



Comparing Olanzapine with Placebo in Patients with Anorexia Nervosa for Increasing BMI and Weight Gain

Jbara J¹, Shaabani H^{1*}, Cherkezishvili E¹, and Chermahini SH²

¹Department of Health Sciences, University of Georgia, Georgia

²Department of Science and Technology, University of Georgia, Georgia

*Corresponding author: Hedyeh Shaabani, Department of Health Sciences, University of Georgia, Kostava St. 77a, 0171 Tbilisi, Georgia, Email: hediehshaabani@icloud.com

Review Article

Volume 2 Issue 1

Received Date: December 26, 2023

Published Date: February 19, 2024

DOI: 10.23880/jmcs-16000117

Abstract

Anorexia Nervosa is an eating disorder that can be characterized by having exceptionally low body weight with feeling of disgust to food. Commonly known treatment for Anorexia Nervosa is psychological treatment with methods like CBT and MANTRA, but now with the introduction of pharmacological drugs it is the aim of this review to identify whether olanzapine is effective compared with placebo in increasing BMI and weight gain. What was found is that olanzapine showed great increases in BMI [F (1, 20) =6.64, p=0.018] when compared to placebo, and that it noticeably had decreased depression and anxiety. Additional studies found that olanzapine patients gained weight more rapidly and achieved their BMI targets more quickly than those taking a placebo. On the other hand, a contradictory finding was seen, it was that there was no significant difference between olanzapine and placebo in the matter of weight recovery and psychological, depressive, and anxious symptoms. What is concluded is that to minimize the rely on pharmacologic therapies until new findings emerge, and to depend mostly on psychotherapies such as CBT and MANTRA for increasing BMI in anorexia nervosa patients.

Keywords: Anorexia Nervosa; Olanzapine; Body Mass Index; Weight Gain

Introduction & Objectives

The eating disorder termed Anorexia nervosa is a disease which mainly causes people with this condition to have exceptionally low body weight, as well as disgust to food. This disorder leads to complications for the person having it by affecting their immunity making it decline rapidly making them ill and making them malnourished. Often, anorexia patients are very conscious of their weight and attempt to control it in a way that is harmful to their health. Methods that are used by them are vomiting and working out a lot. One of the highest mortality rates between psychiatric disorders is Anorexia nervosa [1]. It causes physical complications that include amenorrheosteopenia, hypophosphatemia,

and eroding tooth enamel [2]. There are many options of treatment for Anorexia but in this study, we will focus on the pharmacological drug olanzapine and how it affects weight gain. Typically, anorexia is treated psychologically, like CBT, which is used for relapse prevention as soon as a patient has raised their weight to a healthy level, so they do not go back to anorexic behaviors [3]. While MANTRA on the other hand focuses on identifying the different factors that makes people trapped in anorexic behaviors and following it by helping them to look for ways that helps them to cope and transform their thinking and behaviors. The first line of treatment for those with anorexia, according to BMJ best practice, is nutritional rehabilitation and supplements. After that, psychotherapy is an option as a subsequent step. It is what

has traditionally been done, but with the development of pharmacologic therapy, there has been less investigation into whether medications like olanzapine and others can replace psychological therapies in the treatment of anorexia nervosa. This knowledge has assisted in directing this research in the appropriate direction [4]. As a result, this study helps determine whether olanzapine is an effective medication for helping anorexia patients gain weight. Finding out if olanzapine helps anorexic patients gain weight is crucial because anorexia is one of the most dangerous psychiatric disorders and affects a significant proportion of women. The third most prevalent chronic condition among teenagers is anorexia [5]. Those with anorexia can greatly enhance their quality of life by learning the answer to this question.

Methods

I found 78 items when I used the keywords “Anorexia” OR “anorexia nervosa” AND “Olanzapine” in the PubMed database search. Then, I restricted my search to include just full-text results, clinical trials, randomized clinical trials, Human species, and English language. I received 15 results, of which I used 5. With the limited search of systemic review, I received 4 options, and I chose 1.

Results

The following conclusions were drawn from the sources that were examined. Patients with anorexia exhibit severe hypophagia and intense physical activity, according to the first study. The goal of this study was to see whether olanzapine can reduce these traits in rats before testing it on anorexic patients. It was discovered that it lowers activity levels in anorexia nervosa patients compared to anorexia nervosa patients who are not receiving treatment, though it has no impact on body weight or leptin levels [6]. In the second research, olanzapine-treated and placebo-treated groups of anorexic individuals were compared. In comparison to the placebo group, the olanzapine group displayed a larger increase in BMI [$F(1, 20)=6.64, p=0.018$]. Improvement of psychological symptoms was the other factor being examined, and neither group showed a significant difference [7]. The third study’s objective was the same as that of the second. Although there was no improvement in psychological symptoms, the group receiving olanzapine experienced a higher increase in BMI than the placebo group (0.259 [SD=0.051] compared to 0.095 [SD=0.053] per month) [8]. In the fourth trial, olanzapine-treated anorexic patients underwent a 6-week test period before their baseline BMI and symptom levels were compared. It revealed that olanzapine greatly reduced anxiety, depression, and increased weight gain [9]. In the fifth research, Anorexia patients were formed into two groups; one received olanzapine along with day hospital treatment, and the other received a placebo along

