

Toilet training for children with Autism Spectrum Disorder: experiences, difficulties and supporting strategies

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Abstract: This study aimed to understand how the process of toilet training occurred in autistic children. This is a retrospective, descriptive study with qualitative analysis. Semi-structured interviews were carried out with seven caregivers of children diagnosed with Autism Spectrum Disorder (ASD), aged between 2 and 6 years old, who had already completed this training. The interviews were transcribed and subjected to content analysis. Data analysis allowed us to identify four categories: toilet training for evacuation, toilet training for urination, supporting strategies, and difficulties in the process. The results indicated greater difficulty for children with ASD to control their feces and, in general, daytime and nighttime toilet training occurred in two stages. Accessories and playful resources were used to facilitate the process, in addition to positive reinforcement, positive punishment and negative punishment strategies. There were emotional and physical difficulties for the caregivers themselves, and they did not receive professional help. This study advances knowledge about toilet training for children with ASD, indicating strategies that facilitate this process, both for caregivers and children, contributing to the training of professionals who work with this population.

► **Keywords:** Autism spectrum disorder. Toilet training. Child development.

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Introduction

Toilet control is one of the important stages of physical and psychological development in early childhood (Nurfajriyani; Prabandari; Lusmilasari, 2016), and the training needed to achieve it is a great challenge for families (Van Nunen et al., 2015; Vasconcelos; Lima, 2017). This stage refers to the period in which the child stops using diapers, as they are now able to control their sphincters, acquiring greater autonomy (Nurfajriyani; Prabandari; Lusmilasari, 2016; Van Nunen et al., 2015). At the end of training, it is expected that the child will be able to stay dry and clean, in addition to independently using the bathroom (Soutinho; Corrêa; Blascovi-Assis, 2020).

Early, late or poorly managed toilet training can lead to physiological consequences, such as constipation, enuresis, encopresis, and urinary infections (Hellström; Sillén, 2001; Hodges et al., 2014; Mota; Barros, 2008; Von Gontard, 2003). Failure to be trained in toilet control can also result in reduced personal hygiene, physical discomfort, reduced social participation, and having to face prejudice and stigma (Cicero; Pfadt, 2002). Difficulty controlling nighttime urine is associated with an increased risk of depression and aggressive behavior in adolescence, which, in turn, have been shown to be risk factors for suicidal behavior (Liu; Sun, 2005). Physiological, psychological and sociocultural factors influence learning toilet control (Solarin et al., 2017). For children to acquire independence in using the bathroom, they must develop language, as well as motor, sensory, neurological, and social skills (Schum et al., 2002). Generally, the child is expected to be able to sit, stand, walk, speak, understand and follow instructions, and take off their clothes to perform this activity successfully (Mota; Barros, 2008). Children who have not yet developed these skills, for some reason, need the implementation of strategies that facilitate the process and that will enable toilet training despite motor or language deficits.

Autism spectrum disorder (ASD) is characterized as a neurodevelopmental disorder that has an early onset, causing impairment in social and communication skills, in addition to presenting restricted and/or repetitive behaviors, interests and activities (APA, 2022). ASD is seen as a spectrum that can vary in severity and many individuals with this disorder require some type of support to develop skills and carry out their daily activities (Lord et al., 2018).

For children with ASD, the training process for sphincter control may present particularities and some additional difficulties may be faced in: identifying the desire/need to eliminate urine or feces; communication and language; understanding commands; skills in undressing and dressing; and using toilet paper correctly. Sensory changes and strictness in relation to routines are also factors that can lead to long-term incontinence, avoidance of using the bathroom, and difficulty in eliminating in the toilet if they have already learned to evacuate or urinate in other devices or outdoors (Bird et al., 2022; Cagliani et al., 2021; Francis; Mannion; Leader, 2017; Soutinho; Corrêa; Blascovi-Assis, 2020).

