PEER REVIEW HISTORY

This paper was submitted to a another journal from BMJ but declined for publication following peer review. The authors addressed the reviewers' comments and submitted the revised paper to BMJ Open. The paper was subsequently accepted for publication at BMJ Open.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Original Research: Mixed Methods Study Exploring Health Service Access and Social Support Linkage to the Mental Wellbeing of Canadian Indigenous Pregnant Persons during the COVID-19 Pandemic
AUTHORS	Mollons, Meghan; Levasseur-Puhach, Sydney; Kaur, Jasleen; Doyle, Jennifer; Giesbrecht, Gerald; Lebel, Catherine; Woods, Lindsay; Tomfohr-Madsen, Lianne; Roos, Leslie

VERSION 1 – REVIEW

REVIEWER	Al- abri, Khalood Sultan Qaboos University
REVIEW RETURNED	06-Aug-2023

GENERAL COMMENTS	This was an excellent study on health service access and social support linked to the mental health of indigenous pregnant women during the COVID-19 pandemic. The researcher provides a lot of details in the introduction, results, and discussion sections. However, additional specifics regarding the consent form must be addressed in the methodology section. To assure the accuracy of the analysis in this study, a statistician's evaluation may be required. I suggest minor revisions be made before publishing this work. It's a joy to read!

REVIEWER	Clare, Camille SUNY Downstate Health Sciences University
REVIEW RETURNED	21-Dec-2023

GENERAL COMMENTS	This is a cross-sectional descriptive study examining the association between COVID-related service disruptions for the pregnancy concerns of Indigenous populations and their well being. Introduction/General comments 1) What about the role of community midwives and any tribal based models of prenatal care? 2) Was access to telehealth services reviewed in the study? If not, that should be mentioned as a limitation with an understanding of

	the limited access to broadband and wifi in some communities. see reference: Clare CA. Telehealth and the digital divide as a social determinant of health during the COVID-19 pandemic. Netw Model Anal Health Inform Bioinform. 2021;10(1):26. doi: 10.1007/s13721-021-00300-y. Epub 2021 Apr 3. PMID: 33842187; PMCID: PMC8019343. 3) What was the time period to study as we are currently still in the pandemic? Was this at 2020-2021? 4) The authors may consider a reference from another paper of psychiatric conditions in the setting of natural disasters in which the authors discuss pandemics. See reference: Futterman ID, Grace H, Weingarten S, Borjian A, Clare CA. Maternal anxiety, depression and posttraumatic stress disorder (PTSD) after natural disasters: a systematic review. J Matern Fetal Neonatal Med. 2023 Dec;36(1):2199345. doi: 10.1080/14767058.2023.2199345. PMID: 37031972. 5) What about home births? Did the participants participate or undergo home births in the study during this period of time? 6) Was there an evaluation of the baseline stressors for community members, such as time prior to the onset of the pandemic as a comparison? What about the experiences of other marginalized communities? Methods 1) How were mixed Indigenous descent populations defined. Were groups self-identified as Indigenous? 2) What is the denominator in the community, for example, based on census tract data. How many participants were targetted to participate so that you have a sense of the response rate or how many could possibly respond to the study recruitment efforts? 3) Did the authors consider the cultural relevance of the EPDS in Indigenous populations compared to other tools such as CES-D or possibly other tools? This may be another limitation of the study to describe. See reference: Chan AW, Reid C, Skeffington P, Marriott R. A systematic review of EPDS cultural suitability with Indigenous mothers: a global perspective. Arch Womens Ment Health. 2021 Jun;24(3):353-365. doi: 10.1007/s00737-020-01084-2. Epub 2020 Nov 27. PMID: 33245435; PMCID: PMC8116293. Chan AW, Skeffington P, Reid C, et al. Research protocol for the exploration of experiences of Aboriginal Australian mothers and healthcare professionals when using the Edinburgh Postnatal Depression Scale: a process-oriented validation study using triangulated participatory mixed methods. BMJ Open2018;8:e022273. doi:10.1136/bmjopen-2018-022273 3) Why was the PROMIS tool used for evaluation for anxiety as opposed to the GAD-7 for example?