with day hospital treatment. The group receiving olanzapine gained weight more quickly than the placebo group did, reached BMI targets more quickly, and experienced less symptoms [10]. The final study is a meta-analysis of the randomized controlled trials that have been conducted to examine various pharmacologic treatments for anorexia nervosa. Out of the eight studies that were examined, it was discovered that five included BMI data and that there was no clear differentiation between olanzapine and a placebo for weight recovery. There was no apparent result for the psychological, depressive, or anxiety symptoms [11].

Discussion

As was clear from the findings, olanzapine has been shown to have some impact on increasing BMI and gaining weight in past studies. But, as of 2020 with the meta-analysis study, olanzapine was showing no discernible difference from placebo treatments. One of the first study’s strengths was that it used olanzapine (5 mg/kg) for three straight months. Its limitation was that only hyperactive anorexia nervosa patients were used as subjects, and their levels of activity were not varied [6]. The fact that the second study was double-blind and that was strength. A limitation was that 26% of the participants dropped out of the 8-week experiment, which might have impacted the study’s findings [7]. Strength of the third study was that it was similarly conducted in a randomized, double-blind manner. As for its weaknesses, it included 96% women and only 4% men [8]. For the fifth trial, it was a double-blind, placebo-controlled study, which made it difficult for anyone to be biased or manipulate the outcomes. The flexible dose approach utilized in this study is its drawback since different outcomes would have been observed if the dosage had been stable rather than adjustable [10].

Conclusion

To sum up, neither BMI nor weight gain are significantly affected by olanzapine use. Olanzapine was found to have a very negligible impact on weight gain and BMI; hence it is advised that clinical and public health practices focus primarily on psychotherapies such CBT and MANTRA for treating anorexia nervosa and raising the BMI of these individuals.

Acknowledgements

School of Health Sciences.

Conflict of Interests

The authors declare that they have no conflict of interest.

Contribution

The idea of the article was by Hedyeh Shaabani and Jalal Jbara. The literature search and data analysis were done by Hedyeh Shaabani, Jalal Jbara and Dr. Ekaterine Cherkezishvili. The article was critically revised by Dr. Ekaterine Cherkezishvili and Prof. Siavash Hosseinpour Chermahini.

References

- Morris J, Twaddle S (2007) Anorexia nervosa. *BMJ* 334(7599): 894-898.
- Monteleone P, Brambilla F (2014) Multiple Comorbidities in People with Eating Disorders. *Comorbidity of Mental and Physical Disorders* 179: 66-80.
- (2017) What Is Cognitive Behavioral Therapy? American Psychological Association.
- Attia E, Walsh BT (2021) *BMJ Best Practice*.
- Eating Disorder Coalition. Eating disorders are Treatable.
- Hillebrand JG, van Elburg AA, Kas MJH, van Engeland H, Adan RAH (2005) Olanzapine Reduces Physical Activity in Rats Exposed to Activity-Based Anorexia: Possible Implications for Treatment of Anorexia Nervosa? *Biological Psychiatry* 58(8): 651-657.
- Attia E, Kaplan AS, Walsh BT, Gershkovich M, Yilmaz Z, et al. (2011) Olanzapine versus placebo for out-patients with anorexia nervosa. *Psychological Medicine* 41(10): 2177-2182.
- Attia E, Steinglass JE, Walsh BT, Wang Y, Wu P, et al. (2019) Olanzapine Versus Placebo in Adult Outpatients With Anorexia Nervosa: A Randomized Clinical Trial. *American Journal of Psychiatry* 176(6): 449-456.
- Barbarich NC, McConaha CW, Gaskill J, La Via M, Frank GK, et al. (2004) An open trial of olanzapine in anorexia nervosa. *The Journal of Clinical Psychiatry* 65(11): 1480-1482.
- Bissada H, Tasca GA, Barber AM, Bradwejn J (2008) Olanzapine in the Treatment of Low Body Weight and Obsessive Thinking in Women With Anorexia Nervosa: A Randomized, Double-Blind, Placebo-Controlled Trial. *American Journal of Psychiatry* 165(10): 1281-1288.
- Cassoli E, Sensi C, Mannucci E, Ricca V, Rotella F (2020) Pharmacological treatment of acute-phase anorexia nervosa: Evidence from randomized controlled trials. *Journal of Psychopharmacology* 34(8): 864-873.