After reviewing the literature, Francis, Mannion and Leader (2017) report that there are articles that highlight the difficulties of the population with ASD in acquiring sphincter control and using the bathroom and indicate the need for training programs (citing the use of educational videos that the child can imitate, scheduled periodic trips to the bathroom, and removal of diapers so that the child feels uncomfortable due to wet clothes), however, they do not provide enough information on how to implement these exercises. No Brazilian studies were found that present toilet training programs for children with ASD. What exists in the national literature are just recommendations, these include: develop a routine with attention to schedules; enable a communication system for needs; plan dressing so as to facilitate attempts; make use of visual resources; identify areas that may present a problem (for example, the sound of flushing); praise and positively reinforce success during the process; and practice attempts in different environments to normalize the act (Soutinho; Corrêa; Blascovi-Assis, 2020).

Considering the negative physiological, emotional or behavioral impacts, in the short and long term, of unsuccessful toilet training (Cicero; Pfadt, 2002; Choby; George, 2008; Hellström; Sillén, 2001; Hodges et al., 2014; Liu; Sun, 2005; Mota; Barros, 2008; Von Gontard, 2003), it is necessary to deepen knowledge about truly effective techniques and strategies for toilet training for children with ASD.

It is believed that by investigating how this process occurred for autistic children who have already managed to be toilet trained, identifying the main doubts that permeated the process, which supporting strategies worked or not, knowledge can be gathered that will be extremely useful for professionals who deal with this clientele. Therefore, this study aims to understand how the toilet training process for children with ASD took place.

Method

This is a retrospective, descriptive study with qualitative analysis, submitted to the Research Ethics Committee, which was approved under the ruling number 5,301,424.

Through postings on social networks, caregivers were invited to participate in the study. The inclusion criteria were: caregivers of children diagnosed with ASD, aged between 2 and 6 years old, who had already completed the toilet training process. We limited the children's age to a maximum of six years, as normally at this age this training has already taken place, and not so long ago that it negatively interferes with remembering the facts.

It is considered important to highlight that, although it was not an inclusion criterion, only female caregivers were interested in participating in the research. Therefore, semi-structured interviews were carried out with these caregivers, in a virtual environment, from June to July 2022, and were recorded. These interviews were transcribed and subjected to content analysis (Mayan, 2001). Initially, an exhaustive reading of the material was carried out, followed by the categorization of the data, and the analysis categories were created and discussed by two researchers. Next, the categories were integrated into broader themes, in order to represent the strategies and resources used in the toilet training process of autistic children.

When presenting the statements selected to illustrate the themes, the letter P (representing the research participants) was used at the end of each statement, numbered from 1 to 7.

Results

Seven caregivers of children with ASD participated in the research, as shown in Table 1.

Table 1. Information about the participants and the children in their care

Caregiver	Relationship with the child with ASD	Age of the child at the time of the interview	Sex of child	Age at which toilet training began	Age at which toilet training was completed	Did the child have functional speech skills during training?
P1	Mother	3 years and 3 months	Male	1 year and 2 months	3 years	No
P2	Mother	4 years	Male	3 years	3 years and 4 months	Yes
P3	Grandmother	4 years and 7 months	Male	3 years and 3 months	4 years and 6 months	No
P4	Mother	6 years	Female	1 years and 6 months	3 years and 6 months	No
P5	Mother	4 years	Male	2 years and 8 months	3 years and 6 months	Yes
P6	Mother	6 years	Male	2 years	3 years and 6 months	No
P7	Mother	5 years and 6 months	Male	3 years	3 years and 8 months	No

Several reasons led caregivers to start toilet training, these included: cultural issues, pressure from society, observation of typical child's toilet training, and signs of readiness. It is also worth highlighting that the children verbalized little or nothing when they started the process, but they had motor aspects compatible with the development expected for their age. There was no collaboration of therapies, except in one of the cases, in which there was help from a “behavioral therapist” (the mother does not know how to refer to her profession).

The data analysis process allowed for the identification of four broad categories: toilet training for urination; toilet training for evacuation; supporting strategies; and difficulties in the process.

