The co-occurrence of FND and ASD: a systematic literature review and meta-analysis

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Introduction

Recent studies reveal increasing interest in the link between Autism Spectrum Disorder (ASD) and Functional Neurological Disorder (FND).

Anecdotally, based on clinical practice, a high prevalence of ASD has been observed in those attending FND clinics.

Some preliminary studies suggesting a higher-than-expected overlap between ASD and FND (Gonzalez-Herrero et al., 2022).

Aim

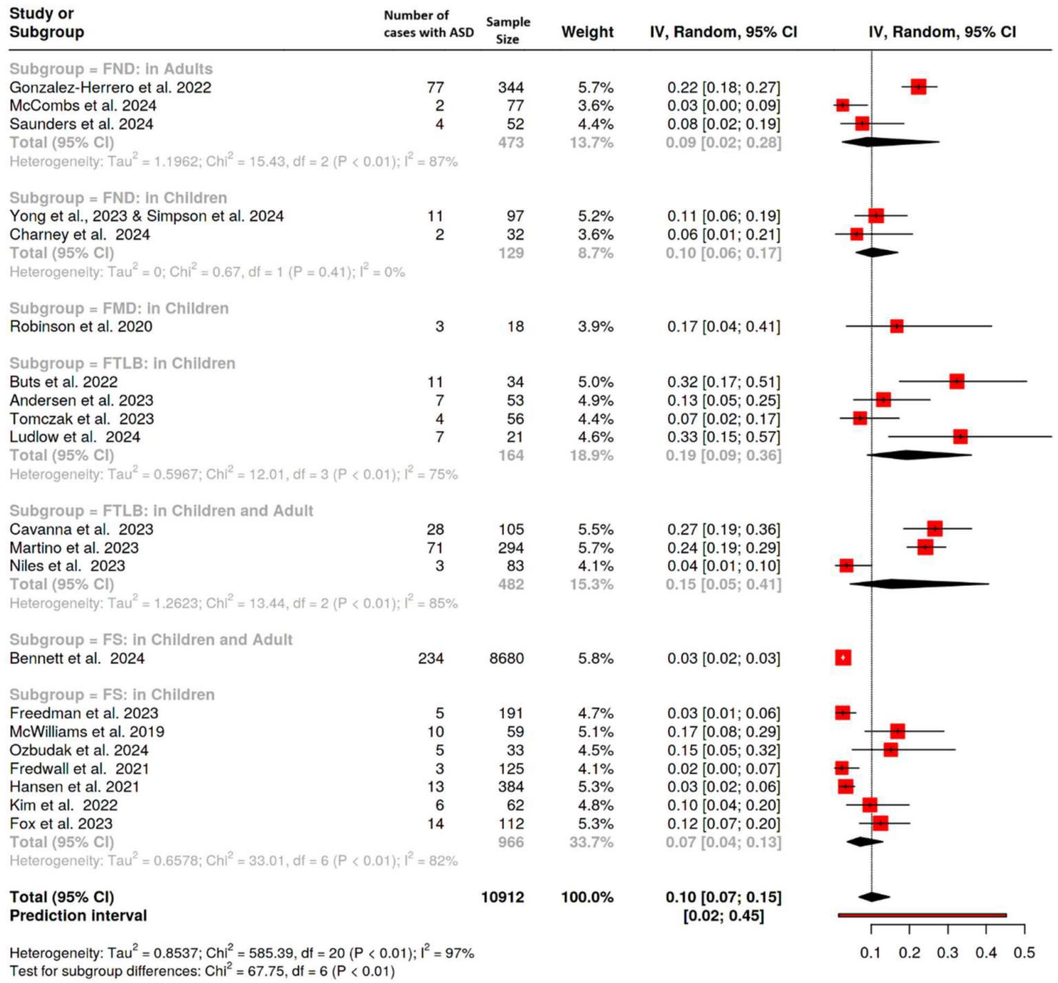
- To determine the frequency of co-occurrence between FNDs and ASD
- To explore the overlapping determinants of FND and ASD

Method

- Systematic Literature Review (PROSPERO Reg. CRD42024497992):
- Comprehensive search using broad terms across multiple databases (up to Nov 2024)
- Inclusion of peer-reviewed studies published in English
- Quality assessment - using JBI tools
- Meta-analysis - random-effects model
- Bias analysis performed
- Subgroup analysis by age group and conditions
- Exploration of overlapping determinants

Results

The study included 11,324 participants, predominantly female (73.4%). It estimated the proportion of ASD in FND populations to be 0.10 (95% CI: 0.07–0.15), with significant heterogeneity (I^2 = 97%, p < 0.01). Subgroup analysis showed variation among different age groups and diagnoses. The proportion of ASD was 0.09 in adults and 0.10 in children with FND, 0.15 in adults and 0.19 in children with Functional Tic-Like Behaviours (FTLB), and 0.07 in children with Functional Seizures (FS).



Overlapping Determinants in ASD & FND

Following themes were identified and explored:

- ***Epidemiological Concepts:*** Demographic difference & Intersection of comorbidities
- ***Neurocognitive Concepts*:** Cognitive differences, Perfectionism
- ***Vulnerability concepts:*** Past Trauma and Attachment problems, Increased sensitivity distress
- **Perceptual Concepts:** Sensory processing problems, Interoception differences, Alexithymia, Theory of Mind deficit
- ***Neuroscientific Concepts:*** Bayesian hierarchical model, Problem in sense of agency, Theory of constructed emotions

Conclusion

Many studies have reported the co-occurrence of ASD in FND, suggesting a higher-than-expected rate of 10%. Emerging themes exploring the overlapping determinants of FND and ASD, are discussed. However, the significance of this correlation and the overlapping determinants that might explain it, require further research due to the heterogeneity in methodologies, settings, conditions studied and findings.

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