

Does Biological Sex Influence Functional Neurological Disorder Phenotypes?

Benjamin Craig¹, Dr Marie Jasim², Dr Michael O’Gara¹

1. University Hospitals Plymouth and 2.Torbay and South Devon Foundation Trust

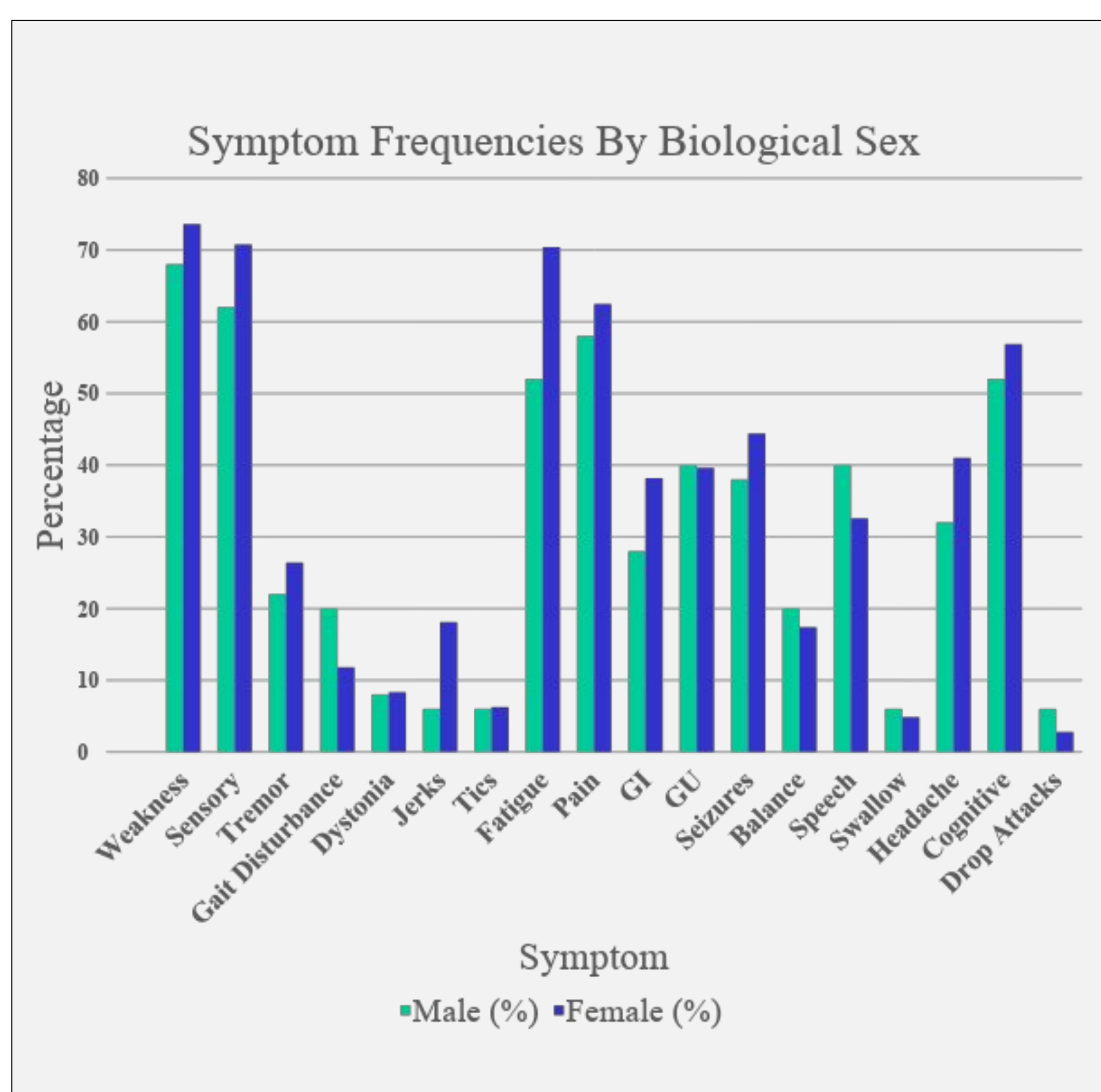
Aim

- Functional neurological disorder (FND) is a common diagnosis in neurology outpatient services and is associated with substantial diagnostic delay.
- It is a heterogeneous condition with a female predominance, but it remains unclear whether biological sex is associated with differences in symptom presentation. Psychiatric comorbidity is also common in FND and may interact with symptom phenotype, particularly given established sex differences in psychiatric diagnoses.
- Together, these factors make it clinically relevant to examine symptom patterns by biological sex.
- This study aimed to describe symptom phenotypes by biological sex in a tertiary FND cohort, including variation by age group and recorded psychiatric comorbidity.

Method

- Clinic correspondence from a regional tertiary FND service was retrospectively reviewed to extract diagnosis, demographics, reported symptoms, and recorded psychiatric diagnoses.
- All new patients assessed between November 2020 and December 2022 with a confirmed diagnosis of FND were included.
- Symptom and psychiatric diagnosis frequencies were summarised by biological sex and age group (18-45, 46-65, and 66+ years).
- Analyses were primarily descriptive, reflecting sample size and symptom frequency.

Results



Graph 1: Proportional differences in the frequencies of each reported symptom between female and male patients.

