

## PEER REVIEW HISTORY

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### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Prevalence of depression symptoms and its influencing factors among pregnant women in late pregnancy in urban areas of Hengyang City, Hunan Province, China: a cross-sectional study
<b>AUTHORS</b>	Xu, Huilan; Yu, Yunhan; Zhu, Xidi; Hu, Zhao; Zhou, Wensu; Zheng, Baohua; Yin, Shilin

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Bussara Sangsawang Srinakharinwirot University, Thailand
<b>REVIEW RETURNED</b>	10-Apr-2020

<b>GENERAL COMMENTS</b>	<p>First of all, thank you very much for give me the best opportunity for taking the reviewer role to review this manuscript. This is an interesting paper. The authors present a study to evaluate the prevalence of depressive symptoms and its influencing factors in late pregnancy in urban areas of Hengyang City. A cross-sectional prospective study design was used.</p> <p>I have read carefully and found that this study is very carefully created and developed. Although this study has scientific interest, several important aspects should be reviewed by the authors. I hope that my opinions will help shape your research article more precise and interesting. The followings are my comments;</p> <p><b>Title</b> The title of the study is not completely clear. The authors should add the samples and study design in the title.</p> <p><b>Abstract</b> The authors presented an appropriate and clear detail about the abstract section as following: Aim: the authors clearly stated the aim of the study. Study design and setting: the authors clearly stated the study design and setting of the study. Participants: the authors clearly stated the participants and sample size of the study. However, the authors did not clearly state, please add inclusion and exclusion criteria of the sample and duration of the study in this abstract. Outcome measures: the authors clearly presented about the instruments of the study. Results: the authors briefly reported the findings which is consistent with the aims of the study. Conclusion: the authors clearly stated the conclusion and recommendation of the study. Key words: the authors indicated the following 5 terms including depression symptoms, late pregnancy, prevalence, influencing</p>
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factors, and china as the key words of the study. The authors used appropriate key words that guided the reader to easily find a good research title. It can guide the reader to easily find a good research title and attract to read it.

#### Introduction

The introduction had been good written in orderly manner beginning from mental health during pregnancy, prenatal depression in topic of prevalence and associated risk factors, gap of knowledge and aim of the study.

However, in page 4 of 22, paragraph 2, the authors should add the definition of prenatal depression. The authors please clearly use two words between “prenatal depression” and “antenatal depression”, please use consistent in the word. Considering the prevalence of prenatal depression, the results from meta-analysis are acceptable. Therefore, the details of reference (4) should be move in the discussion section.

In paragraph 3, several risk factors associated with prenatal depression. In this study, the authors categorized associated factors of prenatal depression into 4 domains. However, what is theory or conceptual framework that the authors used to categorize the factors in this study?

In the last paragraph, the authors presented the gap of knowledge, aim and benefit of the study. However, this paragraph is not clearly indicated the gap of knowledge of the study. The authors focus on the prevalence and need to know the associated risk factors of prenatal depression in late pregnancy (or the third trimester). Therefore, the authors should add more explanation why focused on prenatal depression only the late pregnancy, why not focused on throughout pregnancy and linked to the gap of knowledge in the study. Moreover, the authors may rewrite in the first paragraph which focused on physiological and psychological changes during late pregnancy and its associated with mental health problems especially prenatal depression.

The rewrite introduction can guide the reader to more understandably to the significance of the study and indicate the gap of knowledge in the study.

#### Aims of the study

The authors presented a clear state of the aim of the study and showed the congruence with the aim of the study in the abstract section.

#### Methods

##### Design and participants:

- The authors used a cross-sectional prospective study as a study design. It is an appropriate design in this study.

- The setting and duration to conduct a cross-sectional study, sample size, inclusion and exclusion criteria are clear. However, the authors please add more details about sample size calculation and indicate specific gestational age during the late pregnancy.

##### Measurements:

The authors presented the measurements of the study which are the self-report questionnaires. The questionnaire consisted of the demographic information, pregnancy characteristics and lifestyle of pregnant women. All questions in the questionnaire such as parity, method of pregnancy, pregnancy complications, BMI, smoking and drinking were clearly defined.