Toilet training for urination

Sphincter control for urination was achieved first in all participating children, before control for evacuation:

[...] this was the easiest. When he started pulling on his diaper, which we realized he was taking off to pee, we started to leave him without it [...] I kept putting the diaper on because of the poop, which was more work. But then when he pulled, I took him to the bathroom (P7).

The caregivers observed the signs that the children showed before urinating:

[...] she would run to the bathroom or sometimes she would be in that knock-knees position (P4);

[...] I could see from the expression on his face that he wanted to (P6).

Some reported taking the child to the bathroom regularly, not expecting any signs:

[...] I anticipated it, I took him regularly every hour, an hour and a half, two... first there were smaller intervals and then I started spacing it out (P6).

It was observed that, in most cases, daytime and nighttime toilet training was done in two stages:

[...] we took it (the diaper) off during the day first and at night I only took it off when I felt safe. After about 1 week of clean diapers, I then started taking them off (P4).

However, in one of the interviews the caregiver highlighted that sphincter control occurred first at night:

[...] all of a sudden he stopped peeing at night [...] when I saw that after two days with the diaper on he had already stopped doing it [...] I told him "it's time to pee, let's do one last pee for us before going to bed" then I took him to the bathroom and we went to bed. Back then he was feeding at 3 am, when he woke up to feed I took him to the bathroom, then he slept until 6 am, then at 6 am he woke up, I took him to the bathroom (P1).

Some avoided giving liquids at night, trying to minimize accidents:

[...] I didn't give him much liquid from that time onwards [16:00 hours] (P6);

[...] I avoided giving liquids after 8:30 pm (P7).

Regarding training to urinate outside the home, caregivers tried to anticipate going to the bathroom to prevent the child from feeling the urge while they were away:

[...] a gente vai sair pra alguma terapia, eu levo sempre ele no banheiro, mesmo ele não falando nada (P2).

It is worth noting that toilet training outside the home occurred with some insecurities on the part of the caregivers:

[...] leaving is more of our fear than their fear [...] the fear of leaving home was more mine (P1).

Toilet training for bowel evacuation

The caregivers pointed out that the sphincter control training for bowel evacuation occurred after urination control and that it was the most challenging:

[...] pooping was more difficult. He took longer to poop (P2).

There were reports that some children already had habitual difficulty in evacuating:

[...] he had a lot of difficulty pooping [...] sometimes it took a week to do it. So, poop was always a bit of a traumatic thing. It was very spread out, the volume of his poop was very large [...] he didn't like to poop anywhere, whether in the diaper, in the bathroom, and in the bathroom he became more nervous and agitated (P5).

However, no caregiver could explain the reason for the difficulty. The difficulty for the child to accept the use of the toilet to evacuate was also highlighted:

[...] he didn't want to sit on the toilet at all, he closed up, he couldn't do it (P7).

A caregiver talked about how she taught her son that feces should be disposed of in the toilet:

[...] I would pick up [child's name] poop, show it to him and say "here is your poop". I took it to the toilet and threw it into the toilet and showed him the flush (P1).

The child was reported to be uncomfortable with feces on their clothes or diapers:

[...] he started to get upset about the poop on his clothes, because when he did it he would run to us and say that we had to take it off, that he didn't want it (P2);

[...] initially he did it on his clothes and then it was another problem, because every time he did it on his clothes he became desperate, because he doesn't like getting dirty, so we had to give him a bath (P7).

In fact, this was a concern of a caregiver regarding nighttime toilet training:

[...] I continued using the diaper at night for a while, to be safe and because she is really disgusted with poop, so if she did it in bed, wow, it would be very difficult to get her to lie in that bed again (P4).

Some signs that children showed when they were going to evacuate were highlighted and that helped caregivers understand when to take children to the bathroom:

[...] when I noticed that he was acting up, I would take off his diaper, take him and sit him on the toilet (P1).

[...] he made some faces (P6);

[...] when he stayed in the corner, he kept taking little steps, then we realized what he wanted to do (P5).