	4) How were social determinants of health determined? Did the authors consider the use of the Social Vulnerability Index as a way to evaluate for SDOH or other screening tools? 5) How were the results verified? There was one code who conducted the analyses. Was there a system of checks or verification which was employed? Results 1) What was the baseline utilization of the services pre-pandemic so that the reviewers get a sense of uptake? Discussion 1) Did the authors review the racial and ethnicity concordance of providers? 2) Was there a reduction in prenatal visits from the standard for low risk prenatal care of 12-14 to about 6-8 visits which had been done by some obstetrical practices during this time? 3) Did the authors review patient satisfaction with telehealth if that was evaluated in this study? see references: Javaid S, Barringer S, Compton SD, Kaselitz E, Muzik M, Moyer CA. The impact of COVID-19 on prenatal care in the United States: Qualitative analysis from a survey of 2519 pregnant women. Midwifery. 2021 Jul;98:102991. doi: 10.1016/j.midw.2021.102991. Epub 2021 Mar 16. PMID: 33774388; PMCID: PMC9756085. Ferrara A, Greenberg M, Zhu Y, et al. Prenatal Health Care Outcomes Before and During the COVID-19 Pandemic Among Pregnant Individuals and Their Newborns in an Integrated US Health System. JAMA Netw Open. 2023;6(7):e2324011. doi:10.1001/jamanetworkopen.2023.24011 Futterman I, Rosenfeld E, Toaff M, Boucher T, Golden-Espinal S, Evans K, Clare CA. Addressing Disparities in Prenatal Care via Telehealth During COVID-19: Prenatal Satisfaction Survey in East Harlem. Am J Perinatol. 2021 Jan;38(1):88-92. doi: 10.1055/s-0040-1718695. Epub 2020 Oct 10. PMID: 33038898; PMCID: PMC7869038.

VERSION 1 – AUTHOR RESPONSE

Reviewer 1	Additional specifics regarding the consent form must be addressed in the methodology section. To assure the accuracy of the analysis in this study, a statistician's evaluation may be required.	The authors have included more detail about the consent process in the Methods: Participants section (pg. 5). Author G. G. was the statistician on the study. *Participant consent was collected through Research Electronic Data Capture (REDCap) where participants signed the electronic consent to answer questionnaires and open-ended response questions.*
Reviewer 2	Introduction: What about the role of community midwives and any tribal based models of prenatal care?	This is a study examines a subsection of data collected in the original Pregnancy During the Pandemic study (https://www.pregnancyduringthepandemic.com/),

		which unfortunately did not examine the role of traditional birthing methods. This has been noted in the Limitations and Implications and Future Directions section of the manuscript. As a research group, we view culturally responsive knowledge such of this of key importance and are conducting related partnered work to centre community priorities.
Reviewer 2	Introduction: Was access to telehealth services reviewed in the study? If not, that should be mentioned as a limitation with an understanding of the limited access to broadband and wifi in some communities.	The Pregnancy During the Pandemic study did not collect data on telehealth services. This comment has been addressed in the Limitations section of the manuscript. (pg.20). *A limitation of this study is the lack of inclusion of telehealth service use. As the participant sample consisted of Indigenous populations, the issue of limited access to reliable wifi and technology within some Indigenous communities should be noted as potentially impacting service use and disruption.*
Reviewer 2	Introduction: What was the time period to study as we are currently still in the pandemic? Was this at 2020-2021?	This is certainly important - the recruitment time period has been added to the Abstract and the Methods: Participants section. (pg. 2; pg. 5). *Participants were recruited from April 2020-2021…*
Reviewer 2	Introduction: The authors may consider a reference from another paper of psychiatric conditions in the setting of natural disasters in which the authors discuss pandemics.	Thank you for this suggestion, we have added this reference, along with a brief acknowledgment of prior research related to Indigenous well-being following natural disasters in the Introduction and Discussion sections. (pg. 2; pg. 21)
Reviewer 2	Introduction: What about home births? Did the participants participate or undergo home births in the study during this period of time?	This comment has been addressed in the Measures: prenatal care and birth plans section. (pg. 6). *Home births were not differentiated within changes to birth plans.*
Reviewer 2	Introduction: Was there an evaluation of the baseline stressors for community members, such as time prior to the onset of the pandemic as a comparison? What about the experiences of other marginalized communities?	We appreciate the important of baseline stressors - Given the rapid-response survey development and broad reach of the original study, such data was not included in baseline collection. This has been added as a limitation.
Reviewer 2	Methods: How were mixed Indigenous descent populations defined. Were groups self-identified as Indigenous?	We appreciate the importance of clarity here - Participants self-identified as Indigenous. This is outlined in the Methods: Participants section. (pg. 5)
Reviewer 2	Methods: What is the denominator in the community, for example, based on census tract data. How many	This data was collected in the original Pregnancy During the Pandemic study (Paid study ads had 2,385,344 potential views) and was not included

