dx.doi.org/10.5380/ce.v27i0.74374

Cogitare Enferm. 2022, v27:e74374

Cogitare Enfermagem

ORIGINAL ARTICLE

CHILDREN WITH BLADDER AND BOWEL DYSFUNCTION TREATED IN A SPECIALIZED NURSING OUTPATIENT SERVICE

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ABSTRACT

Objective: to describe the clinical-epidemiological characteristics of schoolchildren with bladder and bowel dysfunction treated in a specialized Nursing outpatient service. Method: a retrospective study with a quantitative, descriptive and documentary approach, conducted from April to May 2019 with medical records of children treated in an advanced Nursing practice service specialized in Uropediatrics and located in a university hospital from Distrito Federal, Brazil. The data were analyzed both in a descriptive manner and through Pearson's chi-square test for associations. Results: All the children presented functional intestinal constipation associated with urinary symptoms, with prevalence of voiding urgency (80%) and retention maneuvers (70%). A statistically significant difference was identified between gender and voiding urgency symptoms, as well as with increased and reduced urinary frequency. The main comorbidity was Urinary Tract Infection (33%). Conclusion: this study contributed to planning and implementing more sensitive and specific interventions regarding the care process in Uropediatrics.

DESCRIPTORS: Lower Urinary Tract Symptoms; Intestinal Constipation; Child; Pediatric Nursing; Epidemiology.

HOW TO REFERENCE THIS ARTICLE:
Miranda KSP, Salviano CF, Fernandes AGO, Martins G. Children with bladder and bowel dysfunction treated in a specialized nursing outpatient service. Cogitare Enferm. [Internet]. 2022 [accessed "insert day, monh and year"]; 27. Available from: http://dx.doi.org/10.5380/ce.v27i0.74374.

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INTRODUCTION

The term Bladder and Bowel Dysfunction (BBD) refers to the concomitant occurrence of urinary and intestinal symptoms. BBD encompasses Lower Urinary Tract Symptoms (LUTS), together with at least one intestinal symptom, generally Functional Intestinal Constipation (FIC) and/or encopresis. Such dysfunction is diagnosed in children aged at least five years old who are already trained to use the toilet and with no neurological comorbidities and/or congenital malformations of the genitourinary and/or intestinal tract[1-2]. To the present day, the etiology of BBD is not fully understood; however, both systems share the same embryologic origin[2].

LUTS encompass complaints associated with the voiding act; examples of these symptoms are Urinary Incontinence (UI), retention maneuver, voiding urgency and low urinary frequency, among others[3]. In epidemiological terms, a study conducted with 441 Brazilian children aged 9.1±2.7 years old identified 11.6% of the children with BBD, whereas 7.9% had only FIC and 31.5% presented LUTS[4]. A study conducted in China with children aged from four to 10 years old identified a 4.02% prevalence of BBD and that the number of cases decreases with increasing age (from 6.19% at four years old to 1.96% at 10)[5], which points to a greater trend in younger schoolchildren.

Therefore, this age group needs to be considered as a target population for early identification of BBD in childhood and timely therapeutic management given that, of the subgroup of children affected with vesicoureteral reflux and recurrent urinary infections, 54% had BBD diagnoses[6]. In addition, the behavioral and environmental factors, as well as those related to unsuccessful sphincter training have been indicated as possible risk factors for BBD[7]. For example, schoolchildren complain about lack of privacy in public toilets, forcing them to contain feces, which hardens them and predisposes to FIC[8].

Understanding the profile of the children affected by such symptoms is of paramount importance for effective therapeutic approach and management, especially in the role of the Uropediatrics nurse, who occupies a strategic position in guiding and implementing Standard Urotherapy (SU) measures. SU is the first-line treatment for the management of BBD, and consists in a conservative and non-pharmacological treatment modality. Among the main components of SU are the following: adequate intake of liquids, regular visits to the toilet and awareness of the pelvic floor muscles, in order to assist in the contraction and relaxation of these muscles for urinary control and elimination[9]. Regarding FIC management, it is recommended to increase intake of liquids in association with consumption of food options rich in fibers and with systematic physical activity[8]. If there is no improvement with the conservative approach (SU), it is possible to opt for specific urotherapy (biofeedback, neuromodulation) and/or pharmacological therapy and later, if necessary, in cases refractory to the surgical intervention[9].

