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Peer Review Report for "Clinicians' Approach to Cognitive Impairment After Electroconvulsive Therapy: Current Situations and Challenges"

Author(s): Fatemeh Mohammadian, Fattaneh Abdi-Masouleh, Zahra Hooshyari, Zahra Mirsepassi

Review Timeline:

Submit Date: 31 Oct 2021
Revised Date: 31 Jan 2022
Accepted Date: 12 Feb 2022

Revision (0)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

REFEREE: Reviewer | **Revision** (0)

28 Dec 2021

Dear AE,
comments for the authors:
1) Please use the full term in the title, not the abbreviation.
2) Dear author in addition to a grammar mistake, the method has not been written based on scientific style writing.
3) Absolutely not acceptable. Please re-write the result section. The number, age of attendance, and much other information should be written in this section.
4) This study is not new. Dear author according to the title and introduction, your aim was to achieve some parts of these goals. I was disappointed with the conclusion.
5) Please re-write the key words according to Mesh terms.
This study is not new.
6) BJPsych Open. 2020 May; 6(3): e40. DOI: 10.1192/bjo.2020.17. Cognitive side-effects of electroconvulsive therapy: what are they, how to monitor them and what to tell patients. M Argyelan • 2021: The cognitive effects of
7) This is different from your aim.

8) How did you calculated this sample size? Do you think the answer to questions in the form would be same in different groups of attendants?
9) Widespread cognitive complications have affected the acceptance of this treatment. Despite current evidence in favor of short-term cognitive impairment, long-term cognition consequences are less determined. This is the objective in the abstract?
10) Do you mean own experience?
11) In your introduction you should give more information associated with; cognitive tools, underlying disease and … to the reader of this article.
12) These answers to your questions that were inserted into your forms, could not give you a clue to approach for clinicians to cognitive impairment after ECT. Just you evaluated their knowledge and performance.
13) More than half of the experts believed that ECT should be discontinued in cases of severe cognitive impairment after ECT. Is that right??
14) Sackeim HA. Autobiographical memory and electroconvulsive therapy: do not throw out the baby. J ect. 2014;30(3):177-86.
15) 17. McCall WV, Reboussin DM, Weiner RD, Sackeim HA. Titrated moderately suprathreshold vs fixed high-dose right unilateral electroconvulsive therapy: acute antidepressant and cognitive effects. Arch Gen Psychiatry. 2000;57(5):438-44. 18. Martin D, Lin F, Bai S, Moffa A, Taylor R, Nikolin S, et al. A systematic review and computational modeling analysis of unilateral montages in electroconvulsive therapy. Acta Psychiatr Scand. 2019;140(5):408-25. Please use updated references 2014 and 2000 are old. Please use recently published articles in this direction.
16) Is this conclusion new??
17) What is the problem? Please state? Is this related to the cost that patients or the health system should pay for it??
18) Martin DM, McClintock SM, Loo CK. Brief cognitive screening instruments for electroconvulsive therapy: Which one should I use? Australian & New Zealand Journal of Psychiatry. 2020;54(9):867-73. This reference talks about screening instruments.
19) In that study please indicate the % of expert believe??
20) This could be an advertise for the battery.
21) As a sample:In the current study, more than half of the experts recommended discontinuing ECT in cases of severe cognitive impairment related to ECT and less than one third proposed to modify the dose and interval of intervention. You repeated the sentences in the discussion in order to compare other findings associated with your results. Please re-write and organize this section.
22) That is the disadvantage of this study.
Thanks.

REFEREE: Associate Editor | **Revision** (0) 1 Jan 2022

Dear EIC,
The manuscript is studied, and there are some comments which should be addressed by the author. According to the comments, the document needs major revision.
Kind regards,

REFEREE: EIC | **Revision** (0) 1 Jan 2022

Dear Author,

Your article is reviewed by the reviewers carefully. According to their comments, this document needs major revision. Please follow their comments as requested.

Thanks.

OPEN PEER REVIEW

Revision (1)

Reply to Reviewers

Ideally, the reviewing process can significantly improve the submitted manuscripts by allowing the authors to take into account the advice of reviewers. Author(s) must reply to all reviewers' comments in a separate Word file, point by point. A "**Reply to Reviewers**" document is submitted along with revised manuscript during submission of revised files, summarizing the changes that the authors made in response to the reviewers' comments. The responses to reviewers' comments specifies how the authors addressed each comment the reviewers made.

