PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Association between intimate partner violence and prenatal anxiety and depression in pregnant women: A cross-sectional survey during the COVID-19 epidemic in Shenzhen, China
AUTHORS	Wu, Fei; Zhou, Lin; Chen, Caiyun; Lin, Wei; Liu, Peiyi; Huang, Weikang; Zhong, Chuyan; Zhang, Minyi; LI, Qiushuang; Chen, Qing; Wang, Yue-Yun

VERSION 1 – REVIEW

REVIEWER	Magnusson, Frederik Psychiatric Research Unit, Psychiatric Department
REVIEW RETURNED	18-Oct-2021

GENERAL COMMENTS	***1*** When and how were women recruited? At what point in pregnancy were they recruited and interviewed, respectively? (p. 5) This may be described in an earlier report (ref. 13) but should also be described here, independently of that. ***2*** How many women were excluded because they suffered from psychotic disorders (p. 5)? Please describe this - this population may be more at risk of experiencing IPV. ***3*** Along the same lines, you discuss the minimum required sample size to represent the city of Sehnzhen. (p. 5) However, it is unclear to me whether the sample represents all women who reside in the city. While socioeconomic and demographic makeup of the sample is described, is it possible that these clinics serve only a subset of the population of the city? What about migratory workers, for example? As an outsider, I can't assess this, and would like to have more detailed information on the setting. How many births are recorded in Shenzhen yearly, and how many are recorded in the clinics where women were recruited for this study? ***4*** You mention peri- as well prenatal anxiety and depression (p. 8). It seems the report deals with prenatal anxiety and depression exclusively, so these terms should be used for clarity. ***5*** On page 11, you describe women being "positive for prenatal anxiety" or who "experienced depression". It would be preferable to write that they expereinced high levels of symptoms or signs of these disorders, reserving judgement on the actual clinical status of the women. ***6*** In your results section (table 4 and 5) you find no statisticially significant relationship between sexual IPV and prenatal depression and anxiety. This is a surprising finding, but very few women in your sample actually experienced sexual IPV.

	Given this low apparent prevalence, might your study actually be underpowered to study the relationship between sexual IPV, and prenatal anxiety and depression, respectively? You should consider this in your discussion section. ***7*** You mention the fact that this report was first to study the relationship between IPV in pregnant women and prenatal anxiety and depression in China during COVID-19. In your discussion, you say that women spent more time with their partners during the pandemic. (p. 14) What, do you think, was the impact of this increased closeness on the relationship between IPV and anxiety and depression? You should elaborate more on this, and the impact of COVID-19 on the relationship in general. ***8*** In your discussion, you mention self-report as a possible source of bias (p. 15). You should provide some indication of what direction you believe this may have biased the result.

VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

1 When and how were women recruited? At what point in pregnancy were they recruited and interviewed, respectively? (p. 5) This may be described in an earlier report (ref. 13) but should also be described here, independently of that.

Response: We appreciate your attention to the flaws of our manuscript. (1) This cross-sectional survey was conducted from September 15 to December 15, 2020. There are ten administrative regions in Shenzhen city, the present study recruited pregnancy women in Maternity and Child Healthcare Hospitals in each ten administrative area. A full description of the objectives, contents, procedures, associated benefits, and risks of the present study was provided at the beginning of the electronic questionnaire. Pregnant women with perinatal health records at Shenzhen District Maternity and Child Healthcare Hospitals who consented to participate were enrolled. The first, prior to the establishment of perinatal health records in Shenzhen District Maternity and Child Healthcare Hospitals, a woman must confirm her pregnancy for a clinical diagnosis, thus, non-pregnant women were excluded. The second, inclusion of those with severe physical or mental disorders diagnosed by a clinician before were increase the positive rate of research results, so participants with psychotic disorders such as schizophrenia, mania, or serious substance dependence should be excluded. The third, A full description of the objectives, contents, procedures, associated benefits, and risks of the present study was provided at the beginning of the electronic questionnaire, so pregnant women who refused to participate in the study were excluded. We have updated this content. (Page 5, Line92-105). (2) Pregnant women followed the doctor's advice and came to the hospital for regular check-ups. They filled out an electronic questionnaire when registering for the check-up. Investigators composed of trained doctors, nurses or medical students guided the filling process. The whole pregnancy period was recruited for the present study, as shown in table 1, the sample size of early-pregnancy group was 1122 (33.4%), mid-pregnancy group was 1122 (33.4%), and late-pregnancy group was 1113 (33.2%).

2 How many women were excluded because they suffered from psychotic disorders (p. 5)? Please describe this - this population may be more at risk of experiencing IPV.

Response: Thanks for your comments. The subjects were recruited by doctors or nurses to participate in this survey. All were pregnant women who were able to correctly answer questions and fill out electronic questionnaires independently. We found no pregnancy women with psychotic disorders. At the same time, we showed in the results section that the questionnaires collected were filled out by

pregnant women without psychotic disorders (Page 9, Line 199). For another, the purpose of this study was to explore the association between IPV and depressive and anxiety symptoms in general pregnant women. If conditions permit, we will carry out investigations on patients with psychotic disorders in the future.

