

Functional Presentation in the Tic Disorder Clinic - A Clinical Notes Analysis

St George's University of London
Priya Chakraborty, Dr Jeremy Stern, Dr Helen Simmons

1. Aim

1. To investigate the characteristics of adult patients presenting to the tic disorder clinic with a predominant functional syndrome from the age of 17 upwards

2. Introduction

Discussion amongst clinicians and an evolving recent literature suggests that the COVID-19 pandemic has been associated with an increased incidence of new onset functional tic-like movements, affecting adolescent females more than males. Whilst primary tic disorders present in children, adult-onset tics are also reported. An increasing focus on functional symptoms in clinical neurology has led to a reappraisal of abrupt later presentations of tics and phenomena such as tic attacks. The aim of this clinical notes analysis was to investigate the characteristics of 57 patients over 17 years old presenting to a tic disorder clinic felt to have a predominantly functional syndrome.

3. Methodology

Typed clinical reports of all patients over 17 years from 2014 to May 2021 were analysed using text search, to identify those with functional symptoms at their first consultation for tic disorders. Patients who were only felt to have functional symptoms at later visits were excluded. Search terms examined were "functional", "overlay" and "dissociative". Each record was analysed to record age, gender, comorbidities, the presence of acute florid presentations, tic attacks, dissociative seizure-like episodes and family history of tic disorders. Co-morbidities were either already established from referring clinicians or from clinical interview.

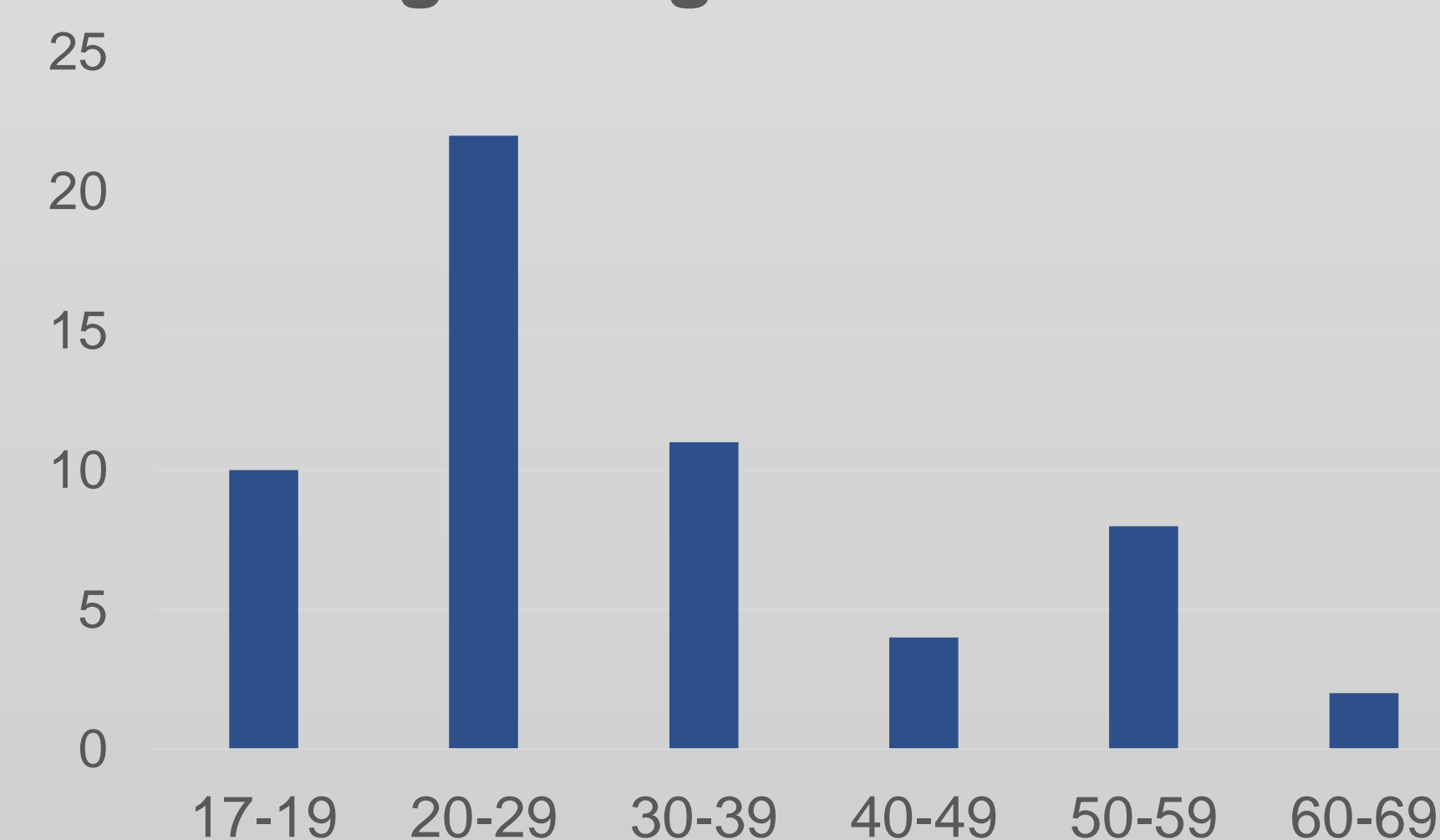
	A	B
1	Date	
2	Gender	
3	Age	
4	Diagnoses	
5	Family History of Tic Disorders	
6	Acute Presentations	
7	Late/Childhood Onset	
8	Tic Attacks/Seizure-like Episodes	
9	Premonitory Urge (Y/N)	
10	Suppressibility (Y/N)	
11	Coprolalia (Y/N)	
12	Echolalia (Y/N)	
13	Copropaxia (Y/N)	
14		

