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INTRODUCTION

Dysfunctional voiding (DV) is a condition characterized by sphincter dysfunction during bladder voiding and the absence of a proven neurological etiology.

Etiology is multifactorial. There may be congenital or genetic conditions.

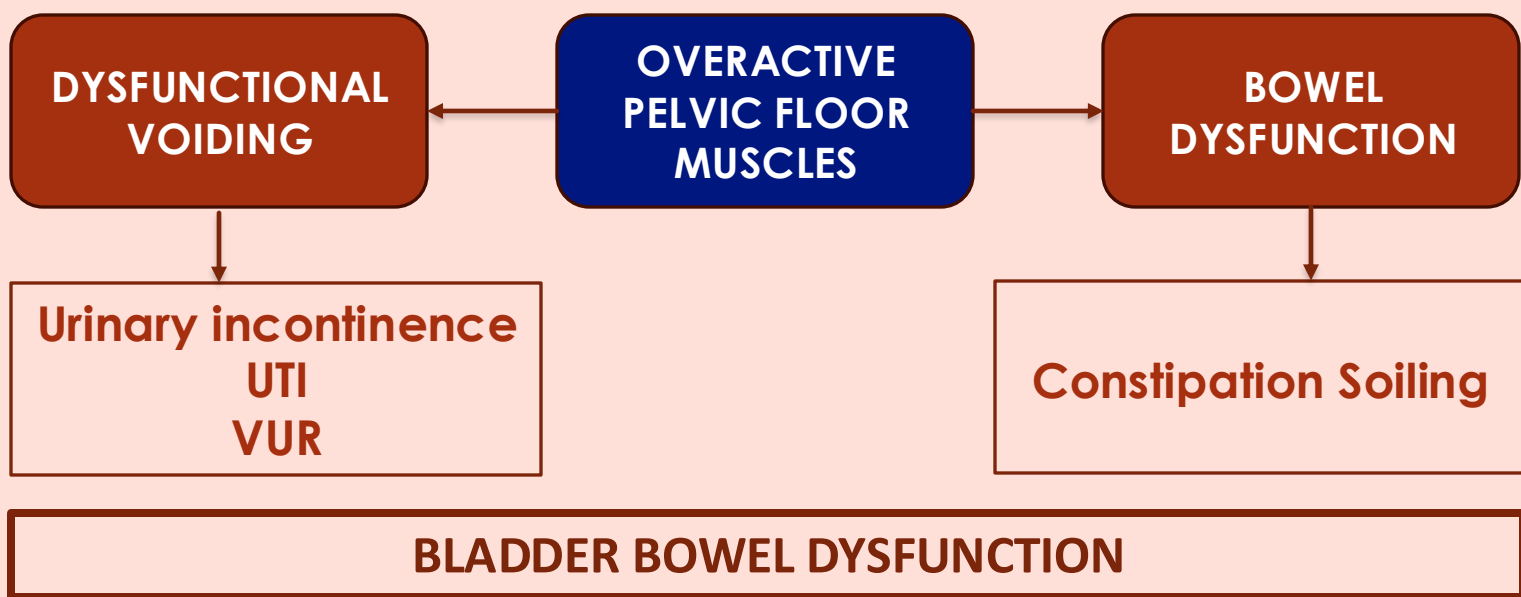
Clinical manifestations can be:

- Infrequent voiding;
- Increased post-urination residual volume;
- Incontinence;
- Urinary tract infection.

Urotherapy provides that children with DV may undergo rehabilitation with a simple behavioral approach. A non-surgical treatment for lower urinary tract dysfunctions.

PURPOSE OF THE STUDY

Evaluate the efficacy of this **behavioral approach** in children affected by Neuro-Developmental disorders.



MATERIALS AND METHODS

The study enrolled **23 patients** with DV who presented with Neuro-Developmental disorders.


Patients:

- age between 4 and 16 years;
- 57% are male and 43% are female;
- 4 with ASD without accompanying intellectual impairment;
- 2 with ASD with accompanying intellectual impairment;
- 2 with ADHD;
- 6 with Intellectual Developmental Disorder/Intellectual Disability;
- 1 with Specific Learning Disorder;
- 5 with Neurological Disorders without accompanying intellectual impairment;
- 2 with Neurological Disorders with accompanying intellectual impairment;
- 1 with Neurological Disorders with ADHD;
- 30% have genetic diseases.

Children with DV underwent treatment using a simple behavioral approach:

- **Frequency-Volume Chart (FVC)** for daily documentation of voiding frequency and corresponding urine volume;
- **recommendations for proper and regular voiding** were provided based on FVC analysis.

Patients were assessed at 6 and 12 months after diagnosis.



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SSR SARDEGNA

Istruzioni: misurare le urine emesse ad ogni minzione con un recipiente graduato; riportare il valore espresso in cc. o ml. nella giusta colonna; quando non è possibile misurare le urine, ad es. durante la scuola, segnare l'ora di ciascuna minzione con una X.

