

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	The association between family functions and antenatal depression symptoms : a cross-sectional study among pregnant women in urban communities of Hengyang City, China
AUTHORS	Zheng, Baohua; Yu, Yunhan; Zhu, Xidi; Hu, Zhao; Zhou, Wensu; Yin, Shilin; Xu, Huilan

VERSION 1 – REVIEW

REVIEWER	Getinet Ayano Curtin University, Australia.
REVIEW RETURNED	02-Mar-2020

GENERAL COMMENTS	<p>Title: Effects of family functions on antenatal depression symptoms among women in the 2 third trimester of pregnancy: Self-efficacy as a partially mediator</p> <p>Thank you for giving me the opportunity to review this paper.</p> <p>General comments</p> <p>In this study, the authors investigated the Effects of family functions on antenatal depression symptoms among women in the 2 third trimester of pregnancy. Authors used The Family Adaptation Partnership Growth Affection and Resolve Index (APGAR) , the General Self-efficacy Scale (GSES) and Patient Health Questionnaire (PHQ-9) were used to 24 access family functions, self-efficacy and depression symptoms, respectively. The authors used Pearson's correlation analysis to examine the relationships between family functions, self-efficacy and structural equation model to test the mediation effects. The final analysis showed the prevalence of antenatal depression symptoms is 9.2%. The self-efficacy level partially mediated the relationship between family functions and depressive symptoms and the mediating effect accounted for 17.09% of the total effect.</p> <p>Overall, I believe the manuscript is well written and contribute to scientific knowledge. Nevertheless, I have some major comments to better to be addressed by the authors.</p> <p>General comments</p> <ol style="list-style-type: none">1. The association between family functioning and antennal depression was assessed using Pearson's correlations. However, as this analysis unadjusted analysis which did not consider the effects of other important confounding variables in the model. Therefore, the observed association could be due to the effects of confounding. So, I suggested the authors use another model (logistic/linear models or any suitable model) with full adjustment of the potential contributing factors.2. The tools used to assess antenatal depression (PHQ-9) is not particularly prepared for determining depression in pregnant
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	<p>women. So, the authors need to justify and acknowledge this in the result discussion sections.</p> <p>Specific comments</p> <p>Title</p> <p>Could you please remove the mediation related sentence from the title?</p> <p>Abstract</p> <p>I suggest the authors include the sentence regarding mediation effects of self-efficacy in the objective.</p> <p>Revised the sentence regarding the sampling technique. It looks like you use randomized control trials.</p> <p>The conclusion section of the abstract is not in line with the objective as well as the reported findings. Please revise accordingly.</p> <p>Introduction</p> <p>I suggest the authors include paragraphs regarding the association between family functioning and antenatal depression as well as the mediation roles of self-efficacy.</p> <p>Please revise the paragraph regarding self-efficacy. Remove sentence describing books and authors' details. Focus on the findings and the mediation roles of self-efficacy.</p> <p>Methods</p> <p>In good shape.</p> <p>Results</p> <p>Please include a paragraph about the characteristics of the participants.</p> <p>Please consider changing the model as suggested in the general comments sections.</p> <p>Consider the mediating effect as additional analysis</p> <p>Discussion</p> <p>The discussion lacks detailedness. So, please included the following to better strengthen the discussion:</p> <ul style="list-style-type: none"> • The comparisons for the magnitude of depression as well as family functioning in details • Please include the possible mechanisms regarding how family functioning leads to depression • Also, elaborate on the mediation roles and implications <p>Conclusion</p> <p>Please include a recommendation statement based on your key findings.</p>
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REVIEWER	Katrina Moss The University of Queensland, Australia
REVIEW RETURNED	09-Mar-2020

