The stimulating environment for the development of hospitalized children

O AMBIENTE ESTIMULADOR AO DESENVOLVIMENTO DA CRIANÇA HOSPITALIZADA*

EL AMBIENTE QUE ESTIMULE EL DESARROLO DEL NIÑO HOSPITALIZADO

Giovana Soares Bortolote[1], José Roberto da Silva Brêtas[2]

ABSTRACT

This study presents a qualitative approach, and used the method of Simple Observation. It was carried out with eight children who were hospitalized in two pediatric units of a school hospital in São Paulo. Its purpose was to learn the stimulating elements for the development of a child in a hospital environment. Besides, it aimed at motivating nursing professionals to adapt the hospital environment to the child. After the analysis of the collected data, categories were organized as: *stimulating objects and situations*, *procedures* and *inter-relationships*. The conclusion is that the nursing team performs an important role as one of the stimulating elements in the hospitalized child care, since they are aware of this role.

KEY WORDS

Hospitalized child.
Child development.
Pediatric nursing.

RESUMO

O estudo, sob uma abordagem qualitativa, utilizou o método de Observação Simples. Foi realizado com oito crianças internadas em duas unidades pediátricas de um hospital-escola do município de São Paulo. Seu objetivo foi identificar elementos estimuladores ao desenvolvimento da criança em um ambiente hospitalar. O estudo teve o propósito de motivar o profissional de enfermagem a adequar o ambiente hospitalar às necessidades da criança. Após análise dos dados coletados, as categorias desvelaram-se em: *objetos e situações estimuladoras*, *procedimentos* e *inter-relacionamentos*. Concluímos que a pessoa que compõe uma equipe de enfermagem desempenha importante função como um dos elementos estimuladores na assistência à criança hospitalizada, se for consciente desse papel.

DESCRITORES

Criança hospitalizada.
Desenvolvimento infantil.
Enfermagem pediátrica.

RESUMEN

Estudio con enfoque cualitativo que utilizó el método de la observación simple. Realizado con ocho niños internados en dos servicios de pediatría de un hospital-escuela de la ciudad de São Paulo. El objetivo fue identificar elementos que estimulen el desarrollo del niño en un hospital. La finalidad fue motivar al profesional de enfermería para adaptar el ambiente hospitalario a las necesidades del niño. Posterior al análisis de los datos recolectados, las categorías fueron: *objetos y situaciones que estimulen*, *procedimientos* e *interrelaciones*. Concluyese que la persona que conforma un equipo de enfermería tiene una función importante, al ser elemento que estimula al niño durante su atención, sobretodo si es consciente de ese rol.

DESCRIPTORES

Niño hospitalizado.
Desarrollo infantil.
Enfermería pediátrica.

* Extracted from the dissertation "A importância do ambiente estimulador para a criança hospitalizada: estudo dos elementos estimuladores na unidade pediátrica", Nursing Department, Escola Paulista de Medicina, Federal University of São Paulo, 2005.

[1] Pedriatric Nurse. Master in Sciences at the Federal University of São Paulo (UNIFESP). Pediatric Infectology Nurse at the Hospital São Paulo. São Paulo, SP, Brazil. soaresbortolote@yahoo.com.br. [2] Psychologist. Nurse. Doctor in Nursing at the Federal University of São Paulo (UNIFESP). Adjunct Professor at the Federal University of São Paulo (UNIFESP). São Paulo, SP, Brazil. jrbretas@denf.epm.br

Received: 07/13/2006
Approved: 08/10/2007

OnLine Portuguese / English: www.scielo.br/reeusp

INTRODUCTION

Childhood is a period of great importance for the development of the human being, both in the biological, and in the psychosocial and cognitive aspects. The child development and growth do not depend only on their biological maturation, but also on the conditions of the environment where they live[1].

Depending on their development stage, children will react in different ways in order to adapt to their surroundings, whether it is an orphanage, nursery, school, hospital, or even, their own home.

During childhood, a disease episode can mean a trauma, as well as a delay or, even, an interruption in the growth and development process[1].

The equipment integrating the hospital environment makes strange noises and limits movements, which scare a hospitalized child. Close contact to the nurse provides the necessary care to fulfill their basic needs, such as bathing, feeding, etc. However, some basic therapeutic care procedures, such as checking vital signs, administering drugs and other procedures considered to be invasive may block motor and cognitive acquisitions, when the contact emerging from this practice is performed impersonally, and by not treating the children as individuals, with needs related to their development stage.

