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## Treatment Alternatives to Obsessive Compulsive Disorder: An Evidence-Based Project

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## Purpose

To answer the clinical PICOT question: in adults with obsessive compulsive disorder (OCD), how does augmenting a selective serotonin reuptake inhibitor (SSRI) with N-acetyl-cysteine (NAC) compare to monotherapy with an SSRI in terms of symptom severity and to translate this evidence into practice.

## Background

- OCD is a debilitating psychiatric diagnosis that affects 1-2% of the population<sup>4</sup>
- The gold standard of treatment for OCD is selective-serotonin-reuptake-inhibitor (SSRI)<sup>1</sup>
- Up to 40% of OCD patients do not receive a clinical response from SSRIs<sup>3</sup>
- The exact etiology of OCD is unknown, but literature has pointed to abnormalities in glutamate metabolism<sup>7</sup>
- The Yale-Brown Obsessive Compulsive Scale (Y-BOCS) is often used to assess severity of OCD symptoms<sup>1</sup>
- NAC has been explored as a potential glutamate modulating therapy for OCD<sup>2</sup>
- NAC is an over the counter medication that is affordable, accessible and has a low side effect profile<sup>2</sup>

## Evidence Appraisal

Databases: CINAHL, Cochrane, Central Register of Controlled Trials, EBSCO, Medline, Nursing and Allied Health Collection: Basic, PsychARTICLES, PsychINFO

Keywords: obsessive compulsive disorder, OCD, n-acetyl-cysteine, NAC

Inclusion criteria: RTCs, systematic reviews, & case reports published between 2010-2017

Exclusion criteria: articles not specific to OCD, articles not specific to NAC

Final sample: Two double blind randomized placebo controlled trials, three systematic reviews

## Evidence Synthesis

- One RCT concluded NAC as a treatment adjunct to SSRI was more successful than placebo with SSRI ( $p < 0.001$ )<sup>1</sup>
- Two systematic reviews concluded NAC is efficacious in as a treatment adjunct with SSRI for OCD based on three case reports and the aforementioned RCT<sup>3,6</sup>
- One systematic review postulated that OCD may be heterogeneous in nature, which is why NAC may not be successful for glutamate-independent OCD based off of six retrospective case reports with various outcomes<sup>3</sup>
- One RCT had non-significant results for overall Y-BOCS score ( $p = 0.39$ ), but significant results for compulsion subscale ( $p = 0.0013$ )<sup>5</sup>
- All studies conclude that NAC is a very inexpensive, accessible medication, with low risk<sup>1,3,5,6,7</sup>

## Translation to Practice

- Given the low side-effect profile, low cost, and accessibility, trialing OCD in treatment refractory OCD is appropriate
- Trial NAC at 600mg BID for 1 month, and if tolerated, titrate up to 2400-3000mg/ day for eight weeks. If successful continue (YBOCS score  $< 15$  or patient report) , if unsuccessful (YBOCS score  $> 15$ , patient report, discontinue

## Proposed Evaluation

- Pilot trial in community mental health center using in patients with OCD who have failed two first line psychotropic agents
- Biweekly check ins with patient to interview and administer Y-BOCS every visit for eight weeks
- Present results to practice at prescriber meeting

## Conclusion

- The results are promising for utilizing NAC in OCD, but further research is needed with larger trials
- Given the benign nature of NAC and potential efficacy it is appropriate to use in treatment refractory OCD, defined as at least two unsuccessful trials for patients who were treated with two different first line medications

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