Executive Functioning and Treatment Response in Escitalopram-Treated Adolescents with Generalized Anxiety Disorder: A Placebo-Controlled Double-Blind Trial

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INTRODUCTION

- Executive function in pediatric GAD and how it relates to psychopharmacologic treatment is not well understood.
- With this in mind, we examined the relationship between executive function and anxiety improvement in a double-blind, placebo-controlled trial of escitalopram in adolescents with GAD.

METHODS

- Adolescents with GAD (N=51, mean age: 14.8 ± 1.6 (SD) years, range 12-17) were randomized to 8-weeks of escitalopram or placebo.
- The Behavior Rating Inventory of Executive Function, Self-Report (BRIEF-SR) was obtained at baseline to characterize baseline executive function. T-scores comparing each patient to an age and sex-normed sample were obtained. Anxiety symptoms were assessed, over time, with the Pediatric Anxiety Rating Scale (PARS).
- Then, the relationship between baseline BRIEF-SR assessments and PARS score, over time, were determined
- For those executive function domains that predicted response, the relationship between clinically-significant impairment in BRIEF-SR sub scores and treatment outcome was assessed.

RESULTS

- Baseline BRIEF-SR T-scores were significantly elevated in anxious youth (Figure 3)
- Baseline BRIEF-SR scores for Working Memory, Task Completion, Emotional Control, and Planning/Organizing predicted the trajectory of improvement in PARS score in patients who received escitalopram (Figure 1). However, in adolescents who received placebo, only the Inhibit score was significantly, but weakly, associated with response trajectory.
- The trajectory of improvement across the 8 weeks differed significantly when adolescents had clinically significant impairment (i.e., T-score >65) in Emotional Control, Working Memory, Planning/Organizing, and Task Completion when compared to patients whose scores were not in the clinically significant range (Figure 2)

CLINICAL SIGNIFICANCE

- Through cognitive mechanisms, executive function may contribute to functional impairment and distress in GAD
- Cognitive functioning—alongside other contextual baseline variables—are important to assess at baseline
- Executive function may influence psychopharmacologic treatment

Executive function deficits in adolescents with GAD predict SSRI response.





Figure 2. Differences in trajectory of improvement in Escitalopram-Treated Adolescents (n=25) based on Executive Function Domains that were Significant in the Multivariate Model of Response. Models are adjusted for age and sex. Dotted gray lines represent the average improvement in the entire sample of escitalopramtreated adolescents. A. Emotional Control, B. Working Memory, C. Planning/Organizing D. Task Completion



Figure 3. Baseline Executive Function of Adolescents with Generalized Anxiety Disorder. Histograms show frequency of T-scores in anxious youths for each subdomain of executive dysfunction compared to compared to age- and sex-matched healthy youths (i.e., T-score 50): A) Inhibit, B) Shift, C) Emotional Control, D) Monitor, E) Working Memory, F) Planning/Organizing, G) Organizing Materials, H) Task Completion, I) Behavioral Shift, and J) Cognitive Shift