Depending on their development stage, children will react in different ways in order to adapt to their surroundings...

At the hospital, children present illnesses that may impose several kinds of restrictions, conditioning the stimuli to their development. On the other hand, the hospital environment has its organization established for the treatment of illnesses and it is generally not planned to fulfill the individuality of each child and the global needs of life in the childhood[2].

The stimulation offered by the environment results from the conditions that this environment offers to the child. The stimulating elements of the environment that may be said to be sufficiently good – in other words, that provide substantial experiences to the child – consist of the physical space, objects, and people as the main source of stimulation. These are individuals in charge of the transmission of kinesthetic sensations and sensorial, cognitive, motor and social experiences to the child, through the interpersonal relationship established during the care provided.

Considering the importance of the environment for the child development, there is a need to evaluate how the hospitalization situation, permeated by the physical and human conditions of the hospital environment, may affect the neuropsychomotor development of the child. Therefore, this study consisted of learning the general aspects of the stimulating environment for the hospitalized child.

The scientific interest of this study refers to aspects of the stimulating environment of children hospitalization units, which provide experiences in the sensorial-perceptive, cognitive and motor fields, and the communication of daily information. In this context, the study comprehends the identification of these interactions – in other words, the stimulating elements that integrate the hospital environment. Therefore, the study aims to contribute for the elaboration of projects for the adequacy of the environment at child care hospital units.

PURPOSE

The purpose of this study consists in identifying stimulating elements in the development of a hospitalized child.

METHOD

The present study used the qualitative method for its development. The hospital environment was the direct source of data collection and the researcher was its main instrument, by providing the direct and prolonged contact of the researcher with the environment and the situation that was studied, through intensive field work[3].

Simple Observation method was used in this study[4], in which the researcher was disconnected from either the community or the group, spontaneously observing the facts and conditions that permeated the environment.

The observation allows the collection of data in situations in which it is impossible to establish other means of communication[4]. For instance, when the informer cannot speak, which is the case when they are babies. In this study, the content of the observations was directed at the scientific study of stimulating elements in pediatric units.

The content of the observations involved a descriptive and a reflexive part. The descriptive part involves the description of the subjects, the reconstruction of dialogues, the description of places, the description of activities and the behavior of the observer. The reflexive part consists of notes about the researcher's personal observations, written during the collection stage[4].

The project corresponding to this research was evaluated and approved by the Ethic Committee of Federal University of São Paulo, in compliance with the standards established by Resolution 196/96 (CEP 0458/04), which covers the Guidelines for Research Involving Human Beings[5].

After the observation, with a large amount of transcribed data, the authors chose the analysis of the *hospital environment and stimuli* universe, which is based on the definition of categories elaborated from the observation of eight hospitalized subjects. Thus, data analysis was carried out by fully reading the observations of each subject and trying to understand their experiences. Those were read in

order to achieve the general meaning of the whole, of each speech. Afterwards, each observation was re-read in order to learn the meaning that the hospital environment's stimuli had for the subjects.

Those meanings were grouped according to their similarities, and originated the categories.

The categorization is an operation of constructive elements of a group, by differentiation and, subsequently, by regrouping the similarities with the previously defined criteria. This grouping is performed due to the common characters of these elements. The categories are rubrics or classes attributed to a group of elements under a generic title[6].

Eight children were observed for the development of the study, comprehending: a newborn, four infants, one of them in pre-school age, and two of them in school age. The children were in two hospital environments of pediatric units in a School Hospital, a pediatric nursing unit and a pediatric infectology unit.

The characteristics of the units, such as the physical space, the people that make up the healthcare team, the objects, the rules and routines of the local service constituted the elements of observation, as well as the hospitalized children themselves.

Data were collected through the technique of Simple Observation of eight subjects, in three periods (morning, afternoon and evening), in interaction with the environment. They were monitored during five days, a total of 40 days and 220 hours of observation. During the mentioned periods, the observed moments comprehended: observation of the first procedures performed with the subject, such as checking vital signs; the observation of the care towards basic needs (bathing, meals, sleeping/resting); observation of the recreation; and the observation of procedures, such as dressings and medication schedule.

The interpretation of the collected data was performed through the method of Content Analysis, with the use of the analysis of categories. This method consists of a set of techniques of communication analysis, which aim, through systematic and objective procedures, to describe the content of the messages to obtain qualitative or non-qualitative indicators that allow the inference of knowledge related to the production/reception conditions of these messages[6]. It is a means for the categorization of verbal or behavioral data, in which the analysis object is the message, held in the oral or written communication[6].