GENERAL COMMENTS	<p>Thank you for the opportunity to review this paper, which explores the associations between depressive symptoms, self-efficacy and family functioning, as reported by women in the third trimester of pregnancy.</p> <p>I had two main concerns with this paper.</p> <p>1) While it is important to understand how to help women with depressive symptoms during pregnancy, this paper is not written in a way that makes a novel contribution to our existing understanding. The introduction could be tightened, with a synthesis of existing literature rather than reporting a few individual studies. We also need a much better understanding of what the gaps are, and how this study has attempted to address them. It may well be that these concepts are particularly relevant</p>
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	<p>to Chinese communities and have not been adequately explored within this cultural context - if so, it is important to make this point clear.</p> <p>2) the standard of English needs to be improved. I have great admiration for people who are fluent in more than one language, and understand that writing a scientific manuscript in a second language must be very difficult. However, there are several spelling and grammar mistakes that make it difficult to accurately understand the findings.</p> <p>Some small points:</p> <p>1) The first point under the "strengths and limitations" that follow the abstract discusses points that are beyond the scope of this study - they are present in the literature but were not studied here.</p> <p>2) I would caution against naming the streets in the participants and procedures section, as this could potentially lead to individual participants being identified.</p> <p>3) It is not clear how the surveys were completed and returned. Did this happen in the clinic? Were they mailed? Were the participants anonymous or identified? All of these factors can influence the honesty of the survey responses.</p> <p>4) In the measures section, try to avoid the use of "...and so on". It is important to be specific.</p> <p>5) In the measures section, it is not clear if the Cronbach's alpha was for the scale in the original validation study, or in this particular study. It is useful to report both.</p> <p>6) In the Results section under "Mediating effect...", the word correlation is used incorrectly - this should be association instead. When reporting these associations, it is useful to be more descriptive. For example, "Better family functioning was associated with lower depressive symptoms".</p> <p>7) In the discussion section, it would be useful to provide the reader with your interpretation of what the mediation results could be used for. Is it for identifying pregnant women at risk? Is it for targeting interventions? It is important to be very clear about why you have done a mediation analysis, and to then explain how the findings from the mediation analysis could be helpful.</p>
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REVIEWER	Nadège Jacques Post-Graduate Program of Epidemiology, Federal University of Pelotas, Brazil
REVIEW RETURNED	13-May-2020

GENERAL COMMENTS	<p>This cross-sectional study aims to explore the prevalence of antenatal depressive symptoms among pregnant women during their third trimester, and completely evaluate the relationship between family functions and the occurrence of antenatal depressive symptoms, as well as the effect of self-efficacy on this potential relationship. The association between family support and maternal depressive symptoms has been well established by studies through time, however, potential mediator between the exposure and the outcome are less explored. Therefore, it is important to know what mediates this association, but there are controversial theory about the causal relation that seems reciprocal, thus cross-sectional study seems inappropriate to study this relation. However, the authors of this study need to clarify some important points in the methodology section such as:</p> <p>Specifics comments: Major revision</p>
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	<p>Methods</p> <p>1- Did you had a sample calculation size for this study, if yes, please explains how it was done in the methods section for a better understanding of the reader.</p> <p>2- We know that self-efficacy can be measured in many functional situations. In the context, of this study, how the self-efficacy was define?</p> <p>3- How the family function was define in this study?</p> <p>4- Between the outcome and the mediator there are a reciprocal causality, one may influence other, in addition, the temporality between these two variables has not been determined. In this context, I think that it is not appropriate to use self-efficacy as mediator and to use cross-sectional study for this propose. Experimental or quasi-experimental study could be more appropriate to determine de role of self-efficacy on the depressive symptoms.</p> <p>This article may help. Maddux, James E.; Meier, Lisa J. (1995). "Self-Efficacy and Depression". In Maddux, James E. (ed.). <i>Self-Efficacy, Adaptation, and Adjustment</i>. The Plenum Series in Social/Clinical Psychology. Plenum Press. pp. 143–169. doi:10.1007/978-1-4419-6868-5_5. ISBN 978-1-4757-6498-7.</p> <p>5- It is important to list the confounders of the exposure-outcome, exposure- mediator and mediator outcome for a better understanding of any bias in the associations.</p> <p>6- To calculate the relationship or associations between the exposure and the outcome and the mediator, you may use some regression model, please informed what kind of regression model was performed in the analyses.</p> <p>7- In the line 158 you write “ the variable of $p < 0.05$ was used as the adjustment variable”. P Value is not a variable but a statistic way to determine an association between two variables into the confidence interval of 95%. I think you may review this sentence.</p> <p>Minor revision</p> <p>Results:</p> <p>1- The prevalence result should be accompanied by the confidence interval</p> <p>2- The first table could be the presentation of the sample, for exemple, (%) of each group age, education, marital status etc...</p> <p>3-</p> <p>Discussion</p> <p>1- Explain how the limitations of the study can affect the results.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer(s)' Comments to Author:

Reviewer: 1

Reviewer Name: Getinet Ayano

Institution and Country: Curtin University, Australia.

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

Please leave your comments for the authors below

Title: Effects of family functions on antenatal depression symptoms among women in the 2nd third trimester of pregnancy: Self-efficacy as a partially mediator

Thank you for giving me the opportunity to review this paper.

General comments

In this study, the authors investigated the Effects of family functions on antenatal depression symptoms among women in the 2nd third trimester of pregnancy. Authors used The Family Adaptation Partnership Growth Affection and Resolve Index (APGAR), the General Self-efficacy Scale (GSES) and Patient Health Questionnaire (PHQ-9) were used to assess family functions, self-efficacy and depression symptoms, respectively. The authors used Pearson's correlation analysis to examine the relationships between family functions, self-efficacy and structural equation model to test the mediation effects. The final analysis showed the prevalence of antenatal depression symptoms is 9.2%. The self-efficacy level partially mediated the relationship between family functions and depressive symptoms and the mediating effect accounted for 17.09% of the total effect.

Overall, I believe the manuscript is well written and contribute to scientific knowledge. Nevertheless, I have some major comments to better to be addressed by the authors.

General comments

1. The association between family functioning and antenatal depression was assessed using Pearson's correlations. However, as this analysis unadjusted analysis which did not consider the effects of other important confounding variables in the model. Therefore, the observed association could be due to the effects of confounding. So, I suggested the authors use another model (logistic/linear models or any suitable model) with full adjustment of the potential contributing factors.

Response: This manuscript has added multivariate binary logistic regression model (P4 Line166)

2. The tools used to assess antenatal depression (PHQ-9) is not particularly prepared for determining depression in pregnant women. So, the authors need to justify and acknowledge this in the result discussion sections.

Response: PHQ-9 has only nine items, the questions are clear and concise, so that pregnant women were more likely to spend the time to fill out the questionnaire carefully. Besides, PHQ-9 is suitable for the general population, the Chinese version has been validated and widely used in similar studies. So, we think PHQ-9 is suitable for this study.

Specific comments

Title

Could you please remove the mediation related sentence from the title?

Response: It has been modified in the revised manuscript (P1 Line1).

Abstract

I suggest the authors include the sentence regarding mediation effects of self-efficacy in the objective.

Response: Relevant content has been added to the manuscript (P1 Line15).

Revised the sentence regarding the sampling technique. It looks like you use randomized control trials.

Response: It has been modified in the revised manuscript (P1 Line22).

The conclusion section of the abstract is not in line with the objective as well as the reported findings. Please revise accordingly.

Response: It has been modified in the revised manuscript (P1 Line33).

Introduction

I suggest the authors include paragraphs regarding the association between family functioning and antenatal depression as well as the mediation roles of self-efficacy.

Response: Relevant content has been added to the manuscript (P1 Line76).

Please revise the paragraph regarding self-efficacy. Remove sentence describing books and authors' details. Focus on the findings and the mediation roles of self-efficacy.

Response: It has been modified in the revised manuscript (P1 Line76).

Methods

In good shape.

Results

Please include a paragraph about the characteristics of the participants.

Response: Relevant content has been added to the manuscript (P5 Line179).

Please consider changing the model as suggested in the general comments sections.

Response: This manuscript has added multivariate binary logistic regression model (P4 Line166).

Consider the mediating effect as additional analysis

Response: It has been modified in the revised manuscript.

