



# Assisted therapy with dogs in pediatric oncology: relatives' and nurses' perceptions

Terapia assistida com cães em pediatria oncológica: percepção de pais e enfermeiros Terapia asistida con perros en pediatría oncológica: percepción de padres y enfermeros

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## **ABSTRACT**

**Objective:** to understand the perception of nursing staff professionals and legal guardians of children and adolescents with cancer regarding Assisted Therapy with dogs. **Method:** qualitative study based on participant observation conducted with 16 participants in a reference hospital of child cancer. We applied an in-depth interview and interpreted the data according to a content analysis technique. **Results:** the practice is admittedly beneficial to participants despite the fact they do not understand its true objectives and therapeutic applications. Participants only associate it with something distracting and entertaining without realizing the occurrence of a more complex process behind it, which comprises changes besides the emotional ones (more easily perceived). **Conclusion:** the perceptions of participants reinforce recommendations that can be applied in the hospital environment, also showing that the therapy in question can become an effective technology to promote the health of children and adolescents with cancer.

**Descriptors:** Pediatric Nursing; Animal-Assisted therapy; Oncology; Hospitalized Teenager; Cancer Institutes.

#### **RESUMO**

**Objetivo:** apreender a percepção de profissionais da equipe de enfermagem e responsáveis por crianças e adolescentes com câncer acerca da Terapia Assistida com Cães. **Método:** Estudo qualitativo baseado na técnica de Observação Participante, realizado junto a 16 participantes em um hospital de referência para câncer infantil. Aplicou-se entrevista em profundidade e os dados foram interpretados com base na técnica de análise de conteúdo. **Resultados:** A prática é reconhecida como benéfica para os participantes, mas estes não compreendem o verdadeiro objetivo terapêutico e aplicações. Associam-na apenas a algo que distrai e diverte, sem, no entanto, perceber que ali ocorre um processo mais complexo, que envolve mudanças além das emocionais, que são percebidas mais facilmente. **Conclusão:** As percepções dos participantes reforçam recomendações que podem ser aplicadas no contexto hospitalar e evidencia que a terapia em questão pode tornar-se uma tecnologia efetiva para promoção da saúde de crianças e adolescentes com câncer. **Descritores:** Enfermagem Pediátrica; Terapia Assistida por Animais; Oncologia; Adolescente Hospitalizado; Institutos de Câncer.

#### **RESUMEN**

**Objetivo**: comprender la percepción de profesionales del equipo de enfermería y responsables de niños y adolescentes con cáncer acerca de la Terapia Asistida por Perros. **Método**: estudio cualitativo, basado en técnica de Observación Participante, realizado con 16 participantes en hospital de referencia de cáncer infantil. Se aplicó entrevista en profundidad. Datos interpretados por técnica de análisis de contenido. **Resultados**: la práctica es reconocida como benéfica para los participantes, aunque ellos no entienden su verdadero objetivo terapéutico y aplicaciones. La consideran sólo algo que distrae y divierte, sin percibir que lo que ocurre es un proceso más complejo que involucra cambios más allá de los emocionales, los más fácilmente perceptible. **Conclusión**: las

percepciones de los participantes refuerzan recomendaciones aplicables en el contexto hospitalario y evidencian que la práctica en cuestión puede convertirse en técnica efectiva de promoción de salud en niños y adolescentes con cáncer.

Descriptores: Enfermería Pediátrica; Terapia Asistida por Animales; Oncología; Adolescente Hospitalizado; Instituciones Oncológicas.

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#### INTRODUCTION

Animal-assisted therapy (AAT) is about services developed by health professionals who use animals as part of the health care process<sup>(1)</sup>. Despite being considered contemporary, there are records registered by Florence Nightingale in 1860 that approach AAT based on the observation of patients who had the company of small animals and the consequent manifestations of improvement in their health conditions. Thus being one of the first records in the world to use such technique and to influence health professionals on the use of AAT<sup>(2)</sup>.

In the nursing context, a comprehensive review conducted recently showed that professionals have been using AAT as a therapy to reduce pain and anxiety, increase socialization and quality of life, and contribute to treatments in several health fields<sup>(1)</sup>. Among the most popular animals used by nurses, we highlight dogs (Assisted Therapy with Dogs - ATD), which has a natural affection for people and can be easily trained, besides responding positively to touch<sup>(3)</sup>. An extremely important factor is that animal-assisted activity can be developed individually or in a group aiming to help in the search for individual's full well-being according to the particularities of each case<sup>(4)</sup>.

