

# Prevalence of lower urinary tract symptoms in patients attending a functional neurological disorders clinic

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## Introduction

Functional neurological disorders are the second most common reason for outpatient review by a neurologist.

They are diagnosed based on the clinical history and the presence of positive clinical signs.

Functional neurological disorder presentations are heterogeneous and symptoms can include excess movement and gait disorder, poverty of movement, dissociative attacks, sensory deficits, language and/or swallowing difficulties.

## Epidemiology

- Prevalence of functional neurological disorders has been reported from population registries to be 50/100,000.
- Females have been found to constitute the majority of patient cohorts with average age of referral ranging from 40-43.

## Aims

- Carry out a deep phenotyping of consecutive patients diagnosed with functional motor and/or dissociative symptoms
- Record the prevalence of lower urinary tract symptoms
- Explore the relationship between the type of functional neurological disorder and different urinary symptoms
- Quantify the number of patients who attended specialist clinics regarding urinary symptoms
- Record the prevalence of psychiatric comorbidities in this patient cohort

## Methods

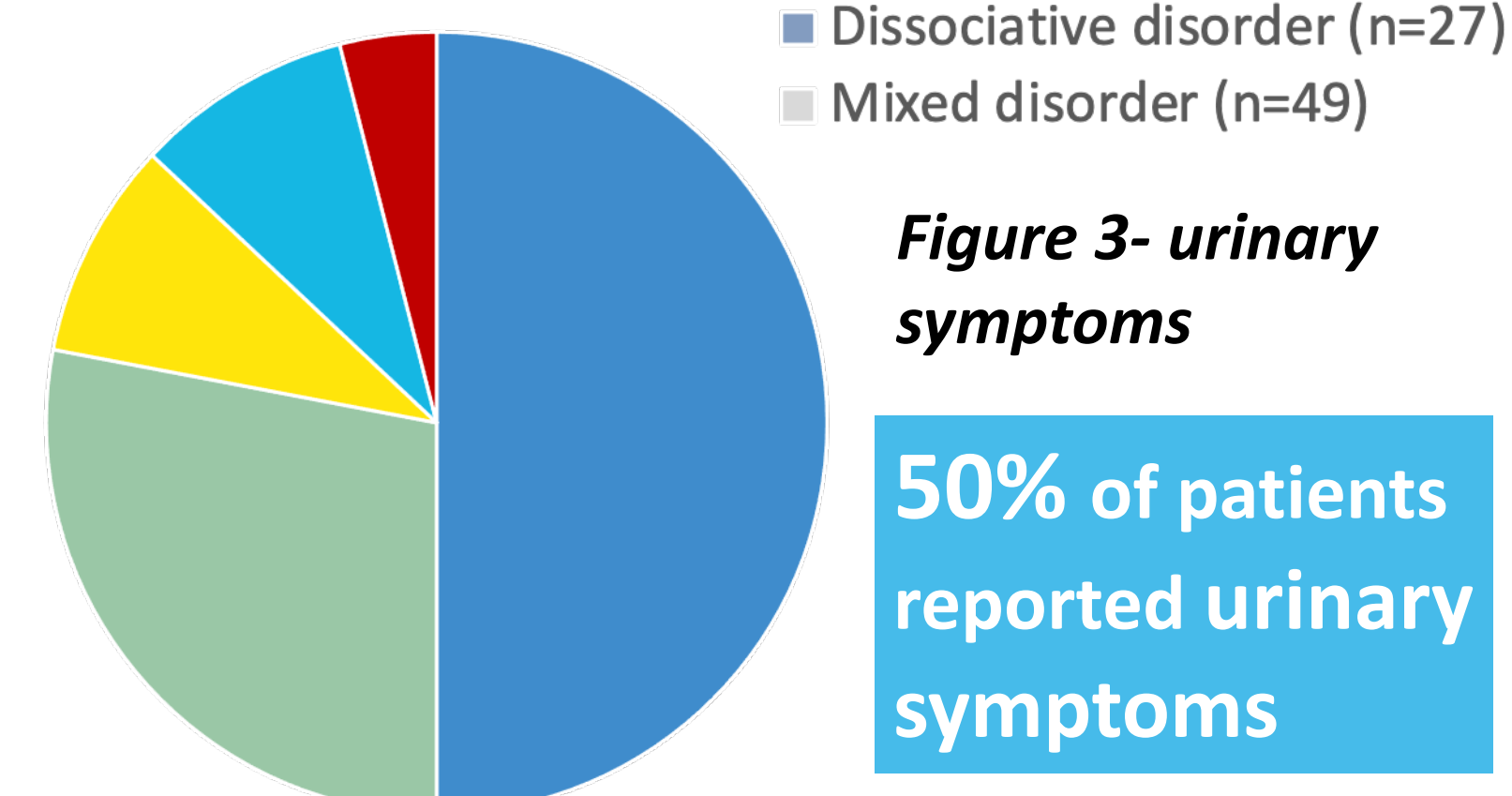
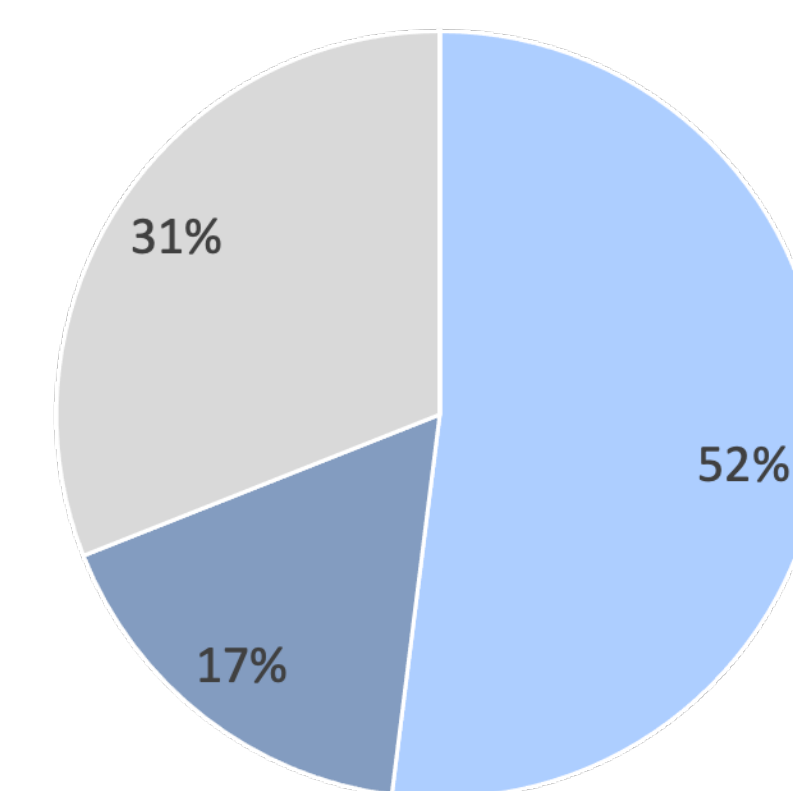
- A **retrospective notes review** was undertaken involving **consecutive patients** attending a specialist functional neurological disorders clinic in Edinburgh between October 2019-February 2020 for **non-urological presentation**
- Data was collected and analysed using an **excel spreadsheet**
- Patients were included if they had a diagnosis of a functional **motor and/or dissociative disorder**
- If both motor and dissociative symptoms were present, then patients were categorised as having a mixed disorder
- Urinary symptoms were **categorised into storage symptoms (including urinary incontinence), voiding symptoms, mixed voiding and storage symptoms and urinary retention**
- Patients who reported recurrent urinary tract infections (UTIs)** were also recorded

## Results

### Clinical characteristics

- 78% cohort were women
- Average age was 42

Figure 2- functional symptoms



- no urinary symptoms (n=79)
- storage symptoms only (n=45)
- voiding symptoms only (n=15)
- mixed storage and voiding (n=15)
- isolated recurrent UTIs (n=4)

