

THERAPEUTIC PLAY TOY FOR CHILDREN WITH TOTALLY IMPLANTED CENTRAL VENOUS CATHETERS: NURSES' PERCEPTION


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ABSTRACT

Objective: to describe nurses' perception about an Instructional Therapeutic Play toy for children with totally implanted central venous catheters.

Method: a qualitative, descriptive and exploratory study carried out in a public hospital from Rio de Janeiro with 12 nurses who work in the care of children with totally implanted central venous catheters. The data were collected through semi-structured interviews from March to May 2019 and subjected to thematic analysis.

Results: two thematic units that dealt with the necessary adaptations in the Therapeutic Play toy regarding materials, gender, race, age and catheter implantation site in the body emerged.

Conclusion: it was possible to understand the aspects that permeate the Therapeutic Play toy scenario and the possibilities and limitations that interfere with its use in children's care. In this way, the adaptations enhance the Advanced Pediatric Nursing Practice, as playing is a children's need.

DESCRIPTORS: Child. Vascular access devices. Pediatric nursing. Games and toys. Advanced nursing practice.

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BRINQUEDO TERAPÊUTICO PARA CRIANÇAS COM CATETER VENOSO CENTRAL TOTALMENTE IMPLANTADO: PERCEPÇÃO DOS ENFERMEIROS

RESUMO

Objetivo: descrever a percepção dos enfermeiros sobre um brinquedo terapêutico instrucional para crianças com cateter venoso central totalmente implantado.

Método: estudo qualitativo, descritivo, exploratório, realizado em um hospital público do Rio de Janeiro com 12 enfermeiros que trabalham na assistência à criança em uso de cateter venoso central totalmente implantado. Os dados foram coletados por meio de uma entrevista semiestruturada, nos meses de março e maio de 2019, e submetidos à análise temática.

Resultados: emergiram duas unidades temáticas que versaram sobre as adaptações necessárias no brinquedo terapêutico quanto aos materiais, gênero, raça, idade e o local de implantação do cateter no corpo.

Conclusão: pôde-se compreender as vertentes que permeiam o cenário do brinquedo terapêutico e as possibilidades e limitações que interferem em sua utilização na assistência à criança. Dessa forma, as adaptações potencializam a prática avançada de enfermagem pediátrica, uma vez que o brincar é uma necessidade da criança.

DESCRIPTORES: Criança. Dispositivos de acesso vascular. Enfermagem pediátrica. Jogos e brinquedos. Prática avançada de enfermagem.

JUGUETE TERAPÉUTICO PARA NIÑOS CON CATÉTERES VENOSOS CENTRALES TOTALMENTE IMPLANTADOS: LA PERCEPCIÓN DE LOS ENFERMEROS

RESUMEN

Objetivo: describir la percepción de los enfermeros sobre un juguete terapéutico instructivo para niños con catéteres venosos centrales totalmente implantados.

Método: estudio cualitativo, descriptivo y exploratorio realizado en un hospital público de Rio de Janeiro con 12 enfermeros que trabajan en la asistencia provista a niños con catéteres venosos centrales totalmente implantados. Los datos se recolectaron por medio de entrevistas semiestructurada entre marzo y mayo de 2019 y fueron sometidos a análisis temático.

Resultados: surgieron dos unidades temáticas que tratan sobre las adaptaciones necesarias en el juguete terapéutico en relación con los materiales, el sexo, la raza, la edad y el sitio en el que se implanta el catéter en el cuerpo.

Conclusión: fue posible comprender los diversos aspectos intrínsecos al escenario de los juguetes terapéuticos y las posibilidades y limitaciones que interfieren en su utilización al atender a los niños. De esta manera, las adaptaciones potencian la práctica avanzada de Enfermería Pediátrica, ya que jugar es una necesidad inherente de los niños.

DESCRIPTORES: Niño. Dispositivos de acceso vascular. Enfermería pediátrica. Juegos y juguetes. Práctica avanzada de enfermería.

