394-Effectiveness of Urotherapy and Adherence to Treatment in Children with Bladder and Bowel Dysfunction: Real Life Data

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Hypothesis / aims of study

Bladder and bowel dysfunction (BBD) is a disease of lower urinary tract symptoms (LUTS) which are related to bladder storage and/ or emptying dysfunction, accompanied by bowel complaints, mainly constipation and/or fecal incontinence(1).

Current guidelines recommend urotherapy and pelvic floor rehabilitation therapies as first-line treatment choices for BBD (1). There is a lack of standardization among urotherapy treatment regimens in different centers. Besides, real life clinical experience may differ from randomized controlled trials, due to patient heterogeneity and motivational factors. The aim of this study is to retrospectively investigate the real life effectiveness of urotherapy and patients' compliance to treatment in children with BBD in a setting of Pelvic Floor Health Center.

Study design, materials and methods

This is a quantative, retrospective real life data analysis. Medical charts of 70 children aged 5-18 diagnosed with BBD referred to Pelvic Floor Health Center from Outpatient Pediatric Urology Department, between December 2021-December 2023 were evaluated. Patients with neurogenic bladder&bowel diseases, organic pathologies (ie congenital malformations) and those with monosymptomatic enuresis nocturna were excluded. Urotherapy treatment consisted of a 1:1 general education session by visual presentation about bladder- bowel physiology for the affected child and parents and followed by a behavioral treatment program. Behavioral treatment included timed voiding, double voiding, regulation of fluid intake, dietary recommendations, toileting program, etc. depending upon patients' needs. All patients received defined urotherapy by an experienced urotherapy nurse with weekly follow-up visits for 8 weeks.

All patients' symptom severity and treatment effectiveness were evaluated with a 3-day Bladder Diary, 1-week Bristol stool diary, voiding dysfunction symptom score (VDSS), pediatric continence specific quality of life measurement (PinQ), severity of BBD symptoms by visual analog scale (VAS: 0-10) for children and parents consecutively before and after treatment. Patient global response assesment scale was collected from children and their parents after treatment using a Likert scale ranging from 1 representing "significantly worse" to 5 representing "significantly improved" outcome.

A statistical method, mean ± SD(standard deviation) in continuous variables. A paired t-test was used to estimate the change in mean score for continuous variables. The statistical significance level was established at p-value<0.05. (Table 1).

Results and interpretation

Urotherapy is an evidence based first-line treatment option for children with bladder and bowel dysfunctions. Urotherapy program improved disturbing BBD symptoms in 39 of 63 (%62) children. Our results for treatment success are similar to the reported literature. Adherence to 8 weeks of treatment was quite high with 86.7% in our patient population. High compliance rates and better treatment outcome results in this analysis might be due to strict follow-up schedule, treatment duration and positive rapport of children with the urotherapy nurse.

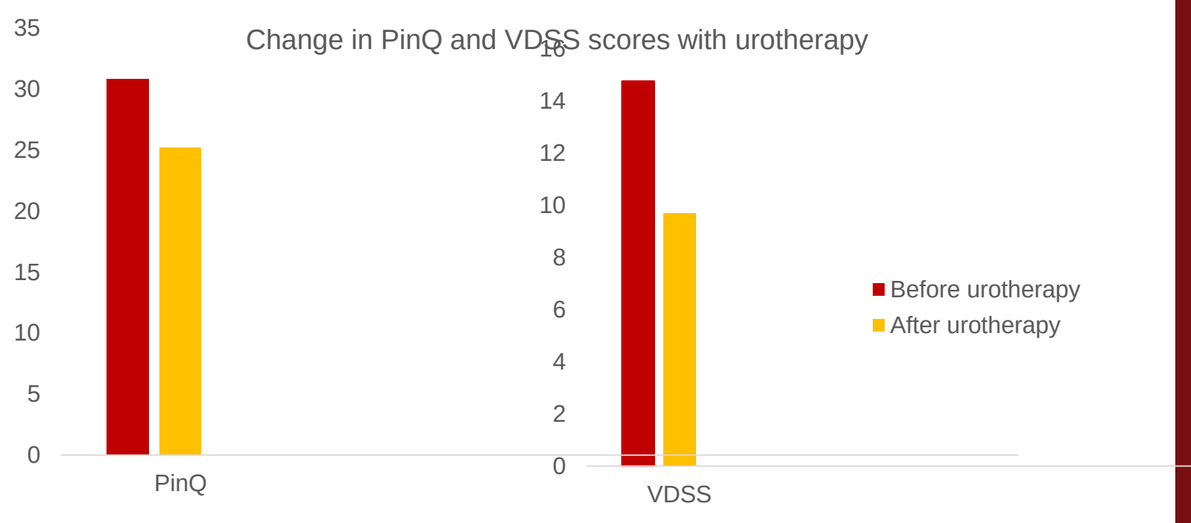
Our results are consistent with literature showing overall successful results in children with BBD syndrome. Among 70 children screened with BBD, 63 children were initiated urotherapy. 54 children completed 8 weeks of urotherapy regimen. Number of girls and boys was 30 and 33 respectively. Mean age was 8.32±2.82 years and mean symptom duration was 53.48±34.59 months. Before treatment 55 (87%) children had urinary incontinence, 17 (27%) children had fecal incontinence and 31 (49%) children had constipation.

