

THERAPEUTIC TOY IN PRIMARY CARE: CONTRIBUTIONS FOR THE SYSTEMATIZATION OF NURSING CARE

Leticia Roberta Pedrinho¹ 

Bianca Machado Cruz Shibukawa¹ 

Gabrieli Patrício Rissi¹ 

Roberta Tognollo Borotta Uema¹ 

Maria de Fátima Garcia Lopes Merino¹ 

Ieda Harumi Higarashi¹ 

¹Universidade Estadual de Maringá, Programa de Pós-graduação em Enfermagem. Maringá, Paraná, Brasil.

ABSTRACT

Objective: to analyze the role of the therapeutic toy as a tool for the nursing diagnosis in the setting of care for the child with *diabetes*.

Method: a qualitative multiple-case study conducted with children diagnosed with Type 1 *Diabetes mellitus* and living in the inland of Paraná. The data were collected in 2018 through interviews, field diary and sessions using the therapeutic toy. Nursing diagnoses were elaborated according to the North American Nursing Diagnosis Association Taxonomy I and a targeted content analysis was performed, resulting in four categories.

Results: using the dramatic therapeutic toy allows the child to show their perception of the disease and of the care provided. The sessions with the dramatic therapeutic toy made it possible to identify five nursing diagnoses, which were later worked on by means of an instructional therapeutic toy.

Conclusion: systematization of assistance mediated by the use of the toy allows nurses to establish bonds with the child with *diabetes* and their family, revealing their perceptions of the disease and treatment, thereby stimulating a more active participation of the binomial in the management of this coping process.

DESCRIPTORS: *Diabetes Mellitus* Type 1. Play and Playthings. Child care. Pediatric nursing. Nursing process.

HOW CITED: Pedrinho LR, Shibukawa BMC, Rissi GP, Uema RTB, Merino MFGL, Higarashi IH. Therapeutic toy in primary care: contributions for the systematization of nursing care. *Texto Contexto Enferm* [Internet]. 2021 [cited YEAR MONTH DAY]; 30:e20200616. Available from: <https://doi.org/10.1590/1980-265X-TCE-2020-0616>

O BRINQUEDO TERAPÊUTICO NA ATENÇÃO PRIMÁRIA: CONTRIBUIÇÕES PARA A SISTEMATIZAÇÃO DA ASSISTÊNCIA DE ENFERMAGEM

RESUMO

Objetivo: analisar o papel do brinquedo terapêutico como ferramenta para o diagnóstico de enfermagem no cenário de atenção à criança com *diabetes*.

Método: estudo de caso múltiplo qualitativo, realizado com crianças com diagnóstico de *Diabetes mellitus* tipo 1, residentes do interior do Paraná. Os dados foram coletados em 2018, por meio de entrevista, diário de campo e sessões com uso do brinquedo terapêutico. Foram elaborados diagnósticos de enfermagem segundo a taxonomia da *North American Nursing Diagnosis Association I* e realizada a análise de conteúdo direcionada, resultando em quatro categorias.

Resultados: a utilização do brinquedo terapêutico dramático permite à criança demonstrar sua percepção da doença e dos cuidados realizados. As sessões com o brinquedo terapêutico dramático possibilitaram identificar cinco diagnósticos de enfermagem, que foram trabalhados posteriormente por meio do brinquedo terapêutico instrucional.

Conclusão: a sistematização da assistência mediada pelo uso do brinquedo possibilita ao enfermeiro estabelecer vínculos com a criança com *diabetes* e sua família, desvelando suas percepções em relação à doença e ao tratamento, estimulando assim uma participação mais ativa do binômio no manejo deste processo de enfrentamento.

DESCRITORES: *Diabetes mellitus* tipo 1. Jogos e brinquedos. Cuidado da criança. Enfermagem pediátrica. Processo de enfermagem.

EL JUGUETE TERAPÉUTICO EN LA ATENCIÓN PRIMARIA DE LA SALUD: APORTES PARA LA SISTEMATIZACIÓN DE LA ASISTENCIA DE ENFERMERÍA

RESUMEN

Objetivo: analizar el papel del juguete terapéutico como herramienta para el diagnóstico de enfermería en el ámbito de los cuidados del niño con *diabetes*.

Método: estudio cualitativo de casos múltiples, realizado con niños con diagnóstico de *diabetes mellitus* tipo 1, residentes del interior de Paraná. La recolección de datos se llevó a cabo en 2018, a través de entrevistas, diario de campo y sesiones con el uso de juguetes terapéuticos. Los diagnósticos de enfermería se elaboraron de acuerdo con la taxonomía de la *North American Nursing Diagnosis Association I* y análisis de contenido dirigido, que resultó en cuatro categorías.

Resultados: el uso de juguete terapéutico dramático permite al niño demostrar su percepción sobre la enfermedad y la asistencia que se le brinda. Las sesiones con el juguete terapéutico dramático permitieron la identificación de cinco diagnósticos de enfermería, que luego se trabajaron a través del juguete terapéutico instrucional. **Conclusión:** la sistematización del cuidado mediado por el uso de juguetes permite al enfermero establecer vínculos con el niño diagnosticado con *diabetes* y su familia además de revelar sus percepciones sobre la enfermedad y el tratamiento y fomentar una participación más activa del binomio en el manejo de este proceso de afrontamiento.