INTRODUCTION

In Pediatric Nursing, when caring for children nurses should seek tools that enhance each child's participation in care and reduce possible trauma during health care. Thus, Federal Nursing Council (*Conselho Federal de Enfermagem*, COFEN) Resolution No. 0546/2017 establishes that Therapeutic Play (TP) should be used to assist hospitalized children and their families, in addition to covering the Nursing process stages with due registration in medical records. It also states that TP use can be in charge of any Nursing professional, as long as it is supervised by a nurse duly trained to do so¹.

In recent years, the interest in the Advanced Nursing Practice (ANP) has been gaining prominence in the national and international contexts². Thus, the International Council of Nursing argues that, by theoretical or practical means, the ANP aims at meeting the needs in a particular specific area of the individual and their family. In addition to that, it states that nurses licensed in advanced practice are those who acquire specialist knowledge, with skills and competencies for decision-making that are shaped according to the context of the country where they carry out their activity³.

TP is included in the atraumatic assistance model of children's care, assuming the use of appropriate interventions to minimize or eliminate children's physical and emotional distress and that of their families in the health care environment, such as a hospital⁴. In the literature, its benefits include coping with hospitalization and invasive procedures; stress, fear and anxiety relief; promotion of comfort and well-being; and creation and strengthening of the bond as Nursing professionals⁵⁻⁶.

Among the TP modalities, Instructional Therapeutic Play (ITP) has been used to prepare children for hospitalization and therapeutic procedures, Dramatic Therapeutic Play allows children to externalize their feelings, and the TP that enables physiological functions allows children to maintain or improve their physical conditions⁴.

This study addressed ITP targeted at children with totally implanted central venous catheters (CVCs-TI). These catheters are vascular access devices made of siliconized rubber, whose distal end couples to a chamber that can be punctured, installed in the subcutaneous tissue of the thoracic region, on a bone prominence implanted through a surgical procedure⁷. They are used in treatments with long-term intravenous drug infusion, improving management and reducing therapy complications⁸.

Both CVC-TI implantation and puncture are considered invasive and painful procedures that generate feelings such as fear and anxiety in children, rendering the therapeutic process stressful and traumatizing. Thus, in order to minimize the distress caused by this experience, there is a need to seek alternatives that can be ancillary in this process, such as ITP⁹.

ITP use has several benefits, such as preparing children for invasive procedures during hospitalization¹⁰, reducing pre- and post-operative anxiety¹⁻¹². Thus, engaged in the best care for this clientele, Nursing should incorporate it into its care; however, it is noted that there is a need for specific knowledge and skills about TP to include it in the practice¹³.

Health institutions increasingly need to specialize and develop their skills to be able to meet the demands of the population, in particular. In this setting, nurses' role in the Advanced Nursing Practice (ANP) perspective, with TP application to the child population, aims at generating positive health outcomes based on specialized knowledge, using complex skills in the decision-making process and clinical practice¹⁴⁻¹⁵.

Although TP use is recommended by the COFEN¹, its inclusion in the practice is still incipient. This can be explained by the fact that many Nursing professionals do not consider it as a Nursing care measure¹³. Thus, it is up to nurses to appropriate knowledge about TP and, thus, propose solutions and make the necessary adaptations so that it is implemented and used in the various scenarios and

situations where these children are, in order to contribute to care that reduces trauma and improves safety⁵⁻⁶.

In this sense, ITP is a key element in the ANP, as it is a versatile and effective tool that allows nurses to improve their communication and health education skills. By using it, they can create welcoming and interactive environments for children, rendering the Nursing care experience more personalized, effective and meeting the needs inherent to childhood. In addition to that, it can be used to teach about complex procedures in a simple and understandable way, promoting autonomy and understanding of their own treatment^{13,15-16}.

Therefore, its incorporation into the ANP not only improves the quality of the care provided but also strengthens the relationship between nurses and patients, resulting in better health outcomes and children's satisfaction^{13,16}. Thus, this study aimed at describing nurses' perception about ITP for children with CVCs-TI.

METHODS

This is a descriptive and exploratory study with a qualitative approach¹⁴. The *COnsolidated criteria for REporting Qualitative research* (COREQ) checklist¹⁸ was used to ensure methodological rigor.

The study setting was a pediatric inpatient unit of a federal hospital intended for teaching, research and care, located in the city of Rio de Janeiro. It should be noted that the institution has a playful atmosphere in its physical structure, with children's drawings on the walls, in addition to having a toy library, which promotes a welcoming and pleasant environment for hospitalized children, as well as easing TP use by the Nursing team.