Another relevant aspect in the care of these children with BBD refers to the negative impact on quality of life, both in the physical and in the psychosocial dimensions. With regard to the urinary symptoms, especially the presence of urinary or fecal incontinence causes a sensation of insecurity, decreased social life, anguish and low self-esteem[1,10], while in the families, they generate feelings of guilt and impotence in the face of the difficulty faced in management and resolution of such symptoms[11]. Therefore, specialized professional support is required, in order to minimize the occurrence of unfavorable outcomes in the patients and family members[11-12].

Given this context, the research objective was to describe the clinical-epidemiological characteristics of schoolchildren with Bladder and Bowel Dysfunction treated in a specialized Nursing outpatient service.

METHOD

A retrospective study with a quantitative, descriptive and documentary approach, based on the medical records of children treated in the specialized service called Advanced Nursing Practice in Uropediatrics, located in a public teaching hospital from Brasília-DF.

This is a pioneering Continuous Action Extension Project (*Projeto de Extensão de Ação Contínua*, PEAC) in Brazil[13], created in 2013 with the objective of bringing Nursing students closer to the area of Pediatric Urology. This specialty is closely related to an expanded role and practice of Nursing. According to the International Council of Nurses[14], the characteristics described are closely linked to the concept of Advanced Nursing Practice, specifically the role of the Clinical Nurse Specialist (CNS). CNSs are specialized nurses, generally with a focus on some subspecialty, condition or care level/type[15].

In this way, the PEAC became a privileged space for the exchange of knowledge and practices in the context of care in Uropediatrics, as a specialized Nursing service anchored in the teaching-research-extension axes[13]. Pediatric patients monitored in the service are referred by the Pediatric, Nephrology and Pediatric Surgery medical teams, linked to the teaching hospital, as well as by the public and private health network of Distrito Federal and surrounding areas.

The data were collected during April and May 2019, by analyzing 230 medical records of all the patients who were treated from March 2015 to May 2019. The children included were those aged from 6 to 12 years old, of both genders, and with a BBD diagnosis. Children with congenital impairments and/or malformations of a neurological origin were excluded, as well as those not belonging to the age group under study.

The Systematization of Nursing Care in Uropediatrics in that service is based on the use of various clinical tools[13], with a view to better assessment, diagnosis, management and monitoring of urinary and intestinal symptoms throughout monitoring of the child/family in the service. The Sun and Rain calendar and the Dysfunctional Voiding Symptom Score (DVSS) are among such tools.

The Sun and Rain calendar is targeted at monitoring children with enuresis, allowing to monitor the number of dry nights. On the other hand, the DVSS consists of a questionnaire with 10 questions referring to urinary and intestinal habits and environmental factors, with answers on a Likert scale, based on the following scores: 0 (never or almost never), 1 (less than half of the times), 2 (half of the times), and 3 (almost all the time), investigated in the last 30 days. When added up, total scores >6 points in girls and >9 points in boys[16] confirm the presence of urinary dysfunction. Another tool used was the elimination diary to assess eliminations throughout the day, in addition to containing diverse information on intake of liquids, visits to the toilet, urgency episodes, urinary loss and intestinal elimination[17], with a record of at least two days.

For the evaluation and diagnosis of FIC, the Rome IV Criteria are used, and its clinical diagnosis is confirmed by the presence of two positive criteria or more[8] out of a total of six questions. Associated with this instrument, the Nursing team also used Bristol stool scale, with the objective of assessing two key items regarding fecal elimination: consistency and shape. In this scale, seven types of stools are listed, illustratively exemplified and with a written description of the image, a fact that assists families, as well as the children themselves, in the recognition of fecal appearance and consistency[18].