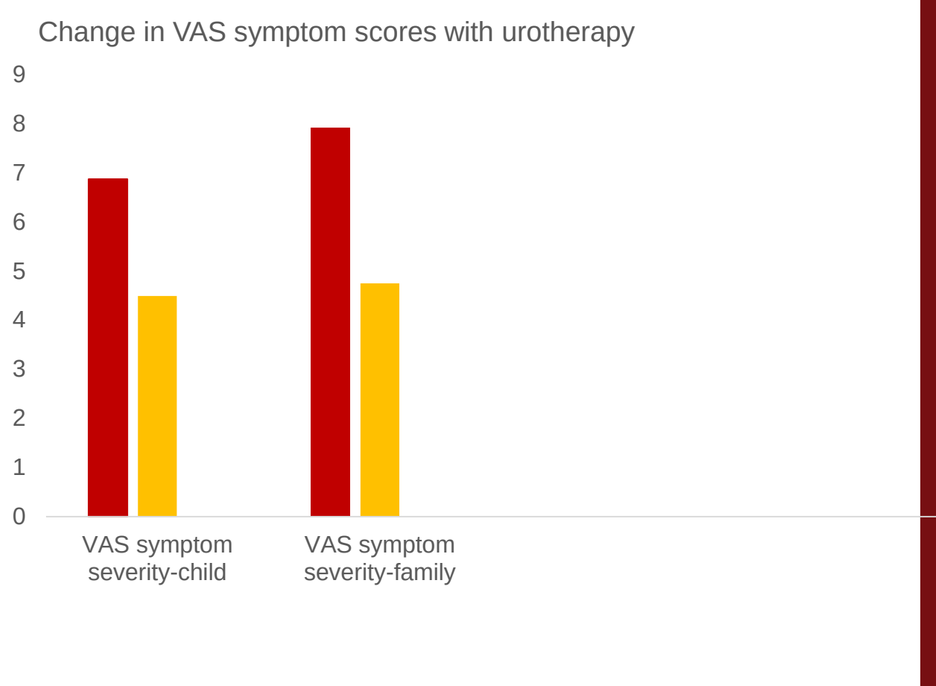
Eight weeks of urotherapy programme resulted in significant improvements in VDSS score, PinQ scores, VAS-Child, VAS-family, daytime & nocturnal urinary incontinence episodes and fecal incontinence (p<0,05 Table-1). After 8 weeks of urotherapy, 26 (41%) patients and parents reported "somewhat improvement" and 13 (%21) reported "significant improvement" according to patient global response assesment scale.

Reasons for discontinuation in 9 (14.3%) children were; recurrent urinary tract infection(1 patient: pt), logistic reasons (1pt), severe anxiety interfering with treatment (1pt), non-compliant to treatment requirements (2pt.s), child reluctant for therapy (1pt) and 3 patients without a specific reason. Average follow-up in those discontinued children was 4 weeks. None of the children experienced any safety issues during the treatment period.

	Pre-Treatment (n:63)	Post-treatment (n:63)	p score
VDSS	14.77±7.62	9.69±6.60	<0.001
PINQ	30.85±16.27	25.21±21.93	<0.001
VAS symptom severity-Child	6.87±3.25	4.49±3.22	<0.001
VAS-symptom severity-Family	7.91±2.56	4.75±3.15	<0.001
3 day Bladder Diary			
voiding frequency/24h	6.17±2.69	5.37±1.18	0.011
maximum bladder capacity (ml)	271.53±129.67	291.53±162.85	0.001
# of urinary incontinence/24h	1.42±2.78	0.62±1.53	<0.001
# of urinary incontinence/night	1.09±0.29	0.19±0.28	0.001
Bristol Stool diary			
# of defecations/w	5.58±1.49	5.88±1.64	0.003
pts with fecal incontinence	14	6	<0.05

Table 1. Clinical parameters with 8 weeks of urotherapy in children with BBD





Conclusions

Urotherapy is an effective, safe and non-invasive treatment option in children with bladder and bowel dysfunction. High adherence rates observed in our patient population might have a positive affect on treatment outcomes. Since urotherapy requires regular follow-up of the children and their parents, active participation of children and their parents is necessary for better outcomes.

References

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