Therapeutically, the inclusion of the dog in the care of children and adolescents with cancer has collaborated to increase self-esteem and plasma concentration of endorphins, balance emotional and structural deficits, and decrease plasma concentration of cortisol, a substance that acts directly in the anxiety status<sup>(5)</sup>. In addition, the practice improves social interaction, promotes self-care and communication between the health team, the family, and among other children<sup>(6)</sup>. The ATD can be used by a nurse to help in the child's adaptation to stressful situations, increase mobility and muscular activity, and promote the child's collaboration during procedures, considering they tend to feel more relaxed and confident when realizing the hospital environment also provides them pleasant and fun moments<sup>(7)</sup>.

Nurses consistently search for interventions to reduce the stress of hospitalization and to make the treatment of cancer easier; for this reason, in health care, the use of alternative therapies capable of developing strategies to make this process less traumatic has been valued<sup>(5,8)</sup>. A case study carried out in São Paulo showed that the development of a care plan involving AAT and ATD can provide moments of relaxation and joy, which benefits the patient, the person accompanying the patient, the patient's family, and also the nursing staff<sup>(8)</sup>.

Despite all the advantages evidenced by this therapy, health professionals and relatives still have a lot of insecurities regarding this practice mainly when it comes to children with cancer, considering opportunistic infections can emerge depending on the immunosuppression status. However, the study shows the rates of hospital infections between health

units visited by dogs and the ones not visited by dogs are similar. If all adequate procedures for the entry of a dog in this environment (hygiene and immunization) are followed, the transmission of infections from human visitors to patients would be more common than from animals to patients<sup>(9)</sup>.

Knowing the possible questions in the care of children and adolescents with cancer, it will be possible to enhance the ATD and allow its implementation by nurses as a therapeutic strategy that helps patients face the disease. Thus, our objective is to understand the perception of nursing staff professionals and legal guardians of children and adolescents with cancer regarding Assisted Therapy with Dogs in a reference hospital of the Northeast region of Brazil.

#### **METHOD**

#### **Ethical aspects**

We highlight that we presented the results to representatives and professionals of the study during the session in the aforementioned hospital, being an important source of validation of data as international recommendations<sup>(12)</sup>. This study complied with the resolution 466/12 and was approved by the process no. 809,068. To preserve the participant's anonymity, we named them as Legal Guardian (A to J) and Nursing Staff Professional (A to F), listed by following the order of interviews.

#### Theoretical-methodological reference

To understand the perception of professionals of the nursing staff and also of families/legal guardians of children and adolescents with cancer, we opted for a qualitative approach based on participant observation<sup>(10)</sup>, a technique that involves inserting researchers within the group observed, making them part of it, to interact during long periods of time and share their daily lives for us to understand what it means to experience a particular situation.

We adopted this theoretical-methodological reference because it allows researchers to reduce the distance between them and the social group they are going to work with. Approximation requires patience and dedication, being an essential condition for carrying out this research, considering hospitals are stressful environments where subjects/patients are not mere objects, but the main characters of their lives. During this study, we have taken several measures to ensure the accuracy of our research: approximation with the scenario of study by respecting the particularities of the nursing work as well as the ones from the patient's families and the dog, organization of regular discussion sessions among the authors to encode information, comparative use of all the notes made by the authors during interviews, and observation of the interaction between child/dog.

# Methodological procedures

#### Study scenario

The study was conducted in a reference hospital for North and Northeast regions of Brazil aimed at diagnosing and treating children and adolescents with cancer, which is located in a big city of the Brazilian Northeast. Annually, around 40,000 children and adolescents attend the Center of Pediatric Cancer of this institution – result of a partnership between the hospital and a local association. In addition to hospitalization, the service offers medical appointments, treatments, and psychosocial support.

Regarding the participation of the children's or adolescents' relatives/legal guardians, most of them being the patients' mothers, we interviewed 10 people who accompanied children and adolescents to medical appointments, chemotherapy sessions, or hospitalization at the hospital in the period from October 2014 to February 2015. The sample was selected by convenience until satisfying the need for information during the period of study. The inclusion criteria for relatives/legal guardians were: be the one who accompanies the child or adolescent in the service, have already been in a visit with dogs, and present emotional conditions at the time of the interview.

