

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>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	The Role of Socio-Economic Status and Housing Conditions in Geriatric Depression in Rural China: a cross-sectional study
AUTHORS	fang, mingwang; Mirutse, Gebremeskel; Guo, Ling; ma, xiao

VERSION 1 – REVIEW

REVIEWER	SANDEEP GROVER PGIMER, Chandigarh, India
REVIEW RETURNED	12-Aug-2018

GENERAL COMMENTS	Why did the authors preferred to use CES-D rather that Geriatric Depression rating scale, which is considered to be more specific for elderly. Why no diagnostic instrument was used to confirm depression. p values of 0.000 should be presented as <0.001 Limitation section should list the limitations of use of screening instruments only
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REVIEWER	Pillaveetil Sathyadas Indu Professor and Head Dept of Community Medicine Govt Medical College Trivandrum Kerala India-695011
REVIEW RETURNED	04-Sep-2018

GENERAL COMMENTS	This is a relevant area in community mental health.The article can be accepted after the following major modifications. Please mention the prevalence of depression in the abstract. Please re frame conclusions in the abstract so that they are based on the data. Please restructure the introduction in a coherent manner with smooth flow. In the assessment part, please mention whether cognitive parameters of the elderly population have been measured. This is relevant because independent variables such as ADL, disability and chronic diseases are measured by self reporting. It is not clear in the methodology whether CES-D (short version) had been self- administered or interviewer administered. Since there is no upper age limit, clarification is required in the methodology. Please mention how the elderly who had depressive symptoms were further evaluated and treated. this data has been drawn from the survey data. Still mention what was done to take care them, in the original study. This is to comply with the ethical standards.In the results, please present the baseline. At least mention the mean age and and standard deviation.Age above 75 years is presented as a single group. It will be nice to further categorize appropriately, if needed as quartiles, depending on the age distribution of the study population.Please perform a subgroup analysis, for age. In the discussion part, there is comparison with literature in relation to variables not mentioned in methodology and results(for example,
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	<p>on hyperthermic bath). Please restrict the discussion and conclusions, based on the evidence generated from this study. Please do a thorough editing for English language and grammar . Please see the attached file also. Other modifications/clarifications are marked in the paper itself – Please contact publisher for full details of the attachment.</p>
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VERSION 1 – AUTHOR RESPONSE

2. Responses to Reviewer 1

2.1 Please state any competing interests or state ‘None declared’: none

Response: I have stated the competing interests in the article as : None

2.2 Why did the authors preferred to use CES-D rather that Geriatric Depression rating scale, which is considered to be more specific for elderly.

Response:

(1) The short form of the CES-D has proven validity and reliability as a screening tool for depression in older adults, such as Andresen, E.M., Malmgren, J.A., Carter, W.B., Patrick, D.L., 1994. Screening for depression in well older adults: evaluation of a short form of the CES-D. *Am. J. Prev. Med.* 10,77–84; Lewinsohn PM, Seeley JR, Roberts RE, et al. Center for Epidemiologic Studies Depression Scale (CES-D) as a screening instrument for depression among community-residing older adults. *Psychol Aging* 1997; 12:277–87; Lee, A.E.Y., Chokkanathan, S., 2008. Factor structure of the 10-item CES-D scale among community dwelling older adults in Singapore. *Int J. Geriatr. Psychiatry* 23,592–597. Meanwhile, the 10-item CES-D has been suggested to have adequate reliability and validity for Chinese community-dwelling older people. The Cronbach’s α of the CES-D for the sample was 0.87. the previous literature such as: Chen H, Mui AC. Factorial validity of the Center for Epidemiologic Studies Depression Scale short form in older population in China. *Int Psychogeriatr* 2014; 26: 49–57; Boey, K.W., 1999. Cross-validation of a short form of the CES-D in Chinese elderly. *Int J. Geriatr. Psychiatry* 14, 608–617.

(2) Based on the previous literatures, the Geriatric Depression Scale (GDS) is frequently used to screen for depression in the elderly and has a retest reliability of 0.85 and a convergent validity of 0.82. However, the participants of our original research, the China Health and Retirement Longitudinal Study (CHARLS), ages 45 and older . In this context, the measurement instrument used to screen the depression, in the original research, preferred to use CES-D rather that GDS. Regrettably, the elderly participants selected from the original data can only prefer to use CES-D in this paper.

2.2 Why no diagnostic instrument was used to confirm depression?

Response:

(1) This study is based on the nationally representative China Health and Retirement Longitudinal Study (CHARLS) which contains several waves of cross-sectional study, we haven’t conducted further intervention measures, including clinical diagnosis and treatment, to the participants who met the screening criterion in the original research.

