PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form ([http://bmjopen.bmj.com/site/about/resources/checklist.pdf](http://bmjopen.bmj.com/site/about/resources/checklist.pdf)) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

<table>
<thead>
<tr>
<th>TITLE (PROVISIONAL)</th>
<th>Effectiveness of internet- and mobile-based interventions for adults with overweight or obesity experiencing symptoms of depression: A systematic review protocol</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTHORS</td>
<td>Schladitz, Katja; Luppa, Melanie; Riedel-Heller, Steffi; Loebner, Margrit</td>
</tr>
</tbody>
</table>

VERSION 1 – REVIEW

| REVIEWER            | Gomez-de-Regil, Lizzette  
|                     | Hospital Regional de Alta Especialidad de la Peninsula de Yucatan                                                                                 |
| REVIEW RETURNED     | 25-Oct-2022                                                                                                          |
| GENERAL COMMENTS    | Page 4, line 53 “Depressive disorders are belong the most common . . . " (?).  
|                     | Define /differentiate whant authors call "internet intervention" and "mobile-based intervention".  
|                     | Page 7, line 38. "irrelevant will be explained"; but it was not. It would be helpful if authors provide a definition and examples of what was considered "irrelevant" or "uncertain".  
|                     | I miss any mention of % of agreement between/among the researchers.  
|                     | What are the responsibilities of each of the four authors. The text only mentions the work of two of them.  
|                     | I miss comments on the possible limitations, or even disadvantages, of this type of interventions.  
|                     | More importantly, authors only mention the co-occurrence of overweight/obesity and depression in a superficial way. (1) Having symptoms of depression is not the same that having a clinical diagnosis of depression. (2) weight and (symptoms of) depression can be related on both ways, overweight and underweight, how do they explain this? (3) what is the possible direction of the association?, cause and effect?, other common factors underlying weight and emotions?  
|                     | Why is the criterion restricted to adults? Overweight (and depression) are common among younger populations, and these are more familiarized with the use of technology. It is something worth to mention. |

| REVIEWER            | Böge, Kerem  
|                     | Charite Universitatsmedizin Berlin, Department of Psychiatry and Psychotherapy                                                                                  |
| REVIEW RETURNED     | 09-Jan-2023                                                                                                          |
| GENERAL COMMENTS    | Thank you very much for reviewing this novel and timely article. It depicts an interesting study about a systematic review and |
possibly a meta-analysis about the possible effectiveness of internet- and mobile-based interventions for adults with overweight or obesity experiencing symptoms of depression. This is a much needed article for this growing research field. The authors have put a lot of work into this article and in general I support the publication of it.

I only found two small points of improvement:
- p.4, l.55 “They are among the most significant contributors to the global burden of disease causing significant direct and indirect costs” -> Please include explicit numbers
- p.6, l.54. First time treatment-as-usual is introduced. Before that authors use standard care terminology. -> Please introduce treatment-as-usual for this specific case and briefly elaborate on current treatment

VERSION 1 – AUTHOR RESPONSE

Reviewer: 1
Dr. Lizzette Gomez-de-Regil, Hospital Regional de Alta Especialidad de la Peninsula de Yucatan
Comments to the Author:

Reviewer 1:
Page 4, line 53 “Depressive disorders are belong the most common . . . ” (?).

Author:
Thank you for your comment. We corrected the typo accordingly.

--

Reviewer 1:
Define /differentiate what authors call "internet intervention" and "mobile-based intervention".

Author:
We thank the reviewer for this remark. We have now added more specific information for both, internet- and mobile-based interventions. We refer to the abbreviation “IMI” throughout the text as it is widely in literature (e.g. Ebert et al., 2018).

--

Reviewer 1:
Page 7, line 38. "irrelevant will be explained"; but it was not. It would be helpful if authors provide a definition and examples of what was considered "irrelevant" or "uncertain".

Author:
Thank you for your comment. We added the definitions accordingly. We also added examples as suggested.

--

Reviewer 1:
I miss any mention of % of agreement between/among the researchers.
Author:
We thank the reviewer for raising this question. We have added the information about measuring agreement between researchers in the "Selection process"-section.