To know more about the professionals' performance, we interviewed six members of the nursing staff (nurses and nurse technicians) who provide direct care to children and work as collaborators in therapy with dogs. Inclusion criteria for participants were: being connected with the sector where children and adolescents received the therapy and having worked in the health unit for a period of at least six months.

# Data collection and organization

In total, we monitored four direct visits with the dog with a duration of approximately one hour each. In addition, the researcher started attending the scenario of study two months before the beginning of the activities, following the guidelines of a participant observation technician to get to know the health service, relatives, and professionals of the unit. During the dog's visit, besides patients themselves, were also in the room: managers, health professionals, the dog's tutor, and researchers. The participation of legal guardians and of the nursing staff was important, since they could witness the children and adolescents' physical and emotional status before and after the activity with the dog.

The visits occurred in the playroom of the hospital, where the kids could have fun and wait for their medical appointments and/or exams/chemotherapy sessions. To carry out ATD sessions, the presence of the dog was adapted to the routine of the health unit. Thus, the dog used to visit the service in fixed periods previously scheduled with the coordination of the hospital. In these visits, the dog did not accept food from anyone, did not defecate in the hospital environment, and followed the orders of its tutor, who was aware of everything pointed out by patients, relatives, the ones accompanying the patient, and health professionals. At the visiting time, children and adolescents could talk, cuddle, play, and take pictures with the dog if they wanted to. When it was possible, the same routine was carried out with the children who were waiting for some kind of procedure. The tutor was always wearing a

badge; even the dog had an uniform, which covered part of its back, according to recommendations<sup>(5,11)</sup>.

After observing the dog in the hospital environment and its interaction with children and adolescents, a previously trained interviewer applied an in-depth and semi-structured interview in patients' legal guardians and nursing professionals. The interview was conducted in a private place and recorded with the consent of all participants.

For professionals and legal guardians, we prepared an interview with two items, the first one being about the characteristics of children/adolescents, legal guardians who accompanied the patients to the hospital, and health professionals; and the second one comprising the following questions: "Do you know what is the objective of having a dog in this environment? Do you think the dog has been influencing your child's health? In what way?" For health professionals, we added: "How nurses can apply AAT or ATD in the care of children and adolescents with cancer?" All interviews were conducted and transcribed by the researchers.

## Data analysis

For the analysis of reports, we used participant observation supported by the method of content analysis to interpret the messages, and the individual and social reasons present in the reports obtained<sup>(10)</sup>. To interpret data, the following steps were conducted: a) comprehensive reading of the material selected and of the content of the report, as well as defining an overall perspective and understanding participants' particularities; b) organization of the elements that emerged from the reports in themes; c) the search for deeper meanings (sociocultural ones); d) elaboration of an interpretative synthesis according to the reported by participants; and e) dialogue between problematic ideas and information from other studies on the subject.

## **RESULTS**

After the final analysis, with the development of the central themes and the support in participant observation, we established analytical categories for our scripts based on the reports given, namely: 1) Perceptions of relatives/legal guardians on Assisted Therapy with Dogs; and 2) Knowing the role of nurses and the nursing staff in Assisted Therapy with Dogs.

Among the relatives/legal guardians who participated in this study, most of them were first grade relatives, female, and aging between 20 and 45 years; children's and adolescents' age ranged between four and 6 years (most of them being in the second childhood). In general, legal guardians' education ranged between some Elementary School (three participants) and High School (seven participants).

Among the health professionals, four of them were females aging between 24 and 54 years who have worked there for at least one year.

# Perceptions of relatives/legal guardians on Assisted Therapy with Dogs

In the following lines, mothers described the emotional state of children and adolescents before the visit, which usually included feelings such as fear, stress, and lack of motivation: Stressed... in the same way as he gets when he comes here. We live far away, we spend the whole day here. He gets anxious. (Mother A)

A little bit tired and discouraged as well. (Mother E)

The day we have to come to the hospital is the worst for him. (Mother B)

When questioned about the reason for the dog to be in the hospital, relatives/legal guardians associated it with a distraction/game for them:

The dog (she calls the dog by its name) comes here to sweeten the children's lives. (Mother A)

I suppose it is to bring joy to the patients because that is what I saw. (Mother D)