DESCRIPTORES: *Diabetes mellitus* tipo 1. Juego e implementos de juego. Cuidado de niños. Enfermería pediátrica. Proceso de enfermería.

INTRODUCTION

Currently, there is evidence of an increasing number of children living with Type 1 *Diabetes Mellitus* (DM1) and, despite the scientific and technological advances, prospects regarding such patients still seem not to constitute a global concern¹⁻².

It is known that DM1 interferes in the quality of life of the children and generates changes in family dynamics involving work abandonment in order to care for the child, changes in financial planning, caregiver burden, and even the interruption of leisure time can become a constant within this context³⁻⁴.

From the perspective of health professionals, it becomes necessary to understand the individuality of the patients and families, so as to seek better ways to help them to experience this process, both in relation to the changes in the family nucleus as in the child's routine³⁻⁵. One way to properly understand the reality and define intervention strategies is to use the steps set forth in the Nursing Process (NP)⁶.

Specifically in the pediatric field, using the tools proposed by the NP in an way associated with the act of playing can prove to be a powerful strategy to help nurses immerse in the world of children with Type 1 *diabetes* because the professional creates a playful atmosphere in their work process, allowing the child to express their feelings towards their health condition⁷.

Usually, professional nurses work with answers to health problems. In this perspective, it is up to them to initially perform a nursing diagnosis, which can be focused on a problem, a health promotion status or a potential risk. This requires an effective interaction with the patients, through strategies that make it possible to access the information required to carry out an accurate and individualized diagnosis⁸.

The Therapeutic Toy (TT) has emerged as a strategy to approach children, particularly within hospital settings and in preparing them for painful surgeries and procedures⁹⁻¹⁰. On the other hand, this tool can also be implemented at home, although studies on this application are still scarce¹¹.

The TT can be classified into: dramatic, when its purpose is to allow the children to externalize the experiences they have difficulty verbalizing; enabler of physiological functions, used in the phase of physical rehabilitation of physiological functions depending on the children's new life condition; and instructional, when it aims to prepare the children for therapeutic procedures¹².

Given a complex setting of care for a chronic condition in childhood, considering the potential applicability of the TT as an NP mediator, and the importance of investigating the adoption of possibilities for light technologies to qualify primary health care, interest emerged to propose this research.

The combination of these elements, as well as providing greater scientific input to the practice of pediatric nursing, allows accessing the reality of children living with Type 1 *diabetes* in the home environment, as well as proposing strategies based on clinical reasoning and which seek to minimize the problems caused by the pathology^{7,9}.

Based on these assumptions, the objective of this study is to analyze the role of the therapeutic toy as a tool for nursing diagnosis in the setting of care for children with *diabetes*.

METHOD

This is a qualitative study, in the multiple-case study modality, which allows collecting and analyzing information on a given subject, group, family or community. It is a form of research aimed at deepening knowledge about a certain reality¹³. The study included children diagnosed with Type 1 *diabetes*, living in cities from the 11th Health Region (HR) of the state of Paraná. Due to the difficulty in recruiting children who met the study eligibility criteria, the coverage area was extended to 25 municipalities of the aforementioned HR, not being restricted to the researcher's city of origin.

In the first place, contact was made with the Pediatric Endocrinology Outpatient Service of reference for the care of children with DM1, belonging to the health region, in order to enable the recruitment of children who were able to take part in the study. Subsequently, the researchers contacted the nurses of the reference Basic Health Units (BHUs) for each child, by phone or by text messages, in order to verify information on eligibility for the study and to establish contact with the families.

The inclusion criteria were children with a confirmed diagnosis of Type 1 *diabetes* for at least three months, aged between 2 and 8 years old, and registered in one of the basic health units of cities belonging to the 11th Health Region. As exclusion criteria, it was decided to exclude children that were hospitalized or were having an important glycemic decompensation condition during the data collection period. No child was excluded.

Data collection occurred in the period from July to October 2018, with three home visits being conducted for each household. The choice of this age group was due to the diagnosis and treatment initiation and, consequently, to the fact that higher educational-assistance needs concentrate in this stage of life.

Data collection was conducted following the phases proposed by the NP as a guiding instrument for the nursing action. The implementation of this method consists of five distinct and interrelated stages: history, nursing diagnosis, planning, implementation and evaluation¹³. Part of the information regarding the history was collected together with the BHU nurses, who also were intermediaries for the telephone contact to the first approach to the participants by the researcher.

During the interventions carried out during the visits, the nursing diagnoses were surveyed, according to the North American Nursing Diagnosis Association (NANDA) Taxonomy I. These are used to identify the desired outcomes of the care provided and to assist in planning the sequence of nursing interventions, specific to each patient⁸.

On the first visit, in order to compose the first NP stage, data were collected for characterization and information regarding the nursing history, using a semi-structured interview script, with simultaneous recording of information in a specific form. The identification data for characterization of the participants included the child's age and gender; age, schooling and occupation of the parents; approximate family income; type of health care (SUS exclusively, private health plan or private monitoring). In this first stage of the study, the history of the disease was also investigated, seeking data on diagnosis, prior knowledge and perception of the parents about *diabetes*, guidelines given by the health professionals up to that moment, and complaints reported by the child in relation to *diabetes*.