The participants were 12 nurses who worked in the inpatient unit and directly assist children with CVCs-TI. The inclusion criteria were being a nurse, working in the pediatric inpatient unit at the research locus selected, and providing direct care to children with CVCs-TI. Resident nurses were excluded because they were in the training process. It should be noted that, in order to recruit the nurses, an *a priori* observation was made of the work and care profile in the hospital and its sectors, where the best sector for the research was listed.

Data collection took place from March to May 2019 through semi-structured interviews. It is noted that, before the interviews, the ITP toy was made available so that nurses could handle it for nearly 15 minutes and, subsequently, the interviews were applied based on the following question: In your opinion, is any adaptation or change necessary in this TP toy to be used in children with CVCs-TI in this unit?

The TP toy was created by the first author, from a conventional doll with low-cost adaptations to be used in ITP sessions. Two conventional dolls were used for this purpose. It was decided to choose those with a cloth "chest" and measuring approximately 50 centimeters, which eases handling by children. All items for making the dolls were carefully studied so that they approached as faithfully as possible the population and the items used by Nursing professionals.

To simulate the catheter's port for puncture, a children's medical kit was used, in which the toy-shaped stethoscope was adapted and remodeled (Figure 1).



Figure 1 – Creation of a totally implanted central venous catheter prototype as a Therapeutic Play toy.
Source: The authors.

Subsequently, this simulated port was implanted into the doll's "chest", performing the representation of a surgical suture with a black thread and needle. In Figure 2 "a", it is possible to see the ITP toy representing the postoperative period with the surgical stitches after CVC-TI implantation and, in Figure 2 "b", without the surgical stitches and with the surgical wound healed.



Figure 2 – (a) Therapeutic Play toy representing the postoperative period for the insertion of totally implanted central venous catheters and (b) the healed surgical wound.
Source: The authors.

In addition to the interviews, characterization data of the participants were collected, such as gender, age, time working in the institution, training level and degree.

The interviews lasted a mean of 30 minutes, were conducted in person in private rooms and previously scheduled with the participants. The testimonies were audio-recorded on an MP4 device and later transcribed in full.

The fieldwork stage ended when there was theoretical data saturation, highlighted by the depth, consistency, redundancy and coherence of the participants' statements during the interviews, concomitantly with exhaustion saturation, in which all nurses in the scenario who met the inclusion criteria participated in the study¹⁹.

The empirical data from the interviews were submitted to thematic analysis in three phases, as recommended in the literature: pre-analysis, which aims at carrying out a floating reading through exhaustive contact with the material used and elaboration of the *corpus* by arranging the material in order to reach validity of the study; exploration of the material, which begins with the delimitation of thematic units through clippings in the text; and interpretation of the results obtained. It is at this stage that the researcher expresses his conclusions¹⁷.

The study respected all the guidelines set forth in Resolution No. 466/2012, being evaluated and approved by the Research Ethics Committee of the proposing and co-participating institution. All the participants signed the Free and Informed Consent Form (FICF). In addition to that, to ensure the participants' anonymity, the letter "N" for nurse was used, followed by the order in which each testimony was obtained (N1, N2, N3, ...).

RESULTS

Characterization of the participants

The participants were 12 nurses, mostly aged between 20 and 29 years old. Two had completed their MSc degrees and six had completed graduate studies in the Pediatrics, Neonatal and Oncology areas. In relation to the rest, four participants had only completed Higher Education and are still pursuing graduate studies in the Pediatrics and Stomatherapy areas. As for the time working in the institution, six have between 1 and 9 years, four between 10 and 19 years, one between 20 and 29 years, and one between 30 and 39 years.

Presentation of the thematic units

Two thematic units emerged after analyzing the data: Adaptations required in the Therapeutic Play toy regarding materials; and Adaptation regarding gender, race, age and catheter implantation site.

Adaptations required in the Therapeutic Play toy regarding materials

The nurses indicated the need to adapt the doll's cloth material to one that can be washed and sanitized without being damaged, as they consider the contamination risk regarding the use of cloth dolls, especially by children with cystic fibrosis. Another nurse suggested that the doll might have a plastic coating, so that there is no change in its material, adapting to the hospital environment.