Figure 1. A screenshot of the spreadsheet used to record patient demographics for this project.

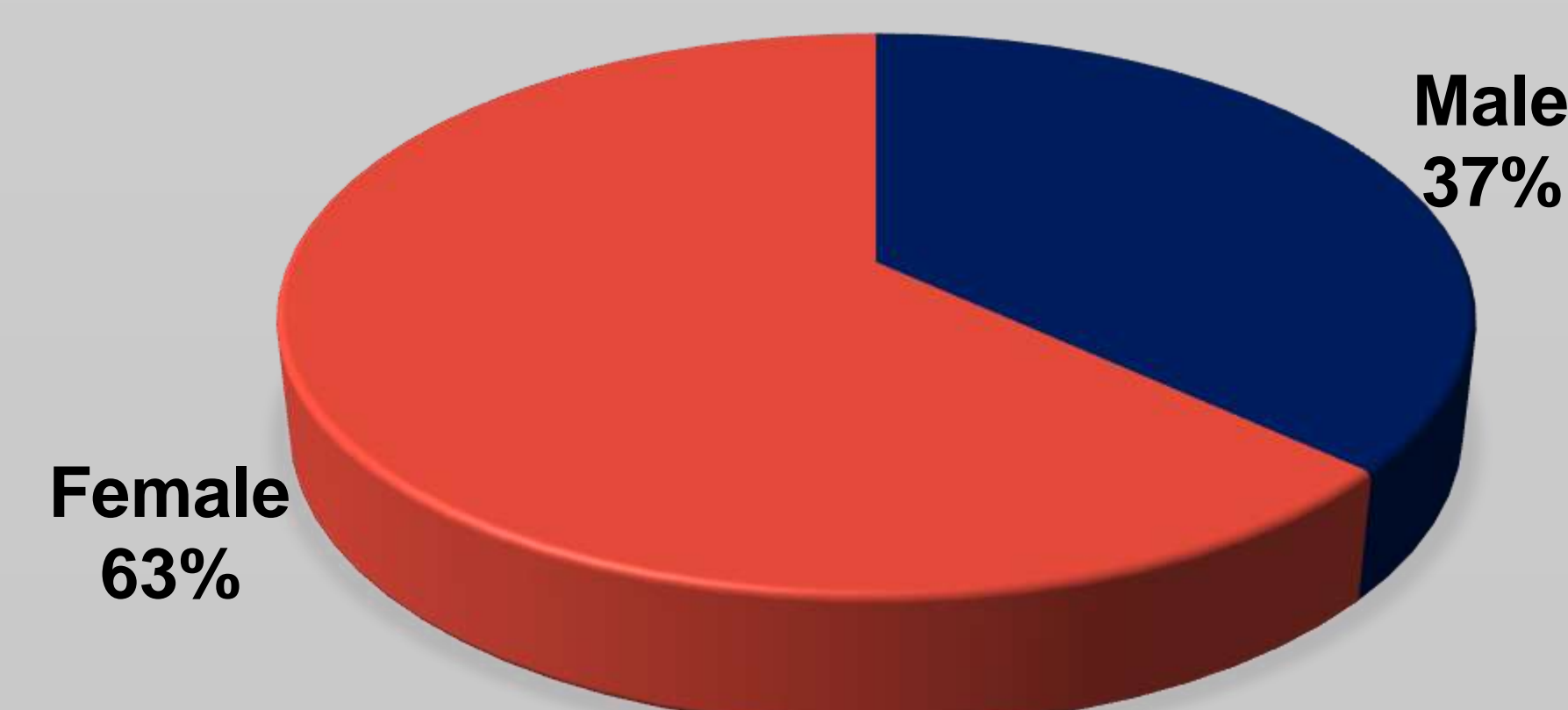
4. Results

57 patients were identified. 42% (24) of these patients were felt to have a definite functional component, the remainder had a "likely" functional element. Assessment was clinical, there is no current practical biomarker to distinguish underlying causes of tic-like movements. Functional interpretations may have increased over the period studied. 63% (36) of patients were female. Ages ranged from 17 to 69. 37% (21) of patients had a history of a milder tic disorder in childhood. 39% (22) patients had a family history of tic disorders. 16% (9) had obsessionality of any severity, 11% (6) of these had OCD. 7% (4) had ADHD. 16% (9) had ASD which anecdotally may be an underestimate, especially for patients seen since the pandemic. Depression was present in 40% (23) and anxiety in 33% (19). 70% (40) of patients experienced premonitory urge to tic, and 67% (38) had a degree of suppressibility. Previous commentary suggests the absence of these features supports a functional nature for tic-like symptoms. Coprolalia was present in 37% (21), echolalia 19% (11) and copropraxia 12% (7). In Tourette Syndrome coprolalia is said to affect around 10% so these symptoms may be more common in those with functional symptoms, referral bias must also be considered. 49% (28) of this cohort presented acutely with tic attacks or seizure-like episodes.