You can read the authors' responses to the reviewers' comments in the next page.

2022-01-23

Dear Editor,

We are pleased to receive your email and the valuable comments on our manuscript entitled " The Clinicians Approach to Cognitive Impairment after Electroconvulsive Therapy: Current Situations and Challenges".

Below, you could find our response to the reviewers` comments. All the changes are made in the main document and highlighted.

Looking forward to hearing from you.

Sincerely,

Response to reviewer's comments:

Reviewer 1:

1) Please use the full term in the title, not the abbreviation.

Response: The title is revised as below:

The Clinicians Approach to Cognitive Impairment after Electroconvulsive Therapy: Current Situations and Challenges.

2) Dear author in addition to a grammar mistake, the method has not been written based on scientific style writing.

Response: The method was revised based on reviewers comments as below:

In this descriptive study, 89 professional members of Roozbeh and Razi Hospitals, including nurses, residents and faculty members of psychiatry, were selected using the purposive. The research questionnaire was sent and 58 fulfilled questionnaires were sent back. The data were analyzed using central indicators and statistical dispersion.

The designed questionnaire included the questions related to the specialists` views on the necessity of post-ECT cognitive evaluations, the best batteries, frequency of performing the tests, and other related domains.

3) Absolutely not acceptable. Please re-write the result section. The number, age of attendance and any other information should be written in this section.

Response: The result was revised and we added a section as below:

After close follow-up, 58 out of 89 participants completed the questionnaires; including, 17 Psychiatrists (29.3%), 20 nurses (34.5%), and 21 psychiatric residents (36.2%). The results were analyzed and interpreted in detail. The average work experience was 6.89 years (1-25).

97% of the specialists did not have any project in the ECT field and cognitive disorders. More than 80% believe that cognition evaluation is necessary for ECT- candidate patients, but only 15% of referred patients for the assessment.

4) This study is not new. Dear author according to the title and introduction, your aim was to achieve some parts of these goals. I was disappointed with the conclusion.

Response: The conclusion was revised and we added a section as below:

A large percentage of patients do not undergo a comprehensive cognitive assessment after ECT which is an important challenge in the estimation of post-ECT cognitive decline.

There is a need to design inexpensive and sensitive tests for cognitive assessment. The test could measure different cognitive domains and be acceptable in terms of time. Due to the limited number of specialists working in this field, the frequency of assessment and treatment methods after finding cognitive disorders are heterogeneous. So, there is a need for designing a native and practical guideline.

These results could help the researchers to design future studies to find the best method of cognitive evaluation after ECT, appropriate batteries, the recommended intervals, and treatment decisions after cognitive decline detection.

5) Please re-write the keywords according to Mesh terms.

Response: The keywords were rewritten according to Mesh term as below:

Electroconvulsive therapy, convulsive therapy, psychiatric somatic therapies, electroshock, cognitive decline, cognitive impairments

6) BJPsych Open. 2020 May; 6(3): e40. doi: 10.1192/bjo.2020.17. Cognitive side-effects of electroconvulsive therapy: what are they, how to monitor them and what to tell patients. M Argyelan • 2021: The cognitive effects of

Response: we mentioned this manuscript in the introduction as below:

Cognitive function monitoring after ECT is useful to detect cognitive impairment. A meta-analysis suggests that the most prevalent domain of impairment is new learning which could return to baseline after two weeks. Other cognitive domains could be preserved.

7) This is different from your aim.

Response: Some parts of the result of the study were eliminated from the final version which was added to describe the aims of the study in detail.

Nearly 97% of the participants did not have any previous own experience with the ECT and related cognitive disorders, and about 83% did not have any research about the cognitive assessment. Although the clinicians reported that irreversible cognitive impairment is seen in approximately 28% of patients after receiving the ECT, and more than 80% believe that cognition evaluation is necessary for ECT- candidate patients, only 15% of the specialists referred patients for cognitive assessment.

8) How did you calculate this sample size? Do you think the answer to questions in the form would be the same in different groups of attendants?