You just have to really change the material, right? It has to be a material that can be washed and sanitized, disinfected, right? With proper cleaning, which is not something that will spoil or damage (N8).

The bad thing about it being made of cloth is manipulation from child to child. If it were just plastic, you'd clean it more easily. So, the issue with the cloth is that I find it as a difficulty, due to the contamination issue (N2).

In this model here, I think that the limitation is the little fabric body, because if the little body were all plastic, it'd be easier [...] we can make a plastic coating and that would allow using it (N10).

Another concern raised is the issue of all the material used being adapted and thought of in such a way as to be handled and used by any child without exposing them to dangers such as accidents with sharps and allergic reactions due to the use of gloves or gauze.

I think that this toy is very suitable, because there's nothing that can hurt the child. They were careful not to use an actual needle! The material, in this case, is gauze, and gauze does not hurt; the glove does not hurt either. The only problem would be an allergic reaction to the glove, to the gauze, but then you'd have to test to see, but other than that, I think that the toy is pretty cool (N3).

In addition to that, this unit evidenced the need to adapt accessory materials or even the inclusion of others, such as equipment so that it can be used in other situations, like pre-admission to the hospital inpatient unit, as well as in some cases of children who make continuous use of it.

Many children not only require activation and deactivation (of the catheter). They can use it with continuous drug infusion, so serum equipment and other accessories are important to visualize this possible situation (N6).

Adaptation regarding gender, race, age and catheter implantation site

The nurses addressed issues related to the adjustments that allow all children to be represented by that toy. In this sense, they signaled the need to have boy and girl dolls, in addition to black dolls.

As they're two girl dolls, I believe that the boys may not identify themselves (N6).

The only thing I'd include are black dolls, as it can sometimes be that black-skinned children can't see themselves in a white-skinned doll with blue eyes (N4).

In addition to that, they report the issue of the child's age, as many of them would not be able to enter the "fantasy" of the toy, with a need for other doll models.

The only thing I'd suggest is to have the device in different dolls, because you have [...] you limit it to a baby and, a lot of times, older children won't see themselves there and will think that it's very fanciful, so I think there should be more doll models (N7).

Another aspect highlighted was the catheter implantation site, as not all children have CVCs-TI implanted in the hemithorax. Thus, they suggest that the dolls should have other implantation sites for these catheters, such as upper and lower limbs.

From what you showed me, the catheter would be implanted in the hemithorax, but we know that some children also have their catheters implanted in the upper and lower limbs, mainly in the upper ones, so it would also be very important for these dolls to have other places where the catheters are implanted (N12).

DISCUSSION

The results revealed the nurses' concerns regarding the spread of microorganisms due to the fact that the toy is made of cloth. According to the National Health Surveillance Agency (*Agência Nacional de Vigilância Sanitária*, ANVISA), special attention has to be paid to the types of games and toys used in isolation units, which should be made of washable, non-corrosive and non-toxic materials such as plastic, rubber, acrylic or metal. After using them, they should be bagged and sent for cleaning and disinfection by rubbing with 70% alcohol. The Agency also recommends that any toy or object made of non-washable material should be discarded after contact with blood, secretions and body fluids²⁰.

In addition to that, preventive measures to avoid the spread of microorganisms should be adhered to. These go beyond the classic measures of cleaning and disinfecting toys, encompassing the choice of washable toys and hand hygiene, not forgetting hygiene of children's hands or using

strategies to increase adherence²¹. These findings corroborate the study in which a nurse highlighted the need to have a TP kit, with materials that can be washed and others that could be discarded after their use, in accordance with the In-Hospital Infection Control Commission (*Comissão de Controle de Infecção Hospitalar*, CCIH)²².

In addition to hygiene, prevention of accidents with sharps was pointed out by the study participants. Regarding the use of needles during the TP session, the child's development level should be evaluated and supervised by the nurse, but not dismissed, as it favors familiarization with the materials used in the procedures. Thus, handling of the materials and the repetitions of the procedures on the doll are useful for understanding the experience of being punctured and gaining control of their emotions¹⁰.