The clinical tools and instruments found in the medical records surveyed supported filing out of the data collection instrument, as the variables investigated for characterization and confirmation of the BBD cases were captured from the clinical investigation tools used in the service. The following variables were compiled in an Excel spreadsheet and analyzed: age, gender, urinary symptoms, intestinal symptoms, preexisting diseases or

comorbidities and psychosocial factors (changes in lifestyle habits due to BBD and impact on quality of life). Data collection was conducted by two of the research authors, aiming at double-checking; the patients' identification data were numerically coded, in order to ensure confidentiality and anonymity of the sample, in accordance with the recommended ethical precepts.

For data analysis, descriptive and inferential statistics were used (Pearson's Chi-square test, with a 5% significance level), depending on the distribution normality of the variables, and analyzed with the Statistical Package for the Social Sciences, version 26.

The research was approved by the Research Ethics Committee of the Health Sciences School at Universidade de Brasília, under opinion number 3,133,554, of February 6th, 2019.

RESULTS

The medical records of 238 patients treated in the service between March 2015 and May 2019 were analyzed and, based on the inclusion criteria, 40 children diagnosed with BBD were identified (16.8%).

There was predominance of the female gender (n=24; 60%) in the sample, with a mean age of 7.9 years old. A tendency of BBD symptoms was also observed in children aged six (n=11; 27.5%) and seven (n=11; 27,5%) years old, which represented more than half of the BBD cases (n=22; 55%). A tendency was also observed for the prevalence of BBD to be reduced as the children's age increased (Figure 1).

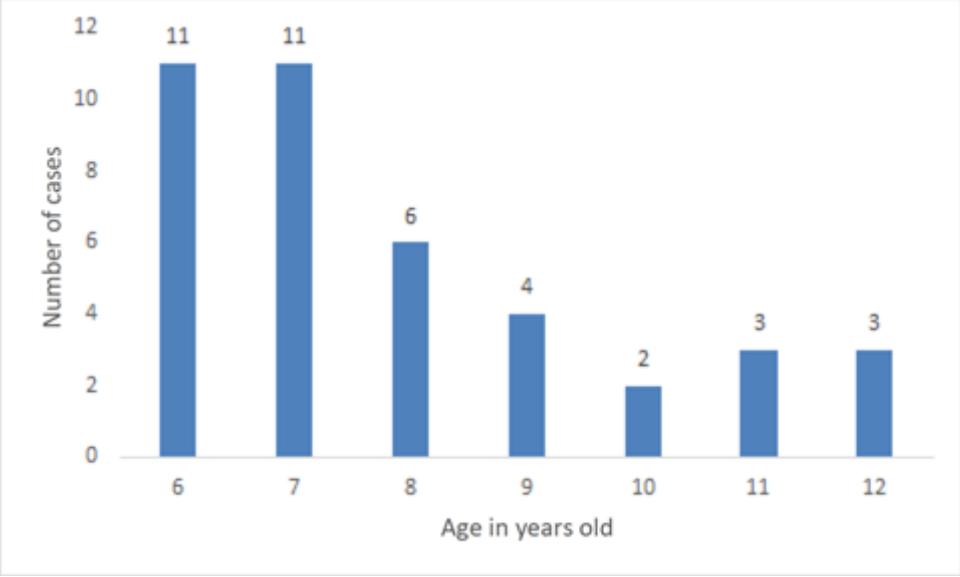

Figure 1 – Frequency of cases of BBD symptoms by age. Brasília, DF, Brazil, 2020
Source: The authors (2020)

In relation to the signs and symptoms found, all the children (n=40) presented FIC as an intestinal symptom. Only 1 child (2.5%) reported nocturia (Table 1).

Table 1 – Prevalence of signs and symptoms in children with BBD. Brasília, DF, Brazil, 2020

Signs and symptoms	n	%
Functional Intestinal Constipation	40	100
Voiding urgency	32	80
Retention maneuvers	28	70
Daytime incontinence	24	60
Nighttime incontinence	19	47,5
Increased urinary frequency	15	37,5
Reduced urinary frequency	7	17,5
Dysuria	4	10
Fecal soiling	4	10
Urinary retention	3	7,5
Nocturia	1	2,5

Source: The authors (2020)

Table 2 presents the data regarding the association between the most prevalent LUTS and the child's gender. It was observed that voiding urgency presented a statistically significant relationship (p=0.026) with female gender (n=19; 79.1%), as well as with the symptoms of increased and decreased urinary frequency (p=0.029 and p=0.000, respectively).