In addition to behavioral signs, some caregivers observed the child's routine, trying to take them to the bathroom at times when they had the habit of having a bowel movement:

[...] it was usually after a meal, lunch. I put him on after lunch and we ended up having this routine (P6).

Some precautions were reported regarding training for evacuation outside the home:

[...] when he wanted to poop, I kept holding him so he felt safe and that he wouldn't fall in (P2);

[...] the first thing I do when I arrive in any place, I show him the bathroom and ask him to show me [...]. I always take a bottle of water, if he does something, I will clean him up, and change his clothes (P1).

Supporting strategies

In regard to supporting strategies, the use of accessories and playful resources, was identified as well as behavioral strategies, such as positive reinforcement, positive punishment and negative punishment.

Use of accessories and playful resources

The caregivers purchased accessories to aid the toilet training process, such as a potty, a seat reducer and a footrest to support the feet:

[...] we used the potty and the seat reducer and a stool for him to step on when he was on the toilet (P5);

[...] for peeing I bought that one... it's like a urinal, which is a little frog (P1).

However, some children did not accept certain resources:

[...] she didn't use a potty, she didn't adapt to any type, not the musical one nor the simplest one. What we used was the seat reducer (P4);

[...] I had the potty, but he didn't want to use the potty (P2).

Various playful resources and pretend play were also used to distract the child while using the bathroom, and also to teach about using the toilet:

[...] I sat a bear next to him on the toilet to poop and I crumpled toilet paper with water to say that the bear had pooped [...] sometimes I took those little plastic books (P7).

[...] I showed him a lot of drawings of pee [...]. I would take a syringe and position it near a doll, then I would pretend that the doll wanted to pee, then I would take it to the potty (P5);

[...] a poop book, which is a book with interactive pages to open and close. We used this one, we used a bath one that was made of plastic and I used a lot of games too. So I got some rubber characters for her to play with, taking them to the bathroom, the little girl ate and then had to go to the bathroom, and I also used video resources (P4).

The cell phone stood out for being a resource widely used during toilet training:

[...] I really think that what entertained him most was the cell phone (P2);

[...] sometimes I took my cell phone with me (P3).

Positive reinforcement

Positive reinforcement was a strategy used to facilitate the child's understanding of what they were expected to do and to encourage them to repeat the action:

[...] we clapped a lot, cheered every time he succeeded. So for a long time he would pee or poop, clap his hands and try to flush the toilet to carry out the rest of the process (P7).

This positive reinforcement was also used through rewards:

[...] I used reward: you pee and I'll give you candy (P2);

[...] when I went to the bathroom I took him with me and said: look, poop is cool! If you poop here, mom will give you the cell phone, do you want the cell phone? (P1).

Punishments

In relation to behavioral strategies, the use of negative and positive punishments was reported, aiming to eliminate certain unwanted behaviors, such as evacuating outside the toilet, for example:

[...] He really likes water and he sits in a big bowl at home. What happens is that he poops in the bowl, it's happened about four times, I take the water from the bowl, take it out, throw it away and tell him: poop isn't here, poop is there [showing the toilet], if you poop inside the bowl, mom will take away the bowl (P1).

In this example, the child lost the opportunity to play in the water and the mother used negative punishment by removing the play resources and positive punishment by making threats. Other reports using threat were obtained:

[...] I say: look, are you peeing in your clothes? I'm going to go get a diaper from [baby cousin's name] and put it on you (P4).

Difficulties in the process

Several difficulties were reported by both children and caregivers. Regarding the children, some had difficulty understanding:

[...] he would pick up the poop and sometimes even try to put it in his mouth (P1);

[...] he pooped on the floor and played with it as if it were clay, he put it on the floor, on toys (P3);

[...] he peed in his clothes and even clapped his hands (P7).

Regressions were reported due to changes in routine or seasons of the year:

[...] the routine changed and he went back to using diapers (P5);

[...] when it became cold, he was peeing every day at night, so I started putting a diaper on him (P2);

[...] now, in the second potty training attempt, there was a family update of a divorce, then that took longer [...] then it was a demonstration of discontent (P4).