Moreover, the authors clearly stated about the details, scoring, classification, translation version, validity and reliability of all measurement in the study including the Patient Health Questionnaire (PHQ-9), Generalized Anxiety Disorder scale-7 (GAD-7), Family Adaptation Partnership Growth and Resolve Index (APGAR), Abuse Assessment Screen (AAS), Social Support Rating Scale (SSRS), Pittsburgh sleep quality index (PSQI), and Self-efficacy Scale (GSES).

#### Ethical considerations:

The protection of human subjects was not clearly stated, this paragraph was not presented that all subjects gave written informed consent before entering the study. Moreover, the authors not presented the number of IRB, please indicate the number of IRB in the section.

#### Statistical analysis:

In the study, the data were analyzed by using SPSS version 25 with a statistically significant level  $\leq .05$ . The descriptive statistics is appropriate for summarizing the data which reported as numbers and percentages and means with standard deviations (SD). The multivariate binary logistic regression with the odds ratio (OR) is appropriated statistics to determinants the associate risk factors of prenatal depression in the late pregnancy because the independent variables were categorized into category variables.

#### Results

In the results section, the authors presented all data both text and tables. At the beginning, the authors detailed about the participant characteristics; following with the prevalence and influencing factors of prenatal depression in the late pregnancy.

The authors used two tables to present the results of the study which is consistent with the text in the results section. Moreover, the authors used appropriate number and running head title of the table to report the significant findings, these may help the readers more clearly understand.

However, in my opinion, the detail in Table 1 is too long with cover nearly 3 pages. The authors should be split the results in the Table 1 with 3 tables based on the questionnaire (for example, Table 1: demographic information of pregnant women, Table 2: pregnancy characteristics and lifestyle of pregnant women, Table 3: the results of all instrument including PHQ-9, GAD-7, APGAR, AAS, SSRS, PSQI and GSES).

#### Discussion

This is an interesting original article which shows the prevalence and associated risk factors of prenatal depression in Chinese pregnant women during late pregnancy.

The discussion had been good written which show the consistency of the aims and the results of the study. The author wrote the discussion in orderly manner beginning from the prevalence of prenatal depression and associated risk factors of prenatal depression. Moreover, the authors have rationales and evidences to support all associated risk factors of prenatal depression especially in Chinese culture. Interestingly, special factors such as relationship with mother-in-law and artificial insemination were different from Western culture. Therefore, the findings from this study may contribute knowledge to prevent depression during antepartum in pregnant women especially in Eastern culture or developing countries.

However, I have comments to the discussion. In the page 13 of 22, line 56-57, the authors please add more details about the word

	<p>"Saving face culture" and linked to the lower rate of prenatal depression in pregnant women in Eastern culture especially in Chinese culture.</p> <p>Strengths of the study: The authors stated the strengths of the study.</p> <p>Limitations of the study: The authors stated the limitations of the study.</p> <p>Conclusions and implications: The authors clearly presented conclusion and followed logically from the results of the study, recommended and implication of the study.</p> <p>References: In the references part, I found that the author used the format of the Vancouver style. Moreover, the references that the authors cited in the text were published in the high standard journals in psychiatric field and women's health field, and it had high relevance to the study which the authors interested in prenatal depression in pregnant women such as Psychiatry Research, Journal of Affective Disorders, Psychological Medicine, Journal of Anxiety Disorders and Women &amp; Health. Most of references that the authors cited in the study were not over ten years. There were assumed that the knowledge from the previous published articles is not out of date. However, some references are not complete. The authors please carefully check the correct format of all reference in Vancouver style base on the BMJ Open guideline.</p>
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<b>REVIEWER</b>	Benedict Weobong School of Public Health, University of Ghana. Ghana
<b>REVIEW RETURNED</b>	14-Apr-2020