In addition to the semi-structured script, prepared by the researcher herself, the use of the TT as a tool for data collection was implemented. By means of hospital materials and inputs used in the care of DM1, it was sought to retrieve the child's memories in relation to previously experienced situations with the disease, such as previous interventions and daily therapy.

Toys in the form of household items such as school supplies, food and cloth dolls, in turn, assisted in the representation of the everyday situations, favoring and stimulating the recreation of family situations.

At the second meeting, sessions were held with the Dramatic Therapeutic Toy (DTT) in order to understand the experience of children with DM1 and to identify the main nursing diagnoses for each of them, in order to allow the development of an individualized care plan. Therefore, the following domains were identified according to the NANDA⁸ taxonomy: 1 - Health promotion; 2 - Nutrition; 5 - Perception/Cognition; 12 - Comfort; and 13 - Growth and development.

The subsequent stage (phase 3 of the NP) contemplated the planning actions and setting priorities, definition and recording of the action plan, determined by the Nursing Outcomes Classification (NOC) and the Nursing Interventions Classification (NIC)⁸, that is, by the expected results for every need and for implementing the actions. The last phases of the NP occurred in the third meeting and corresponded to the interventions that were conducted through the implementation of the Instructional Therapeutic Toy (ITT) (phase 4) aiming to put into practice the interventions based on previously developed diagnoses and to promote the evaluation of the results (phase 5).

To better understand the study phases, a flowchart describing data collection according to the NP⁶ was prepared, as shown in Figure 1.

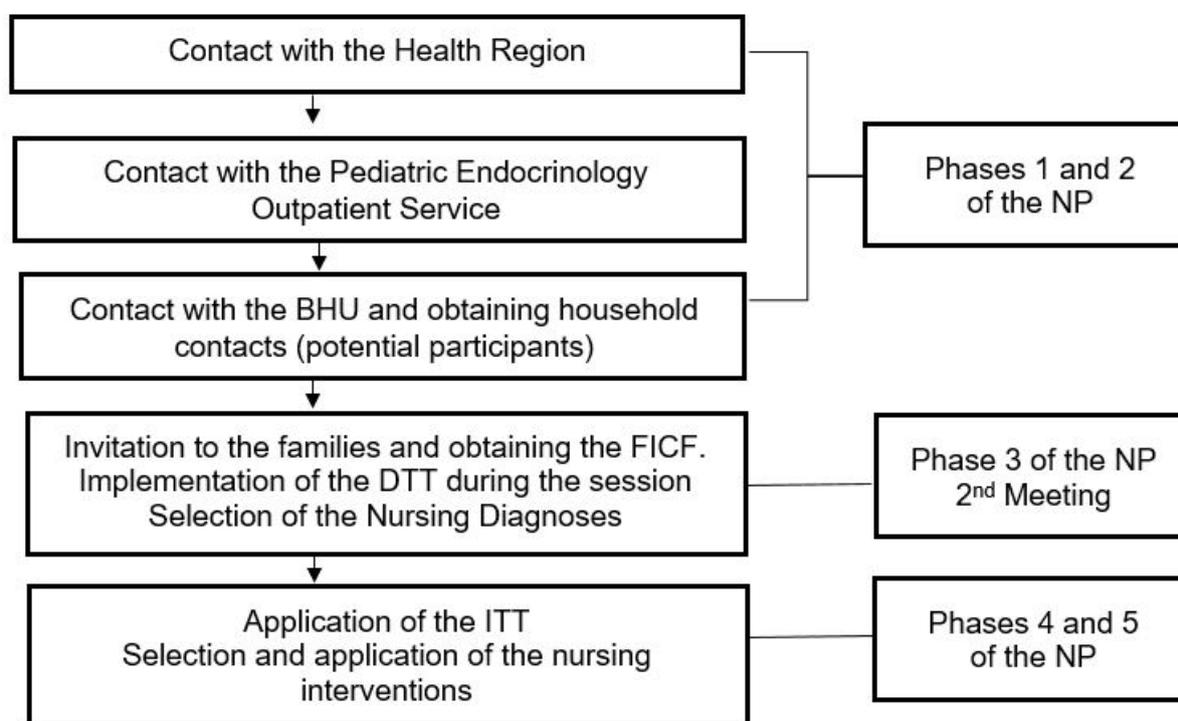


Figure 1 – Flowchart corresponding to data collection according to the NP, Maringá, PR, Brazil, 2018.

For conducting the ITT session, the following triggering question/guidance was used for each child: shall we play as a child who has *diabetes*?

The duration of sessions varied between 15 and 45 minutes, and the analysis of the nursing diagnoses was performed following the NANDA taxonomy⁸. The application of the ITT enabled the researcher to unveil the representations of the child's daily life, through their games. The data referring to the verbal and non-verbal interactions between the social actors – child, family and researcher – were recorded in the researcher's field diary. Such field diaries were consolidated at the end of each session, based on the researcher's notes and on the recall process of the interventions, as soon as they ended. The notes included statements by the child and by the family member, the researcher's interventions, as well as behaviors and nonverbal language elements throughout each session.

Thus, based on the information and on the implementation records of the DTT, it was possible to perform nursing planning, with actions that would lead to the attainment of the goals established.

Data analysis occurred concomitantly with collection, following the NP⁶ assumptions. The results arising from the nursing history were described, as well as the main problems. From this stage on, the nursing diagnoses, as well as their defining characteristics were formulated, and the strategies for the care plan were scored.