Response: We added the details of the answers of different groups of attendees in the result section and also we revised all of the correlated tables. We changed the method part:

The health professionals working with patients receiving ECT were invited to respond to the questionnaire. 89 professional members of Roozbeh and Razi Hospitals, including nurses, residents of psychiatry, and Psychiatric professors were selected using the purposive sampling method and the research questionnaire was sent to them. The respondents had the opportunity to not respond to the questions which had not to have sufficient information about them. 58 fulfilled questionnaires were sent back to researchers. The data of this descriptive study were analyzed using central indicators and statistical dispersion.

9) Widespread cognitive complications have affected the acceptance of this treatment. Despite current evidence in favour of short-term cognitive impairment, long-term cognition consequences are less determined. This is the objective in the abstract?

Response: The objective part of the abstract is revised and this sentence is added:

This study aims to evaluate the clinical approach of psychiatrists, psychiatric residents, and nurses in psychiatric hospitals to the necessity, method, and frequency of cognitive assessment in the patient candidates for ECT.

10) Do you mean your own experience?

Response: Good point. Yes. Exactly. We revised the sentence as below:

Nearly 97% of the participants did not have any previous own experience with the ECT and related cognitive disorders.

11) In your introduction you should give more information associated with; cognitive tools, underlying disease and … to the reader of this article.

Response: relevant information associated with cognitive tools were added to the introduction:

Choosing the applicable test is still in question. Some studies use short instruments and others longer tools. A battery that lasts less than an hour seems to be more tolerated by patients.

D-KEFS is a standard tool for evaluating executive performance in different age groups and assesses different areas of executive function including flexibility of thought, inhibition, problem-solving, planning, impulse control, conceptualization, abstract thinking, and creativity. D-KEFS consists of 9 completely separate tests that can be used alone or in combination.

The verbal-auditory learning test (AVLT) is one of the most common psychological tests in memory assessment and auditory-verbal learning which assesses the ability of individuals to encode, consolidate, store, and retrieve verbal information, the effect of interfering stimuli, delayed memory, and recognition. Trail Making Test was utilized in a study that was correlated with hippocampal volume.

12) These answers to your questions that were inserted into your forms, could not give you a clue to approach for clinicians to cognitive impairment after ECT. Just you evaluated their knowledge and performance.

Response: we mentioned this point in the limitations of our study and also changed the correlated words:

Due to the limitations in the study method and the utilized questionnaire, the clinician's approach to cognitive assessment after ECT could not be evaluated directly. The basic knowledge and performance of the clinicians could be assessable based on the questionnaire design. This is the most important limitation of this study.

We changed the word (considered) to (utilized).

We changed the word (believed) to (mentioned).

13) More than half of the experts believed that ECT should be discontinued in cases of severe cognitive impairment after ECT. Is that right??

Response: We added these sentences to the discussion:

Unfortunately, the new methods are less used in our country due to the technical limitations in the electrode placement, including frontoparietal placement and right unilateral method, as well as lack of familiarity with the association between these methods and cognitive profile. The training in this field could help utilize these methods and reduce the development of cognitive disorders after ECT.

14) Sackeim HA. Autobiographical memory and electroconvulsive therapy: do not throw out the baby. J ect. 2014;30(3):177-86.

Response: We added an updated reference in the discussion.

Long term effect of ECT on cognitive domains needs more valuable batteries. Retrograde amnesia for autobiographical memory should be evaluated after ECT to determine the long term effect on this domain.

15) 17. McCall WV, Reboussin DM, Weiner RD, Sackeim HA. Titrated moderately suprathreshold vs fixed high-dose right unilateral electroconvulsive therapy: acute antidepressant and cognitive effects. Arch Gen Psychiatry. 2000;57(5):438-44. 18. Martin D, Lin F, Bai S, Moffa A, Taylor R, Nikolin S, et al. A systematic review and computational modelling analysis of unilateral montages in electroconvulsive therapy. Acta Psychiatr Scand. 2019;140(5):408-25. Please use updated references 2014 and 2000 are old. Please use recently published articles in

Response: We added an updated reference in the discussion.

Selection of the best placement of ECT-electrodes has a challenging effect to improve cognitive outcome after ECT.D. Martin et al. demonstrated some evidence to reach the best cognitive profile in favour of frontal-frontal and frontal-parietal placement relative to the temporoparietal position. Furthermore, this study shows better verbal anterograde memory outcome in the Right Unilateral placement in comparison to Left Unilateral ECT.

16) Is this conclusion new??