<b>GENERAL COMMENTS</b>	<p>Prevalence of depression symptoms and its influencing factors in late pregnancy in urban areas of Hyengyang city, Hunan Province, China.</p> <p>General comments: 1 The paper may be considered for publication as it:</p> <ul style="list-style-type: none"> <li>• Addresses and contributes to a mental health condition of public health importance that requires more research evidence to unpack its aetiology.</li> <li>• Contributes to narrowing the mental health research-specific publication deficit in developing regions of the world.</li> </ul> <p>General comments: 2: Minor Essential Revisions</p> <ul style="list-style-type: none"> <li>• The authors are encouraged to follow the STROBE-Cross-sectional studies guidelines in their report as this will extremely improve the structure/content of the paper and help with future systematic reviews/meta-analysis in this area of perinatal mental health.</li> <li>• The authors are encouraged to employ the services of a competent proof-reader to help improve the quality of the English in the manuscript. At the moment, it makes reading and comprehension extremely difficult.</li> </ul> <p>Specific comments:</p>
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	<p>This paper could be improved if the following are addressed:</p> <p><b>Title:</b></p> <ul style="list-style-type: none"> <li>• It would be useful to mention the study design in the title as helps with systematic reviews.</li> </ul> <p>Also aligns with PICOS.</p> <p><b>Abstract: Minor Essential Revisions</b></p> <ul style="list-style-type: none"> <li>• Line 31: not sure what the authors mean by 'late pregnant women'.</li> <li>• Page 2, line 50: please report prevalence with 95% CI.</li> <li>• Page 3, line 3: not sure what this means 'were associated with depression symptoms'. Please clarify in what way/direction is this association? Is this increased odds/reduced odds? It is not helpful to have a single inference for all these analysis.</li> <li>• Page 3, line 5: authors conclude the study reported 'low rates of depression'. Please clarify what this compares to and within what context. Also if indeed depression is low, the remainder of the recommendations will be unnecessary!</li> </ul> <p><b>Introduction: Minor Essential Revisions</b></p> <ul style="list-style-type: none"> <li>• Line 18: 'currently, there was'. Does not make sense and relates to my earlier observation regarding the quality of the English.</li> <li>• Line 56: most of them were explore that situation....'again the English!</li> </ul> <p><b>Methods:</b></p> <p><b>General comments: Minor Essential Revisions</b></p> <ul style="list-style-type: none"> <li>• Line 20: please clarify the rationale for applying the 1:3 randomization scheme. Also, is this cluster sampling? If yes, authors to ensure the analysis reflected this and how the clustering effects were controlled.</li> <li>• Entire methods section should be re-structured with clear headings; outcome measure, exposures/correlates/predictors, potential confounders etc</li> <li>• Authors should discuss sample size.</li> </ul> <p><b>Data analysis:</b></p> <p><b>General comment: Minor Essential Revisions</b></p> <ul style="list-style-type: none"> <li>• Needs a complete rewrite with more detail regarding the analysis. What were the variables and their role in the analysis? What was the measure of effect? What were the steps involved in building the parsimonious model?</li> </ul> <p><b>Results:</b></p> <p><b>General comments: Minor Essential Revisions</b></p> <ul style="list-style-type: none"> <li>• Suggest to have a flow chart illustrating flow of participants in the study. E.g. number assessed for eligibility, number eligible, number consented, number assessed with depression measure, number with complete data on potential correlates, number in analysis. A bit curious that refusal rates are not mentioned-did all women approached agree?</li> <li>• Page 12, lines 12-24: as commented on already in the abstract, the presentation of the results needs re-working. In addition, the measure of effect is the odds ratio and I expect authors to present and interpret the results using the appropriate expressions/terminology.</li> </ul>
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	<p>E.g the odds of xx is increased/reduced by xx.</p> <p>Discussion:</p> <p>General comments: Minor Essential Revisions</p> <ul style="list-style-type: none"> <li>• Lines 47: again the English is a problem as not sure what authors mean by 'the positive rate of depression'. In the first place what is reported in this study is NOT a RATE! It is simply a prevalence estimate.</li> <li>• Line 48: authors should be careful not to over-state! Is it correct that the 9% estimate of antenatal depression is lower than 'any country in the world'? this is certainly NOT CORRECT.</li> <li>• The entire discussion is incoherent and thus difficult to follow. This is largely as a result of the poor quality of English language.</li> </ul>
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### VERSION 1 – AUTHOR RESPONSE

Reviewer #1:

1. The title of the study is not completely clear. The authors should add the samples and study design in the title.  
Response: It has been modified in the revised manuscript (Page1, Line 1-2).
  
2. However, the authors did not clearly state, please add inclusion and exclusion criteria of the sample and duration of the study in this abstract.  
Response: It has been modified in the revised manuscript (Page1, Line 15-17).
  