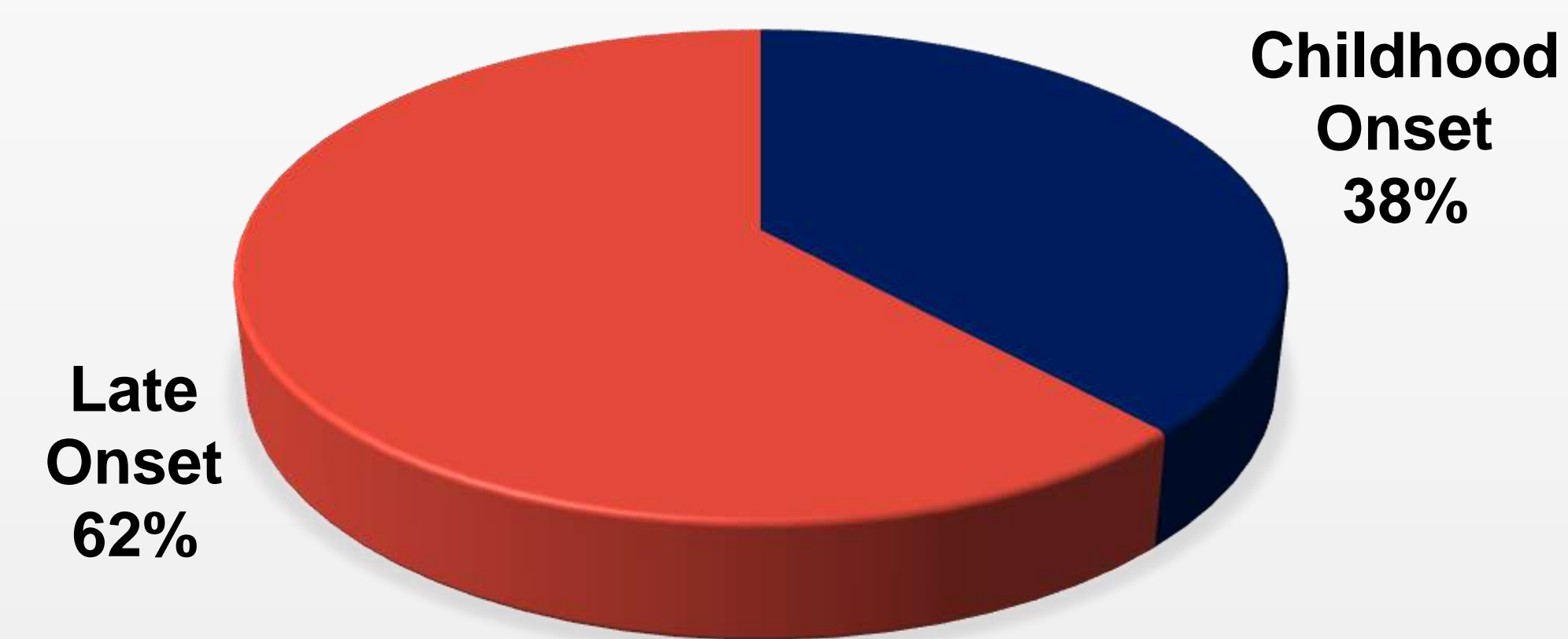
Age Range of Patients



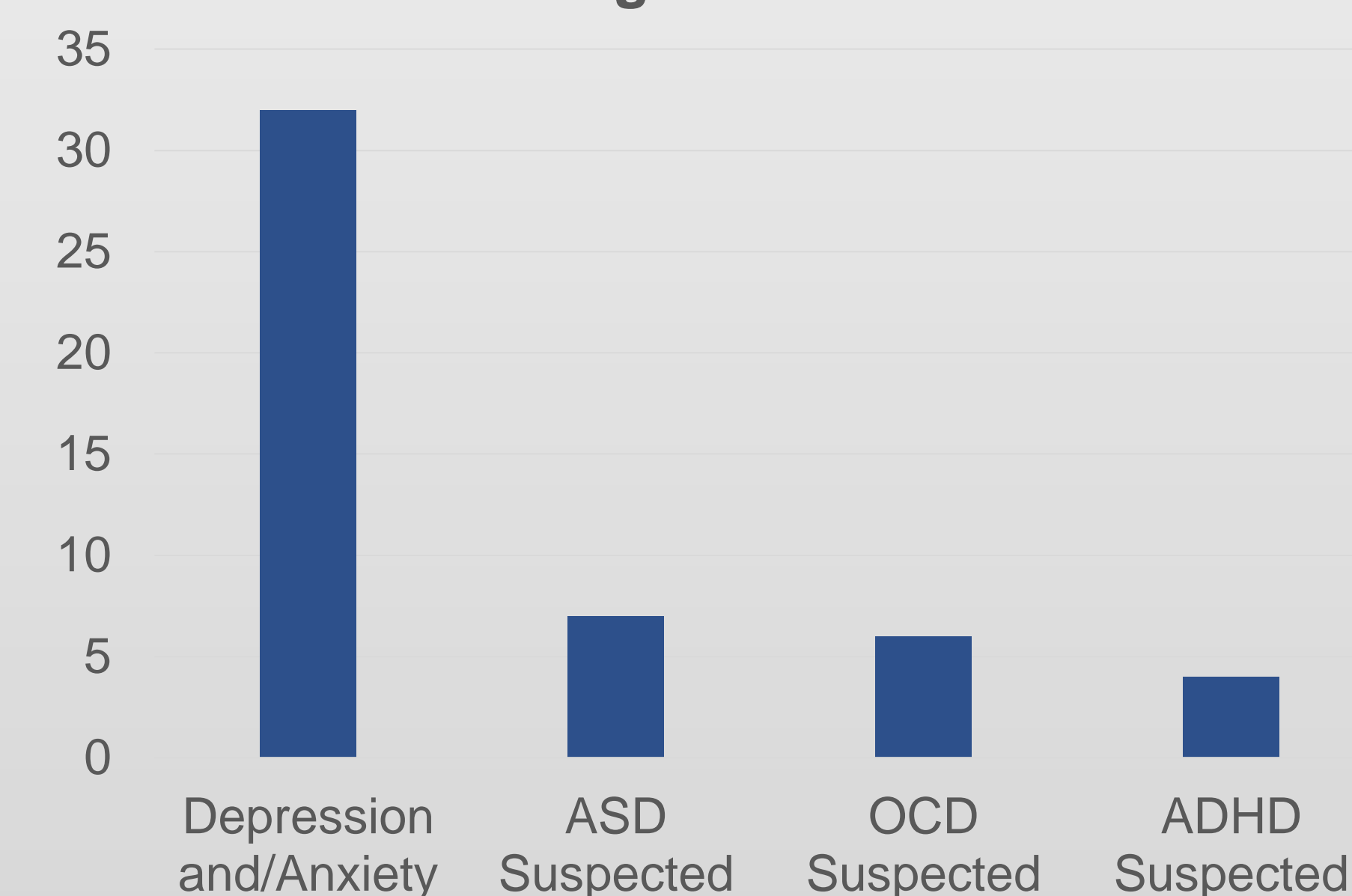
PERCENTAGE OF MALES AND FEMALES PRESENTING WITH FUNCTIONAL TIC-LIKE MOVEMENTS



PERCENTAGE OF PATIENTS PRESENTING WITH CHILDHOOD ONSET TICS OR LATE ONSET FUNCTIONAL TIC-LIKE MOVEMENTS



Common Comorbidities in Patients Presenting to the Tic Clinic



5. Limitations

Limitations:

- Clinical letters were not collected prospectively or with the intention of this project – they were saved as medical records and therefore may not include the selected key words e.g., functional.
- There is no clinical biomarker to define a functional symptom. This means it depends on opinion and there could be some circularity when discussing this topic.

6. Conclusion

The most common demographic of patients presenting to the Tic Disorder Clinic with predominant functional symptoms is female, often with an