

Research looks at side effects for pediatric medications

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Jeffrey Mills, associate professor in the Department of Economics at the UC Lindner College of Business, and Dr. Jeffrey Strawn, associate professor in the Department of Psychiatry and Behavioral Neuroscience at the University of Cincinnati College of Medicine. Credit: University of Cincinnati

Sometimes, the medications needed to function and live a quality life cause side effects that can make life quite uncomfortable.

Dr. Jeffrey Strawn, associate professor in the Department of Psychiatry and Behavioral Neuroscience at the University of Cincinnati College of Medicine, and Jeffrey Mills, associate professor in the Department of Economics at the UC Lindner College of Business, published a study in the *Journal of the American Academy of Child & Adolescent Psychiatry* looking specifically at [side effects](#) that impact children and adolescents being treated for [anxiety disorders](#) and obsessive-compulsive disorder (OCD).

Strawn says this is one of the first studies examining side effects of these medications in youth that doesn't just focus on suicidal thinking or discontinuation of [medication](#).

"For youth with anxiety disorders and OCD, these medications improve symptoms and functional outcomes," he says. "Over the past two decades, [selective serotonin reuptake inhibitors](#), known as SSRIs, and serotonin-norepinephrine reuptake inhibitors, known as SNRIs, have become the standard medication treatments for pediatric patients with these conditions."

The UC study assessed quality-of-life issues.

"Evaluations of antidepressant tolerability focus almost entirely on discontinuation of the medicine or suicidality. We wanted to examine side effects commonly reported in [pediatric patients](#) treated with antidepressants, including agitation, nausea, abdominal pain, insomnia, headache and fatigue, in addition to suicidality and discontinuation of medication."

SSRIs increase levels of serotonin in the brain. SNRIs block the

reabsorption of the neurotransmitters serotonin and norepinephrine in the brain.

In this study, Mills and Strawn looked at academic peer-reviewed articles through March 1, 2019, and identified SSRI and SNRI studies in patients under 18 with OCD and anxiety disorders, specifically noting side effect rates.

They used statistical tools known as Bayesian hierarchical models created by Mills that enable results from different studies to be combined while taking into account variations across patients and those studies.

"Out of 18 trials, which included more than 2,500 patients who were treated and then compared to patients taking a placebo, SSRIs produced more side effects; agitation was more common with SSRI use," Mills says.

"SSRIs and SNRIs were not associated with suicidal thoughts. This finding is consistent with earlier studies that suggest that suicidality relates to the condition being treated," Strawn adds. "Medication side effects are important for clinicians to consider, particularly in light of data suggesting these medications also differ in terms of how effective they are. SSRIs are a better option compared to SNRIs and are the treatment of choice for children and adolescents with anxiety."

More information: Jeffrey A. Mills et al. Antidepressant Tolerability in Pediatric Anxiety and Obsessive-Compulsive Disorders: A Bayesian Hierarchical Modeling Meta-Analysis, *Journal of the American Academy of Child & Adolescent Psychiatry* (2019). [DOI: 10.1016/j.jaac.2019.10.013](https://doi.org/10.1016/j.jaac.2019.10.013)

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