3. However, in page 4 of 22, paragraph 2, the authors should add the definition of prenatal depression. The authors please clearly use two words between “prenatal depression” and “antenatal depression”, please use consistent in the word. Considering the prevalence of prenatal depression, the results from meta-analysis are acceptable. Therefore, the details of reference (4) should be move in the discussion section.  
Response: “Prenatal depression” replaced all of “antenatal depression”. and the second problem has been modified in the revised manuscript (Page 3, Line 9-17). Because the original reference (3) was cited incorrectly, it was replaced with reference (5 and 6).
  
4. what is theory or conceptual framework that the authors used to categorize the factors in this study?  
Response: It has been modified in the revised manuscript (Page 3, Line 17).
  
5. the authors should add more explanation why focused on prenatal depression only the late pregnancy, why not focused on throughout pregnancy and linked to the gap of knowledge in the study. Moreover, the authors may rewrite in the first paragraph which focused on physiological and psychological changes<sup>3</sup> during late pregnancy and its associated with mental health problems especially prenatal depression.  
Response: It has been modified in the revised manuscript (Page 2, Line 15-16; Page3, Line1-7).
  
6. the authors please add more details about sample size calculation and indicate specific gestational age during the late pregnancy.  
Response: It has been modified in the revised manuscript (Page 4, Line 16, Line 19-24).

7. The protection of human subjects was not clearly stated, this paragraph was not presented that all subjects gave written informed consent before entering the study. Moreover, the authors not presented the number of IRB, please indicate the number of IRB in the section.  
Response: It has been modified in the revised manuscript (Page 7, Line 7-10).
8. However, in my opinion, the detail in Table 1 is too long with cover nearly 3 pages. The authors should be split the results in the Table 1 with 3 tables based on the questionnaire (for example, Table 1: demographic information of pregnant women, Table 2: pregnancy characteristics and lifestyle of pregnant women, Table 3: the results of all instrument including PHQ-9, GAD-7, APGAR, AAS, SSRS, PSQI and GSES).  
Response: It has been modified in the revised manuscript (Page 9-12).
9. However, I have comments to the discussion. In the page 13 of 22, line 56-57, the authors please add more details about the word "Saving face culture" and linked to the lower rate of prenatal depression in pregnant women in Eastern culture especially in Chinese culture.  
Response: It has been modified in the revised manuscript (Page 14, Line 9-11, Page 15, Line 1).
10. However, some references are not complete. The authors please carefully check the correct format of all reference in Vancouver style base on the BMJ Open guideline.  
Response: References have been modified in the revised manuscript (Page 20-21)

Reviewer #2:

1. It would be useful to mention the study design in the title as helps with systematic reviews. Also aligns with PICOS.  
Response: It has been modified in the revised manuscript (Page1, Line 1-2).
2. Line 31: not sure what the authors mean by 'late pregnant women'  
Response: "late pregnant women" is wrong. It's means women in late pregnancy. It has been modified in the revised manuscript. (Page1, Line 15-16)
3. Page 2, line 50: please report prevalence with 95% CI.  
Response: It has been modified in the revised manuscript (Page1, Line 23).
4. Page 3, line 3: not sure what this means 'were associated with depression symptoms'. Please clarify in what way/direction is this association? Is this increased odds/reduced odds? It is not helpful to have a single inference for all these analysis  
Response: It has been modified in the revised manuscript (Page 1, Line 23- Page 2, Line 1).
5. Page 3, line 5: authors conclude the study reported 'low rates of depression'. Please clarify what this compares to and within what context. Also if indeed depression is low, the remainder of the recommendations will be unnecessary!  
Response: It has been modified in the revised manuscript (Page 2, Line 2-3).
6. Line 18: 'currently, there was'. Does not make sense and relates to my earlier observation regarding the quality of the English.  
Response: The revised manuscript has been polished.
7. Line 56: most of them were explore that situation....'again the English!  
Response: The revised manuscript has been polished.

