

PEER-REVIEW REPORT

Name of journal: World Journal of Psychiatry

Manuscript NO: 64316

Title: How do serotonergic psychedelics treat depression: The potential role of neuroplasticity

Reviewer's code: 02904750

Position: Peer Reviewer

Academic degree: MD

Professional title: Professor

Reviewer's Country/Territory: China

Author's Country/Territory: United States

Manuscript submission date: 2021-02-15

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-02-17 02:03

Reviewer performed review: 2021-03-14 05:00

Review time: 25 Days and 2 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input checked="" type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



**Baishideng
Publishing
Group**

7041 Koll Center Parkway, Suite
160, Pleasanton, CA 94566, USA
Telephone: +1-925-399-1568
E-mail: bpgoffice@wjgnet.com
<https://www.wjgnet.com>

SPECIFIC COMMENTS TO AUTHORS

Depression is a common mental disorder and one of the leading causes of disability around the world. Treatment of depression has been an important topic for the clinical research and practice. Early clinical trials are now showing promising results of serotonergic psychedelics for depression; however, their mechanism of action remains poorly understood. This paper reviewed the effect of depression, classic antidepressants, ketamine, and serotonergic psychedelics on markers of neuroplasticity at a cellular, molecular, electrophysiological, functional, structural, and psychological level to explore the potential role that neuroplasticity plays in the treatment response of serotonergic psychedelics. The article are quite important for the clinical practice. However, I have a minor comment. As we all know, ketamine is a component of commonly used anesthetics on the operating table, and is also an addictive drug called "k powder", and many research have reported the side effect of ketamine. However, the authors did not mention about the side effect of the serotonergic psychedelics for depression. So I would suggest the authors add some sentence to describe these briefly.

PEER-REVIEW REPORT

Name of journal: World Journal of Psychiatry

Manuscript NO: 64316

Title: How do serotonergic psychedelics treat depression: The potential role of neuroplasticity

Reviewer's code: 05871537

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: Switzerland

Author's Country/Territory: United States

Manuscript submission date: 2021-02-15

Reviewer chosen by: Jin-Lei Wang

Reviewer accepted review: 2021-03-10 17:18

Reviewer performed review: 2021-03-17 10:53

Review time: 6 Days and 17 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input checked="" type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
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SPECIFIC COMMENTS TO AUTHORS

Major Depressive Disorder (MDD) contributes significantly to the global burden of disease. Observations suggest that antidepressants commonly used to treat MDD act by promoting neuroplasticity in depression-relevant brain circuits. Moreover, research on the use of serotonergic psychedelics in depression treatment shows promising results. However, their mechanism of action is still unclear. This article explored what effects the use of serotonergic psychedelics has on markers of neuroplasticity. For this purpose, the literature on the association of depression, antidepressants, and ketamine with changes in neuroplasticity at a molecular, cellular, electrophysiological, functional, structural, and psychological level was reviewed. The authors highlight the role of neuroplasticity in the use of serotonergic psychedelics and provide important suggestions for further research on the use of serotonergic psychedelics in depression treatment. Thank you for this interesting and timely article.