Having a dog here at the hospital is what motivates my son to face chemotherapy sessions. (Mother F)

Next, we encouraged the mothers to share their impressions on their child's reaction after the dog's visit; they perceived different feelings, including some related to their health conditions:

He got really happy about it and calmer... he likes to speak with everybody, but in here he gets more closed [...] then, after he saw the dog (she calls the dog by its name) he became chatty again. (Mother A)

He turned into a smarty head... and happier. In the days the dog comes he seems to feel better after the treatment... shows less complications. I think it makes him feel better. (Mother E)

When he arrives and sees the dog, he looks like a different kid... a lot more happier. (Mother G)

Relatives/legal guardians commented this therapy is valid since it helps children/adolescents face the hospital environment and the AAT favors the relationship between health professionals and patients, considering the own staff shows satisfaction when close to the dog, leading to a different attitude towards their job:

When the doctor or the nurse stop by to see the dog and then they come to see us, they seem calmer and take better care of the children. (Mother D)

We can say when a nurse or doctor saw the dog [...] they come speak with us a lot more excited, which influences the way we feel and the way how we get out of here. (Mother H)

# Knowing the role of nurses and the nursing staff in Assisted Therapy with Dogs

Professionals stated that the purpose of AAT is to entertain the children, not relating its therapeutic effect to the dog. According to four professionals: The dog came to distract the patients waiting for their appointments. (Professional A)

The dog comes to entertain the patients and whoever it finds in its way. (Professional D)

Its main goal is to stay with the children to cheer them up a little. (Professional B)

As for the emotional state of patients before the visit, they revealed us that usually stress and anxiety are one of the feelings most commonly perceived in addition to the distancing between one patient and another and between patients and health professionals:

Many of them get stressed, anxious, angry. (Professional F)

I realized that no matter how hard children may play and get distracted in the playroom, they don't interact with each other or with any professional. (Professional D)

They usually arrive here feeling anxious, some of them with bad mood... and then they isolate themselves. (Professional E)

Like the relatives/legal guardians, the nursing staff recognizes the change in the behavior among adolescent patients after their interaction with the dog, considering it a positive change made clear by joy and the peaceful feeling brought for both professionals and patients, as seen in the quotes below:

They get distracted, they play and have fun. Adolescents generally get more upset and quiet. The presence of the dog improves interaction and makes them more relaxed and calm. (Professional C)

They play, laugh more often, speak with each other, speak with the dog, speak with us about it. When the dog comes here, this hospital turns into a party. They almost fight about who is going to see the dog first. (Professional D)

Certainly they get happier, calmer... children enjoy it even more than adolescents, but the effect on them is noticeable because they open up a little bit more and get out of their own world. (Professional E)

We also questioned the nursing staff if the presence of the dog improved, in some way, their therapeutic relationship with children and adolescents, as seen in the following reports:

Yes, there was an improvement in communication, mainly with those who are naturally shyer or those who seem scared when they get here. (Professional A)

They talk a lot more. We start a conversation and they talk about the dog... so that it is possible to conduct the treatment. (Professional D)

Usually they don't want to talk, but when the dog comes... we can't help getting excited as well, then we're able to speak with them about it. When there is something in common to talk about it is easier to medicate them. (Professional E)

When questioned on the use of AAT by nurses, three professionals commented that this is an activity that would help them to take better care of patients. However, at the same time, they fear not having adequate knowledge on this technique, since there is no proper guidelines to be followed:

The dog's visit to the hospital is very interesting, because it makes our job easier, but the problem is that we're so used to our daily activities that we would not know how to take advantage of this. I can't even imagine what it is needed to carry out this therapy, which procedures we must follow with the animal. (Professional B)

I've never imagined we could use animals in child's care and, after the dog started coming here I noted it became way easier, either for children and teenagers. (Professional C)

#### **DISCUSSION**

In this study, we noted that ATD benefits hospitalized children and adolescents, according to relatives/legal guardians and nursing professionals, making the adaptation to the hospital environment easier, reducing anxiety and hospitalization trauma. An integrative review verified positive social effects of ATD on children with social disorders and disabilities(10), corroborating the results of this study on children who started socializing with health professionals and other children after ATD. Another study carried out in Australia involving the use of Animal-Assisted Therapy (AAT) in classrooms with autistic children showed significant improvements regarding participant's social abilities, reducing isolating behaviors. In addition, more than half of the relatives/legal guardians reported that participants have shown increased interest in attending school during the program<sup>(8)</sup>. Although the studies cited are on children with special needs, it is possible to note the potential of this therapy in care practice.