Another difficulty mentioned was that everyone involved in caring for children must maintain the toilet training routine:

[...] he would stay there, doing everything right on the potty, then when he went somewhere else, people didn't continue doing it. Even my husband... sometimes I would stay with [child's name] and he would do everything right, then when he was alone with my husband, he would immediately put a diaper on him (P5).

The caregivers also reported their own difficulties in the training process, some of an emotional nature, such as insecurity, frustrations, and feelings of loneliness, and others of a physical nature, due to intense tiredness/exhaustion:

[...] he had difficulties, it was more because of poop [...] we left the diaper on to see if he was going to do it, so as not to make things too dirty in other people's houses and then he ended up peeing again in the diaper (P6);

[...] I didn't know how to deal with the situation, what rules to use (P4);

[...] there were moments when I didn't know what else to do. I read five hundred million things about it and nothing, in fact there is no manual that teaches us. I had to be very patient, but sometimes I would go to the front of the house, cry, come back, breathe (P7).

Discussion

The majority of children whose caregivers participated in the research were male, a total of 6 out of 7, which is consistent with studies that state that there is a higher prevalence of ASD in boys (Baio et al., 2018; Li et al., 2022).

The expectation of early removal of diapers has been replaced by greater age tolerance for toilet training (Clifford et al., 2000; Mota; Barros, 2008). Recent studies indicate that most typical children do not fully toilet train before 36 months (Mrad et al., 2019), which is influenced by caregivers' beliefs about what is the correct age, the method used to carry out toilet training, as well as the use of disposable diapers and lack of parental time (Choby; George, 2008; Schum et al., 2001; Van Nunen et al., 2015).

In the present study, there were reports of waiting for the child's signs of readiness to start sphincter control training, which is consistent with the Child-Oriented Approach, proposed by the American Academy of Pediatrics, which recommends that children are not forced to start the toilet training process until they show certain signs (Choby; George, 2008; Mrad et al., 2019). The main signs are: imitating the behavior of caregivers; walking and being able to sit stably and without assistance; understanding and following simple commands; picking up small objects; pulling clothes up and down; using words, facial expressions or movements that indicate the need to urinate or have a bowel movement; signaling to parents that you have just had a bowel movement or urinated in a diaper; being bothered by a wet diaper; and staying on the potty or toilet for 3 to 5 minutes (Kaerts et al., 2012; Mrad et al., 2019).

It was noted that, in some cases, parents did not observe signs of readiness, but chose to start toilet training due to the typically expected age or due to pressure from other family members. In these cases, the training required more time and patience, which confirms the recommendations of the Brazilian Society of Pediatrics and the Brazilian Society of Urology (Mrad et al., 2019), as the child was not yet physiologically ready or did not understand the situation. It is worth considering that the lack of verbalization on the part of the children was a factor that made the process difficult, but it was not an impediment to the success of toilet training. The difficulty for parents to understand the child who does not yet speak leads to further doubts in carrying out toilet training, as was also pointed out in the study by Patriota (2020).

The caregivers reported that the success of training to control urination occurred before the control to evacuate, as reported in the study by Miranda and Machado (2011). However, these data differ from the results of the study by Schum et al. (2002), which indicated that children first acquired control over their feces. Von Wendt et al. (1990) specifically studied children with intellectual disabilities and found that, in most cases, stool control occurred first, however, 30.5% of children

at seven years of age remained with encopresis with 19% of adults at 20 years of age with the same condition. The authors suggest that effective toilet training techniques could improve these numbers.

Some children had habitual difficulties in evacuating. Many children with ASD present gastrointestinal changes, manifesting elimination problems, such as fecal incontinence, constipation, and diarrhea (Vilela et al., 2019; Bird et al., 2022). These problems may be the result of impaired parasympathetic activity, increased endocrinological response to stress, dysbiosis, food allergies, fiber-restricted diets, and medication side effects (Bird et al., 2022), reinforcing the importance of medical monitoring in these cases.