Table 2 – Distribution of the most prevalent LUTS according to the gender of children with BBD. Brasília, DF, Brazil, 2020 (continues)

LUTS symptoms	Female		Male		n	%	p-value*
	n	%	n	%			
Daytime UI							
Yes	14	58,33	10	62,5	24	60	0,069
No	10	41,67	6	37,5	16	40	
Subtotal	24	100	16	100	40	100	
Nighttime UI							
Yes	15	62,5	4	25	19	47,5	5,414
No	9	37,5	12	75	21	52,5	
Subtotal	24	100	16	100	40	100	
Voiding urgency							0,026*
Yes	19	79,1	13	81,25	32	80	
No	5	20,9	3	18,75	8	20	
Subtotal	24	100	16	100	40	100	
Retention maneuvers							0,317

Yes	16	66,7	12	75	28	70	
No	8	33,3	4	25	12	30	
Subtotal	24	100	16	100	40	100	
Reduced urinary frequency							
Yes	9	37,5	6	37,5	15	37,5	0,000*
No	15	62,5	10	62,5	25	62,5	
Subtotal	24	100	16	100	40	100	
Increased urinary frequency							
Yes	4	16,7	3	18,75	7	17,5	0,029*
No	20	83,3	13	81,25	33	82,5	
Subtotal	24	100	16	100	40	100	

*Chi-square test (Pearson); significance at the p≤0.05 level
Source: The authors (2020)

Another association analysis was performed between the children's gender and the number of LUTS they presented. To such end, they were categorized in two groups: more than three symptoms and less than three symptoms; however, no statistical significance was identified.

Table 3 – Correlation between the number of LUTS symptoms and the gender of the children with BBD. Brasília, DF, Brazil, 2020

Gender	**Number of LUTS symptoms presented by the child**				**Total**		**Valor de p***
	<3 symptoms		**>3 symptoms**				
	n	**%**	**n**	**%**	**n**	**%**	
Male	11	68,7	5	31,3	16	40	2,824
Female	10	41,7	14	58,3	24	60	

*Chi-square test (Pearson); significance at the p≤0.05 level
Source: The authors (2020)

Regarding the comorbidities associated with BBD in childhood, it was verified that half of the sample (n=20; 50%) had recurrent UTI and malformation of the genitourinary tract as comorbidities, in addition to neurobehavioral conditions (n=6; 15%) (Table 4).

Table 4 – Prevalence of the comorbidities associated with BBD recorded in medical charts. Brasília, DF, Brazil, 2020 (continues)

Comorbidities associated with BBD	**n**	**%**
Recurrent UTI	12	33

Malformation of the genitourinary tract	7	17,5
Anxiety/Phobias	3	7,5
Attention/Hyperactivity deficit	2	5
Delay in development	1	2,5

Source: The authors (2020)

As for prior treatment to specialized Nursing care, use of oxybutynin was verified in eight (20%) patients, antibiotic therapy in three (7.5%) and use of laxatives in only one (2.5%) patient.

Regarding the impact of the BBD symptoms on the patient's and/or family's life habits, the following findings were recorded in the medical charts: need to repeatedly go to the bathroom; water restriction as a strategy to reduce visits to the toilet; waking up several times during the night and going to the toilet before sleeping in order to avoid episodes of nocturnal UI (enuresis); involuntary urinary loss when trying to hold urine, urinary loss when the child smiles/laughs; and fear to go to the bathroom at school.