(2) The participants population of the original research up to 12,400 households and 23,000 individuals in 150 counties/districts and 450 villages/resident committees. The tremendous number of participants led to great difficulty in conducting further diagnosis and treatment.

(3) The original research is not specifically aimed at the depressive symptoms. The health status of participants includes the following modules: SRH, chronic diseases, ADL disability, depression, etc.

2.3 p values of 0.000 should be presented as <0.001

Response: I have presented p values of 0.000 as <0.001 in the article.

2.4 Limitation section should list the limitations of use of screening instruments only

Response: I have presented the limitations of use of screening instruments only in the limitation

section.

3. Responses to Reviewer 2

3.1 Please state any competing interests or state 'None declared': None declared

Response: I have stated the competing interests in the article as : None

3.2 Please mention the prevalence of depression in the abstract.

3.3 Please re frame conclusions in the abstract so that they are based on the data.

Response: In order to ensure the abstract based on the data, I have restructured the abstract including mention the prevalence of depression and conclusion, etc.

3.4 Please restructure the introduction in a coherent manner with smooth flow.

Response: I have restructured the introduction in a coherent manner with smooth flow

3.5 In the assessment part, please mention whether cognitive parameters of the elderly population have been measured. This is relevant because independent variables such as ADL, disability and chronic diseases are measured by self-reporting. It is not clear in the methodology whether CES-D (short version) had been self- administered or interviewer administered. Since there is no upper age limit, clarification is required in the methodology.

Response:

It's really a limitation we haven't assessment the depressive symptoms combined with the assessment of cognitive parameters. However, Subjects with mental retardation and severe cognitive impairment had been excluded from original research by using a short screening form, only to respondents who had little or no help with answering questions in the preceding of the survey. The exclusion criteria can ensure the reliability of our results to a certain extent (I have showed it in the Design and Study Population section.

3.6 Please mention how the elderly who had depressive symptoms were further evaluated and treated. this data has been drawn from the survey data. Still mention what was done to take care them, in the original study. This is to comply with the ethical standards.

Response:

I have listed this limitation in the section: "Strengths and Limitations of this study" in page 1. This study is based on the nationally representative China Health and Retirement Longitudinal Study (CHARLS) which contains several waves of cross-sectional study, we haven't conducted further intervention measures, including diagnosis and treatment, to the participants who met the screening criterion in the original research.

3.7 In the results, please present the baseline. At least mention the mean age and standard deviation.

Response: I have presented the baseline in the first paragraph of the result section.

3.8 Age above 75 years is presented as a single group. It will be nice to further categorize appropriately, if needed as quartiles, depending on the age distribution of the study population. Please perform a subgroup analysis, for age.

Response: I have further categorized the age group to three subgroups: 65–74, 75 and over and performed a subgroup analysis. We can find the result in the table 2 and 3 and the explanation in the result section.

3.9 In the discussion part, there is comparison with literature in relation to variables not mentioned in methodology and results (for example, on hyperthermic bath). Please restrict the discussion and conclusions, based on the evidence generated from this study.

Response: I have restricted the discussion and conclusions which based on the evidence generated from this study.

3.10 Please see the attached file also. Other modifications/clarifications are marked in the paper itself.

Response: I have also revised the article according to the attached file.

3.11 Odds is better expressed as how many times higher than as proportion (%)

Response: I have expressed Odds as how many times higher in the result and discussion section.

VERSION 2 – REVIEW

REVIEWER	Dr. P.S.Indu Govt Medical College, Trivandrum, Kerala, India
REVIEW RETURNED	06-Dec-2018

GENERAL COMMENTS	English language and grammar in the paper needs further refinement. Some suggestions are given in the attachment – Please contact publisher for the full details of this attachment.
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VERSION 2 – AUTHOR RESPONSE

Responses to Reviewer 2

1 Please state any competing interests or state 'None declared': None declared

Response: I have stated the competing interests in the article as : None

2 English language and grammar in the paper needs further refinement. Some suggestions are given in the attachment

Response:

Dear editor, I have further refinement the English language and grammar in the paper with the help of a native speaking colleague.

3. please specify whether 10 or 11 was the cut off. In the previous sentence it is mentioned 10

Response:

Dear editor, I have specified it in the section: "assessment and measurement-depressive symptoms".

4. please mention whether data on diagnosis of NCDs was collected from the clinical records available with the participants. Also explain how NCDs were graded as 0, 1-2, 3.

Dear editor, I have showed it as ".....that information collected from the clinical records available with the participants. It was categorized to: "0", "1-2" and "3 and above". "0" was defined as participants had no any diagnosed chronic conditions." in the section "assessment and measurement-Number of Non-communicable diseases (NCDS)".