Reports of difficulties in accepting the use of the toilet to evacuate were observed. As this was not reported by the caregiver of the only girl participating in this study, we infer that learning may take longer for boys due to the need to learn to use the bathroom in two different ways: to urinate and to evacuate, that is, in the position of standing and sitting (Schum et al., 2002). Some children are afraid of the noise of the flush or even of falling into the toilet (Mrad et al., 2019), and the difficulty in accepting variations in the routine can also generate opposition and annoyance on the part of the child with ASD.

Some children were bothered by the presence of feces on their clothes or in their diapers, which meant that parents were scared of feces leaking onto the bed and the child refusing to lie down in the bed again. On the other hand, cases were cited in which the child picked up feces, played with it as if it were modeling clay or tried to put it in their mouth, demonstrating the absence of feelings of disgust (usually associated with feces in our culture) or discomfort with the odor. In addition to the importance of cognitive development and adaptive behavior for the child to learn what to do after having a bowel movement, it is also necessary to consider sensory factors associated with how to deal with feces (Soutinho; Corrêa; Blascovi-Assis, 2020). It is known that most children with ASD have changes in sensory processing (Almohalha, 2020; Tomchek; Dunn, 2007), with the most reported disorders involving changes in sensory modulation, which consist of abnormally intense responses to sensory stimuli, leading to functional impairment. These can be divided into three categories: hyper-response, hypo-response and sensory seeking. Hyper-responsiveness involves an intense negative reaction to sensory stimuli, leading to avoidance or hypervigilance, while hypo-

responsive individuals fail to notice or respond slowly to stimuli. Children who exhibit sensory seeking behaviors seek sensory experiences that are sometimes unusual for the rest of the population (Hazen et al., 2014).

Some gestures/actions presented by the child, before evacuating or urinating, helped the caregivers understand when to take the child to the bathroom, these include: straining, facial expressions, specific positions with the legs, and isolating themselves in a corner of the house. These actions are in line with what was indicated by Schmitt (2004) and Figueiredo (2017), in which there are some bodily signs that are usually observed when the child feels the urge to urinate or defecate, such as: making faces, moving the legs to close the genitals, pulling at diapers, holding the genital area, squatting, increasing movement by walking from side to side, jumping or dancing, or remaining silent and suddenly stopping movement.

Observing the child's routine also helped caregivers anticipate any accident and take the child to the bathroom at their usual bowel movement or regular urination times, starting with shorter intervals and then increasing the time interval. In the studies by Yang, Zhao and Chang (2011) and Rinald and Miranda (2012), parents also took the child to the bathroom at fixed times and at regular intervals. The instructional videos reviewed by Figueiredo (2017) taught parents during the toilet training period to establish frequent trips to the bathroom and invite the child to sit on the toilet or potty at predicted times for eliminating urine or feces, according to the child's habits.

In the present study, the caregivers also anticipated leaving the house, taking the child to the bathroom first, avoiding having to use public bathrooms, which can be more difficult for children with ASD, as it is a different place than their usual one and, because in the face of so many stimuli when outside the home, it may be more difficult for the child to perceive the urge to urinate or defecate and still be able to signal it to the caregivers.

Daytime sphincter control was what occurred first in most of the children, with the exception of one (who managed to be toilet trained at night first, as her caregiver took her to the bathroom before bed, in the middle of the night and upon awakening). The same also occurred in the study by Mota et al. (2010), who found an average of 25.2 months of age for a child to be toilet-trained during the day, and an average of 27.4 months for a child to no longer need diapers at night. To help with nighttime toilet training, many people avoided offering liquids to

the child close to bedtime, and this strategy is cited in the literature as effective (Meneses, 2001; Soares et al., 2005).