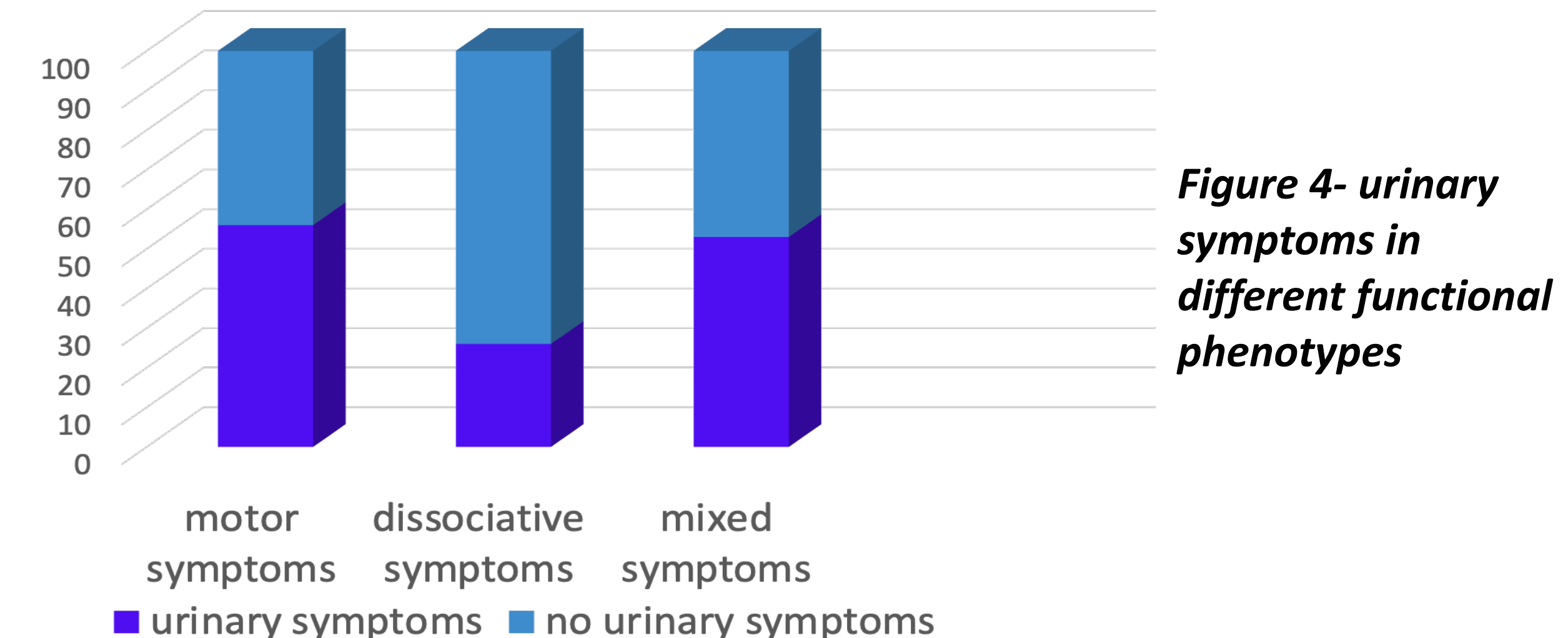


Figure 4- urinary symptoms in different functional phenotypes

Table 1- Categorised urinary symptoms in functional phenotypes

	Storage symptoms n (%)	Voiding symptoms n (%)	Mixed symptoms n (%)	UTIs alone n (%)	TOTAL
Motor symptoms	29 (35%)	5 (6%)	12 (15%)	0 (0%)	46/82 (56%)
Dissociative symptoms	4 (15%)	0 (0%)	0 (0%)	3 (11%)	7/27 (26%)
Mixed symptoms	12 (24%)	10 (20%)	3 (6%)	1 (2%)	26/49 (53%)
<b>TOTAL</b>	<b>45</b>	<b>15</b>	<b>15</b>	<b>4</b>	<b>79/158 (50%)</b>