It is noted that the preventive measures regarding the dissemination of microorganisms and the prevention of accidents with sharps mentioned by the nurses in this study are in line with actions performed by the ANP in countries such as Canada and the United States of America, as they take into account safety of the care provided by nurses and the positive results that are achieved from those actions²³. As an example, we can mention that *Child Life Specialists* are health professionals, including nurses, with advanced knowledge about childhood development, supporting children and their families during hospitalization using playful resources such as games²⁴, TP and recreational games for health education of children with Type 1 Diabetes *Mellitus*, for example²⁵.

As for the expansion of materials, such as continuous drug infusion equipment, it is recommended that they be diversified, so that children have the possibility to express their feelings²⁶. Priority should be given to the use of materials that are close to children's reality, such as adhesive tape, empty and clean serum vials and equipment, surgical masks and caps, procedure gloves, washable and child-sized fabric aprons, syringes, and clean and needleless scalp²⁷. Through a representation close to reality, understanding of the information to be transmitted will be eased, providing a scenario for building knowledge in the child population.

Regarding children's diversity and representativeness in terms of gender, race, age and catheter implantation site, making of the TP toy should include the assembly of a doll with physical characteristics similar to children's, especially in relation to the age group, thus being a strategy for the child's approximation and identification through the toy, allowing to explore the interests and needs and to meet the expectations of this population segment²⁸. In addition to that, it is through it that children read the world and create their own perceptions of society and themselves, which corroborates the need for these adaptations²⁹. Thus, children's identification process with the doll is one of the most important stages to conduct a TP session.

As for the implantation site of the CVC-TI prototype, the participants suggested that the doll should have a catheter port implanted elsewhere in the body. This adaptation is important, as CVC-TI is indicated for patients with impaired venous network, malnutrition and venous sclerosis. Its use can also be intended for blood collections and drug administration. The most usual sites for CVC-TI implantation are right and left hemithorax, although upper and even lower limbs can also be used, wherein the distal end of the catheter is usually located in the superior vena cava and the proximal end is implanted into the subcutaneous tissue³⁰. However, in making this prototype, implantation in upper limbs was not possible, as most of the dolls have rigid limbs.

A study that relied on the ANP to assist children with urological problems proved to be efficient to be applied in other areas. Although it did not use TP, it relied on educational materials targeted at children and family members, with recognition from the Nursing team and other professionals. Thus, the ANP has care grounded not only on evidence-based practice, but also on humanistic critical-reflective thinking centered on children and their families³¹.

As for the limitations, it is noted that this study was conducted in only one ward of a single public hospital. Thus, it is recommended to develop new research studies in other scenarios, as well as involving the children's perception about the toys used in the sessions.

CONCLUSION

Some aspects should be considered in the nurses' perception regarding the adaptations in an ITP toy for children with CVCs-TI, such as material that can be fully sanitized to avoid the spread of microorganisms, non-use of sharps and expansion of materials to contemplate other techniques besides catheter puncture. These aspects reinforce the need for a greater approach and use of TP in the care practice, so that the benefits become more evident and the TP session technique is known by nurses working in Pediatrics, as it is an instrument that can and should be used in the ANP.

The adaptations regarding gender, race, age and catheter implantation site are essential to expand the characteristics and respect the diversity of these toys, so that they are representative for children. Thus, the process of creating and making a TP toy involves particularities that require a careful and attentive analysis by increasingly qualified and specialized professionals, so that comprehensive and good quality assistance is provided.

When envisioning the ANP in Pediatrics and TP use, greater contributions and discussions are desired for the dissemination of knowledge and information on the theme for greater empowerment of the professionals about the impact and quality of the assistance they provide.

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NOTES

ORIGIN OF THE ARTICLE

Extracted from the Residency Conclusion Paper – “Applicability of a Therapeutic Play toy in Nursing care with CRIANES with CVCs-TI in a pediatric hospitalization unit”, presented to the Programa de Residência em Saúde em Enfermagem Pediátrica, do Instituto Nacional de Saúde da Mulher, da Criança e do Adolescente Fernandes Figueira/Fiocruz, in 2019

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CONFLICT OF INTEREST

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