natural occurrence.

However, the contextual view does not need to exclude the studies’ contributions on development patterns, particularly regarding elements related to human biology. This perspective is useful to complement the understanding of development, especially in the first years of life, since many acquisitions follow certain patterns derived from brain maturation\(^\text{(4)}\), although its manifestation is molded by experiences and context opportunities. Some examples are: the sensory development and the motor skills follow Head-to-Toe and proximal-distal principles; the cognitive and linguistic abilities
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follow the general to specific principle, or differentiation principle; there are sensitive periods in which the skills are potentially achievable. Thus, understanding the acquisition as result of the interactive processes of the active child and its context, the notion of maturation patterns might favor the selection of progressively more complex activities and experiences, which are also appropriate to the development.

In addition, the systematization of evolutionary functional capacities is a gain when related to the descriptions of behavior marks by age group, concerning structure and function of the body, since it refers to the broader dimension of child development related to task and environment where this is proposed.

Regarding the other needs, their correspondence with the components of a development theory, which is consistent with the current knowledge about this process, shows the comprehensiveness and specificity of the reference. Adding this to what has already been discussed, we may consider that the reference to children's irreducible needs have a great potential to guide the nursing process focused in child development and thus support the nurse in the comprehensive care of children.

We highlight that the irreducible needs and the touch-points model for parents guidance have been recommended for programs aimed to strengthen the relationship between caregivers and children, given their power to support the caregivers in understanding the child development and in preventing malfunctions in parents-children interactions.

Moreover, studies on the contributions of one of the authors in the referential showed the important impact of his constructs on the pediatric nursing and on child mental health, including education, research, practice and health policies involving nurses. The irreducible needs were highlighted as a model of advocacy for child care, whose purpose is to influence public policies and social changes, but its use in nursing research was not mentioned. Thus, the proposition of such use is still innovative, which implies the need of additional studies to test it in this context.

We conclude this study with the proposal of changes in the sentences, which should also be tested: for the “need for physical protection, safety and regulations,” we suggest the exclusion of the word regulations, for considering it as a way to meet the need for physical protection and safety; for the “need for experiences tailored to individual differences,” we suggest changing the word differences to characteristics, since this perspective is potentially less discriminating and more explanatory.

FINAL CONSIDERATIONS

To demand a performance with a wide focus of the nurse implies providing knowledge and appropriate instruments and skills. Considering that their work is focused on care, which is oriented to meet health needs, it is fundamental to rely on a reference that support the increased perception of such needs. Our study showed that the frame of reference of Children's Irreducible Needs has an extensive correspondence with the bioecological theory of development and may guide the choice of a health care that fulfill the purpose of comprehensive care and health promotion.

RESUMO

A integralidade da atenção à criança implica cuidar de seu desenvolvimento, mediante apreensão de necessidades baseadas em um referencial apropriado às especificidades infantis. Este estudo teórico teve como objetivo analisar o referencial das necessidades essenciais das crianças com base em uma teoria de desenvolvimento infantil. Realizou-se análise comparativa entre os conteúdos das necessidades essenciais das crianças e os componentes da Teoria Bioecológica do Desenvolvimento Humano. Verificou-se ampla correspondência entre os componentes da Teoria Bioecológica e as necessidades essenciais: relacionamentos sustentadores contínuos; experiências que respeitem as diferenças individuais; experiências adequadas ao desenvolvimento; estabelecimento de limites, organização e expectativas; e comunidades estáveis, amparadoras e de continuidade cultural. A necessidade de proteção física, segurança e regulamentação não está explícita nos elementos da teoria, mas também é verificada em suas definições. Conclui-se que o referencial das necessidades essenciais pode apoiar o enfermeiro no cuidado em saúde e na promoção do desenvolvimento infantil.

DESCRITORES

Necessidades e Demandas de Serviços de Saúde; Desenvolvimento Infantil; Promoção da Saúde; Cuidado da Criança; Enfermagem Pediátrica.

RESUMEN

La integralidad de la atención al niño implica cuidar su desarrollo, mediante la toma de necesidades basadas en un marco de referencia apropiado a las necesidades infantiles. Este estudio teórico tuvo como objetivo analizar el marco de referencia de las necesidades esenciales de los niños con base en una teoría de desarrollo infantil. Se llevó a cabo un análisis comparativo entre los contenidos de las necesidades esenciales de los niños y los componentes de la Teoría Bioecológica del Desarrollo Humano. Se verificó una amplia correspondencia entre los componentes de la Teoría Bioecológica y las necesidades esenciales: relaciones sostenedoras continuas; experiencias que respeten las diferencias individuales; experiencias adecuadas al desarrollo; establecimiento de límites, organización e expectativas; y comunidades estables, amparadas y de continuidad cultural. La necesidad de protección física, seguridad y regulación no está explícita en los elementos de la teoría, pero se verifica en sus definiciones. Se concluye que el marco de referencia de las necesidades esenciales puede apoyar al enfermero en el cuidado sanitario y la promoción del desarrollo infantil.

DESCRITORES

Necesidades y Demandas de Servicios de Salud; Desarrollo Infantil; Promoción de la Salud; Cuidado del Niño; Enfermería Pediátrica.
REFERENCES


