



Commentary

The potential benefits of Chinese integrative medicine for pregnancy women during the COVID-19 pandemic



COVID-19 is a public health emergency of international concern now. The pregnant women have a higher risk of serious illness and death from viral infections.¹ Based on a comprehensive review on the previous studies, we found that the virus transmitted by droplets and aerosols is more easily inhaled by pregnant women due to the altered anatomical structure of the respiratory system during pregnancy, and the prognosis is worse after infection when compared with non-pregnancy women.² Another review of 18 studies comprising 114 pregnant women infected with COVID-19 published from 1 January 2020 to 26 March 2020 found that fever (87.5%) and cough (53.8%) were the most commonly reported symptoms, followed by fatigue (22.5%), diarrhea (8.8%), dyspnea (11.3%), sore throat (7.5%), and myalgia (16.3%). The majority of patients (91%) had cesarean delivery due to various indications. In terms of fetal and neonatal outcomes, stillbirth (1.2%), neonatal death (1.2%), preterm birth (21.3%), low birth weight (<2500 g, 5.3%), fetal distress (10.7%), and neonatal asphyxia (1.2%) were reported.³ Termination of pregnancy will not increase the risk of premature birth and asphyxia of the newborn when an indication for obstetric surgery or critical illness of COVID-19 in pregnant women occurs.⁴ It is important to administer all the available methods to protect these women.

Pregnant women may be more susceptible to COVID-19 due to immunological and anatomic factors.⁵ If infected, the virus may alter immune responses at the maternal-fetal interface, and affect the maternal and neonatal well-being.⁵ Chinese integrative medicine has potential ability of antiviral, anti-inflammation, immune regulation and organ protection in management of COVID-19.⁶ It also has a key role in preventing threatened abortion via regulating body immune functions,⁷ and thus can be applied as a preventive approach for pregnant women during the current pandemic. Although no specific medicine was recommended to prevent COVID-19 worldwide so far, in China, historically, traditional Chinese medicine (TCM) approaches including oral administration of preventive herbal formulae, wearing CM sachets, indoor herbal medicine fumigation, etc. were applicable for the prevention of infectious diseases.⁸ Chinese herbs including *Atractylodes Macrocephalae Rhizoma*, *Scutellariae Radix*, *Lonicerae Japonicae Flos*, *Ophiopogonis Radix* and *Citri Reticulatae Pericarpium*, were recommended by the health authorities of a number of Chinese provinces for pregnant women to prevent COVID-19.^{9,10} Acupuncture and moxibustion have potential actions of improving immunity and regulating neuroimmune in preventing and treating COVID-19.¹¹ Pregnant women during COVID-19 can also apply those TCM therapies such as acupuncture, moxibustion, massage, acupoint application and auricular therapy, at appropriate and safe acupoints, and under the instruction of physician.¹²

Anxiety and depressive symptoms are common during the antenatal and postnatal period, while the COVID-19 pandemic exacerbates these psychological issues in pregnant women.^{13,14} Providing mental health care to pregnant women is crucial during the current pandemic, Chinese integrative medicine deserves application to this population. Integrative medicine therapies such as acupuncture, massage therapy, healing touch and reflexology, were noted to be beneficial for high-risk pregnant women among who anxiety is more prevalent.¹⁵ Although evidence from quality scientific research is limited,^{16,17} positive data had been showed, suggesting that acupuncture could provide as a supportive treatment for antenatal depression and anxiety.^{18–21} Acupressure at SP6 was found to decrease the maternal anxiety level of women during labor in a randomized controlled trial.²² With a precise somatotopic presentation of the various brain structures involved in perinatal mood disorders, the auricular acupuncture microsystem was proposed to be an important complementary approach for managing perinatal depressive disorders.²³ In addition, sleep problems are also prevalent during pregnancy and up to 78% of pregnant women report disturbed sleep.²⁴ Several alternative interventions for poor sleep quality or insomnia have been suggested, including acupuncture, acupressure, herbal medication and exercise, however high quality researches to provide supportive evidence are needed.^{24,25} Overall, for pregnant women during COVID-19, just as a recent Chinese guideline points out, various Chinese integrative medicine approaches are applicable in combination for physical and mental relaxation, anxiety relief and sleep assistance.¹²