During this study, we observed that relatives/legal guardians, most of them being the children's and adolescents' mothers, verified changes, including of physiological character, in their children. According to the literature, interaction between the dog and the patient is a moment of joy that reduces stress levels and releases substances, such as endorphins and adrenaline, in patients' immune system, minimizing the effects of depression. Being in contact with the animal decreases pain perception and makes the hospital environment lighter, which is mainly needed in oncological centers. The presence of the dog makes the child more comfortable around health professionals, easing the carrying out of procedures and making relatives/legal guardians calmer.

We verified that both for relatives/legal guardians and health professionals there is a lack of knowledge on the implementation of Animal-Assisted Therapy. Despite the fact this practice is admittedly beneficial to participants, they do not understand its true objectives and therapeutic applications. Participants only associate it with something distracting and entertaining without realizing there is a complex process behind that leads to real changes besides the ones of emotional matter (usually the most easily perceived). This can be explained by the fact that AAT is still not largely widespread

in Brazil, especially in a state of the Northeast region of the country with no experience of this kind of therapy.

However, in Brazil, studies show that there is a lack of research on the subject, especially in the nursing field, and consider of great importance the interest of health professionals in finding out more about AAT to implement it in their professional practices, since the benefits achieved by it were properly proven<sup>(3)</sup>.

Besides, we noticed that professionals want to make more use of this therapy, but do not have enough information to do so, mainly concerning how to handle with the animal. Thus, to take full advantage of this therapy, there is a need to establish protocols on this matter. A group of nurses described procedures implemented in a hospital of São Paulo and approach guidelines on how to handle with the animals, inclusion and exclusion criteria, and recommendations to health professionals. They concluded that with the adoption of this protocol, there was a reduction in clinical risks, preventing accidents and controlling infections<sup>(13)</sup>. In addition, the authors emphasized the project helped providing well-being to the patients.

Our study showed that ATD is a valid alternative, since relatives/legal guardians and nurses recognize that when associated with traditional therapy it can contribute to the well-being of children or adolescents with cancer, also highlighting that certain actions can be applied to achieve good results.

Nurses must be aware of the procedures around ATD such as knowing it can only be carried out with dogs of gentle and obedient behavior socialized in public areas since the first months after birth. It is important to keep in touch with a veterinary doctor to make sure the dog's parasitologic and dermatological exams indicate good health conditions. Another concern cited in international studies is the ethical consideration regarding the animal, seeing it not just as a simple tool, but with all due respect and recognition.

We noted from the relatives'/legal guardians' reports that the prevalence of feelings such as stress, anxiety, fear, loneliness, and isolation towards treatments and procedures show how painful and traumatic these experiences can be. The hospital environment leads patients to experience situations that might affect them not only physically but psychologically as well. Considering the fact that with the dog's help some traumas can be minimized, health professionals should recognize the animal's value.

According to the nursing staff, the most observed benefits of the ATT are: it can reduce anxiety and stress, promote relaxation, reduce loneliness and isolation, improve the hospital's environment, interpersonal relationships, and the communication between health professionals and patients<sup>(3)</sup>. Communication between patient and nurse is something really important, since it is a valuable way of having a more humanized and individualized care.

Literature<sup>(17)</sup> says that Animal-Assisted Therapy can be used as a tool of approximation between nurses and patients, since it eases their communication – also considering it part of the treatment. Literature also emphasizes that the recognition of patients' feelings is essential to nurses, since by this understanding they can realize patients' real needs, which contributes to the carrying out of a systematic care plan that considers

the patient as a whole and develops an empathic attitude. Communication would be key to allow this recognition, and ATD is a useful option that nurses have to make their interaction with the patient easier and more comfortable for both of them. It was possible to notice this relation in the reports we collected.

Nursing has been known as a profession that implies an important proximity with the patient, nurses being the ones responsible for paying attention to biological, mental, emotional, and spiritual dimensions of patients during treatment.