Response: We mentioned our study novelty and limitations in detail as below:

The respondents recommended assessing the cognitive function before and after ECT. There were significant variations in the recommended tests, frequency, and assessment time. Future studies should focus on new methods of cognitive assessment and solving barriers that affect cognitive evaluation.

Experts in this study considered cognitive assessment as an integral part of ECT treatment, but due to the limitations of these tests, the lack of appropriate testing, and the lack of cooperation of many patients, patients were not referred for evaluation. Lack of adequate time, necessary facilities, trained specialists, as well as a large number of patients requiring electroconvulsive therapy are other limitations of performing a full cognitive assessment, which is more significant in developing countries.

There is a significant demand to design inexpensive and sensitive tests to determine cognitive impairment after ECT. The test could measure different domains of cognition and be acceptable by the patients in terms of time.

Due to the limited number of specialists working in the field of post-ECT cognitive disorders, frequency assessment methods and treatment methods after finding cognitive disorders are very heterogeneous. These cases highlight the need for a native and practical guideline in this field.

17) What is the problem? Please state? Is this related to the cost that patients or the health system should pay for it??

Response: The challenges and inconsistencies mentioned in the discussion:

The inconsistency between knowledge and performing cognitive assessment could be related to socio-cultural and financial issues and clinicians' insight. Most patients and caregivers do not consider the cognitive complaints in these patients.

The clinicians may neglect the cognitive symptoms which lead to underestimating the cognitive decline and abandonment of proper referral for cognitive assessment.

18) Martin DM, McClintock SM, Loo CK. Brief cognitive screening instruments for electroconvulsive therapy: Which one should I use? Australian & New Zealand Journal of Psychiatry. 2020;54(9):867-73. This reference talks about screening instruments.

Response: we mentioned the cognitive instruments comprehensively :

Numerous cognitive batteries were utilized to assist clinicians in screening cognitive decline after ECT. Various commonly used pen and paper instruments are available which have limitations in comprehensive cognitive assessment. The MOCA test has been recommended in the Netherland clinical guideline for ECT monitoring. Alternative instruments were used including; ACE and 3MSE, however, none of these batteries were developed particularly to assess post-ECT cognitive decline.

19) In that study please indicate the % of experts believe??

Response: We changed the sentence:

Viswanath et al. used a brief battery which was lasted 20 minutes. The method was not similar to our study and they do not mention the percentage of expert opinion. They used a brief battery which was similar to our expert recommendation.

20) This could be an advertisement for the battery.

Response: we changed the sentences to reduce the probably advertising effect of this point.

Similar to our results, Viswanath et al. used a brief Battery which was lasted 20 minutes and could assess verbal, visual, working, autobiographic memory, sustained attention, psychomotor speed and subjective memory domains.

21) As a sample: In the current study, more than half of the experts recommended discontinuing ECT in cases of severe cognitive impairment related to ECT and less than one third proposed to modify the dose and interval of intervention. You repeated the sentences in the discussion to compare other findings associated with your results. Please re-write and organize this section.

Response: we eliminate the repeated sentences and mentioned the other studies findings as below:

Selection of the best placement of ECT-electrodes has a challenging effect to improve cognitive outcome after ECT. D. Martin et al. demonstrated some evidence to reach the best cognitive profile in favour of frontal-frontal and frontal-parietal placement relative to the temporoparietal position. Furthermore, this study shows better verbal anterograde memory outcome in the Right Unilateral placement in comparison to Left Unilateral.

Designing a rehabilitation program for patients with cognitive impairment after ECT could be the first step in coping with the demands of everyday life in these patients.

22) That is the disadvantage of this study.

Response: we added other limitations and also disadvantages of our study in limitation as below:

Due to the limitations in the study method and the utilized questionnaire, the clinician's approach to cognitive assessment after ECT could not be evaluated directly. The basic knowledge and performance of the clinicians could be assessable based on the questionnaire design. This is the most important limitation of this study.

Regards,

OPEN PEER REVIEW

Revision (1)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

REFEREE: Associate Editor | **Revision** (1) 12 Feb 2022

Dear EIC
Based on the authors' answers to the reviewers' comments, the reviewer(s) have recommended publication.
Kind regards.

REFEREE: EIC | **Revision** (1) 12 Feb 2022

Dear Author,
The document is reviewed carefully by the reviewers. According to their comments and your revisions as requested, this manuscript is accepted.
Thanks.