A total of 194 patients with confirmed FND were included.

The cohort was predominantly female by biological sex (72%).

Overall symptom frequencies were broadly similar between females and males.

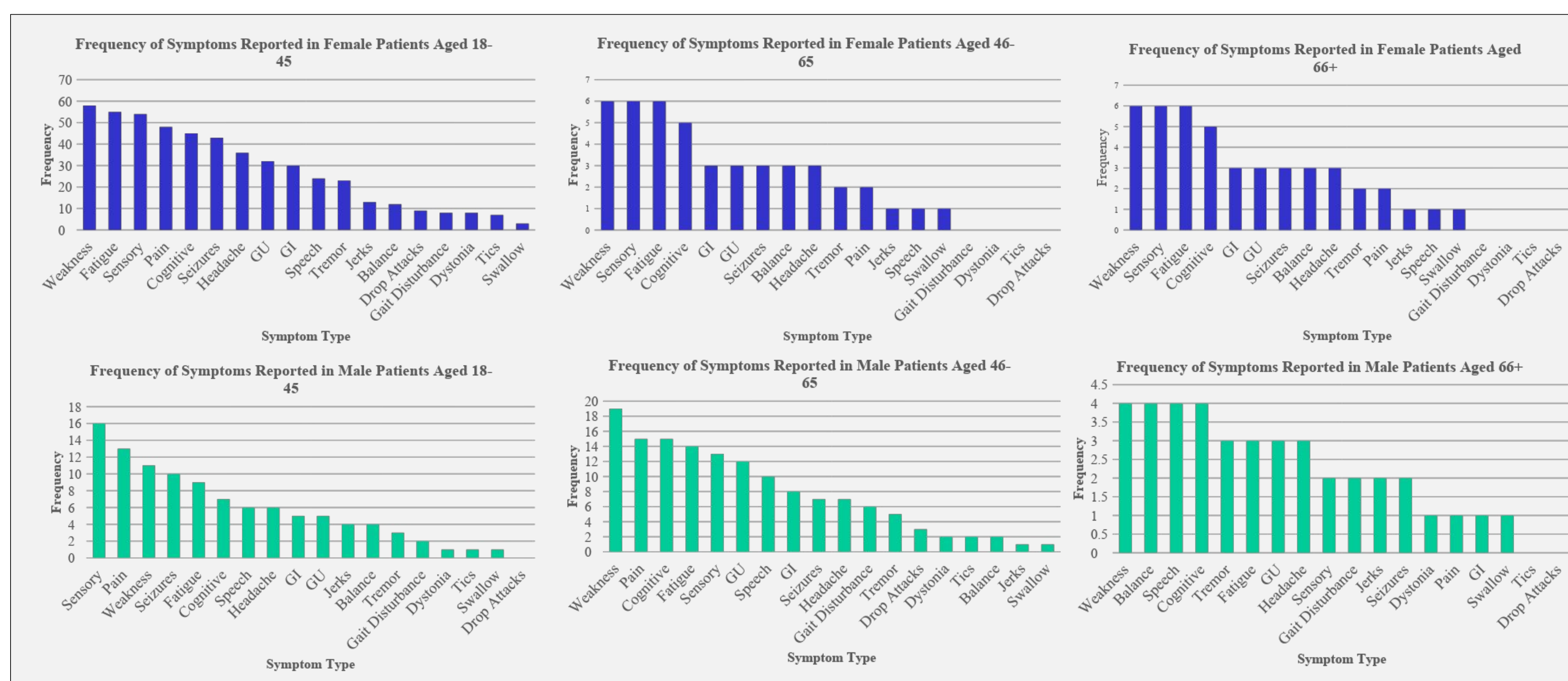
Weakness was the most frequently reported symptom in both females (73.6%) and males (68%), followed by sensory symptoms (71% and 62%, respectively).

The largest descriptive differences in symptom frequency between females and males were observed for fatigue (70% versus 52%), jerks (18% versus 6%), and gastrointestinal symptoms (38% versus 28%).

Psychiatric comorbidity was documented in a similar proportion of females and males overall (44% versus 44%).

Anxiety and depressive disorders were the most frequently recorded psychiatric diagnoses.

Trauma-related diagnoses, including PTSD/C-PTSD, were more frequently recorded in females than males (15% versus 6%).



Graph 2 Frequencies of each symptom across the three age categories in female and male patients.

Across age groups, females demonstrated a consistent pattern of symptom reporting, with weakness, fatigue and sensory symptoms remaining most frequent.

In males, symptom rankings varied by age group. Weakness was common across all male age groups (50 to 80%), while pain was more frequently reported in males aged 18 to 65 than in those aged 66+ years, noting small sample sizes in older adults.

Conclusion

- Overall symptom phenotypes were broadly similar between female and male patients with FND, despite the expected female predominance.
- A small number of symptoms (particularly fatigue, jerks and gastrointestinal symptoms) differed descriptively in frequency between the sexes.
- Biological sex alone does not appear to determine symptoms phenotype, and age may also contribute to variability particularly in males where symptom rankings varied across the age groups
- Recorded psychiatric comorbidity prevalence was similar overall, but trauma related diagnoses were more frequently documented in females.
- These comparisons were descriptive only due to cohort size.
- Larger more sex balanced datasets are needed to determine whether these differences are reproducible and statistically robust.