Among the supporting strategies for toilet training, mentioned by caregivers, the use of accessories and playful resources stands out. The auxiliary devices used were: potty, seat reducer, footrest and urinal. However, some children did not accept these resources. When parents choose to use the toilet, it is important to consider the use of a seat reducer, as well as the use of a footrest for the child, so that the child feels greater security when climbing onto the toilet and while using the toilet, in addition to favoring the evacuation position (Clifford et al., 2000; Mrad et al., 2019). It is believed that the use of a seat reducer can facilitate the toilet training of autistic children, due to the ease of keeping a routine present in the ASD child, as the child is already used to using the toilet, making it easier to expand this use to other outside-home contexts and not requiring two stages of modifications, such as when the child first gets used to the potty and then needs to use the toilet.

Playful resources, such as pretend play, books, children's drawings, games, and cell phones helped to distract the child, so that they would remain sitting on the toilet and also to teach them how to urinate or evacuate in this place. Rinald and Miranda (2012) used toys and fun activities to help children remain seated in their toilet training for autistic and/or intellectually disabled children, these activities included reading books, watching television or playing on a laptop.

Behavioral strategies used by caregivers during toilet training were identified, which consisted of positive reinforcement, positive punishment, and negative punishment. Positive reinforcement is the addition of something that results in strengthening behavior, that is, the presentation of a certain stimulus that encourages the child to continue performing an indicated behavior (Lear, 2004). This also appeared as a supporting strategy to facilitate the child's understanding of what she/he was expected to do, encouraging repetition of the action. Positive reinforcement was reported by caregivers through the use of praise and celebrations and also offering rewards, such as sweets and the use of a cell phone. The same positive reinforcement resources were cited by Kiddo (2012). This reward system was used in a program developed for schools, as a way to help train children with autism and developmental delays to use the bathroom, in which a reward was given to the child when they urinated in the bathroom (Cocchiola Junior et al., 2012).

Punishment, on the other hand, is defined as something that tends to weaken a certain behavior (Lear, 2004), and can be presented through a stimulus added to the context (positive punishment), as in the case of threats made by the mother, or through withdrawal of something pleasurable for the child (negative punishment), as in the act of the mother removing the bowl in which the child was having fun.

Figueiredo (2017) reviewed instructional videos about sphincter training and found that parents are often instructed to maintain an encouraging environment and that caregivers should be always available and must strive to remain patient and calm, with positive and consistent attitudes. In these videos, the use of positive reinforcement strategies was recommended, praising or rewarding the child's successes, and avoiding punishment for failures as much as possible, as well as avoiding the use of unpleasant words or expressions. The recommendation to use punishment during toilet training is not used in current scientific literature, and the recommendations that remain are less aversive than those of the past, involving only verbal reprimands (Kroeger; Sorensen-Burnworth, 2009). It is believed that if caregivers have professional support during the toilet training process, the occurrence of the use of punishments and other inappropriate strategies will decrease.

Difficulties in the toilet training process were also reported by both children and caregivers, these included: difficulty in understanding the child; regressions; and lack of consistent behavior from each individual responsible for the child's care.

In the presence of stressful events, the child may experience regressions in developmental stages, such as, for example, those with already acquired sphincter control returning to urinate and evacuate in inappropriate places (Mota; Barros, 2008; Stadtler; Gorski; Brazelton, 1999). Regressions or greater difficulties in successful toilet training are common at times such as the birth of siblings, separation of the parents, moving house, or other events that cause major changes in routine and that have an emotional impact (Clifford et al., 2000; Stadtler; Gorski; Brazelton, 1999). Therefore, parents should avoid carrying out toilet training at times like these (Mrad et al., 2019).

It is recommended that all caregivers are engaged in the training process for toilet control when it begins, as it must occur simultaneously in all environments that the child attends, in order to promote learning and not confuse the child with different guidelines (Clifford et al., 2000; Mrad et al., 2019).