For content analysis, it was decided to adopt the targeted approach, which allows validating the research concepts, helping to determine the findings coding scheme. In this approach, the researchers use pre-existing theories and knowledge, thus identifying the key concepts of the study in question, which leads to the elaboration of initial coding categories which, in turn, serve as a starting point for data organization¹⁴.

The targeted content analysis was contributed by the nursing diagnoses, as set forth in the NANDA-I taxonomy, which guided the discussions of the results⁸. The recommendations set forth by Resolution N^o. 466/2012 were honored by the appreciation and ethical approval of the study by the Committee of Ethics in Research with Human Beings of *Universidade Estadual de Maringá*. After the instruction regarding the study objectives and the guarantees provided in the ethics standard in force, the family members responsible for the children recorded their consent, by signing the free and informed consent form for minors, in two identical copies.

RESULTS

The study included three children aged between two and five years old. To preserve their identities, they were designated using references to superheroes and princess: the boys chose Spider-Man and Hulk, while the girl chose Princess Anna. Similarly, the participants were instructed to appoint the puppets that would represent their families and/or their caregivers during the approaches with the TT. The characterization of the children and the contexts of their family members and of living with the disease are described below.

Spider-Man is five years old, he is a student attending 1st grade of elementary education in a public school, son of divorced parents and lives with his mother. His father is unemployed at the moment and his mother is a beautician; they have an approximate household income of two minimum wages. He was diagnosed at the age of three years old; at the time, he showed symptoms of polydipsia, weight loss, polyuria and loss of appetite. Upon the first symptoms, he was diagnosed with tonsillitis; he was treated with antibiotics and the care guidelines were also carried out. The situation evolved into a diabetic ketoacidosis condition, due to which he was referred to the Intensive Care Unit (ICU). In the unit, his mother reports having been instructed on the main care measures for DM1 during the child's stay in the ICU and, later on, in the pediatric ward. The mother refers to three hospitalizations since the diagnosis, the first at diagnosis itself; the second due to tonsillitis, and the third due to hypoglycemic seizures. The routine care measures for the disease include blood glucose monitoring and insulin use. He is not under regular professional monitoring (he attends consultations by the SUS when necessary). His food intake includes whole and dietary food products, concurrent with the family diet, with no carbohydrate control.

Princess Anna is two years old, she is a preschooler, daughter of married parents, her mother is a housewife and his father is self-employed. The approximate family income is five minimum wages. She was diagnosed three months before the interview, when she showed symptoms of polydipsia, polyuria and polyphagia. The first symptoms were attributed to the use of steroids (medical prescription). Subsequently, at a new appointment, she was diagnosed with DM1, where she was referred to be monitored by the endocrinologist. Her mother refers to a hospitalization at diagnosis, where she received the main care guidelines during hospitalization in the pediatric ward. The care related to the

disease includes blood glucose monitoring using the “Libre” device, use of ultrafast insulin analogues and of prolonged action; in addition to medical monitoring in the private network (health plan). Her food intake follows a strict menu organized by her mother with the help of the endocrinologist.

Hulk is four years old, he is a preschooler and son of married parents. His father is a mason and his mother is a housewife; the family income is approximately three minimum wages. He was diagnosed six months ago, after presenting polydipsia, polyuria and lethargy symptoms. Upon the first symptoms, he was taken to the emergency service, where his glucose was monitored and the diagnosis was confirmed. Her mother refers to hospitalization at diagnosis, where she received the main care guidelines for the child during hospitalization in the pediatric ward. The care with the disease includes monitoring of blood glucose, use of ultra-fast insulin analogs and of prolonged action, in addition to monitoring by the SUS, with an endocrinologist. Food consumption is regimented, the family tries to buy diet food products, concomitantly with their diet.

Although the children represented their life with *diabetes* through the toy, the responsibility for implementing the main actions is still undertaken by the mothers, as they spend most of the time with their children.

The observations of this study, arising from the implementation process of the DTT, allowed verifying the basic human needs affected, for the configuration of the nursing diagnoses. These diagnoses supported the elaboration of the ITT sessions which, in turn, enabled the researcher to identify how the children perceived the care behaviors and possible errors in the procedures performed, which could trigger loss of glycemic control. Once the activities were analyzed, the nursing diagnoses were identified, as described in Chart 1.

Chart 1 – Nursing diagnoses evidenced in the therapeutic toy sessions, Maringá, PR, Brazil, 2018. (n=3)

DOMAINS	NURSING DIAGNOSIS	DEFINING CHARACTERISTICS
Health promotion	Decreased diversional activity engagement	<ul style="list-style-type: none"> Social isolation due to the routine procedures such as glycemic control and insulin application. The child is perceived differently from other children and is destituted or removed from their leisure moments.
	Ineffective infant feeding dynamics	<ul style="list-style-type: none"> Because of their limited cognitive ability, but compatible with their age (<6 years old). The child alone cannot establish the parameters of an adequate feeding dynamics for DM1.
Nutrition	Risk for unstable blood glucose level	<ul style="list-style-type: none"> Susceptibility to variation in the serum glucose levels that can compromise health.
	Feeding self-care deficit	<ul style="list-style-type: none"> The child cannot feed themselves properly (food choices). The child depends on another person who is responsible for the care of their food.
Perception/Cognition	Impaired verbal communication	<ul style="list-style-type: none"> Decreased ability to transmit and receive messages, due to the stage of cognitive development. The child presents difficulties to refer to symptoms such as hypoglycemia and hyperglycemia.
Comfort	Impaired comfort	<ul style="list-style-type: none"> Recurrent episodes of impaired comfort (discomfort) due to painful procedures for controlling DM1.
Growth and development	Risk for delayed development	<ul style="list-style-type: none"> Susceptibility for delay of the cognitive abilities due to the characteristics of the chronic disease. The child may present dysfunctions in growth and development due to DM1.