During the COVID-19 pandemic, pregnant women's mobility is restricted due to home quarantine and reluctance to go to hospital for fear of risk of infection. Under the circumstances of social distancing and isolation, online counseling and training programs via the Internet using electronic media potentially promote the efficiency of health care during pregnancy.²⁶ Given the simplicity and convenience of many Chinese integrative medicine therapies, self-interventions of these therapies at home under the online instruction from physician would be safe and feasible for pregnant women.¹² For example, self-acupressure on PC6, the most commonly used acupoint for nausea and vomiting in early pregnancy,²⁷ can give pregnant women many benefits. Self-administered moxibustion on BL67 could be offered to quarantined pregnant women with breech presentation.²⁸ Thus Chinese integrative medicine could be applied in the design, development, and implementation of an Internet-based guided self-help therapy, proposed by *Mirzadeh et al.*, for nutrition and healthy eating, physical activity, and psychological practices during pregnancy.²⁶ As the use of mobile health technology such as smartphone could provide reliability of tongue coating diagnosis,²⁹ the current trend of telemedicine and digital medicine helps to identify and adjust the TCM constitutions of women during perinatal care.³⁰

Overall, Chinese integrative medicine can bring potential benefits to pregnancy women during the COVID-19 pandemic, as shown

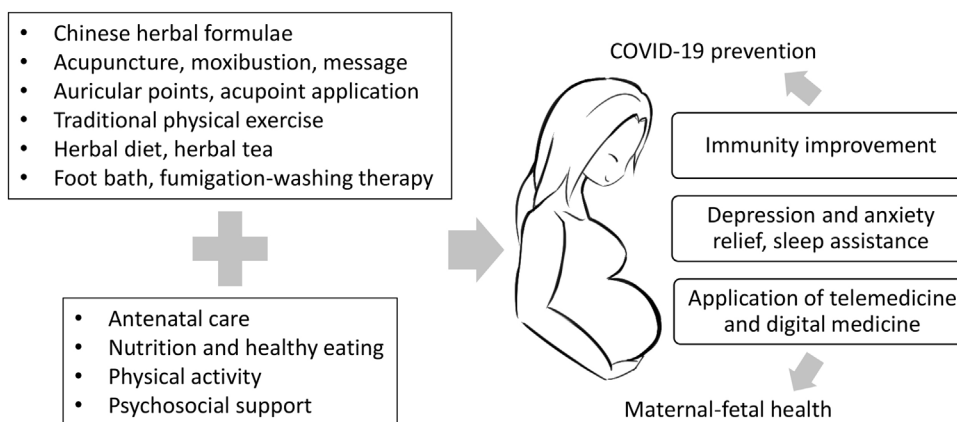


Fig. 1. The potential benefits of Chinese integrative medicine for pregnancy women during the COVID-19 pandemic.

in Fig. 1. However, evaluation on the safety aspects of Chinese integrative medicine in pregnancy should be emphasized. Reliable evidence supporting the safety of acupuncture during pregnancy is still lacking, and experts have conflicting views on the use of acupuncture during pregnancy.³¹ Noninvasive stimulation on acupoints may be more appropriate, which avoids uterine segment and can be self-administered.^{27,28} Activities of health care need to be conducted under the instruction of safety classification and the principles of TCM contraindicated in pregnant women.³² With the increasing volume of internet activity during the COVID-19 crisis, the use of effective methods for health care regulators to monitor internet activity and to protect pregnant women from misleading statements is also crucial.³³

Author contribution

Wei Wang: Conceptualization, Writing - original draft, Writing - review & editing. Qing Zhang: Writing - original draft. Fan Qu: Conceptualization, Writing - original draft, Writing - review & editing, Supervision.