Regarding the impact on quality of life and psychosocial consequences, some medical charts (n=12, 30%) included the following records: bullying at school in relation to increased urinary frequency, emotional impact evidenced by feelings of fear, shame and shyness, discomfort on the part of the family related to enuresis, difficulties at school regarding authorization for multiple visits to the toilet, non-adherence to healthy eating habits by the family, feeling of shame associated with enuresis (nocturnal UI), disgust with own feces, shyness and shame when asked about the symptoms, laziness to go to the bathroom and reports that the diapers were uncomfortable and triggered itching.

DISCUSSION

The characterization of the clinical-epidemiological profile of children with BBD symptoms shows a profile with higher prevalence of BBD in children aged between six and seven years old, with the highest frequency in the six-year-old age group. In a study carried out in Turkey with children that had voiding dysfunction, a higher frequency of BBD was observed in children aged six years old (23.1%), also evidencing a reduction in the dysfunction with increasing age[4]. In addition to the age group, our study indicates higher prevalence of the male gender. When comparing with data from a Canadian study in a specialized Nursing outpatient clinic, most of the children with BBD were female, and represented 66% of the population analyzed[19].

When referring to the urinary symptoms identified by the clinical assessment instruments used in the Nursing service under study, daytime and nighttime UI were the predominant symptoms. In fact, daytime UI was found in more than half of our sample. Similar data were found in the study carried out with patients that had lower urinary tract dysfunction, in which the majority presented UI, which confirms the prevalence of these symptoms among children[10]. Another study conducted in a Nephropediatrics outpatient service from Recife-PE, also confirms this fact, as 81% and 59.1% of the children under study present daytime and nighttime UI, respectively[20].

Another finding of our study was that most of the patients with nighttime UI were girls; unlike what was found in other studies, such as the one carried out in Turkey, which found a greater number of enuresis cases in boys than in girls (20.1% versus 15%)[21]. Other authors also reported a higher number of enuresis cases in male children[22-24]. That divergence can

be related to the profile of the children who resort to the specialized Nursing service, as most of them were girls.

Symptoms such as voiding urgency and retention maneuvers were also more prevalent in the children with BBD. Other authors published similar data for both symptoms[6,25], with 85% of the children presenting voiding urgency and 80% reporting retention maneuvers[6]. In a study conducted with schoolchildren in Minas Gerais, the most common urinary symptoms were the same: retention maneuvers (19.1%) and voiding urgency (13.7%)[25].

Recurrent Urinary Tract Infection (UTI) is a frequent morbidity in patients with BBD, and the current study also verified this finding in the medical records analyzed. In a research study carried out with children with BBD and vesicoureteral reflux, 35% of the patients with DBBD VI and without vesicoureteral reflux presented recurrent UTI, which confirms the data found in our study. In addition, it shows the importance of investigating the history of recurrent UTI occurrences, evidencing the importance of thorough anamnesis, including a detailed description of previously performed complementary tests[6].

In relation to undergoing previous treatments, use of oxybutinyn was the pharmacological treatment most frequently recorded in the medical charts. Oxybutynin is an anticholinergic widely used in children; its doses should initially be low and there must be extreme caution in its use since, in high doses, it can cause side effects such as dry mouth, hyperthermia, redness, headache and blurred vision[2,7]. Thus, the nurse who works in Uropediatrics must monitor use, dosage and adverse events, always advising and giving the necessary support to the family members. Prophylactic therapy with antibiotics was also prescribed for the patients, being a usual medical prescription in children with BBD and recurrent UTI[9]. In the service, the nurse's role is focused on the preparation and monitoring of the family in the administration of antibiotic therapy at home, both in acute episodes of UTI and in the longitudinal follow-up of children with chronic UTI, especially in cases of vesicoureteral reflux, neurogenic bladder and users of intermittent urinary catheterization.

As for the management of FIC, the use of laxatives (for example, muvinlax®) was also described in the medical records, an osmotic laxative widely used in the treatment of FIC and contraindicated for children under seven years of age. Osmotically active laxatives are the first-choice oral medications, as the other class of stimulant laxatives can cause a rebound constipation effect[7]. Thus, the nurse acts in guidance and management of FIC, not only during the use of laxatives, but especially in interventions such as gastrocolic reflex after the main meals, adequate intake of liquids adjusted to the child's weight, and healthy eating habits, especially food options rich in fibers.