The approach of this study was anchored in the theoretical evidence found in the literature. Based on interventions with the DTT, five nursing diagnoses were listed and, from them, the following categories were created: “I can also play”, “Healthy Eating”, “Stay well” and “My friend insulin”.

Each intervention was conducted intending to promote a more comfortable adaptation of the children to their reality and, at the same time, to stimulate self-care. Using the toy created the necessary approximation to the infant universe, and to the forms of communication through playful thinking.

The “I can also play” category emerged from the use of a board game, in which the researcher asked the children about the care that they received for the management of DM1. At this moment, the child and caregiver were instructed about the possibility of adopting a care routine performed in an educational and less painful manner, seeking better adherence of the child to the procedures.

To address the “Healthy Eating” theme, toys representing food were employed. After explaining the game rules, the toys were arranged on a table and the kids started to prepare their dishes. This was the time when the researcher offered dietary guidelines both for the child and for the mother.

The youngest study participant (two years old), due to her age and to her phase of cognitive development, was unable to reproduce, in the game, the food she ate in the main meals, being then assisted by her mother, to whom the researcher directed the guidelines on the theme. Although for the child’s age the concept of a healthy dish is complex, she can name all the foods that she could handle in the game.

The inclusion of such a young child constituted a challenge, both due to the limited communication inherent to the age group itself and to the immaturity of this development period. It is noteworthy that maternal participation was essential during the meetings, and that the mothers’ presence helped the children to express themselves and to be able to participate in a more effective manner for the practices implemented.

Other children prepared their dishes by arranging portions of rice, beans, legumes, vegetables and meats. However, at some moments they showed that the family diet was not always adequate for the healthy eating needs of the child with *diabetes*, reproducing the consumption of soft drinks.

At that moment, the researcher joined the game, guiding both the child and the mother on the importance of maintaining food-related care, in order not to cause in any short- and long-term harms to the child’s health, which could be triggered by hyperglycemia.

The “Stay well” category is related to the perception/cognition and to the competence to communicate symptoms of glycemic decompensation such as hypoglycemia and hyperglycemia, quite common among children, because at this age they usually have impaired (limited) verbal communication.

For this research, games with a doll were stimulated, for the children to show how they perceive insulin use. Thus, the researcher was able to guide, especially the mothers, on the glucose monitoring techniques and insulin application, its conservation, use, and disposal of needles, syringes and other inputs used.

DISCUSSION

The findings of this study confirm a current reality, depicting an increase in the number of DM1 diagnoses among children and adolescents, in all the countries, especially among children under five years old^{1,15–17}.

Monitoring DM1 cases in children can help prevent harms caused by the disease in the short- and long-term. Chronic complications due to Type 1 *diabetes* can appear in a period of approximately five years after diagnosis. Therefore, early detection is essential to prevent disabilities and death in this population¹.

This finding is consistent with the guidelines of the Brazilian Society of *Diabetes*, which states that transferring the disease self-care responsibility to a child under six years old is not advisable. Thus, family involvement is essential in optimal DM1 management throughout childhood, and the parents' adaptation to the diagnosis and to the daily care of the disease should be promoted¹⁸.

Recognition of the symptoms related to the disease is under the responsibility of an adult and, therefore, the family context must be considered by the professional monitoring it, for presenting itself as determinant in the care and maintenance of a healthy and quality life^{4,18}.

The children in this study presented the following as initial symptoms: excessive thirst disease (polydipsia), frequent urination (polyuria) and weight loss. These classic clinical symptoms are described in the literature, and approximately one third of the children present Diabetic Ketoacidosis (DKA) at diagnosis¹⁹.

The first symptoms presented by the children were unknown to the parents, taking the family to a care-related route that, in some cases, impaired and delayed the diagnosis, putting the children's lives at risk. It is noteworthy that, even in countries with universal health coverage and better access conditions, the diagnosis of Type 1 *diabetes* can be delayed until the first hospital admission due to DKA¹.

The study participants were hospitalized at least once due to DM1 complications. An increase in hospitalizations due to *diabetes* in childhood has been observed, since DKA is an emergency associated with high morbidity in the patients. This complication can occur early in the disease, but can also reappear due to lack of insulin use and to triggering causes, such as infections^{1,18}.

Among the indispensable care measures for *diabetes* are blood glucose control; frequency of blood glucose testing; management of nutrition; physical exercise and the use of insulin injections, this latter being essential for life since, without them, the person with *diabetes* would be sentenced to death²⁰⁻²¹.

Thus, given the importance of knowledge about the care for DM1, when it comes to very young children, the nurse who provides care and offers the guidelines to the family members and caregivers should seek education strategies appropriate to this population²¹.