Discussion

The discussion lacks detailedness. So, please included the following to better strengthen the discussion:

- The comparisons for the magnitude of depression as well as family functioning in details

Response: It has been modified in the revised manuscript (P7 Line230).

- Please include the possible mechanisms regarding how family functioning leads to depression

Response: Relevant content has been added to the manuscript (P7 Line235).

- Also, elaborate on the mediation roles and implications

Response: Relevant content has been added to the manuscript (P7 Line248 and Line252).

Conclusion

Please include a recommendation statement based on your key findings.

Response: It has been modified in the revised manuscript(P8 Line279).

Reviewer: 2

Reviewer Name: Katrina Moss

Institution and Country: The University of Queensland, Australia

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

Please leave your comments for the authors below

Thank you for the opportunity to review this paper, which explores the associations between depressive symptoms, self-efficacy and family functioning, as reported by women in the third trimester of pregnancy.

I had two main concerns with this paper.

1) While it is important to understand how to help women with depressive symptoms during pregnancy, this paper is not written in a way that makes a novel contribution to our existing understanding. The introduction could be tightened, with a synthesis of existing literature rather than reporting a few individual studies. We also need a much better understanding of what the gaps are,

and how this study has attempted to address them. It may well be that these concepts are particularly relevant to Chinese communities and have not been adequately explored within this cultural context - if so, it is important to make this point clear.

Response: Relevant content has been added to the manuscript (P2 Line74).

2) the standard of English needs to be improved. I have great admiration for people who are fluent in more than one language, and understand that writing a scientific manuscript in a second language must be very difficult. However, there are several spelling and grammar mistakes that make it difficult to accurately understand the findings.

Response: Thank you for your advice. We have checked the spelling of the whole text.

Some small points:

1) The first point under the "strengths and limitations" that follow the abstract discusses points that are beyond the scope of this study - they are present in the literature but were not studied here.

Response: It has been modified in the revised manuscript(P1 Line40).

2) I would caution against naming the streets in the participants and procedures section, as this could potentially lead to individual participants being identified.

Response: The relevant part has been deleted from the manuscript (P3 Line92).

3) It is not clear how the surveys were completed and returned. Did this happen in the clinic? Were they mailed? Were the participants anonymous or identified? All of these factors can influence the honesty of the survey responses.

Response: Relevant content has been added to the manuscript (P3 Line104). Accompanied by the community maternal and child health personnel, trained investigators handed out questionnaires by calling at the house and collected them on the spot. 813 participants were given written information about the purpose of this study and signed a written informed consent. Participants were expected to filled out structured questionnaires by themselves. In addition, the trained research assistants from Xiangya School of Public Health, Central South University would always available to provide assistance and ensure independent responding.

4) In the measures section, try to avoid the use of "...and so on". It is important to be specific.

Response: It has been modified in the revised manuscript(P3 Line125).

5) In the measures section, it is not clear if the Cronbach's alpha was for the scale in the original validation study, or in this particular study. It is useful to report both.

Response: The information was clearly marked out in the manuscript (P4 Line137,147 and 159).

6) In the Results section under "Mediating effect...", the word correlation is used incorrectly - this should be association instead. When reporting these associations, it is useful to be more descriptive. For example, "Better family functioning was associated with lower depressive symptoms".

Response: It has been modified in the revised manuscript.

7) In the discussion section, it would be useful to provide the reader with your interpretation of what the mediation results could be used for. Is it for identifying pregnant women at risk? Is it for targeting interventions? It is important to be very clear about why you have done a mediation analysis, and to then explain how the findings from the mediation analysis could be helpful.

Response: The mediating model can provide a theoretical basis to identify high-risk pregnant women and take targeted intervention measures, this content has been added in the conclusion section.(P8 Line279) And, in the introduction section, we also added the contradictions of previous studies to identify a theme for this study(P2 Line74).

