

The Rhetorical Construction of the “Chemical Imbalance Theory” and Potential for Gut-Centric Alternatives

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BBT Research

Hypothesis: Pathogen avoidance behaviors are the result of gut-brain mediated immune responses to environmental stress.

Method: Gene expression was analyzed via qPCR in *C. elegans* infected with *C. albicans*

Result/Discussion: Elevated expression of immune-related genes indicates the role of the gut-brain axis in mediating behavioral stress responses

Research Questions

How has discourse around the diagnosis and treatment of depression influenced how the condition is perceived?

What role has the media, advertisements, and perceived authority played in the promotion of untrue narratives?

What are the current obstacles to implementing a wider variety of therapies for depression?

Statistics of Depression

- One in ten Americans ages 12+ with depression rely on SSRIs every day
- Depression affects 350 million individuals worldwide and 8.3% of the US adult population
- Women are 2x as likely to be diagnosed with depression
- 2.5x as many women take antidepressants than men
- SSRIs are effective in 46-60% of individuals

Early Advertisements



Figure 1. Article on Serax (oxazepam) published in the Journal of the American Medical Association in 1967 by Wyeth Laboratories

Key Takeaways

1. Depression is a complex condition that likely has more than one cause or origin
2. SSRIs are the dominant treatment method for depression, despite not being completely effective
3. Depressed people who are “treatment resistant” often never experience relief
4. Emerging research points to several promising alternatives to SSRIs involving the gut microbiome
5. A functional approach to psychiatry would allow depression to be treated on a case-by-case basis
6. Alternative treatments could be used alongside SSRIs, but are lacking research and support from psychiatry

Background

History of depression Depression has existed for as long as humans, but it didn’t receive recognition as a mental illness until the late 20th century after MDD was established in the DSM (1980).

Chemical Imbalance Theory Because researchers were limited in neuro-analytical tools, the cause of depression was “determined” using pharmaceuticals. Drugs that increased monoamine levels in the brain were found to reduce depressive symptoms, leading to this prominent theory in the 1960s.

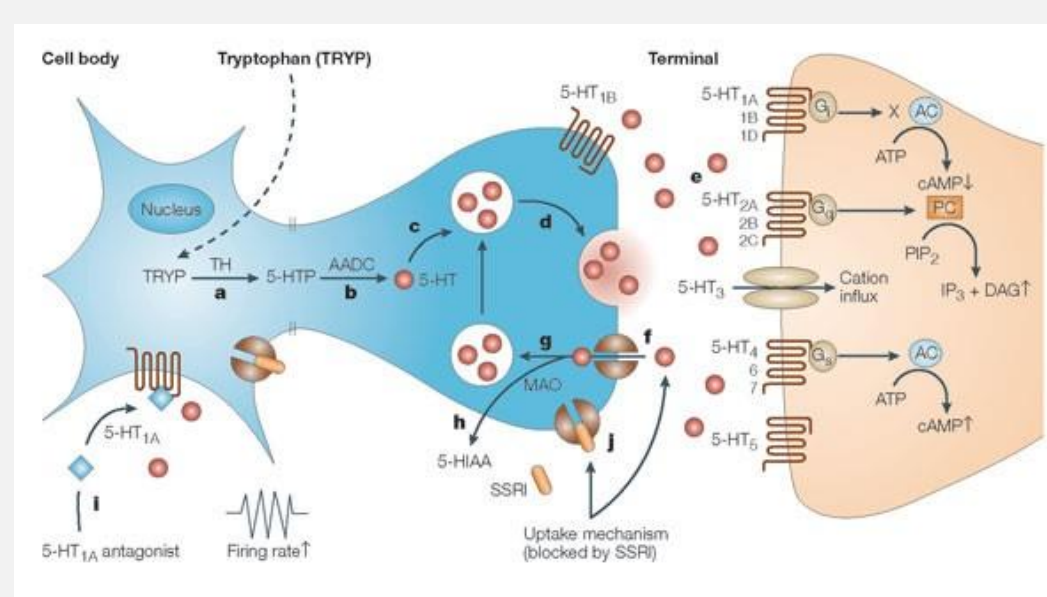


Figure 2. Graphical depiction of SSRI mechanism of action. SSRI compounds and serotonin neurotransmitters are represented by orange ovals and red circles, respectively

The First Pharmaceuticals Isoniazid (intended for TB) was the first pharmaceutical found to be effective against depression. In 1959, Tofranil, a TCA intended for schizophrenia, became the first antidepressant. SSRIs were developed shortly after the chemical imbalance theory emerged. Thanks to the outflow of advertisements at the time, SSRIs quickly rose to fame as “miracle drugs” or “happy pills.”

Diagnostic Process

The diagnostic process for depression typically involves a physical exam coupled with questionnaires. Psychiatrists decide whether patients fit a diagnosis based on their adherence to the criteria in the DSM or ICD.

Because most diagnoses in these categorical diagnostic systems were reached by consensus or voting, some psychiatrists are taking an alternative approach like the medical model, one that uses physiological determinants to diagnose and treat disorders.

Alternatives to SSRIs

Psychotherapy: A one-on-one discussion with a therapist aimed at identifying and changing troubling behaviors or emotions. Studies have shown that long-term outcomes are significantly better for patients who receive psychotherapy as opposed to medication.

Nutritional Therapy: The use of dietary regimens to treat mental disorders. Research has found a strong link between adherence to a mediterranean diet and reduced risk of depression.

Probiotics: A supplement containing a combination of beneficial bacteria, native to the human gut. Research supports a strong link between the gut, nervous and immune systems. As such, gut imbalance is implicated in many immune and neuropsychiatric disorders.

Fecal Microbiota Transplant (FMT): the transfer of healthy stool from one individual to another. Research has shown FMT from healthy donors to ameliorate depressive symptoms in patients with MDD.

Appendix

- SSRI: Selective serotonin reuptake inhibitor
- TCA: Tricyclic antidepressant
- DSM: Diagnostic and Statistical Manual of Mental Disorders
- FMT: Fecal Microbiota Transplant
- MDD: Major Depressive Disorder
- ICD: International Classification of Diseases