--

Reviewer 1:
What are the responsibilities of each of the four authors. The text only mentions the work of two of them.

Author:
Thank you for this remark. The responsibilities of all four authors of the present review protocol have already been listed in the section “author contributions”. Accordingly, all four authors substantially contributed to the conception of the present review protocol. For your information, KS and MLö will perform the systematic literature search and will identify eligible studies. KS, MLö and MLu will extract the data. KS and MLö will systematically assess the quality of the included studies, draft the manuscript, and will interpret the data. MLu and SRH will contribute to the manuscript and will revise it for intellectual content.

--

Reviewer 1:
I miss comments on the possible limitations, or even disadvantages, of this type of interventions.

Author:
We thank the reviewer for bringing this missing information to our attention. We revised the text accordingly.

--

Reviewer 1:
More importantly, authors only mention the co-occurrence of overweight/obesity and depression in a superficial way.
(1) Having symptoms of depression is not the same that having a clinical diagnosis of depression.
(2) Weight and (symptoms of) depression can be related on both ways, overweight and underweight, how do they explain this?
(3) What is the possible direction of the association?, cause and effect?, other common factors underlying weight and emotions?

Author:
Thank you for pointing out that we need to clarify the association between the two disorders.
(1) Obesity has been found to be associated with diagnosed depressive disorders as well as depressive symptoms (subsyndromal forms and self-report) (e.g., Luppino et al., 2010). We have added a sentence to emphasize this fact. Furthermore, IMIs are not only used for therapeutic purposes, but also for prevention, watchful waiting or as an early self help option for subsyndromal, mild or moderate forms of depression to prevent a deterioration or development of a full clinical symptomatology (as self-help or self management program). Therefore, we do not want to limit the scope of the literature search to categorical diagnoses only. Nevertheless, we plan to report whether the identifies studies refer to self-reported depressive symptoms or clinical diagnosis. Data will be interpreted accordingly.
(2) You are absolutely right: research does indicate empirical correlations between underweight and depression, or an U-shaped relationship between BMI and depression. However, in the field of e-mental health, underweight has only been addressed in the context of eating disorders, especially anorexia. These are different therapeutical approaches compared to obesity treatment. We therefore will limit the scope of our review to obesity. It would be interesting, however, to pursue this question with a separate systematic literature search. Nevertheless, we include overweight because we want to cover preventive approaches for vulnerable groups as well (similar to our inclusion of subsyndromal and mild depressive symptoms).

(3) We have clarified the bidirectional relationships between the two disorders and potential common causes and interactions.

Reviewer 1:
Why is the criterion restricted to adults? Overweight (and depression) are common among younger populations, and these are more familiarized with the use of technology. It is something worth to mention.

Author:
Thank you for this accurate comment. Children and adolescents are indeed more familiar with technology. However, research indicates that this age group needs to be analyzed separately and e-mental health interventions need to be very specific to their needs in terms of content and design (e.g., Domhardt et al., 2020). There are also relevant differences in the treatment of obesity in children and adolescents (separate S3-clinical practice guidelines for adults and children/adolescents). Therefore, it would also be of interest to address this question in a separate systematic literature review. We added this rationale in the protocol.

Reviewer 2:
Dr. Kerem Böge, Charite Universitatsmedizin Berlin
Comments to the Author:

Reviewer 2:
Thank you very much for reviewing this novel and timely article. It depicts an interesting study about a systematic review and possibly a meta-analysis about the possible effectiveness of internet- and mobile-based interventions for adults with overweight or obesity experiencing symptoms of depression. This is a much needed article for this growing research field. The authors have put a lot of work into this article and in general I support the publication of it.

Author:
We thank you very much and really appreciate your evaluation.

Reviewer 2:
I only found two small points of improvement:
- p.4, l.55 “They are among the most significant contributors to the global burden of disease causing significant direct and indirect costs” -> Please include explicit numbers
Author:
Thank you for pointing out the missing information. We made the suggested changes.

Reviewer 2:
- p.6, l.54. First time treatment-as-usual is introduced. Before that authors use standard care terminology. -> Pleasure introduce treatment-as-usual for this specific case and briefly elaborate on current treatment

Author:
We thank the reviewer for this comment. We made the suggested changes.