3 Along the same lines, you discuss the minimum required sample size to represent the city of Sehnzhen. (p. 5) However, it is unclear to me whether the sample represents all women who reside in the city. While socioeconomic and demographic makeup of the sample is described, is it possible that these clinics serve only a subset of the population of the city? What about migratory workers, for example? As an outsider, I can't assess this, and would like to have more detailed information on the setting. How many births are recorded in Shenzhen yearly, and how many are recorded in the clinics where women were recruited for this study?

Response: Many thanks for your comments again. Shenzhen is an economic center of China and has long been the fourth largest city in mainland China in terms of economic aggregate. Shenzhen has fewer migrant workers and most of its population is urban. Based on the characteristics of Shenzhen, the research objects of this study were recruited from 10 administrative areas of Shenzhen, which are representative to a certain extent and can provide reference value for similar areas in other countries (Page 5, Line 92-99). According to the Maternal and Child Health Hospital system, there were about 160,000 live births in Shenzhen in 2020. We sampled 3434 pregnant women in Maternity and Child Healthcare Hospitals in each ten administrative area of Shenzhen. Through estimation, our sample size was about 2% of the newborn population in Shenzhen in 2020, considering that our questionnaire covers 10 administrative regions, the sample has a certain representativeness.

4 You mention peri- as well prenatal anxiety and depression (p. 8). It seems the report deals with prenatal anxiety and depression exclusively, so these terms should be used for clarity.

Response: Thanks for your reminding, we have made corrections (Page 8, Line177).

5 On page 11, you describe women being "positive for prenatal anxiety" or who "experienced depression". It would be preferable to write that they expereinced high levels of symptoms or signs of these disorders, reserving judgement on the actual clinical status of the women.

Response: Thanks for your suggestions. According to the GAD-7 scale standard, the incidence of mild anxiety symptoms was 15.2% (523/3434), moderate anxiety symptoms was 2.5% (85/3434), and severe anxiety symptoms was 1.0% (35/3434). When the cut-off value was 7, the incidence of anxiety symptoms was 9.8% (337/3434). According to the PHQ-9 scale standard, the incidence of mild depressive symptoms was 22.0% (757/3434), moderate depressive symptoms was 6.1% (210/3434), and severe depressive symptoms was 0.8% (28/3434). When the cut-off value was 10, The incidence of depressive symptoms was 6.9% (238/3434). We have added this content. (Page 12, Line218-225).

6 In your results section (table 4 and 5) you find no statisticially significant relationship between sexual IPV and prenatal depression and anxiety. This is a surprising finding, but very few women in your sample actually experienced sexual IPV. Given this low apparent prevalence, might your study actually be underpowered to study the relationship between sexual IPV, and prenatal anxiety and depression, respectively? You should consider this in your discussion section.

Response: Thanks for the comments. In this study, pregnant women who had experienced sexual violence (n=7,0.7%) had a low positive rate, which does affect statistical power. The results showed that no statistical difference in the association between sexual violence and anxiety symptoms (table4), which may lead to false negative results in analysing correlations. However, we found that there was statistical significance in the association between sexual violence and depression symptoms in pregnancy (table5). Therefore, in the case of a small sample size, the positive result was still obtained. We believe that sexual violence will also affect the mental health of pregnant women. We have added this in the discussion section (Page 17, Line336-338), and updated this part in the limitation section (Page18, Line348-350).

7 You mention the fact that this report was first to study the relationship between IPV in pregnant women and prenatal anxiety and depression in China during COVID-19. In your discussion, you say that women spent more time with their partners during the pandemic. (p. 14) What, do you think, was the impact of this increased closeness on the relationship between IPV and anxiety and depression? You should elaborate more on this, and the impact of COVID-19 on the relationship in general.
Response: Thanks for your comments. Actually, the present study was also the first study on IPV in the whole pregnancy population in mainland China, previous studies focused on a specific pregnancy population such as the late trimester. During quarantine due to the COVID-19, pregnancy women required to stay the more time with partners and away from people who can validate their experiences and give help. For another, IPV can further deteriorate due to economic crisis linked to COVID emergence for some pregnancy women have difficulty to leave partners for economic reasons, which likely influenced the prevalence of reported IPV. We have added this in the discussion part (Page16, Line290-306).

8 In your discussion, you mention self-report as a possible source of bias (p. 15). You should provide some indication of what direction you believe this may have biased the result.
Response: As we mentioned “the Chinese cultural norm of avoiding discussion of unpleasant personal circumstances in order to save face, with the result that violence during pregnancy is frequently underreported” (Page16-, Line311-313). Although we had told the subjects that the survey result was only for scientific research purposes and that they filled in the questionnaire anonymously, it was still possible that the subjects concealed or avoided reporting their experiences of violence. On the other hand, the main research results of the present survey were based on the subjects' recall of past events. Pregnant women may forget the experience of IPV, especially psychological violence, and may ignore the abuse, belittling and ridicule of their partners, which may also lead to the low reporting rate of IPV. We have updated this content. (Page16, Line314-321).