	participants were targeted to participate so that you have a sense of the response rate or how many could possibly respond to the study recruitment efforts?	in this study. Rather, the final sample was included (N=10 669) in the Methods: Participants section. (pg. 5)
Reviewer 2	Methods: Did the authors consider the cultural relevance of the EPDS in Indigenous populations compared to other tools such as CES-D or possibly other tools? This may be another limitation of the study to describe.	The EPDS is the gold standard tool used in Canada for all pregnant people. It has been used internationally and translated into many different languages and therefore considered the best tool for this study. Please see: Kozinszky Z., Dudas R.B. Validation studies of the Edinburgh Postnatal Depression Scale for the antenatal period. *J. Affect. Disord.* 2015;176:95–105. doi: 10.1016/j.jad.2015.01.044.
Reviewer 2	Methods: Why was the PROMIS tool used for evaluation for anxiety as opposed to the GAD-7 for example?	The PROMIS tool is a valid and reliable measure of anxiety symptoms. It is highly valid and accessible, and the authors wanted to ensure to include broadly used tools to generate data that could be compared to other studies using the same instrument. Please see: Cella D., Riley W., Stone A., Rothrock N., Reeve B., Yount S., Group P.C. The Patient-Reported Outcomes Measurement Information System (PROMIS) developed and tested its first wave of adult self-reported health outcome item banks: 2005-2008. *J. Clin. Epidemiol.*
Reviewer 2	Methods: How were social determinants of health determined? Did the authors consider the use of the Social Vulnerability Index as a way to evaluate for SDOH or other screening tools?	We used the MacArthur subjective and objective measures of social status, as per guidelines from the American Psychological Association. The tools we are using have previously been validated (see our protocol paper for more details about this measure: Giesbrecht GF, et al.,. Protocol for the Pregnancy During the COVID-19 Pandemic (PdP) Study: A Longitudinal Cohort Study of Mental Health Among Pregnant Canadians During the COVID-19 Pandemic and Developmental Outcomes in Their Children. JMIR Res Protoc. 2021 Apr 28;10(4):e25407. doi: 10.2196/25407. PMID: 33848971; PMCID: PMC8080963.)
Reviewer 2	Methods: How were the results verified? There was one code who conducted the analyses. Was there a system of checks or verification which was employed?	Qualitative responses were provided in both English and French. Due to study and language constraints, and consistent with good practice guidelines (Braun, V., Clarke, V., Hayfield, N., & Terry, G. (2018). Thematic Analysis. Handbook of Research Methods in Health Social Sciences. https://doi.org/10.1007/978-981-10-2779-6_103-1) for thematic analysis, one code was deemed adequate for this study. This comment has been

		addressed in the Methods: Data Analysis section. (pg. 7)
Reviewer 2	Results: What was the baseline utilization of the services pre-pandemic so that the reviewers get a sense of uptake?	Because there were a great number of questions asked of participants, baseline service use was not included as it was not considered a primary research question of interest to resilience in the context of pandemic stress. This has been addressed in the Discussion: Limitations section. (pg. 21) *Given the rapid-response survey development and broad reach of the original study, baseline stressors were not included as part of data collection.*
Reviewer 2	Discussion: Did the authors review the racial and ethnicity concordance of providers?	This question was not asked, but is certainly important. The comment has been addressed in the Implications and Future Directions section of the manuscript. (pg. 21). *Additionally, examining the racial and ethnicity concordance of service providers, along with access to traditional birthing services, should be examined for any potential influences on service access and use among the population in this study.*
Reviewer 2	Discussion: Was there a reduction in prenatal visits from the standard for low risk prenatal care of 12-14 to about 6-8 visits which had been done by some obstetrical practices during this time?	The Pregnancy during the Pandemic study did not collect data from pregnant individuals' regarding the number of prenatal visits. Questions pertaining to prenatal care focused on changes in delivery of prenatal care, the cancellation of appointments, and ability to bring a support person or partner to appointments.
Reviewer 2	Discussion: Did the authors review patient satisfaction with telehealth if that was evaluated in this study?	Telehealth usage was not evaluated (as noted in a prior comment response), therefore patient satisfaction is not possible to determine in the present study. Considerations are included in the Discussion: Implications and Future Directions section. (pg. 21). *Aspects of service disruptions,* such as access to traditional birthing methods and the use of telehealth services should be carefully considered.