Reviewer: 3

Reviewer Name: Nadège Jacques

Institution and Country: Post-Graduate Program of Epidemiology,
Federal University of Pelotas, Brazil

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

Please leave your comments for the authors below

This cross-sectional study aims to explore the prevalence of antenatal depressive symptoms among pregnant women during their third trimester, and completely evaluate the relationship between family functions and the occurrence of antenatal depressive symptoms, as well as the effect of self-efficacy on this potential relationship. The association between family support and maternal depressive symptoms has been well established by studies through time, however, potential mediator between the exposure and the outcome are less explored. Therefore, it is important to know what mediates this association, but there are controversial theory about the causal relation that seems reciprocal, thus cross-sectional study seems inappropriate to study this relation. However, the authors of this study need to clarify some important points in the methodology section such as:

Specifics comments:

Major revision

Methods

1- Did you had a sample calculation size for this study, if yes, please explains how it was done in the methods section for a better understanding of the reader.

Response: Relevant content has been added to the manuscript (P3 Line94).

2- We know that self-efficacy can be measured in many functional situations. In the context, of this study, how the self-efficacy was define?

Response: Relevant content has been added to the manuscript (P2 Line78).

3- How the family function was define in this study?

Response: Relevant content has been added to the manuscript (P2 Line67).

4- Between the outcome and the mediator there are a reciprocal causality, one may influence other, in addition, the temporality between these two variables has not been determined. In this context, I think that it is not appropriate to use self-efficacy as mediator and to use cross-sectional study for this propose. Experimental or quasi-experimental study could be more appropriate to determine de role of self-efficacy on the depressive symptoms.

This article may help.

Maddux, James E.; Meier, Lisa J. (1995). "Self-Efficacy and Depression". In Maddux, James E. (ed.). *Self-Efficacy, Adaptation, and Adjustment*. The Plenum Series in Social/Clinical Psychology. Plenum Press. pp. 143–169. doi:10.1007/978-1-4419-6868-5_5. ISBN 978-1-4757-6498-7.

Response: Thank you very much. This paper was very helpful to us, some theories in this paper are consistent with our research results, which can provide a theoretical basis for our research. And we applied it to the manuscript. So far we have only complete cross-sectional data available for study, we recognized although this study proved the association between family functions, self-efficacy and antenatal depression symptoms based on the established structural equation model, the validity of the theory still needs to be further followed up or tested through intervention experiments. This is also our next work and goal, we will continue to carry out relevant research.

4- It is important to list the confounders of the exposure-outcome, exposure- mediator and mediator outcome for a better understanding of any bias in the associations.

Response: In this study, depressive symptoms were used as the outcome variable, and three potential confounders that may influence the outcome variables were listed and adjusted in the multivariate binary logistic regression model and structural equation model (P4 Line166 ,P6 Line204, P6 Line221).

5- To calculate the relationship or associations between the exposure and the outcome and the mediator, you may use some regression model, please informed what kind of regression model was performed in the analyses.

Response: This manuscript has added multivariate binary logistic regression model (P4 Line166).

6- In the line 158 you write “ the variable of $p < 0.05$ was used as the adjustment variable”. P Value is not a variable but a statistic way to determine an association between two variables into the confidence interval of 95%. I think you may review this sentence.

Response: Four potential confounders have been identified in this study (P4 Line166).

Minor revision

Results:

1- The prevalence result should be accompanied by the confidence interval

Response: Relevant content has been added to the manuscript (P5 Line185).

2- The first table could be the presentation of the sample, for exemple, (%) of each group age, education, marital status etc...

Response: It has been modified in the revised manuscript. (P5 Line194).

Discussion

1- Explain how the limitations of the study can affect the results.

Response: Relevant content has been added to the manuscript (P8 Line271). A self-filled questionnaire was used in this study, so there was an inevitable reporting bias in this study, which might lead to the underestimation of positive reporting rate of depressive symptoms.

VERSION 2 – REVIEW

REVIEWER	Getinet Ayano Curtin University/Amanuel mental Specialized Hospital, Australia/Ethiopia
REVIEW RETURNED	02-Jun-2020
GENERAL COMMENTS	The authors have addressed most of my concerns