Thus, the ITT emerges as an alternative with great potential for effectiveness, and can be used as an adjuvant in the care actions for children with DM1, in order to prepare them for the therapeutic courses of action, reducing their anxiety and assisting in acceptance, participation in care and collaboration in the face of invasive procedures²².

When discussing the development process of the human being, it is important to consider that, during childhood, individuals begin to detach themselves from the family group, starting to establish their social relationships with groups of friends. At this phase, a chronic disease can affect their affective bonds, due to the limitations it imposes²³.

In addition to that, the treatment of DM1 in young children (<5 years old) remains a great challenge. In this age group, children with the disease are more prone to decompensation of the blood glucose levels, with difficulties in correcting glycemic levels, such as hypoglycemia, especially the most severe forms, and important hyperglycemia episodes^{1,17}.

The management of the disease in these children is a challenge to be overcome by the family and by the health professionals. In this context, nurses should be able to develop educational activities, considering individualization of the treatment, according to the response level of each patient, the social and family support they receive, and the psychosocial factors that affect their routine¹⁸.

The educational techniques for patients with DM1 must include the use of insulin and capillary glucose monitoring which, although they may bring discomfort to the child and resistance to treatment, they are, together with a balanced diet and physical activity, components of a necessary and effective therapy for patients with the disease^{1,17,20}.

When assessing the needs of children with *diabetes*, special attention must be paid when considering the processes of psychosocial distress related to the disease. Rapid changes in the cognitive, developmental and emotional ambiance can occur during childhood (intensified after the age of seven years old), interfering with the development of the child²⁰.

The health professional who cares for this population must know their patient with *diabetes* and be able to evaluate their behavior, emotional and psychosocial factors, and also assess the family conditions, plan and implement an individualized treatment, seeking to overcome barriers or redefine goals, as appropriate for each case¹⁹. Accordingly, each category identified in this study refers to areas of basic human needs⁶, in a dynamic and interrelated manner. Thus, physiological, safety, affection, esteem and self-realization needs permeate with greater or lesser emphasis those categories arising in the diagnostic (DTT) and therapeutic (ITT) process.

Thus, thinking in the NP⁶ as the systematized work axis of the nurse and of the other team members, in the setting of care for the child with *diabetes*, it is virtually impossible to implement effective educational-assistance actions without considering family participation in this process, especially that of family caregivers. Thus, in addition to meeting needs related to safety, affection and esteem, the performance of these social actors in the context of the treatment of diabetic children is paramount. Among other interventions, it is up to the family members to supervise care, especially in early childhood, until the patients become independent for self-care¹⁷.

The general nutritional needs of children with *diabetes* should not differ from those of other children. Feeding must have its schedule adapted to the insulin scheme used by the child and be within the range of more than three hours from the last meal. With regard to the type of food, the ideal is to agree on healthy choices both at home and in the schools. Care with carbohydrate intake must also be constantly reinforced in *diabetes* education¹⁸.

The studies indicate that children in this age group are still incapable for self-perception of *diabetes* symptoms, being susceptible to the undesirable and dangerous effects of the disease, especially hypoglycemia (more common in children under six years old)¹⁹.

Recurrent episodes of glycemic imbalance are especially dangerous for the life of young children. In case of hypoglycemia, according to its intensity, it can cause decreased brain glucose level (neuroglycopenia), confusion, convulsions and loss of consciousness, as well as coma and death¹⁹.

The "My friend insulin" category was addressed highlighting the importance of using the drug in an appropriate way, in order to promote control of the blood glucose levels. The necessity and importance of performing blood glucose checks throughout the day to control the disease were focused on. The guidance on insulin application, as painful as it may be, exerts a significant influence on the care process, showing its importance as an ally, and not as villain¹⁷⁻¹⁹.

The person with DM1 and/or caregiver should understand the importance of this care measure. The tests must be performed before and after meals and snacks, at bedtime, before and after physical exercise, when hypoglycemia is suspected, and after treatment of hypoglycemia or hyperglycemia^{1,17-19}.

Glucose monitoring allows evaluating the individual response of the patient to therapy and the safe achievement of the glycemic goals. Integrating the results obtained with the treatment to control *diabetes* can be a useful tool to guide nutritional therapy and physical activity, prevent hypoglycemia and adjust insulin doses¹⁹⁻²⁰.

As this is a complex disease, it is essential that *diabetes* education can be regulated in care. The need for the correct use of insulin and the nutritional and psychosocial therapies should be guided at the time of diagnosis and also regularly by a multiprofessional team comprised by specialists, trained in the management of pediatric *diabetes* and sensitive to the challenges inherent to working with children and adolescents with DM1 and their families²⁰.

Educational activities, carried out through dialog, promoting reflection and criticism, can be consolidated as an effective instrument for the formation of a knowledge framework that enables care continuity with *diabetes* throughout life. These strategies must be adapted to the objectives, the sociocultural context and lifestyle of the person with *diabetes*¹⁸.

It is also reiterated that the therapeutic toy is an excellent tool to approach children, since it allows working with stressful themes in a relaxed manner²⁴.

The discussion of the results of this study corroborates the perception about the continuity character of the stages that integrate the systematization of care. Thus, using the DTT and the ITT constitutes interconnected elements, where the findings that emerge from the implementation of one of them direct the actions of the other, so that, from the evaluation of both, elements arise for system feedback, always in favor of the qualification, adequacy and customization of the care provided.