After the observation, provided with a large amount of transcribed data, the analysis was performed by fully reading the observations of each subject, trying to understand their experiences and searching for the meaning of the hospital environment's stimuli for the subject.

Those meanings were grouped according to their similarities and originated the categories. Provided with this organization, the study searched for the outlines of the system of meanings, which are the representations built on the notes from events in the relation between the child and the hospital environment, constitutive from the way they are influenced by the environment and the subjectivities emerging from this phenomenon.

The categories emerging from this analysis constitute and represent the thematic axis in which the speeches are articulated: stimulating objects and situations, procedures and inter-relationships.

RESULTS AND DISCUSSSION

Stimulating objects and situations

In the daily life of a hospitalization unit, babies were observed in their cribs, sometimes in supine position and other times on left- or right-side position. When they were awake, they were attracted by the crib bars and other stimulating objects that integrated the environment.

The baby visually responds to objects placed at around 30 cm away from them[7]. The response to colors: white, red and yellow, is obtained even by inducing pursuit signals of short amplitude. The visual exploration of the involvement is, thus, verified from birth, making evident the relevant role of the vision in the interaction with their surroundings[8].

From the moment the child is placed on the hospital bed or crib, their visual exploration stage, regarding the surrounding space, starts, in which the white crib bars arouse their interest. In this context, a motor movement starts, aimed at reaching an object.

The objects near the visual field of the child generally trigger her interest for reaching them, for the manual exploration, stimulating her to move her upper limbs and, later, to move her hands.

The manipulation of objects, by the child, develops her knowledge through the attributes and features of these objects. In this conditions, knowledge becomes personal and transmittable, conserved, consolidated – in order words, it is acquired[9].

It is important that the hospitalized child has the freedom to look around and move her body in the crib in order to perceive the environment around her. Therefore, she must be accommodated near objects. The need for an appropriate space is related to the first desires to explore the environment.

When the hospitalized child is taken to the caregiver's arms, she is able to see a larger number of objects and to experience different situations in her environment, which constitutes a stimulating situation.

The distances (space) are no longer unknown, the directions become relative and the environment becomes able to change itself, according to the first hints of desire.

The imaginary space becomes an independent real space, at the child's hand[9].

It was observed that the alarms emitted by an electronic device, such as an infusion pump, trigger hearing stimuli in each studied child.

Another factor observed was related to the telephone, as a stimulating object that is generally located in the aisle of the pediatric units and emits noises daily, being heard from inside the hospitalized children's rooms. Voices of several people, with different intonations, were also hearing stimuli, perceptible by the studied children in different periods of the day.

Hearing is characterized by the fact it is a pluridirectional and uninterrupted sense, a basic sensorial system for the comprehension of the language spoken by the human beings[8].

The emission of noise in the hospital environment is perceived by the child, captured through sensorial ways, generating changes of behavior that are reflected through the tonus, and generally interrupting the resting period of the hospitalized child.

In pediatrics, a large amount of the treatments to several diseases that attack children of different ages is performed by the intravenous infusion of drugs–(antibiotics, hydration fluid, analgesics, and others), which requires the maintenance of a peripheral venous access that is generally fixed on one of the child's upper limbs – specifically, on the back of their hands. This restriction limits the movements of the child when playing or eating.

It was observed that the alarms emitted by an electronic device, such as an infusion pump, trigger hearing stimuli in each studied child.

The development of the extremities, such as exploration and prehensible organs, is associated to the antigravity dexterity and capacity of supporting oneself. As such, the manipulation can stimulate the brain, which may in turn reconstitute and multiply its symbolic and praxic capabilities[8].

At each age, the movement assumes deeply substantial characteristics as a process of maturation, and, therefore, as a specific enrichment of the individual from the environment[8].

The authors of the present study believe that peripheral venous punctures must be preferably performed on the limb that the child uses the least, thus, preventing its motor and social impairment.

The child can only be aware of an object if she uses this object. The function of using is a synonym of the function of knowledge. The assimilation of an object can only happen in face of a system of exchange between the child and this object[8].

According to the observation, the toy inserted in the hospitalization process of a child has an important function as a source of stimulation, reaching the sensorial-perceptive areas and the fine motor area according to the age of the observed child.

The child can only have an image of the object if she experiences it through her actions. In other words, if it has been in her hands[9].