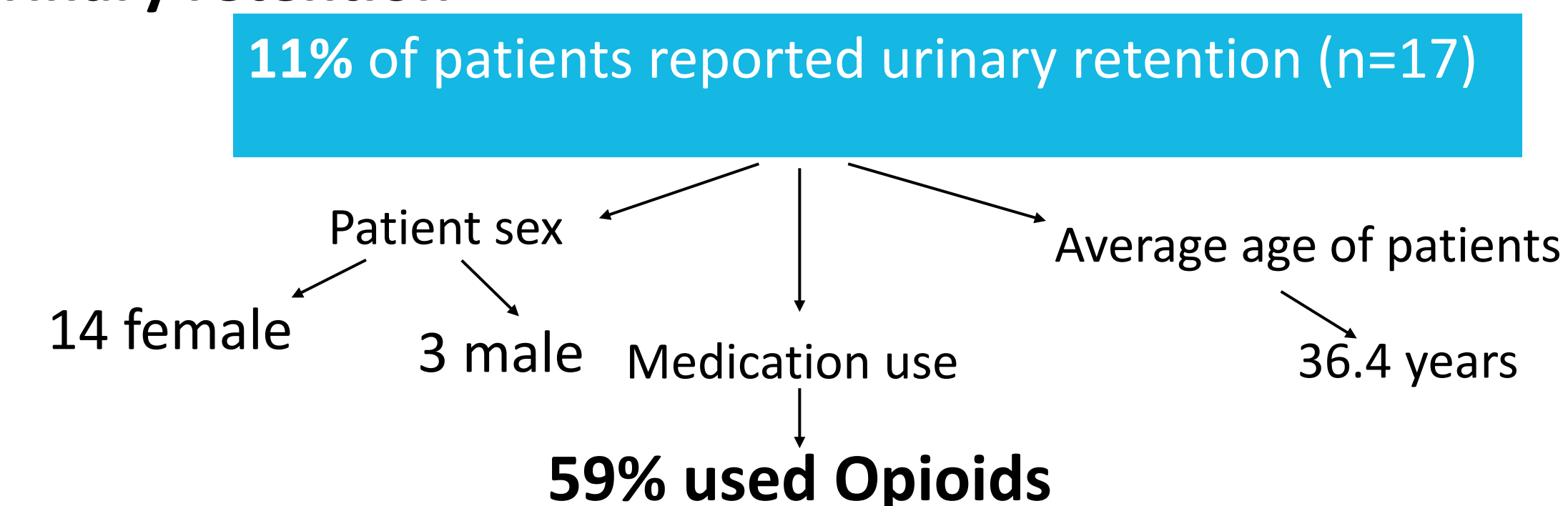
Storage symptoms were the most prevalent urinary symptom

Patients with **storage or mixed LUTS** were most likely to have a **motor disorder** however those with **voiding symptoms** were more likely to have **mixed functional neurological symptoms**

Table 2- Voiding dysfunction and/or urinary retention

	Voiding dysfunction +/- urinary retention n (%)
Motor symptoms	18 (56%)
Dissociative symptoms	0 (0%)
Mixed symptoms	14 (44%)
<b>Total</b>	<b>32/158 (20%)</b>

## Urinary retention



## Psychiatric comorbidities

	Retention n (%)	All patients with urinary symptoms n (%)	All patients n (%)
Psychiatric comorbidities	11 (65%)	55 (69%)	106 (67%)
Low mood	10 (59%)	41 (52%)	78 (49%)
Depression	8 (47%)	33 (42%)	57 (36%)
Anxiety	5 (29%)	37 (47%)	74 (47%)
Overdose	3 (18%)	7 (9%)	14 (9%)
EUPD	1 (6%)	2 (3%)	5 (3%)
Emotional instability	1 (6%)	3 (4%)	6 (4%)
PTSD	2 (12%)	6 (8%)	12 (8%)
Trauma/CSA	0 (0%)	5 (6%)	11 (7%)
Obsessive symptoms	0 (0%)	2 (3%)	2 (1%)
Mixed PD	0 (0%)	1 (1%)	1 (0.6%)

- 69% reporting urinary symptoms also reported a psychiatric comorbidity, compared to 65% of those not reporting urinary symptoms.

## Urological referrals

15% of patients attended a specialist clinic regarding their urinary symptoms (n= 23).

## Conclusion

50% of patients with functional neurological disorders reported lower urinary tract symptoms however only 15% of our patient cohort who reported urinary symptoms attended a specialist clinic regarding them

Lower urinary tract symptoms alongside neurological symptoms can negatively impact quality of life therefore identification and treatment of urinary symptoms in patients with functional neurological disorders is important

This research has provided an insight into the potential associations between urological symptoms and urinary retention in patients with functional neurology and could impact future management plans