Regarding the process for implementing studies in the setting of primary health care, it is worth mentioning that the difficulty locating children with DM1, due to the absence of municipal and regional records, represents a study limitation. Thus, despite this limitation, as a case study, it is believed that this research contributes to the provision of some valuable subsidies to assist nursing care with this population. In addition, it is fundamental that future studies be implemented in order to investigate new strategies for the adequate control and monitoring of these patients. We ratify the importance of strengthening the health education actions even in primary care, and the need to always seek to work on the creation of the link between the health services and the families, as an essential condition for the qualification of care.

CONCLUSION

By assuming a posture of listening and approximation, the researcher, as a nurse professional, allowed the participants, both children and their parents, to show their perceptions about the disease and actively participate in the education process.

Through the use of the toy, the children showed that they are able to express their perception on the disease and on the care received, a fact that was evidenced during the sessions. These findings enabled the researcher to establish a communication channel and a more effective bond with each binomial which, in turn, enabled a more accurate assessment and the definition of the nursing diagnoses to determine the necessary educational interventions based on them.

It was concluded that the therapeutic toy, used as a mediating tool in the NP stages, both to define the nursing diagnoses and to implement the educational actions, favored the approximation of the researcher with the child and allowed them to engage in a playful manner with care, de-constructing conceptions that associate the process of living with DM1 with the idea of suffering and reduction in quality of life.

Thus, the study reasserts the importance of using light technologies appropriate to each patient, as a form of education and assistance in the different phases of human life, especially in the contexts of a chronic disease, which require the development of autonomy for care throughout life.

REFERENCES

1. International Diabetes Federation. Diabetes Atlas. 9th ed. Brussels (BE): International Diabetes Federation, 2019.
2. Lange K, Kordonouri O. Setting the right course at type 1 diabetes diagnosis. *Lancet Child Adolesc Health* [Internet]. 2019 [cited 2020 Oct 05];3(3):138-9. Available from: [https://doi.org/10.1016/s2352-4642\(19\)30031-8](https://doi.org/10.1016/s2352-4642(19)30031-8)
3. La Banca RO, Ribeiro CA, Freitas MS, Freitas MAO, Nascimento LC, Monteiro OO, et al. Therapeutic play in the teaching of insulin therapy to children with diabetes: a qualitative case study. *Rev Eletr Enferm* [Internet]. 2019 [cited 2020 Oct 05];21:52591. Available from: <https://doi.org/10.5216/ree.v21.52591>
4. Morawska A, Mitchell AE, Lohan A. Engaging families of children with type 1 diabetes into a randomised controlled trial of a brief parenting group program. *J Child Fam Stud* [Internet]. 2020 [cited 2020 Oct 05];29:1301-11. Available from: <https://doi.org/10.1007/s10826-019-01648-6>
5. Brock KE, Wolfe J, Ullrich C. From the child's word to clinical intervention: novel, new, and innovative approaches to symptoms in pediatric palliative care. *Children (Basel)* [Internet]. 2018 [cited 2020 Oct 05];5(4):45-61. Available from: <https://doi.org/10.3390/children5040045>
6. Horta WA. Enfermagem: teoria, conceitos, princípios e processo. *Rev Esc Enf* [Internet]. 1974 [citado 2020 Oct 05];8(1):7-15. Available from: <https://doi.org/10.1590/0080-6234197400800100007>.
7. Pennafort VPS, Queiroz MVO, Gomes ILV, Rocha MFF. Instructional therapeutic toy in the culture care of the child with diabetes type 1. *Rev Bras Enferm* [Internet]. 2018 [cited 2020 Oct 05];71(Suppl 3):1334-42. Available from: <https://doi.org/10.1590/0034-7167-2017-0260>
8. Diagnósticos de enfermagem da NANDA-I: definições e classificação 2018-2020/[NANDA International]; Trad. Regina Machado Garcez. 11th ed. Porto Alegre, RS(BR): Artmed; 2018.
9. Brondani JP, Pedro EVR. The use of children's stories in nursing care for the child: an integrative review. *Rev Bras Enferm* [Internet]. 2019 [cited 2020 Oct 05];72(Suppl 3):333-42. Available from: <https://doi.org/10.1590/0034-7167-2018-0456>
10. Aranha BF, Souza MA, Pedroso GER, Maia EBS, Melo LL. Using the instructional therapeutic play during admission of children to hospital: the perception of the family. *Rev Gaúcha Enferm* [Internet]. 2020 [cited 2020 Oct 05];41:e20180413. Available from: <https://doi.org/10.1590/1983-1447.2020.20180413>
11. Silva AS, Valenciano PJ, Fujisawa DS. Atividade lúdica na fisioterapia em pediatria: Revisão de Literatura. *Rev Bras Educ Espec* [Internet]. 2017 [citado 2020 Oct 05];23(4):623-36. Available from: <https://doi.org/10.1590/s1413-65382317000400011>.
12. Calegari T, Gimenes BP, Luz JH, Campos YA, Borba RI, Ribeiro CA. Autist child in session of dramatic therapeutic play: Winnicott's. *Rev Soc Bras Enferm* [Internet]. 2018 [cited 2020 Oct 05];18(1):43-8. Available from: <https://doi.org/10.31508/1676-3793201800007>
13. Silva LAGP, Mercês NNA. Multiple case study applied in nursing research: a case report. *Rev Bras Enferm* [Internet]. 2018 [cited 2021 Apr 18];71(3):1194-7. Available from: <https://doi.org/10.1590/0034-7167-2017-0066>
14. Lacerda MR, Costenaro RGS. Metodologias da pesquisa para a enfermagem e saúde: da teoria à prática. Porto Alegre, RS(BR): Moriá; 2016.
15. Flor LS, Campos MR. The prevalence of diabetes mellitus and its associated factors in the Brazilian adult population: evidence from a population-based survey. *Rev Bras Epidemiol* [Internet]. 2017 [cited 2020 Oct 05];20(1):16-29. Available from: https://www.scielo.br/scielo.php?pid=S1415-790X2017000100016&script=sci_abstract

