

# Psychopharmacologic Prescribing Trends Among Foster Children and Non-foster Children in a General Pediatrics Population in Oregon

Rebecca Marshall, M.D., M.P.H.; Keith Cheng, M.D.; Behjat Sedighi, Q.M.H.P.;

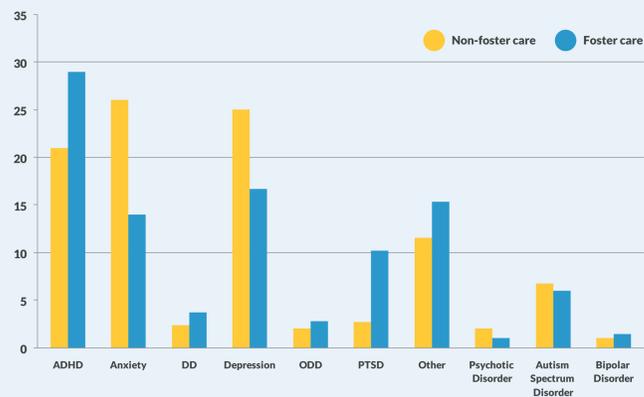
Ajit Jetmalani, M.D. OHSU, Division of Child Psychiatry; Mark Haviland, Ph.D., Loma Linda University, Department of Psychiatry

Oregon Health & Science University, Division of Child and Adolescent Psychiatry

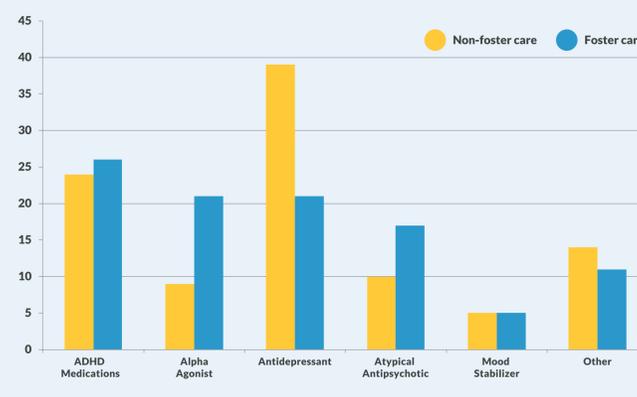
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**FIGURE 1**  
Consultation Case Diagnoses (%)



**FIGURE 2**  
Psychotropics Prescribed (%)



**TABLE 1**  
Factors Associated with Antipsychotic Treatment

FACTORS	NO ANTIPSYCHOTIC	ANTIPSYCHOTIC
No Diagnosis of Psychosis, BAD, or ASD	521 (84%)	99 (16%)
Diagnosis of Psychosis, BAD, or ASD	53 (41%)	76 (59%)
Female	287 (85%)	51 (15%)
Male	286 (70%)	122 (30%)
No History of Foster Care Placement	444 (87%)	68 (13%)
History of Foster Care Placement	59 (67%)	29 (33%)
No Trauma	462 (83%)	91 (17%)
Trauma	112 (57%)	84 (43%)

**TABLE 2**  
Logistic Regression (Odds Ratios with 95% Confidence Intervals and P-Values)

VARIABLE	ODDS RATIO	SIGNIFICANCE
Age	1.00 (0.92, 1.09)	0.940
Male	2.35 (1.21, 4.58)	0.012
Foster Care	3.14 (1.51, 6.53)	0.02
Trauma	2.61 (1.29, 5.30)	0.008

## BACKGROUND

- The Oregon Psychiatric Access Line about Kids (OPAL-K) provides child psychiatry consultations by phone for medical home cases of primary care providers (PCPs) in Oregon.
- In this retrospective study, the authors evaluated data gathered from OPAL-K consultations to assess prescribing patterns in this population.
- Among the observed patterns, antipsychotic medication had been prescribed outside of FDA-approved indications. The purpose of the present study was to determine which factors were associated with off label antipsychotic use.
- The total number of consultations provided to Oregon PCPs for the first two years of operation was 1012 (513 males and 499 females); the mean age was 12.6 years; 132 children had a history of foster care placement, 785 did not, and in 95 cases, residence information was not available.
- Figures 1 and 2 above show diagnostic and medication information for all consultations.

## METHOD

- Since March, 2014, OPAL-K has collected data on all consultations, which are logged into a secure database.
- The study sample consisted of patients who at the time of the call were receiving at least one psychotropic medication (n = 746).
- Appropriate antipsychotic use was defined as cases where youth had been assigned a diagnosis of psychosis, bipolar disorder (BAD), or autism spectrum disorder (ASD), which all have an FDA indication. Off label use was defined as cases without one of these diagnoses.
- Analytic plan: to evaluate associations with antipsychotic use; age, gender, foster care, and trauma experience (defined as having a PTSD diagnosis or trauma reported in the patient's history). First, bivariate associations were evaluated with a t-test for independent samples and chi-squared statistics; second, a binary logistic regression was run using only those cases in which antipsychotic use was classified as off label. Alpha was set a 0.05 for all tests.

## RESULTS

- Mean ages of study participants in years: males, 12.69 (SD = 3.96) and females, 13.09 (SD = 4.30). Not significant (p > 0.05).
- Among youth prescribed medications, 16% had been prescribed antipsychotics without an FDA-approved indication (see Table 1 above).
- Factors associated with antipsychotic use were diagnosis with indication, male gender, being or having been in foster care, and having experienced trauma (Table 1). All differences were substantial, and each chi-squared statistic was significant (p < 0.05).
- In Table 2, the odds ratios with 95% Confidence Intervals are shown for the logistic regression. Male, foster care, and trauma were significant (p < 0.05).
- A preliminary evaluation of diagnoses suggested that the most common for those prescribed antipsychotics off label were post-traumatic stress disorder and developmental disability.

## CONCLUSIONS

- In this population, antipsychotics were prescribed in at least 16% of cases where there was no clear FDA-approved indication.
- Children with a history of foster care were prescribed antipsychotics off label at higher rates than were children without a foster care history (as were males and those who had experienced trauma).

## DISCUSSION

- Use of antipsychotics carries substantial side effects and risks; and they should be used cautiously in children.
- Use of antipsychotics in already at-risk populations, notably those in foster care and who have experienced trauma, is concerning.
- We speculate that antipsychotics are being prescribed to target behavioral symptoms related to attachment/trauma. (We do not yet have data to support this, however.)
- More research is needed to better understand off label antipsychotic use in children, as well as to provide additional services that better address underlying causes of symptoms resulting in antipsychotic prescribing.
- Weaknesses of the study include: data were gathered based on a single consultation by phone without medical records to review (or children to interview) and with the clinical diagnoses provided by the PCPs.