adult-onset of their symptoms, or a late exacerbation of a mild tic disorder and common family history of tics. This suggests that there is a group of patients more vulnerable to expressing functional tic-like symptoms which may in some cases be related to a genetic diathesis.

7. References

- Stern JS. Tourette's syndrome and its borderland. *Pract Neurol*. 2018; 18(4):262-270
- DSM-5. Tic Disorders. 2016. [Internet]. Available from: https://tourette.ca/wp-content/uploads/2016/10/DSM-5_Tic_Disorders.pdf (Accessed on 15th June 2021)
- Robakis D. How much do we know about Adult-onset Primary Tics? Prevalence, Epidemiology and Clinical Features. *Tremor and Other Hyperkinetic Movements*. 2017; 7:441
- Leckman JF, Zhang H, Vitale A, et al. Course of Tic Severity in Tourette Syndrome: the first two decades. *Pediatrics*. 1998; 102(1 Pt 1):14-9
- NHS North Bristol Trust. Functional Neurological Symptoms. [Internet]. Available from: <https://www.nbt.nhs.uk/our-services/a-z-services/neuropsychiatry/functional-neurological-symptoms> (Accessed on 30th May 2021)
- Ganos C, Martino D, Espay A, et al. Tics and functional tic-like movements: Can we tell them apart? *Neurology*. 2019; 93(17):750-758
- Heyman I, Liang H, Hedderly T. COVID-19 related increase in childhood tics and tic-like attacks. *Archives of Disease in Childhood*. 2021; 106:420-421
- Elliott C. (2016). 'Challenging Stereotypes about Tourette syndrome', *The Guardian*, 29 February. Available at: <https://www.theguardian.com/commentisfree/2016/feb/29/challenging-stereotypes-about-tourette-syndrome> (Accessed on 16th June 2021)
- Tanner CM, Goldman SM. Epidemiology of Tourette syndrome. *Neurol Clin*. 1997;15:395-402
- Chouinard S, Ford B. Adult-onset tic disorders *Journal of Neurology, Neurosurgery & Psychiatry* 2000;68:738-743.