Having said that, it would be possible to elaborate a protocol of recommendations to carry out Assisted Therapy with Dogs in oncologic units, since in nursing courses outside Brazil, mainly from the United States, it is common to have specific information for nurses who want to work with AAT and take advantage of their benefits of physical, cognitive, emotional, physiological, and behavioral matters together with the patient. One of the examples is of the University of Oakland, in California, which has a Center for Human Animal Interventions conducted by nurses.

Considering that, in nursing, therapy with dogs or other animals has been discussed more and more lately, it has models of international guidelines, such as the recommendations of the Guidelines for Animal-Assisted Interventions in Health Care Facilities and the Healthcare Infection Control Practices Advisory Committee (HICPAC), both used with chronic health conditions, including cancer. These organizations present recommendations that are applied to the animal and the patient as well as to the coordination of the health unit interested in using the program<sup>(19)</sup>.

Before making contact with the dog, the nurse must be aware of the risk factors around the child or the adolescent with cancer, since they are more susceptible to develop infections. Therefore, patients have some restrictions to participate in the therapy<sup>(20)</sup>, such as during the postoperative period, after being submitted to recent splenectomy, in the case of allergies, severe immunosuppression or phobias regarding the animal.

Animal-Assisted Therapy can be used among children and adolescents who presented emotional or physical changes associated with cancer. Children or adolescents who underwent some kind of change of mobility or strength caused by the disease can improve their strength and muscle tone with sensory and kinesthetic stimuli with the help of the dog just by simply touching the animal or brushing its hair, which contributes to the recovery of self-esteem and reinforces the social contact the animal provides them<sup>(21)</sup>.

However, this therapy requires some precautions to be taken with the animal, such as: presentation of a document attesting the dog's health, previous defecation, bath, and hygienization made 24 hours before the visit to reduce allergens. In addition, to avoid contaminations, there is need to minimize the dog's way to the hospital. Finally, there is need for the Committee of Hospital Infection's authorization and the assurance that the dog will be seen as a life that contributes to human care and be treated respectfully. To do so, it is extremely

important to identify possible signs of animal stress to guarantee a good relationship between humans and dogs<sup>(22)</sup>.

Concerning the contact with the patient, children or adolescents must want to receive the animal's visit (minors must have the previous authorization of relatives/legal guardians). It is necessary to make sure the dog does not lick the patient's skin, wounds, or devices, not forgetting to report the unit's Committee of Infection Control in the case of incidents with the animal (such as bites, scratches, or changes in animal behavior)<sup>(22)</sup>.

Regarding the health service and the animal's tutor, the existence of some kind of agreement between all professionals is important when it comes to the will of implementing AAT. The dog's tutor must request the authorization of the nursing staff to initiate the interaction. In addition, the dog must always approach the patient from the opposite side of regions that are immobilized or even with dressings, venous access, or drains<sup>(15)</sup>.

All these considerations are important because they stimulate this practice and enable the creation of protocols in health units, letting health professionals and/or relatives/legal guardians calmer during the procedure. Despite the difficulties observed in the study scenario, to state that patients' feel willing to participate is encouraging, also giving space to alternative therapies in nursing care.

# **FINAL CONSIDERATIONS**

It was possible to point out some recommendations for the nursing practice that can be applied to the context of children and adolescents who experience sickening at the hospital environment. In addition, when recognizing potential gaps in the understanding of how the therapy work, either directly or indirectly, as in the case of relatives/caregivers, it would be possible to enhance ATD and promote more humanized actions to get more close to children and adolescents with cancer.

We stated that the participation of dogs is promising in the care of children and adolescents with cancer in the Northeast region of Brazil, since the ones who reported us their personal experiences witnessed how Animals Assisted Therapy can be used as a tool in the health care of patients hospitalized with a chronic disease. However, health professionals and relatives/legal guardians of children and adolescents with cancer still have little knowledge on the functioning and the goals of Animal Assisted Therapy, which makes its implementation harder.

Although there is still need for further studies on this area, it is clear that Assisted Therapy with Dogs offers several benefits and enables nursing professionals to strengthen their communication, integration skills, and their bonding process with patients, both very important in humanized care.

Considering the challenges faced to carry out this study, such as the small number of professionals and trained dogs to conduct this activity, which hindered the possibility of having other experiences in Assisted Therapy with Dogs, we could not generalize our results; however, they suggest an expanding subject in the nursing field that deserves to be further studied.

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