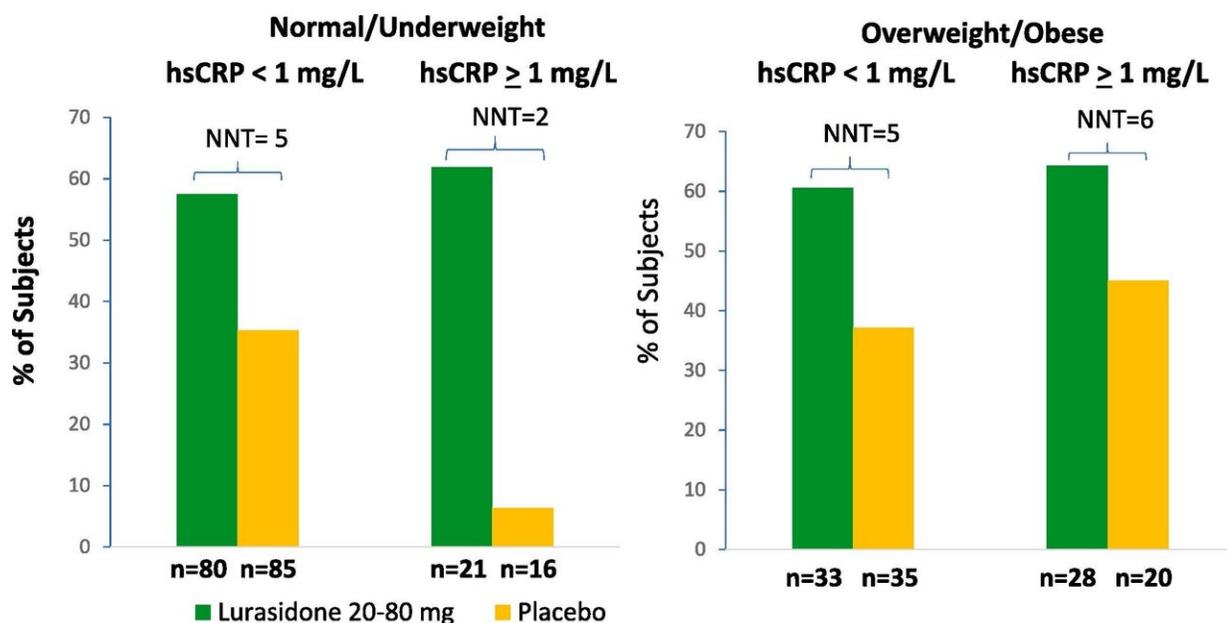


# Inflammation predicts response to antidepressant medication

January 3 2020, by Susan Lampert Smith

hsCRP-BMI combined interaction effect on antidepressant response to lurasidone P = 0.043



Antidepressant response: ≥ 50% improvement from baseline to week 6 in CDRS total score

Baseline C-Reactive Protein Level Combined with BMI and Week 6 Response Rate Associated with Lurasidone (vs. Placebo). P-values were estimated based on logistic regression model adjusted for baseline CDRS-R score, baseline BMI, age, gender and study sites (country) in the analyses: P = 0.043 for hsCRP and BMI combined interaction effect on antidepressant response to lurasidone (vs. placebo) treatment. Credit: *Brain, Behavior, and Immunity*

Children and teens with bipolar depression responded better to an

antipsychotic medicine if they had increased markers of inflammation in their blood, a new University of Wisconsin–Madison study shows.

The study suggests that C-reactive protein, a sign of systemic [inflammation](#) in the body that shows up in a readily available blood test, could be a predictive biomarker for identifying which patients with [depression](#) in the context of pediatric bipolar disorder will respond to medication.

"Inflammation is known to be associated with [mood disorders](#) in adults, but this is one of the first findings to show that it can also predict antidepressant response in teens and children," says lead author Charles Raison, professor of human development and [family studies](#) in the UW–Madison School of Human Ecology and a member of the psychiatry faculty at the UW School of Medicine and Public Health. "The meeting point of inflammation and predictive biomarkers for antidepressant response is emerging as an important area of research."

The findings were presented in December at the American College of Neuropsychopharmacology and published in the journal *Brain, Behavior and Immunity*. The research was sponsored and funded by Sunovion Pharmaceuticals, which makes Latuda, a version of the antipsychotic medication lurasidone, which was recently approved for use in pediatric patients.

The study looked at 347 children and teens ages 10 to 17 with pediatric bipolar disorder who were experiencing a depressive episode. About half were given lurasidone and the other half were given a placebo. Antipsychotics are a class of drugs used to manage bipolar disorder.

After six weeks, those who received the drug and showed the greatest improvement in depression symptoms as defined by the Children's Depression Rating Scale also had the highest levels of C-reactive protein

in their blood at the beginning.

However, the relationship only held for patients who were normal weight or underweight. Those with a [body mass](#) index (BMI) in the overweight or obese range with higher levels of C-reactive protein showed little difference in response between the drug and the placebo.

The authors suggest that this finding might be explained by the fact that inflammation in obese and overweight children and teens is more closely related to their body mass and metabolism rather than specifically related to the types of inflammatory processes that are known to increase the risk for developing depression.

**More information:** Charles L. Raison et al. C-reactive protein and response to lurasidone treatment in children and adolescents with bipolar I depression: Results from a placebo-controlled trial, *Brain, Behavior, and Immunity* (2019). [DOI: 10.1016/j.bbi.2019.12.010](https://doi.org/10.1016/j.bbi.2019.12.010)

Provided by University of Wisconsin-Madison

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