**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**

| TITLE (PROVISIONAL) | Information needs and mHealth applications for carers of people with dementia in managing behavioural and psychological symptoms of care recipients: An integrative review protocol |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------|
| AUTHORS             | Jagoda, Thilanka; Rathnayake, Sarath; Dharmaratne, Samath |

**VERSION 1 – REVIEW**

| REVIEWER            | DESMARAIS, PHILIPPE  |
|---------------------|----------------------|
|                     | University of Montreal, Medicine |
| REVIEW RETURNED     | 07-Feb-2022 |

**GENERAL COMMENTS**

In their integrative review protocol, the authors are aiming to investigate the information needs regarding the management of BPSD of informal carers of people living with dementia and to investigate available mHealth applications for this specific issue. Overall, the protocol is clear and well-written. I only have a few comments:

1) Abstract - line 10 - "Peer-reviewed articles published in English from 2000 to 2020." In the Eligibility criteria subsection, it's "from 2000 to 2021";
2) Abstract - line 14 - "Two reviewers will independently screen..." Only a few steps of the review will truly be done by two reviewers independently, which is a limitation that should be recognized;
3) The authors mention twice in the protocols the "Sri Lankan context" but they do not define what it means or what it involves.

| REVIEWER                  | Tabatabaei-Jafari, Hossein |
|---------------------------|----------------------------|
|                           | Australian National University, College of Health and Medicine |
| REVIEW RETURNED           | 09-Feb-2022                |

**GENERAL COMMENTS**

There are some issues that addressing them can improve the protocol.

1. Main text is well better than what is currently reflected in the abstract. Besides the quality of the abstract, there are some sentences in the abstract that are problematic such as "The findings will be used to plan educational and supportive intervention...", whereas this is a review and planning educational intervention is not its scope. The findings may suggest some educational intervention. Additionally, there are some mismatches for example, in the abstract it is stated that "articles from 2000 to 2020" but in the text it is “2000 to 2021”.
2. Likert scale was used for relevancy of studies. The reason is not clear. Inclusion/exclusion criteria are clear, thus agreement in
eligibility of studies should not be a problem. On the other hand, the authors stated that they will exclude studies with Cohen’s Kappa of less than 0.6 and reasons for exclusion will be provided. If there can be a consensus on the reason of exclusion, there should be consensus on exclusion too.

3. Review questions are not appropriate for review studies. For example, the first question is: "What are the tailored information needs of informal carers of people with dementia concerning BPSD?". This can be a question for an original study because the authors are not investigating the tailored information needs of informal cares, they are reviewing studies which investigated this question.

### VERSION 1 – AUTHOR RESPONSE

| Reviewer 1                                                                 | Thank you very much for the comments.                                                                 | P1, L10 |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------|
| In their integrative review protocol, the authors are aiming to investigate the information needs regarding the management of BPSD of informal carers of people living with dementia and to investigate available mHealth applications for this specific issue. Overall, the protocol is clear and well-written. I only have a few comments | Thank you for highlighting the mismatching information. We have corrected the duration of the literature search in the abstract as follows; Peer-reviewed articles published in English from 2000 to 2021 |         |
| 1 Abstract - line 10 - "Peer-reviewed articles published in English from 2000 to 2020.." In the Eligibility criteria subsection, it’s "from 2000 to 2021" |                                                                                                          |         |
| 2 Abstract - line 14 - "Two reviewers will independently screen..." Only a few steps of the review will truly be done by two reviewers independently, which is a limitation that should be recognized | For the abstract section, we added the percentage of titles/abstract screened by two reviewers; In title and abstract review, first, the researchers will independently screen 10% of sources for consensus, and one reviewer will screen the rest. In full text review, two reviewers will conduct the screening process .... Moreover, we reported that screening of only the 10% of titles and abstracts of sources by both reviewers is a limitation of the study. The changes | P1, L14-16 |
| Reviewer 2 | 1 | 3 |
|------------|---|---|
| **Main text is well better than what is currently reflected in the abstract.** Besides the quality of the abstract, there are some sentences in the abstract that are problematic such as “The findings will be used to plan educational and supportive intervention…”, whereas this is a review and planning educational intervention is not its scope. The findings may suggest some educational intervention. | **As suggested, we have revised the related section as follows:**  The findings may identify the need for planning interventions for carers of people with dementia concerning the management of BPSD.  Based on this review, we have revised “strengths and limitations” section as follows:  This integrative review will potentially report the evidence of informal carers’ information needs in managing behavioural and | **There are some issues that addressing them can improve the protocol.** | **Thank you for highlighting this point. Researchers removed it from the relevant sections.**  Identified information needs will help to design an in-depth interview guide to explore further the information needs of carers of people with dementia related to managing BPSD in the Sri Lankan context.  The first outcome will be the educational and supportive information needs of informal carers in the provision of care for BPSD, and it will lead to design an in-depth qualitative inquiry that explores carers’ information needs in the Sri Lankan context and potential content for an mHealth application. |
Additionally, there are some mismatches for example, in the abstract it is stated that “articles from 2000 to 2020” but in the text it is “2000 to 2021” psychological symptoms of people with dementia to design educational and supportive interventions, particularly mHealth applications.

We have corrected the duration of the literature search as follows;

Peer-reviewed articles published in English from 2000 to 2021 ......

---

**2 - Likert scale was used for relevancy of studies. The reason is not clear.**  
Inclusion/exclusion criteria are clear, thus agreement in eligibility of studies should not be a problem.

Thank you for the comment.

We have removed the Likert scale in assessing the relevancy. The changes were added to the abstract and the manuscript.

Our review follows Whittemore and Knafl (2005) framework for an integrative review, which instructed to assess the relevance on a 2-point scale (high or low). We will report the relevancy of selected studies using this scale. The changes were added as follows;

According to Whittemore and Knafl (2005) framework, the quality of the selected articles will be reported based on the methodological rigour and data relevance will be reported based on a 2-point scale (high or low).

In the abstract, the following change was made;

In full text review, two reviewers will conduct the screening process, and assess the relevancy of the full-text articles using a two-point scale (high-low) ....

On the other hand, the authors stated that they will exclude studies with

Thank you for highlighting the error.
|   | Cohen’s Kappa of less than 0.6 and reasons for exclusion will be provided. | We will not use Kappa value to exclude articles. We will use average Kappa value to examine the agreement among two rater. Therefore, we revised the section as follow: Additionally, initial average Kappa value will be computed to examine the agreement among two authors (McHugh, 2012). As consensus meeting focuses both inclusion and exclusion criteria, we revised related section to address the reviewer’s comment as follows: Discrepancies, including reasons for both inclusion and exclusion will be discussed at a consensus meeting and final articles will be choosen. Reasons for excluding full-text studies will be recorded. |
|---|---|---|
|   | If there can be a consensus on the reason of exclusion, there should be consensus on exclusion too. |   |
| 3 | Review questions are not appropriate for review studies. For example, the first question is: “What are the tailored information needs of informal carers of people with dementia concerning BPSD?”. This can be a question for an original study because the authors are not investigating the tailored information needs of informal cares, they are reviewing studies which investigated this question | Thank you very much for highlighting this important point. As suggested, we revised the review question as follows. 1. What are the information needs of informal carers of people with dementia concerning BPSD? |

**VERSION 2 – REVIEW**

| REVIEWER | Tabatabaei-Jafari, Hossein  
Australian National University, College of Health and Medicine |
|---|---|
| REVIEW RETURNED | 03-May-2022 |
| GENERAL COMMENTS | All my issue have been addressed and I have no more concerns. |