One of the children observed presented a neurological problem. She spent most of the time lying on the same position, observing the toys on her bed. There was also evidence that nobody in the environment gave her attention, by playing or talking to her, but by her own initiative, she started to explore the toys, reaching at them with one of her hands. However, she would soon get tired of it, and returned to her observation behavior.

The mentally deficient child is the one who diverts from the average or the ordinary child in neuromuscular and body characteristics, sensorial skills, mental characteristics and emotional and social behavior, getting to the point of needing to justify and require the modification of educational practices, in order to develop the most of her capabilities[10].

One hospitalized child spent most of her days playing in her room; she did not give any attention to the people that came in or out of it. This fact demonstrated her capability to play and to be creative, even in a hospital environment. Thus, it was stated that the manipulation of objects and toys, even the simpler ones, has a great meaning for the development of the child[9].

The object and the toy take on the role and the importance of a real friend who helps and participates in the discovery of several and happy sensorial and space achievements[9].

Another observed aspect was that the plush toys brought to the hospital by the family work as transition objects in the universe of the child's hospitalization experience. In some cases, this stimulating object works as a differentiated material for the neurologically damaged child to touch, explore and handle.

The playing experience is not located in the internal or the external reality. It is in the intermediary area of experimentation, in which the transitional objects are found[11].

The transitional phenomena and objects are essential for the process in which the child lives between the total incapability of recognizing and accepting the reality and her increasing recognition[11].

As the child uses her cloth diaper as a piece of cloth to help her sleep, it becomes a source of security and support at that hospitalization moment, working as a transitional object as well.

It was evidenced that the blanket brought from home also had the function of a transitional object for a child in

school age, since she would only sleep when using that blanket in her bed.

The relation between the transitional object and the symbolism refers, for instance, to the tip of the blanket, which can be a symbolic object, substituting the mother's breast. Therefore, the important factor is not its reality, but its symbolic value. The object is not the mother's breast, but it represents it. Therefore, it is as important as the real breast[11].

The importance of the transitional objects for the hospitalized child consists in the fact that it is a source of emotional security in face of the innumerable invasive procedures that are performed in a hospitalization unit. The person in charge of the child care must be aware of this fact, in order to avoid limitations in the exploration of the environment by the child.

Procedures

It was sometimes possible to observe that the nursing team seemed to be indifferent towards the child when performing most of the procedures, keeping parallel conversations with co-workers. This attitude showed an impersonal way of dealing with the pediatric patient.

Several social factors, such as the lack of stimulation, motor and psychomotor deficient experiences, social deprivation, reduced linguistic interaction with the adults and inadequate affective involvement can difficult the child development and originate problems of social inadaptation[8].

During the performance of the peripheral venous puncture in hospitalized children by the nursing team, there was a transmission of kinesthetic tactile stimulus when they were touched by the professional. However, there was no exchange of words or looks with these children; thus, verbal communication was lacking, which would work as a tranquilizing element for the procedure.

It is important to enrich the child's vocabulary to help her perceive her body. Static or in action, it is an essential factor of reference and orientation, facilitating the child's access to certain concepts[12].

It was also evident that bathing has an important role as a source of stimulation for the hospitalized child. The areas of neuropsychomotor development were benefited by this procedure, since caregiver was involved, providing positive stimuli in the sensorial, linguistic, gross motor and personal-social fields.

Besides producing a sedative effect, bathing places the body in another environment (water), in which body orientation and spatialization are different and better controlled. In water, movements are more free and loose because of the use of impulsion, which reduces the action of gravity[13].

Bathing at the bed of the hospitalized child was considered a stimulating moment, since there was a constant exchange of looks, words and tactile stimulation, performed by the nursing team.

Regarding the nursing shift report, different intonations of voice were verified. The approach of the professionals happened through the door of the children's rooms in the beginning of the morning, afternoon and evening, which aroused the attention of the pediatric patients. There was a transmission of sound stimuli aimed at the areas of the language and the sensorial field, for the corresponding age.

At the shift change, professionals generally do not worry about mentioning the child's age. In this context, the facts reported from one team to the other only comprehend the medical status of the child, and disregard their levels of psychomotor development.

The procedure that involves the administration of medication also provided sensorial-perceptive stimulation, since it allowed the caregiver to have contact of with the child, through verbal and non-verbal communication.

It was evident that the pre-school child received stimulation by interacting with the nursing auxiliary. While this nursing auxiliary stood in front of the child to administer her medication, she talked to the child while she handled her peripheral venous access.

