Author’s response to reviews

Title: The association between electrodermal activity (EDA), depression and suicidal behaviour: A systematic review and narrative synthesis

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The association between electrodermal activity (EDA), depression and suicidal behavior: A systematic review and narrative synthesis

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BMC Psychiatry

Reviewer reports:

Johan Siqveland, Psy.D (Reviewer 1): The association between electrodermal activity (EDA), depression and suicidal behavior: A systematic review and narrative synthesis

This manuscript reviews research on electrodermal activity (EDA) in persons with depression and suicidal behavior. This is an important area of research and well worthy of a systematic review.
Main comment

My main concern with the manuscript is that it is actually not a narrative synthesis. The results from the included studies are presented (in a rather unsystematic way) and not very well discussed. The findings are not sufficiently and transparently compared to other findings, their relative importance not sufficiently discussed in terms of the quality of the original studies, as is to be expected from a narrative synthesis. While the criteria for what constitutes a "narrative synthesis" compared to a "narrative review" are not very clear, I think that the manuscript lack too much in stringency and transparency for a narrative synthesis. At present the manuscript can be more correctly classified as a narrative review. Even for being a narrative review without the quality standards for a synthesis, the manuscript needs to be substantially more stringent and organized according to logical principles of questions discussed and types of studies included; this goes for both the text and the tables.

Thank you for your comment. Actually, we have tried to make it clearer our methodological approach and to improve the presentation of studies. Regrettably, as we underscore in the paper, the literature in this field of research is highly uneven, and this impacts the possibility to present results in a systematic way. Although considering the features of the selected studies it was not possible to fully adhere to the “Guidance on the conduct of narrative synthesis in systematic reviews”, the Guidance suggestions were followed as strictly as possible in both data analysis and presentation.

Starting with this rather harsh comment I would also say that the authors have taken on a monumental task of reviewing no less than four questions in the same review. This is often a very difficult task, and I think my struggles in navigating the manuscript partly stems from this. Accordingly I believe that the manuscript can be improved by focusing on less questions and perhaps divide the findings into two: one on suicidal behavior and one on depression. In the very least they need to make separate summary tables for these two issues.

According to your suggestion, we have grouped research questions under two headings, to allow a clearer exposition of findings (The association between EDA and depression; The association between EDA and suicidal behavior in depressed patients), and we have split the table in two. Moreover, we further summarized the content in the Tables.

More emphasis should be put on the authors working on striving for the goals of narrative synthesis (even if they decide to present it as a narrative review); relate their findings to theories of causal relationship between EDA/ depression and suicidality, explore the relationships in the data and assess the robustness of the included studies/ synthesis. Also the issue of robustness of the findings need to be more thoroughly discussed. The included studies are all graded in terms of quality, but what has this to say on the interpretation of the findings?

We have better underscored our attempt to pursue the goal of narrative synthesis. More details about the robustness of findings have been introduced throughout the text and in the limitations section.
While I think the manuscript needs a major revision a think it will be worthwhile doing so, because the topic is of potentially high relevance and importance for the field.

Thank you for appreciating the potential relevance of our work.

Minor comments:

1. Is there a protocol for the review? Has it been pre-registered?

No, there is no pre-registered protocol for the review.

2. The authors state that it was not possible to do a meta-analysis or other form of quantitative synthesis on the material, yet do not provide any reasons for this being so. I would imagine that some of the questions raised in the review would be suitable for a meta-analysis, for instance the sensitivity and specificity of the EDA test in identifying persons with depression.

We have tried to specify this better in the text. Regrettably, the available data are very uneven regarding several issues: type of sample and diagnosis; type of EDA assessment; type of study protocol; type of data presented in the results; etc. This high heterogeneity and the flaws of several studies’ design do not allow meta-analysis.

3. In general the language needs to be improved and language edited. Some phrasing such as "schizophrenic patients" needs to be changed: patients are persons and more than their disease.

Thank you for this comment. Of course patients are more than their disease, nonetheless it is not unusual to see the phrase “schizophrenic patients” or similar ones in the scientific literature, likely because of synthesis reasons. We had the manuscript reviewed by a professional editing service.

Bushra Nasir, B.Sc, M.Sc, Ph.D (Reviewer 2): The authors have presented a thorough, and well described review of the literature. The study requires modifications before it can be ready for publication; and my main concern is what value the current study adds given that there are already published reviews, even though previous reviews may not categorise their studies into the questions that formed the rationale of this study.

The overall rationale for the review needs to be made clearer, given that previous reviews have already been published. The introduction section does not specify or highlight why an updated review is necessary, given the studies included in this review are also supporting previous reviews.

Thank you for this comment, which allows us to better underscore the potential relevance of our work. We have explained it better the importance of the review.
The methods section is also lacking any information about the analysis - although narrative synthesis is mentioned in the results, no details have been provided about what the narrative synthesis included or what method of narrative synthesis has been conducted. Narrative synthesis forms a method and should go beyond just summarising the results of the studies - from the results it is unclear what type of synthesis of data has actually taken place.

We have clarified this point.

The conclusions made in the abstract and the manuscript itself are different to some extent.

We have amended.