Regarding the impact of BBD on the patients' life habits, a negative impact was verified in the children's everyday life[26-27]. The school and family contexts were the most frequently mentioned by the children who attended the specialized Nursing outpatient service. Other factors that exerted a negative effect on the patients' lifestyle were changes in water intake restriction, frequent visits to the toilet, sleepless nights and UI, which generated behavioral and psychological problems.

The negative impact on the quality of life of patients with BBD proved to be considerable, even with higher incidence of behavioral and psychological problems[27]. The literature[27] indicates that almost half of the patients with BBD presented clinically detectable emotional and behavioral repercussions, in contrast to those who presented only isolated urinary (32.8%) or intestinal symptoms (33%). Such data corroborate with the records of negative feelings associated with the occurrence of BBD symptoms found in the medical charts.

The main limitation of this study refers to the fact that the research was conducted in a single specialized service. However, the profile of the assisted children is similar to data from other outpatient services, both national and international, and the study provides empirical data on the profile of Brazilian children with BBD, monitored by a specialized Nursing team.

CONCLUSION

This study allowed identifying the profile of children monitored by the specialized Nursing service, contributing to the planning and qualification of the Nursing care provided, including the design of more sensitive and specific interventions in the care process in Uropediatrics. The most prevalent urinary symptoms were urgency, retention maneuvers and daytime/nighttime UI; and the intestinal symptoms were limited to FIC. A higher number of symptoms was found in female children and, in relation to age, higher prevalence was observed in the age group from six to seven years old.

As a contribution to the Nursing practice, it is recommended that anamnesis include the analysis of complementary exams (uroculture, urodynamics, ultrasound), as well as a history of UTI and use of medications. Future studies that enable a comparison with profiles of children from other services and regions of the country are also suggested, as well as in services with multidisciplinary teams.

The service under study evidences the protagonism of the nurse's expanded role, reflecting an advanced Nursing practice in the process of Uropediatrics care. In addition, the provision of qualified and evidence-based care stands out, mainly in relation to the structuring of the clinical research instruments used in the service.

REFERENCES

1. Austin PF, Bauer SB, Bower W, Chase J, Franco I, Hoebeke P, et al. The standardization of terminology of lower urinary tract function in children and adolescents: update report from the standardization committee of the International Children's Continence Society. Neurourol Urodyn. [Internet]. 2016 [accessed 11 set 2019]; 35(4). Available from: https://doi.org/10.1002/nau.22751.

2. Santos J dos, Lopes RI, Koyle MA. Bladder and bowel dysfunction in children: an update on the diagnosis and treatment of a common, but underdiagnosed pediatric problem. Can Urol Assoc J [Internet]. 2017 [accessed 01 abr 2020]; 11(1-2 Suppl1). Available from: http://dx.doi.org/10.5489/cuaj.4411.

3. Abrams P, Cardozo L, Fall M, Griffiths D, Rosier P, Ulmsten U, et al. The standardisation of terminology in lower urinary tract function: report from the standardisation sub-committee of the International Continence Society. Neurourol Urodyn. [Internet]. 2002 [accessed 01 maio 2020]; 21(2). Available from: https://doi.org/10.1002/nau.10052.

4. Ribeiro RS, Abreu GE de, Dourado ER, Veiga ML, Lobo VA, Barroso Jr U. Bladder and bowel dysfunction in mothers and children: a population-based cross-sectional study. Arq. Gastroenterol. [Internet]. 2020 [accessed 08 jul 2020]; 57(2). Available from: https://doi.org/10.1590/S0004-2803.202000000-23.

5. Xu PC, Wang YH, Meng QJ, Wen YB, Yang J, Wang XZ, et al. Delayed elimination communication on the prevalence of children's bladder and bowel dysfunction. Scientific reports. [Internet]. 2021 [accessed 08 jul 2020]; 11(12366). Available from: http://doi.org/10.1038/s41598-021-91704-3.

