PEER-REVIEW REPORT

Name of journal: *World Journal of Psychiatry*

Manuscript NO: 82394

Title: Deep brain stimulation for autism spectrum disorder

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05906528

Position: Peer Reviewer

Academic degree: MD

Professional title: Assistant Professor, Staff Physician

Reviewer's Country/Territory: United States

Author's Country/Territory: Italy

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Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-12-25 14:53

Reviewer performed review: 2023-01-10 09:41

Review time: 15 Days and 18 Hours

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [Y] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [Y] Minor revision [ ] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No
Peer-reviewer	Peer-Review: [Y] Anonymous [ ] Onymous

statements	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

Overall, the review article Deep Brain Stimulation for Autism Spectrum Disorder: a Minireview by Marini et al. brings to the surface a salient topic of clinical practice—the innovative and novel treatment technique of deep brain stimulation (DBS) to address Autism Spectrum Disorder (ASD) and its associated comorbidities, which have been historically difficult to treat with conventional pharmacological treatment methods. This is a relevant and useful addition to existing literature. The paper makes this utility clear by explaining what each study in their review contributes and lacks, thus highlighting specific areas of need for further research as a good review article should accomplish. However, some areas of improvement are identifiable in this review article, as listed below.   In terms of clarity and summarization of goals and findings, the following comments and recommendations may be made: -   Between first and second paragraph of abstract, ideally at end of first paragraph, a statement of goals or objectives of paper may be made before introducing literature search. Prior to this point, DBS and ASD are discussed entirely disparately, without tying together why these concepts are being presented (i.e. to suggest DBS may be explored as a treatment method for drug-resistant/challenging cases of ASD and SIB/associated symptoms and comorbidities)   - No statement is made in abstract about findings of studies and why DBS may be a "valid option" of treatment. A simple statement may be made to this effect at the end of the second paragraph discussing literature search results or in third paragraph after stating that DBS may be a valid option, such as Many of the patients showed improvements clinically in symptoms and as corroborated on scales assessing various symptom groups. This may be followed by a statement of why "further research is needed", such as these improvements varied and studies specifically on patients with ASD were limited.   -

In 'Conclusion' section, contradictory statements are made which send mixed messages—"DBS has only occasionally had positive effects on core ASD symptoms" and "DBS could be a valid option". Evaluate use of negative and positive statements to ensure contradictions are not presented and overall conclusion is presented clearly.   In terms of content and structure, the following comments and recommendations may be made: -   Some further explanation of why certain brain regions were targeted in studies may be included in a brief discussion on neurological principles underlying these choices.   -   In 'Materials and Methods' section, first sentence is more of a statement of goals and may be placed in 'Introduction' section before starting 'Methods' section   -   Some more details of literature search may be expanded upon in 'Methods' section, such as key search terms, studies included or excluded and the criteria used to determine this, etc.   -   In 'Results' section, statement may be made as to why only human clinical studies were chosen in this review article rather than animal model studies found in the literature. Elaboration on study types discovered (breakdown of RCT vs. retrospective cohort vs. etc.), number of patients described in total, and types of trial structures found in studies may be included to expand this section's content. Some of this was described in 'Discussion' section and may be better suited to 'Results' section instead.   -   Likewise, statement of 'consideration of published articles', which appears in second paragraph of 'Discussion' section, may be included in 'Methods' section instead as it is more like an inclusion criteria, though it may be mentioned also that overview of some unpublished studies are also given for context in discussion points.   -   In 'Discussion' statement of total patient sample numbers and statement of "all patients had symptoms resistant to multiple drug therapy", a breakdown of these symptoms or most common symptoms may be provided, as well as a definition of "resistant" to describe how many drug trials qualify as resistance, what the breakdown in comorbidities of the patients was, and if the

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studies had any particularly relevant inclusion or exclusion criteria to note.   - Throughout 'Discussion' section, define "marked improvement" in scores on scales. Also try to classify "improvements" by stating instead the baseline and new levels of severity, or change in scores, in some way to provide more context.   -   In statement of "functional and structural changes in the brain" found in Park et al study, state by what method of imaging these were observed.   -   In statements about Sturm et al study about DBS stimulation areas, explain how the breakdown of stimulation areas was done in the study in order to isolate that basolateral nucleus of the amygdala was effective compared to other regions of stimulation.   -   In Davis et al discussion, state clearly the last sentence about continuation of experience of ASD clinical features—as in, full resolution of symptoms was never achieved.   -   In Grant et al discussion, explain definition of responder and non-responder status more quantitatively   -   In discussion of studies considering surgical treatment, state clearly whether the patients had all also undergone surgical treatment prior to DBS, if this was the case, before discussing the pre-and post- resurgence of symptoms despite DBS treatment.   Overall, and with the above suggestions for revision addressed, this would be an appropriate paper to publish in the World Journal of Psychiatry based on this evaluation.

Scientific quality	[ ] Grade A: Excellent [Y] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Novelty of this manuscript	[ ] Grade A: Excellent [Y] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No novelty
Creativity or innovation of this manuscript	[ ] Grade A: Excellent [Y] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No creativity or innovation

Scientific significance of the conclusion in this manuscript	[ ] Grade A: Excellent [Y] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No scientific significance
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [Y] Accept (General priority) [ ] Minor revision [ ] Major revision [ ] Rejection
Re-review	[ ] Yes [Y] No
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

The manuscipt is well written, however there is no mesh words, nor primary or secondary screening according to PRISMA.

Scientific quality	[　] Grade A: Excellent　　[　] Grade B: Very good　　[Y] Grade C: Good [　] Grade D: Fair　　[　] Grade E: Do not publish
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SPECIFIC COMMENTS TO AUTHORS

The authors have successfully incorporated the recommended changes by the reviewer.

Recommend to accept for publication.