8. Line 20: please clarify the rationale for applying the 1:3 randomization scheme. Also, is thus cluster sampling? If yes, authors to ensure the analysis reflected this and how the clustering effects were controlled.  
Response: It has been modified in the revised manuscript (Page 4, Line 6-14).
9. Entire methods section should be re-structured with clear headings; outcome measure, exposures/correlates/predictors, potential confounders etc.  
Response: It has been modified in the revised manuscript, Entire Measurement section be re-structured, and Measurement be re-structured as Demographic characteristics, Pregnancy characteristics and lifestyle, Outcome measurements, Family factors, Other relevance factors.(Page 4-Page 7).
10. Authors should discuss sample size.  
Response: It has been modified in the revised manuscript (Page 4, Line 19-24).
11. Needs a complete rewrite with more detail regarding the analysis. What were the variables and their role in the analysis? What was the measure of effect? What were the steps involved in building the parsimonious model?  
Response: It has been modified in the revised manuscript (Page 7, Line12-25).
12. Suggest to have a flow chart illustrating flow of participants in the study. E.g. number assessed for eligibility, number eligible, number consented, number assessed with depression measure, number with complete data on potential correlates, number in analysis. A bit curious that refusal rates are not mentioned-did all women approached agree?  
Response: It is added to the attachment-- Figure 1 (Figure 1)
13. Page 12, lines 12-24: as commented on already in the abstract, the presentation of the results needs re-working. In addition, the measure of effect is the odds ratio and I expect authors to present and interpret the results using the appropriate expressions/terminology. E.g the odds of xx is increased/reduced by xx.  
Response: It has been modified in the revised manuscript (Page 13, Line 4-11)
14. Lines 47: again the English is a problem as not sure what authors mean by 'the positive rate of depression'. In the first place what is reported in this study is NOT a RATE! It is simply a prevalence estimate.  
Response: It has been modified in the revised manuscript (Page 14, Line 5-7), and the revised manuscript has been polished.
15. Line 48: authors should be careful not to over-state! Is it correct that the 9% estimate of antenatal depression is lower than 'any country in the world'? this is certainly NOT CORRECT.  
Response: It has been modified in the revised manuscript (Page 14, Line 6),
16. The entire discussion is incoherent and thus difficult to follow. This is largely as a result of the poor quality of English language.  
Response: The revised manuscript has been polished.

#### VERSION 2 – REVIEW

<b>REVIEWER</b>	Bussara Sangsawang Srinakharinwirot University, Thailand
<b>REVIEW RETURNED</b>	20-Jun-2020



<b>GENERAL COMMENTS</b>	<p>Thank you very much to give me for the good opportunity in revising this manuscript. I found it has very much improved. The authors could revise their manuscript following the reviewers' comments.</p> <p><b>Title:</b> The authors revised the title. Therefore, the title of the study is brief and informative completely clear. The title indicates the independent variable, dependent variables, study design and sample.</p> <p><b>Abstract:</b> The authors briefly revised the abstract.</p> <p><b>1. Introduction:</b> In page 29 and 30, the authors revised and added more details about the definition of prenatal depression and explanation why the authors focused on prenatal depression only the late pregnancy.</p> <p><b>2. Methods:</b> <b>Design and participants:</b> The authors revised and added more details about the study design, duration of data collection, sampling method, inclusion and exclusion criteria and sample size calculation. <b>Measurements:</b> The authors added the new heading of measurements of the study which categorized into 5 categories: demographic characteristics, pregnancy characteristics and lifestyle, outcome measurements, family factors and other relevance factors. <b>Ethical considerations:</b> The authors added the number of IRB.</p> <p><b>3. Results</b> The authors revised and added more details about participants, sample characteristics and odds ratio of prenatal depression.</p> <p><b>4. Discussion/ Comments:</b> The authors revised and added more discussion about the prevalence of depression symptoms and added the heading of the influencing factors of depression symptoms in late pregnancy: sociodemographic factors, pregnancy characteristics and lifestyle factors, family factors and other factors.</p> <p><b>5. Limitations:</b> The authors not revised the manuscript in this section.</p> <p><b>6. Conclusion:</b> The authors not revised the manuscript in this section.</p>
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<b>REVIEWER</b>	Benedict Weobong School of Public Health University of Ghana
<b>REVIEW RETURNED</b>	10-Jun-2020

<b>GENERAL COMMENTS</b>	Still a few challenges with the quality of written English but I'm sure this can be fixed.
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