The concept of the object and the meaning of its use lead to the progress of the concept of order, essential property of coordination of the actions[8].

Stimulation was observed in the language and personal-social areas of a child in pre-school age, during the application of dressings. The nurse interacted with the child by talking to her, and allowed her to participate in the procedure.

The authors believe that the nursing team involved in the daily care of the pediatric patient will be able to have stimulation opportunities during the performance of a procedure, if they lead each procedure according to each area of the neuropsychomotor development of the child.

The study also observed the social interaction of the hospitalized child with the recreationist, who approached the child with a collection of books, and the lack of this kind of activity for children with neurological problems was noticed. They could have been benefited by this initiative, by being stimulated at their sensorial and cognitive levels.

Inter-relationships

In the description of questions related to inter-relationships, an impersonal contact was observed with infants and older children during the process of checking vital signs. The nursing team did not mention the names of the children at any time. Therefore, there was no stimulation of the language and personal-social areas. Thus, the procedure was performed without customizing the service.

The handling of babies, without face-to-face contact and the exchange of looks, does not provide any motor or

sensorial stimulation. In these conditions, the tactile sensation does not provide a positive effect.

In another situation, regarding the child feeding, it was observed that whenever the nursing team provided enough time to offer the infant a feeding bottle, there was a transmission of sensorial stimuli to the baby, in the comfort of the caregiver's arms, where the child received not only the food, but also the sensorial-perceptive stimulation.

On the other hand, the professional's lack of interest when relating to the pediatric patient and the lack of scientific knowledge about the child's characteristics according to age show that the nursing team does not value the moment of being with the child during their meal.

One of the major sources of stimulation for a hospitalized child was found to be the presence of the mother during the feeding act. When the baby is breastfed, there is a global feeling of wellness in the arms of the mother[14]. The communication between both of them was perceived through their looking at each other, while the warm and sweet milk satisfied the baby's hunger.

The nursing team can be oriented in order to approach the child with a feeding bottle, if it is possible, involving it with a colorful piece of cloth or plastic to draw her attention, keeping it at the child's sight, calling her by her name and taking her into their arms.

The dialogue that happens during the face-to-face interaction gives the child the opportunity to listen to different language sounds. A little child is attracted by movement and by intonation changes in the voice[15].

Regarding the act of changing the baby's diapers, the authors observed that the main source of stimulation is in the person who takes care of the child everyday, specifically, the mother who keeps her company at the hospital.

The nurse must take the child into their arms in order to organize her bed and to prepare and change her diapers. They must also provide objects such as: rings, rattles, rubber toys, and leave them next to the child so that she can take it or handle it while her diapers are changed or during her hygienization.

The authors noticed that a child in school age may find difficulties to use the hospital restroom, since she faces a physical structure that was designed for adult use. The nursing team needs to guide and help the child with her physiological needs in the available conditions, thus contributing to the personal-social stimuli.

FINAL CONSIDERATIONS

The biopsychosocial development of a child, which depends pretty much on the environment and especially on the adult, consists on providing conditions of affection, safety, stimulation and learning. These conditions allow the harmonious development in the emotional, psychomotor, linguistic and cognitive areas[9].

The development of the child is actively guided by the social experience. In other words, the child evolves through the integration with the socialized adult[10].

The person in charge of the daily care of a hospitalized child is the main source of stimulation for the basic motor organization, for the development of perception, and later, of cognition. For the hospital environment to become a stimulating environment, the care provided to the child needs to become a meaningful experience.

The environment is important for the child when there is an appropriate disposition of the physical space, objects and the offered sounds and images. However, the environment is kept in second place when the person next to the child customizes the healthcare service and fulfills their needs.

During her regular development, the child continuously explores and interacts with her environment continuously, when she is offered opportunities in favorable environments. Therefore, caring for those who are fragile and internally disarranged due to a serious disease is challenging, and it is the responsibility of the nurse to promote their development by providing a non-threatening space, which facilitates the exchanges of the child with this environment[16].

A stimulating environment for the child, in a hospitalization unit, must be made of people who have knowledge of the processes of a child's regular development and its diversions. The professionals in charge of child care, in this case the nursing team, must offer a healthcare plan based on the stimulation of the child, starting from the stages of psychomotor, psychosocial and cognitive development. The nurses will only contribute favorably to the evolution processes of a subject if they are aware of their role in the promotion of the child development.

