

Use of Psychiatric Medications in Young Males with FXS

David Benjamin^{1,2}, Mandeep Chela^{1,2}, Andrea McDuffie^{1,2}, Randi Hagerman^{1,3}, Leonard Abbeduto^{1,2}

MIND Institute, University of California, Davis¹; Department of Psychiatry and Behavioral Sciences, U.C. Davis School of Medicine²
Department of Pediatrics, U.C. Davis School of Medicine³



Introduction

- Psychiatric medications are often prescribed for children with fragile X syndrome (FXS) to treat behavior problems.
- We know less about what types of behavioral concerns prompt medication use.
- We also know little about the relationship between child characteristics such as age, IQ, language, and autism severity, and medication use.
- The current project sought to examine the relationships between specific parental concerns and the child characteristics that relate to psychiatric medication use in FXS.

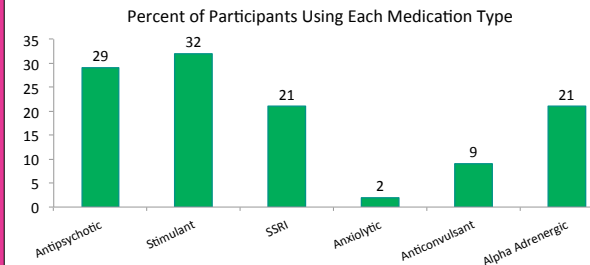
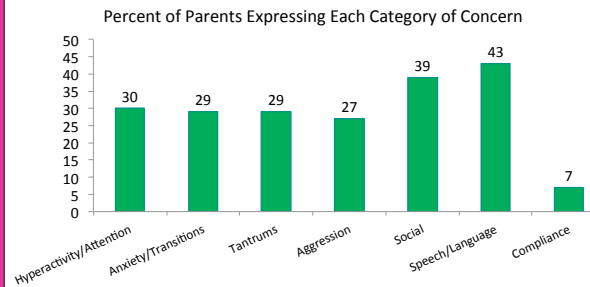
Research Questions

- Do specific parental concerns result in increased likelihood of using psychiatric medications?
- Do child characteristics such as age, IQ, language ability, or autism severity relate to medication usage?

Methods

- Sample:** Participants were 56 males with FXS between the ages of 4 and 11 years.
 - The average age 7.4 years.
- Parental Concerns:** Using the Autism Diagnostic Interview – Revised, we examined parent responses to open-ended questions querying current concerns about their child. We categorized these concerns into the following:
 - 1) Hyperactivity/Inattention, 2) Anxiety and Transitions, 3) Tantrums, 4) Aggression to Self/Others, 5) Social 6) Speech/Language, and 7) Compliance.
- Cognitive Ability:** Non-verbal IQ was assessed using the Brief IQ subtests of the Leiter-R, a measure of nonverbal cognitive ability.
 - The average IQ was 60.
- Language:** We examined receptive and expressive vocabulary using the PPVT-4 and EVT-2.
 - The average receptive vocabulary score was 68.
 - The average expressive vocabulary score was 67.
- Autism Symptoms:** The Autism Diagnostic Observation Scales was administered to all participants to calculate a symptom severity score.
- Current Medication Usage:** Data was collected using a parent-report questionnaire completed at the study visit. Medication classes were
 - 1) Antipsychotics, 2) Stimulants, 3) SSRIs, 4) Anxiolytics, 5) Anticonvulsants, and 6) Alpha-adrenergic agonists.

Results

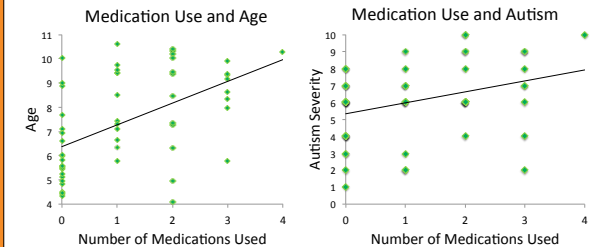


Question 1: Parental Concerns and Medication Use

- The average parent reported 2.3 concerns.
- 59% of participants were using at least 1 medication.
- The average participant was using 1.14 medications.
- We used logistic regression analyses to examine whether certain parental concerns were related to a significantly increased likelihood that a child would be using *any* medication.
 - Children of parents who expressed the following concerns had an increased likelihood of using medications compared to those whose parents did not express the concern.
 - Hyperactivity/Inattention (3 times more likely)
 - Anxiety/Transitions (7 times more likely)
 - On the other hand, the following parent concerns were *not* found to relate to increased likelihood of medication use in children.
 - Tantrums
 - Aggression
 - Social Concerns
 - Speech/Language Concerns
 - Compliance

Question 2: Child Characteristics and Medication Use

- We first used logistic regression to examine whether certain child characteristics, such as age, IQ, language abilities, or autism symptoms, would relate to the likelihood of using medication.
 - We observed that differences in the following child characteristics were related to significantly increased odds of using medication:
 - Autism severity (31% more likely with each 1-unit difference)
 - Age (2 times more likely with each additional year)
 - Parental concerns (1.5 times more likely with each additional concern)
 - On the other hand, the following characteristics were *not* found to relate to the likelihood of using medication:
 - Expressive or Receptive language
 - Non-verbal IQ
- We next examined correlations between child characteristics and the number of medications used.



- We observed that the number of medications used was significantly correlated with age as well as autism symptom severity. Other childhood characteristics such as language and IQ were not found to correlate with the number of medications used.

Discussion

Our results suggest that parents shared on average several concerns regarding their child; however, not every type of concern was related to an increased likelihood of using medication.

Furthermore, the finding that increasing autism severity, age, and number of parental concerns were also related to an increased likelihood of using medication suggests a complex relationship between development and psychopharmacology.

Our findings are limited by the fact that we do not know the specific reasons medications were prescribed, nor do we know whether concerns lessened as a result of medication use.

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