Furthermore, there were also reports of insecurities, frustrations, feelings of loneliness, and tiredness/exhaustion on the part of caregivers. Feelings of guilt, frustration, anxiety, depression, loss of self-esteem, and stress are common in parents of autistic children and influence their quality of life, varying in intensity, depending on the degree of severity of the ASD, the child's intellectual level and independence, in addition to the social support network and professional services available to the family (Morales, 2010). The toilet training process demands constant attention and patience from caregivers, at all times when they are with the child, daily, for months (Clifford et al., 2000), which is intensified in the case of autistic children, due to the difficulties in controlling their sphincters (Cagliani; Snyder; White, 2021). Moreover, there is a lack of manuals and professional guidance for these parents, as pointed out by the caregivers in this study, which intensifies doubts and insecurities.

In the absence of professional support, it is common for those responsible, when faced with new and/or difficult situations, to follow guidance from people who have an influence on their lives, such as relatives and friends. Furthermore, they also have knowledge that they have acquired from previous experiences (Mota; Barros, 2008). It is important to highlight how tiring the toilet training process can be for caregivers and that it generates doubts, causing insecurities. Therefore, it is essential that there is professional monitoring. The occupational therapist works in areas that seek greater autonomy and independence for the individual in daily activities and, therefore, would be a suitable professional to work in the toilet training process, since using the bathroom is one of the activities of daily living (AOTA, 2020), but there was no mention of support from this professional in the toilet training process. Therefore, it is believed that this field of action needs to be deepened in future research and also in clinical practice.

Final considerations

This study shows that the toilet training process is a challenging step for caregivers of children with ASD. Children had greater difficulty controlling feces compared to urine, and daytime and nighttime toilet training generally occurred in two stages. The caregivers used accessories and playful resources as strategies to facilitate the child's understanding and collaboration, and also used behavioral reinforcement and punishment strategies. There were difficulties for family members that were emotional as well as physical. The caregivers did not receive professional help.

Reports of past events can always be expressed under the influence of the emotional impact and memories built during the period, which can be considered a limitation of this study. Therefore, it is important to highlight that there were cases in which the completion of the toilet training process occurred approximately two years before the interview. However, it is emphasized that these caregivers presented very detailed information about the process they experienced.

This study advances knowledge about toilet training for children with ASD, indicating strategies that can make this process quicker and with fewer difficulties for both caregivers and children, and thus contributes to the training of professionals. However, future studies need to be made to further develop effective techniques and management for toilet training in children with ASD.¹

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Note

¹ M. G. Bertolotto: study preparation, collection and analysis of data, writing of the manuscript. L. I. Pfeifer: study preparation, manuscript review. A. M. P. Sposito: study preparation, data analysis, writing of the manuscript.

Resumo

Treinamento esfinteriano de crianças com transtorno do espectro autista: vivências, dificuldades e estratégias auxiliares

Este estudo teve por objetivo compreender como ocorreu o processo de treinamento esfinteriano de crianças autistas. Trata-se de um estudo retrospectivo, descritivo, de análise qualitativa. Foram realizadas entrevistas semiestruturadas com sete cuidadoras de crianças com diagnóstico de TEA, entre 2 e 6 anos, que já haviam concluído este treino. As entrevistas foram transcritas e submetidas à análise de conteúdo. A análise dos dados permitiu identificar quatro categorias: treinamento de controle esfinteriano para evacuação, treinamento de controle esfinteriano para urinar, estratégias auxiliares e dificuldades no processo. Os resultados indicaram maior dificuldade das crianças com TEA para controlar as fezes e, em geral, o desfralde diurno e noturno ocorreu em duas etapas. Foram utilizados acessórios e recursos lúdicos como facilitadores do processo, além de estratégias de reforço positivo, punição positiva e punição negativa. Existiram dificuldades, das próprias cuidadoras, de ordem emocional e física, e estas não receberam ajuda profissional. Este estudo avança no conhecimento acerca do treinamento de controle esfinteriano de crianças com TEA, indicando estratégias que facilitem esse processo, tanto para cuidadores quanto para crianças, contribuindo para a capacitação dos profissionais que atuam com essa população.

► **Palavras-chave:** Transtorno do espectro autista. Treinamento esfinteriano. Desenvolvimento infantil.