The objects and situations experienced by the child, procedures and inter-relationships can constitute either beneficial or detrimental experiences. Only the knowledge, willingness and specialization of the nursing team can make the environment stimulating and beneficial for the child.

The human learning process is developed step by step in a stimulating, appropriate and psychological environment. Whenever this environment is not appropriate, the development of the learning capabilities of the child is compromised[10].

It is the responsibility of the healthcare professionals to make use of means of stimulation with the hospitalized child, based on the scientific knowledge about each stage of the child's development. Besides, they must be aware of the importance of their actions regarding the care provided to the hospitalized child.

By studying the stimulating elements of the pediatric hospitalization units, the researchers did not expect the

main source of stimulus for the development of a child, according to her psychomotor and cognitive capabilities, to be the person involved in her daily care, either for feeding, hygiene, playing or for a nursing technical procedure. The personal involvement of the caregiver transmits the essential experience, the human contact, to the child.

The pre-verbal experience, the manipulation of objects and the exploration of the environment, among other developmental acquisitions, are only possible when there is someone to provide these opportunities.

If each professional were aware of his importance when taking care and handling a child, he would surely know that his actions are much more than routine actions. The nursing team performs an important role as one of the stimulating elements in the care of the hospitalized child, since they are aware of this role.

In this context, the nursing team, by assisting the child 24 hours a day, constitutes the group of professionals who must take responsibility for the development of a stimulation program, aimed at keeping the balance of the processes of child growth and development[1].

Every child has a life cycle that starts at birth, and it is the mission of the healthcare professionals to ensure that this cycle is healthy. There will be a continuous process of progress if the child care in the hospital environment is stimulating.

Therefore, the nursing team must be aware of the social roles, values and scientific knowledge regarding the developmental processes of a child, in order to turn the daily care into stimulating and gratifying moments for any pediatric patient.

REFERENCES

1. Dias VLMS, Sant'Anna ET, Mota MGC, Ribeiro NRR. Ações de estimulação à criança na unidade de tratamento intensivo pediátrico. Rev Gaúcha Enferm. 1988;9(2):73-6.
2. Zannon CMLC. Desenvolvimento psicológico da criança: questões básicas relevantes à intervenção comportamental no ambiente hospitalar. Psicol Teor Pesq. 1991; 7(2):119-36.
3. Minayo MCS. O desafio do conhecimento: pesquisa qualitativa em saúde. São Paulo: Hucitec; 1994.
4. Ludke M, André MEDA. Pesquisa em educação: abordagens qualitativas. São Paulo: EPU; 1986.
5. Conselho Nacional de Saúde. Resolução n. 196, de 10 de outubro de 1996. Dispõe sobre diretrizes e normas regulamentadoras de pesquisas envolvendo seres humanos. Mundo Saúde. 1996;21(1):52-61.
6. Bardin L. Análise de conteúdo. Lisboa: Edições 70; 1995.
7. Brazelton TB. Momentos decisivos do desenvolvimento infantil. São Paulo: Martins Fontes; 1994.
8. Fonseca V. Psicomotricidade: filogênese, ontogênese e retrogênese. Porto Alegre: Artes Médicas; 1998.
9. Fonseca V, Mendes N. Escola, escola, quem és tu?: perspectivas psicomotoras do desenvolvimento humano. Porto Alegre: Artes Médicas; 1987.
10. Fonseca V. Educação especial: programa de estimulação precoce. Porto Alegre: Notícias; 1989.
11. Winnicott DW. O brincar e a realidade. Rio de Janeiro: Imago; 1975.
12. Le Bouch I. O desenvolvimento psicomotor: do nascimento aos 6 anos. Porto Alegre: Artes Médicas; 1992.
13. Fonseca V. Manual de observação psicomotora: significações psiconeurológicas dos fatores psicomotores. Porto Alegre: Artes Médicas; 1995.
14. Béziers MM, Hunsinger Y. O bebê e a coordenação motora: os gestos apropriados para lidar com a criança. São Paulo: Summus; 1992.
15. Newcomb MA. Bebês & objetos. Rio de Janeiro: Pestalozzi; 1978.
16. Valladares ACA, Carvalho AMP. A arteterapia e o desenvolvimento do comportamento no contexto da hospitalização. Rev Esc Enferm USP. 2006;40(3):350-5.

Correspondence addressed to: Giovana Soares Bortolote
Rua Capitão Macedo, 376 - Ap. 32 - Vl. Mariana
CEP 04021-020 - São Paulo, SP, Brasil