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) 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>Development and evaluation of a theory-based health promotion program aimed at improving retirees’ psychological well-being and quality of life; a protocol for a mixed-method study</th>
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<tr>
<td>AUTHORS</td>
<td>shoushtari moghaddam, elaheh; Kaveh, Mohammad Hossein; Karimi, Masoud; Tarrahi, Mohammad Javad; Soltani, Esmail</td>
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VERSION 1 – REVIEW

| REVIEWER             | Sun, Wenjie
| REVIEW RETURNED      | 12-Jun-2023
| GENERAL COMMENTS     | The paper addresses the interesting topic of behavior changes among retirees in Iran. However, it currently appears to be more of a protocol for the entire plan. The authors extensively discuss sampling and background information, but given that it is a health promotion project, more details on health promotions would be beneficial. |

| REVIEWER             | Zhang, Wenbo
| REVIEW RETURNED      | 13-Jul-2023
| GENERAL COMMENTS     | 1. In the methods and analysis section of the Abstract, detailed information should be added to describe the interventions for the intervention group and the measures for the control group. And when will the qualitative data be collected?

2. Lines 72-74 on Page 3-4, when referring to “Various interventions focusing on the empowerment of retirees have been previously proposed or experimentally tested”, what are the existing measures of intervention for retirees? And to what aspects do these interventions concern? The review of the current research status is not clearly expounded.

3. Goal 1 (Qualitative) in line 127 on page 6, as the goal is to explain the status of retirement adjustment and the factors affecting it from the perspective of participants, what are the relations between qualitative goal and quantitative goal? And what is the role of Goal 1 in the overall study design? The authors should provide more information on the objective and reasons for the qualitative part.

4. In 2.3 Study participants and sampling approaches, there is no clear description of recruiting, randomizing, and allocating the participants. Are the inclusion and exclusion criteria for the
quantitative part the same as for the qualitative part?

5. In “2.6 Intervention”, what are the control measures? And what is the development process of the intervention, since the title emphasizes the development of this intervention, followed by evaluation?

6. The language should be improved and checked since there are many repetitive descriptions such as in lines 73 and 78-79, and grammar mistakes (e.g. line 76). And the fonts are not consistent throughout the manuscript (e.g. lines 85-89).

REVIEWER
Lü, Wenqi
Sichuan University

REVIEW RETURNED
15-Jul-2023

GENERAL COMMENTS
The present protocol aims to evaluate a theory-based 28 health promotion program to improve retirees' psychological well-being and quality of life. It is an interesting topic that has not been well fulfilled yet. Research on psychological well-being has shown an increasing sophistication over the past few years. After searching the database, I found that the PPM is not currently used to measure the quality of life of retired people, which means the research is innovative to some extent. However, it still needs to be revised before it can publication on BMJ Open.

1. Protocol papers should report planned or ongoing studies. The dates of the study should be included in the manuscript.

2. I encourage the authors to present a brief inclusion/exclusion criterion in Abstract Method section.

3. Demographic plays an important role in the study. Unfortunately, I am missing what exact demographic data will be collected. It should be updated by adding more demographic data such as marital status, education, comorbidities, income, BMI, etc.

VERSION 1 – AUTHOR RESPONSE

Answer to comments of Reviewer1:
Thank you very much for the careful reading of our manuscript. The changes made in response to the dear reviewer’s comments in the manuscript are marked with a yellow highlight.

Comment 1: The paper addresses the interesting topic of behavior changes among retirees in Iran. However, it currently appears to be more of a protocol for the entire plan. The authors extensively discuss sampling and background information, but given that it is a health promotion project, more details on health promotions would be beneficial.

Respond: Considering the word limit requested in the authors’ instructions, a little more explanation about health promotion was added in P 11; L 253-256. The other related sentences were highlighted P 4,5; L 89-102.

“Thank you very much”.

Answer to comments of Reviewer 2:
Thank you very much for the careful reading of our manuscript. The changes made in response to the
Comment 1: In the methods and analysis section of the Abstract, detailed information should be added to describe the interventions for the intervention group and the measures for the control group. And when will the qualitative data be collected?
Respond: All requested items were added to the abstract section.

Comment 2: Lines 72-74 on Page 3-4, when referring to "Various interventions focusing on the empowerment of retirees have been previously proposed or experimentally tested", what are the existing measures of intervention for retirees? And to what aspects do these interventions concern? The review of the current research status is not clearly expounded.
Respond: All requested items were added in P4; L81-86.

Comment 3: Goal 1 (Qualitative) in line 127 on page 6, as the goal is to explain the status of retirement adjustment and the factors affecting it from the perspective of participants, what are the relations between qualitative goal and quantitative goal? And what is the role of Goal 1 in the overall study design? The authors should provide more information on the objective and reasons for the qualitative part.
Respond: The related explanation of this section was added in P7; L149-158.

Comment 4: In 2.3 Study participants and sampling approaches, there is no clear description of recruiting, randomizing, and allocating the participants. Are the inclusion and exclusion criteria for the quantitative part the same as for the qualitative part?
Respond: The description of recruiting, randomizing, and allocating the participants was added in P8; L197-201. Yes, the inclusion and exclusion criteria for the two parts are the same, the explanation was modified in the text P8; L181-186.

Comment 5: In “2.6 Intervention”, what are the control measures? And what is the development process of the intervention, since the title emphasizes the development of this intervention, followed by evaluation?
Respond: The related explanation of the control measures was added in P10; L256-258. The related explanation of the development process of the intervention was added in P10; L239-243.

Comment 6: The language should be improved and checked since there are many repetitive descriptions such as in lines 73 and 78-79, and grammar mistakes (e.g. line 76). And the fonts are not consistent throughout the manuscript(e.g. lines 85-89).
Respond: The text was natively edited with an English language editor.

Answer to comments of Reviewer 3:

Thank you very much for the careful reading of our manuscript. The changes made in response to the dear reviewer’s comments in the manuscript are marked with a pink highlight.

Comment 1: Protocol papers should report planned or ongoing studies. The dates of the study should be included in the manuscript.
Respond: The planned start and end dates for the study were added in the methods section, P11; L271.

Comment 2: I encourage the authors to present a brief inclusion/exclusion criterion in Abstract Method section.
Respond: Due to the word limit, we could not include the inclusion and exclusion criteria of the study in the abstract section, and these are mentioned in the text on P8; L181-186 with a blue highlight.

Comment 3: Demographic plays an important role in the study. Unfortunately, I am missing what exact
demographic data will be collected. It should be updated by adding more demographic data such as marital status, education, comorbidities, income, BMI, etc.

Respond: The demographic data detailed was added in P10; L225-227.

“Thank you very much”.

VERSION 2 – REVIEW

<table>
<thead>
<tr>
<th>REVIEWER</th>
<th>Zhang, Wenbo</th>
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<tr>
<td></td>
<td>The First Affiliated Hospital of Chongqing Medical University, Geriatrics</td>
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<tr>
<td>REVIEW RETURNED</td>
<td>18-Oct-2023</td>
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</table>

| GENERAL COMMENTS | The authors have provided with detailed and fully responses and modifications to questions and suggestions proposed before. I recommend a minor revision due to some language problems on formatting, inconsistent usage of italics, and repetitive descriptions when summarizing the previous studies. I suggest the authors carefully check the manuscript again to be more concise and terser, which will make it easy to understand for BMJ Open readers. |