16. Ogurtsova K, Fernandes JDR, Huang Y, Linnenkamp U, Guariguata L, Cho NH, et al. IDF Diabetes atlas: global estimates for the prevalence of diabetes for 2015 and 2040. *Diabetes Res Clin Pract* [Internet]. 2017 [cited 2020 Oct 05];128:40-50. Available from: <https://doi.org/10.1016/j.diabres.2017.03.024>
17. Sociedade Brasileira de Diabetes. Diretrizes Sociedade Brasileira de Diabetes 2019-2020. São Paulo, SP(BR): Clannad Editora; 2019.
18. Sociedade Brasileira de Diabetes. Posicionamento Oficial SBD nº 01/2020. Conduta terapêutica no diabetes tipo 1: algoritmo SBD 2020. [cited 2020 Oct 05]. Available from: https://www.diabetes.org.br/publico/images/posicionamento_oficial_sbdn012020v6brlc.pdf
19. Glycemic Targets: Standards of Medical Care in Diabetes. *Diabetes Care* [Internet]. 2019 [cited 2020 Oct 05];42(Suppl 1):S61-70. Available from: <https://doi.org/10.2337/dc19-S006>
20. Lifestyle Management: Standards of Medical Care in Diabetes. *Diabetes Care* [Internet]. 2019 [cited 2020 Oct 05];42(Suppl 1):S46-60. Available from: <https://doi.org/10.2337/dc19-S005>
21. Moreschi C, Rempel C, Backes DS, Pombo CNF, Siqueira DF, Pissaia LF. Actions of FHS teams for the quality of life of people with diabetes. *Cienc Cuid Saúde* [Internet]. 2018 [cited 2020 Oct 05];17(2). Available from: <https://doi.org/10.4025/ciencucuidsaude.v17i2.41000>
22. Silva RDM, Austregésilo SC, Ithamar L, Lima LS. Therapeutic play to prepare children for invasive procedures: a systematic review. *J Pediatr* [Internet]. 2017 [cited 2020 Oct 05];93(1):6-16. Available from: <https://doi.org/10.1016/j.jpmed.2016.06.005>.
23. Feldman MA, Anderson LM, Shapiro JB, Jedraszko AM, Evans M, Weil LEG, et al. Family-based interventions targeting improvements in health and family outcomes of children and adolescents with type 1 diabetes: a systematic review. *Curr Diab Rep* [Internet]. 2018 [cited 2020 Oct 05];18(3):15. Available from: <https://doi.org/10.1007/s11892-018-0981-9>
24. Maia EBS, Ohara CVS, Ribeiro CA. Teaching of therapeutic play at the undergraduate level in nursing: didactic actions and strategies used by professors. *Texto Contexto Enferm* [Internet]. 2019 [cited 2020 Dec 17];28:e20170364. Available from: <https://doi.org/10.1590/1980-265X-TCE-2017-0364>

NOTES

ORIGIN OF THE ARTICLE

Article extracted from the thesis – Interventions with a Therapeutic Toy in the context of children with Type I Diabetes Mellitus, presented at the Graduate Program in Nursing of *Universidade Estadual de Maringá*, in 2019.

CONTRIBUTION OF AUTHORITY

Study design: Pedrinho LR, Higarashi IH.

Data collection: Pedrinho LR.

Data analysis and interpretation: Pedrinho LR, Shibukawa BMC, Rissi GP, Uema RTB.

Discussion of the results: Pedrinho LR, Shibukawa BMC, Rissi GP, Uema RTB, Merino MFGL.

Writing and/or critical review of the content: Pedrinho LR, Shibukawa BMC, Rissi GP, Uema RTB, Merino MFGL, Higarashi IH.

Review and final approval of the final version: Merino MFGL, Higarashi IH.

APPROVAL OF ETHICS COMMITTEE IN RESEARCH

Approved by the Ethics Committee in Research with Human Beings of the *Universidade Estadual de Maringá*, under opinion No.2,682,522/2018, and Certificate of Presentation for Ethical Appreciation No. 89210418.5.0000.0104.

CONFLICT OF INTEREST

There is no conflict of interest.

EDITORS

Associated Editors: Selma Regina de Andrade, Gisele Cristina Manfrini, Melissa Orlandi Honório Locks, Ana Izabel Jatobá de Souza.

Editor-in-chief: Roberta Costa.

HISTORICAL

Received: December 18, 2020.

Approved: May 07, 2021.

CORRESPONDING AUTHOR

Gabrieli Patrício Rissi

gabrielirissi@gmail.com

