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Rachel Goodson

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Pharmacogenetic Testing In Patients with Autism Spectrum Disorder Evaluated in the Children's Mercy Hospital GOLDILOKs® Clinic

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Children's Mercy Kansas City

Background & Objectives

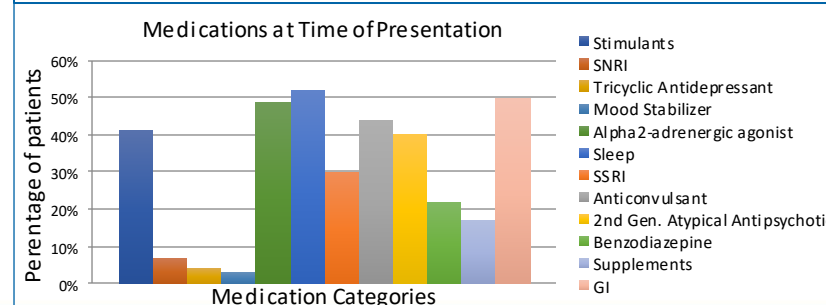
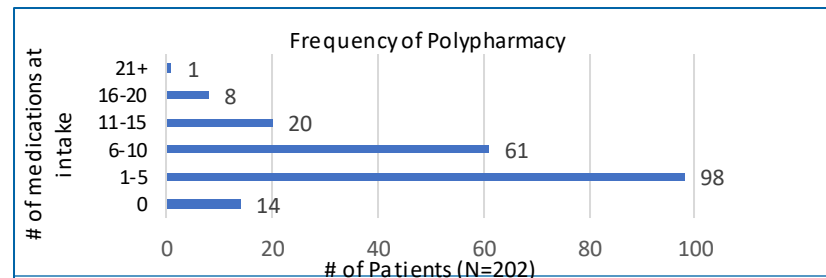
- Children with autism spectrum disorder (ASD) are more likely to be diagnosed with co-occurring mental health disorders and are also at increased risk for poor clinical response and adverse drug reactions
- No studies have investigated pharmacogenetic outcomes with patients with ASD
- Primary Objective:** Characterize the demographic, clinical, and genetic profiles of children with ASD presenting for personalized medicine services
- Secondary Objective:** Investigate the relationships between clinical phenotype and pharmacogenetic profiles

Methods

- This is a retrospective, observational cohort study utilizing the GOLDILOKs® Clinic and Autism Clinic REDcap databases, electronic medical records, and previously completed pharmacogenetic testing results
- Inclusion Criteria:** Evaluation in the GOLDILOKs® clinic with documented diagnosis of ASD, autism, pervasive developmental disorder, or Asperger syndrome.

Results

Sample (n = 202)	Number (N)	Percentage (%)
Gender		
Female	63	31.19
Male	139	68.81
Race		
White	168	83.17
African American/Black	18	8.91
Asian	4	1.98
Other	10	4.95
Latino		
Yes	4	1.98
No	198	98.02
Referral Reason		
Adverse Drug Reaction	98	48.51
Poor Medication Response	131	64.85
Genotype Results Review	5	2.48
Genotyping Requested by Physician	29	14.36
Genotyping Requested by Family	25	12.38
Other	44	21.78
Referral Source		
Primary Care Provider	34	16.38
Subspecialist	158	78.22
Self-Referral	10	4.95



Conclusions

- At the time of referral, most patients were taking 1-10 medications (mean 6.15, SD 4.42, median 5)
- Sleep medications, medications targeting GI disorders, and alpha2-adrenergic agonists, anticonvulsants, and stimulants were among the most common medications taken at the time of evaluation
- Most patients were referred by subspecialists
- Primary referral reasons were adverse drug reactions and poor medication response

Next Steps

- Conduct analysis with inclusion of a control group to evaluate for statistically significant differences
- Expansion to include phenotypic comorbidities and pharmacogenetic testing results
- Characterization of pharmacogenetic testing results and medications at the time of presentation with consideration of patient age, sex, and phenotype
- Multisite expansion of project to include individualized therapeutics clinics across the country for better generalizability

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GOLDILOKs®: Genomic and Ontogeny-Linked Dose Individualization and cLinical Optimization for Kids

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