6. Shaikh N, Hoberman A, Keren R, Gotman N, Docimo SG, Mathews R, et al. Recurrent urinary tract infections in children with bladder and bowel dysfunction. Pediatrics. [Internet]. 2016 [accessed 07 mar 2020]; 137(1). Available from: https://doi.org/10.1542/peds.2015-2982.

7. Machado VQA, Fonseca EMGO da. Disfunção vesical e intestinal em crianças e adolescentes. Revista HUPE. [Internet]. 2016 [accessed 27 jan 2020]; 15(2). Available from: https://www.e-publicacoes.uerj.br/index.php/revistahupe/article/view/28240/23234.

8. Mugie SM, Di Lorenzo C, Benninga MA. Constipation in childhood. Nat Rev Gastroenterol Hepatol. [Internet]. 2011 [accessed 25 abr 2020]; 8(9). Available from: http://dx.doi.org/10.1038/nrgastro.2011.130.

9. Santos J dos, Varghese A, Williams K, Koyle MA. Recommendations for the Management of Bladder Bowel Dysfunction in Children. Pediat Therapeut. [Internet]. 2014 [accessed 10 out 2019]; 4(1). Available from: https://doi.org/10.4172/2161-0665.1000191.

10. Azevedo RVM de, Oliveira EA, Vasconcelos MM de A, Castro BAC de, Pereira FR, Duarte NFV, et al. Impacto de uma abordagem interdisciplinar em crianças e adolescentes com disfunção do trato urinário inferior (DTUI). J Bras Nefrol. [Internet]. 2014 [accessed 29 ago 2019]; 36(4). Available from: https://doi.org/10.5935/0101-2800.20140065.

11.Oliveira IAMI de, Salviano CF, Martins G. Crianças com incontinência urinária: impacto na convivência dos familiares. UFPE Online. [Internet]. 2018 [accessed 29 fev 2020]; 12(7). Available from: https://doi.org/10.5205/1981-8963-v12i7a234837p2061-2073-2018.

12.Soares AHR, Moreira MCN, Monteiro LMC, Fonseca EMG de O. A enurese em crianças e seus significados para suas famílias: abordagem qualitativa sobre uma intervenção profissional em saúde. Rev. Bras. Saúde Matern. Infant. [Internet]. 2005 [accessed 10 nov 2019]; 5(3). Available from: http://www.scielo.br/pdf/rbsmi/v5n3/a06v5n3.pdf.

13. Souza BML de, Salviano CF, Martins G. Prática avançada de enfermagem em uropediatria: relato de experiência no Distrito Federal. Rev. Bras. Enferm. [Internet]. 2018 [accessed 13 mar 2020]; 71(1). Available from: https://doi.org/10.1590/0034-7167-2016-0654.

14. International Council of Nurses. ICN Framework of Competencies for the Nurse Specialist. [Internet]. Geneva: International Council of Nurses; 2009 [accessed 10 jul 2021]. Available from: https://siga-fsia.ch/files/user_upload/08_ICN_Framework_for_the_nurse_specialist.pdf.

15. Cooper MA, McDowell J, Raeside L. The similarities and differences between advanced nurse practitioners and clinical nurse specialists. Br J Nurs. [Internet]. 2019 [accessed 10 jul 2021]; 28(20). Available from: https://pubmed.ncbi.nlm.nih.gov/31714817/.

16. Calado A, Araujo E, Barroso Jr U, Netto JMB, Zerati Filho M, Macedo Júnior A, et al. Cross-cultural Adaptation of the Dysfunctional Voiding Score Symptom (DVSS) Questionnaire for Brazilian Children. Int. Braz J Urol. [Internet]. 2010 [accessed 30 abr 2020]; 36(4). Available from: http://doi.org/10.1590/S1677-55382010000400009.

17. Vasconcelos MM de A, Lima EM, Vaz GB, Silva THS. Lower urinary tract dysfunction: a common diagnosis in the pediatrics practice. J Bras Nefrol. [Internet]. 2013 [accessed 30 abr 2020]; 35(1). Available from: https://www.scielo.br/pdf/jbn/v35n1/v35n1a09.pdf.

