Neurodevelopmental and Mental Health Outcomes in a National Clinical Sample of Youth with Sex Chromosome Trisomies Compared with Matched Controls: A PEDSnet Study

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BACKGROUND

- 1:600 males born with 47,XXY
- 1:1,000 for 47,XYY and 47,XXX
- Under 10% clinically diagnosed
- Higher rates of ASD, ADHD, learning disabilities, and mental health diagnoses

OBJECTIVES

- To evaluate the prevalence of any neurodevelopmental diagnosis and mental health diagnosis within individuals with SCT compared to matched controls

METHODS

- Cross-sectional analysis of 1676 SCT patients from PEDSnet
- Inclusion criteria for cases:
  - SCT diagnosis
  - ≥1 visit 2009-2019
- Primary outcomes based off SNOMED hierarchy
- ORs and 95%CIs computed to compare prevalence between cases and controls, $p<0.0025$

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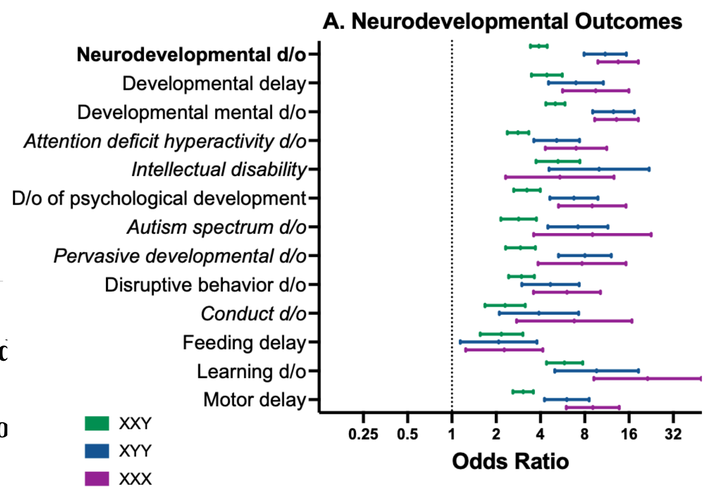
RESULTS



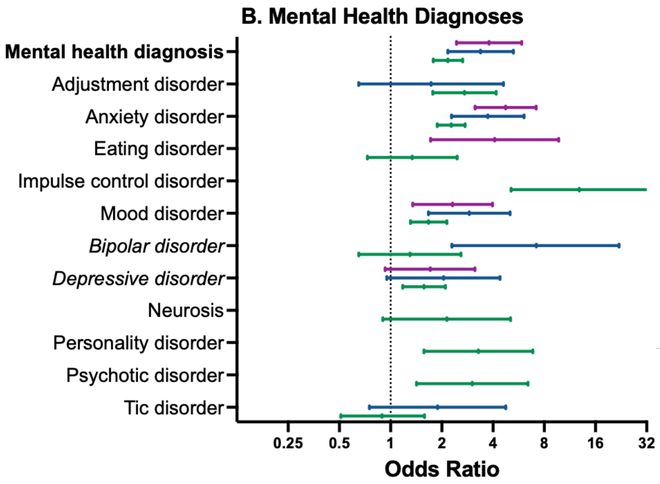


Figure 1. ORs and 95%CIs of Neurodevelopmental outcomes (A) and Mental health diagnoses (B)

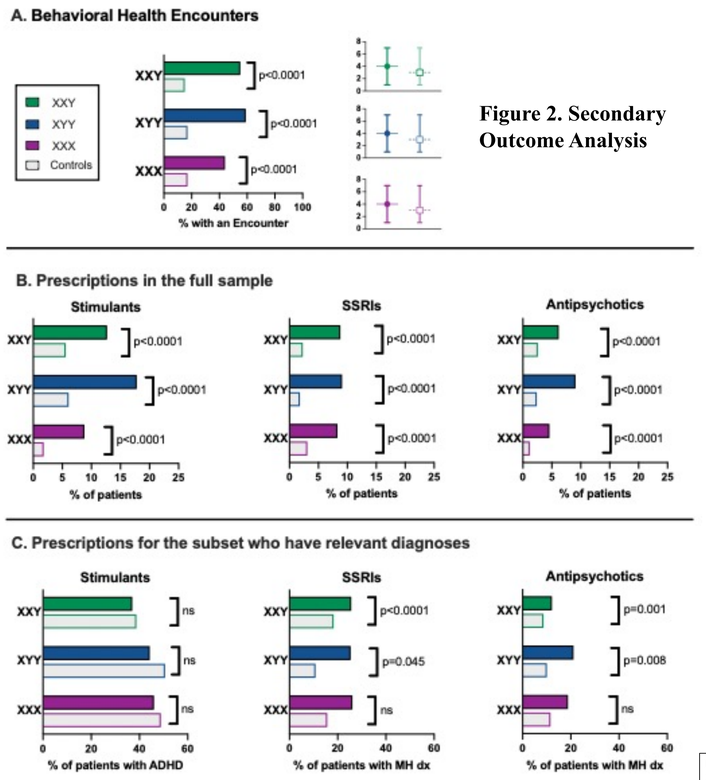


Figure 2. Secondary Outcome Analysis

RESULTS

- 1: All SCT had higher odds of a diagnosis within ND (OR 3.9) and MH (OR 2.17) category
- 2A: All SCT had higher odds of BH encounter
- 2B and C: Youth with XXY and a MH diagnosis were more likely to have an SSRI prescription

CONCLUSIONS

- Cross-sectional analysis of large, nationally representative sample
- SCT youth have greater odds of ND diagnoses including ADHD (OR 2.81), ASD (2.84), and ID (OR 5.26)
- SCT youth have higher odds of MH diagnoses including mood (OR 1.67) and anxiety (2.27) disorders
- SCT youth more often connected to behavioral health provider

IMPLICATIONS

- Higher odds of ND and MH diagnoses support need for early screening and intervention
- Few cases of bipolar, psychotic, and other MH diagnoses overall
- Prescribing patterns differ among SCT and control population

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