Cognome	Nome	Età	Tel.:				
Data	/	/	Farmaci				
	Lunedì	Martedì	Mercoledì	Giovedì	Venerdì	Sabato	Domenica
h7							
h8							
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h17							
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h19							
h20							
h21							
h22							
h23							
Minzioni							
Notturne							
Enuresi							
Notturna							
Volume							
totale							

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Frequency/Volume chart

RESULTS

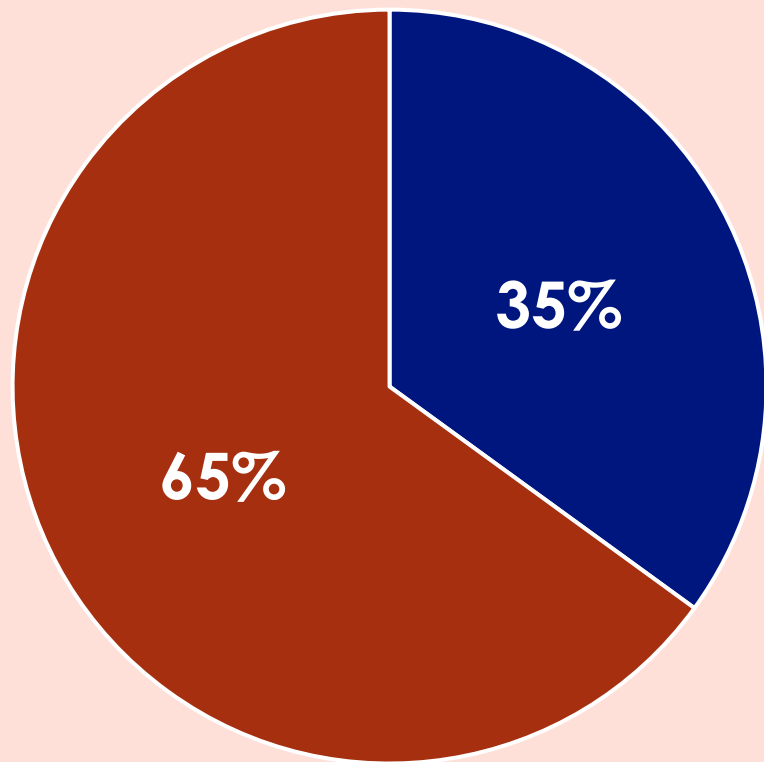
After 6 months:

- 65% of the sample demonstrated improvement;
- in 4 out of 23 patients, symptoms completely disappeared after 6 months and 1 of these children main-tained symptom relief at the annual check-up.

After 1 year:

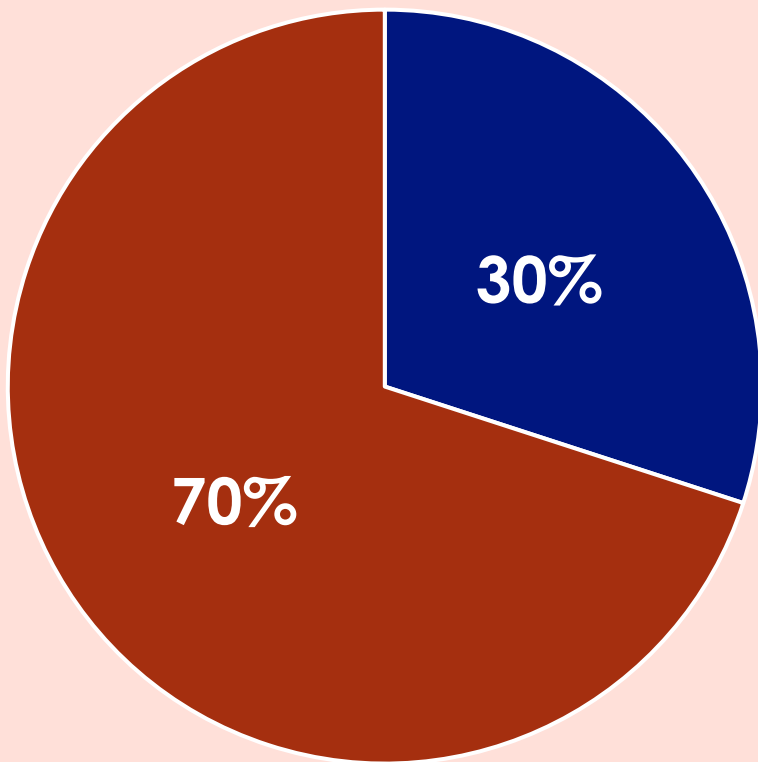
- 70% of the sample showed improvement;
- only 1 child experienced worsening urinary incontinence at the annual assessment.

FOLLOW UP 6 MONTHS



■ Unchanged ■ Improvement

FOLLOW UP 1 YEAR



■ Unchanged ■ Improvement

DISCUSSION

A gradual approach in DV, utilizing FVC proves cost-effective, avoiding more invasive diagnostic procedures in a significant percentage of children.

Despite the increased time investment and the need for family compliance, many children improved with this approach. Managing complex conditions like DV requires active **collaboration from the patient and their family**, particularly in adhering to the proposed behavioral indications.

CONCLUSIONS

In pediatric patients with DV, rehabilitation is achievable through a simple behavioral approach. Encouraging pediatricians and families to consider **urotherapy** is crucial. While this approach demands greater family compliance and an extended duration, children can achieve excellent results, providing vital support and reassurance during their educational journey.

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