18. Pérez MM, Martínez AB. The Bristol scale - a useful system to assess stool form? Rev Esp Enferm Dig. [Internet]. 2009 [accessed 03 fev 2020]; 101(5). Available from: https://pubmed.ncbi.nlm.nih.gov/19527075/.

19. Martins G, Minuk J, Varghese A, Dave S, Williams K, Farhat WA. Non-biological determinants of paediatric bladder bowel dysfunction: a pilot study. J Pediatr Urol. [Internet]. 2016 [accessed 10 mar 2020]; 12(2). Available from: https://dx.doi.org/10.1016/j.jpurol.2015.09.006.

20. Veloso LA, Mello MJG de, Ribeiro Neto JPM, Barbosa LNF, Silva EJ da C e. Quality of life, cognitive level and school performance in children with functional lower urinary tract dysfunction. J Bras Nefrol. [Internet]. 2016 [accessed 08 abr 2020]; 38(2). Available from: https://doi.org/10.5935/0101-2800.20160033.

21. Ozden C, Ozdal OL, Altinova S, Oguzulgen I, Urgancioglu G, Memis A. Prevalence and associated factors of enuresis in Turkish children. Int. braz j urol. [Internet]. 2007 [accessed 05 abr 2020]; 33(2). Available from: https://doi.org/10.1590/S1677-55382007000200013.

22. Sousa A de, Kapoor H, Jagtap J, Sen M. Prevalence and factors affecting enuresis amongst primary

school children. Indian Journal of Urology. [Internet]. 2007 [accessed 05 abr 2020]; 23(4). Available from: https://doi.org/10.4103/0970-1591.36703.

23. Osungbade KO, Oshiname FO. Prevalence and perception of nocturnal enuresis in children of a rural community in southwestern Nigeria. Tropical Doctor. [Internet]. 2003 [accessed 05 abr 2020]; 33(4). Available from: http://doi.org/10.1177/004947550303300416.

24. Wang QW, Wen JG, Song DK, Su J, Zhu QH, Liu K, et al. Bed-wetting in Chinese children: epidemiology and predictive factors. Neurourol. Urodyn. [Internet]. 2007 [accessed 05 abr 2020]; 26(4). Available from: http://doi.org/10.1002/nau.20373.

25. Vaz GT, Vasconcelos MM, Oliveira EA, Ferreira AL, Magalhães PG, Silva FM, et al. Prevalence of lower urinary tract symptoms in school-age children. Pediatric Nephrology. [Internet]. 2012 [accessed 29 abr 2020]; 27(4). Available from: https://link.springer.com/article/10.1007/s00467-011-2028-1.

26. Salviano CF, Gomes PL, Martins G. Experiências vividas por famílias e crianças com sintomas urinários e intestinais: revisão sistemática de métodos mistos. Esc. Anna Nery. [Internet]. 2020 [accessed 17 mar 2020]; 24(3). Available from: https://doi.org/10.1590/2177-9465-EAN-2019-0137.

27. Dourado ER, Abreu GE de, Santana JC, Macedo RR, Silva CM da, Rapozo PMB, et al. Emotional and behavioral problems in children and adolescents with lower urinary tract dysfunction: a population-based study. J Pediatr Urol. [Internet]. 2019 [accessed 13 mar 2020]; 15(4). Available from: https://doi.org/10.1016/j.jpurol.2018.12.003.

***Article extracted from the PhD thesis entitled "The experience of children with urinary and intestinal symptoms: Telling the story". Universidade de Brasília, 2021.**

Received: 06/06/2020
Approved: 20/07/2021

Associate editor: Tatiane Herreira Trigueiro

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Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work - Miranda KSP, Salviano CF, Fernandes AGO, Martins G; Drafting the work or revising it critically for important intellectual content - Miranda KSP, Salviano CF, Fernandes AGO, Martins G; Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved - Miranda KSP, Salviano CF, Fernandes AGO, Martins G. All authors approved the final version of the text.

ISSN 2176-9133