Conflict of interest

The authors declare that they have no conflicts of interest.

Funding

None.

Ethical statement

This article did not have any research ethical consideration as authors did not perform research with human or animal subjects.

Data availability

Not applicable.

CRediT authorship contribution statement

Wei Wang: Conceptualization, Writing - original draft, Writing - review & editing. **Qing Zhang:** Writing - original draft. **Fan Qu:** Conceptualization, Writing - original draft, Writing - review & editing, Supervision.

References

1. Kwon JY, Romero R, Mor G. New insights into the relationship between viral infection and pregnancy complications. *Am J Reprod Immunol* 2014;71: 387–90.
2. Zhao X, Jiang Y, Zhao Y, et al. Analysis of the susceptibility to COVID-19 in pregnancy and recommendations on potential drug screening. *Eur J Clin Microbiol Infect Dis* 2020.
3. Yang Z, Wang M, Zhu Z, Liu Y. Coronavirus disease 2019 (COVID-19) and pregnancy: A systematic review. *J Matern Fetal Neonatal Med* 2020;1–4.
4. Zhang L, Jiang Y, Wei M, et al. [Analysis of the pregnancy outcomes in pregnant women with COVID-19 in Hubei Province]. *Zhonghua Fu Chan Ke Za Zhi* 2020;55:166–71 [In Chinese].
5. Liu H, Wang LL, Zhao SJ, Kwak-Kim J, Mor G, Liao AH. Why are pregnant women susceptible to COVID-19? An immunological viewpoint. *J Reprod Immunol* 2020;139:103122.
6. Huang YF, Bai C, He F, Xie Y, Zhou H. Review on the potential action mechanisms of Chinese medicines in treating Coronavirus Disease 2019 (COVID-19). *Pharmacol Res* 2020;158:104939.
7. Lu QB, Zhu S. Modulation of an aqueous extract of Chinese medicine prescription Anzi Heji on ratio of CD4(+)CD25(+)FOXP3(+) regulatory T cells in anticardiolipin antibody-positive patients with threatened abortion. *Chin J Integr Med* 2016.
8. Luo H, Tang QL, Shang YX, et al. Can Chinese Medicine Be Used for Prevention of Corona Virus Disease 2019 (COVID-19)? A Review of Historical Classics, Research Evidence and Current Prevention Programs. *Chin J Integr Med* 2020;26:243–50.
9. Jiang YJ, Lian YJ, Li J, Liu HX. Study on pneumonia prescription of Traditional Chinese medicine to prevent Novel Coronavirus infection in different regions based on data mining. *World Chinese Med* 2020;15:325–31 [In Chinese].
10. Xu X, Zhang Y, Li X, Li X. Analysis on prevention plan of coronavirus disease 2019 (COVID-19) by traditional Chinese medicine in various regions. *Chin Tradit Herbal Drugs* 2020;51:866–72 [In Chinese].
11. He W, Shi XS, Zhang ZY, et al. Discussion on the effect pathways of preventing and treating coronavirus disease 2019 by acupuncture and moxibustion from the regulation of immune inflammatory response. *Chinese Acupuncture & Moxibustion* 2020;1–5 [In Chinese].
12. Liu WH, Guo SN, Wang F, Hao Y. Understanding of guidance for acupuncture and moxibustion interventions on COVID-19 (Second edition) issued by CAAM. *World J Acupunct Moxibustion* 2020.
13. Durankuş F, Aksu E. Effects of the COVID-19 pandemic on anxiety and depressive symptoms in pregnant women: a preliminary study. *J Matern Fetal Neonatal Med* 2020;1–7.
14. Wu Y, Zhang C, Liu H, et al. Perinatal depressive and anxiety symptoms of pregnant women along with COVID-19 outbreak in China. *Am J Obstet Gynecol* 2020.
15. Schlegel ML, Whalen JL, Williamsen PM. Integrative therapies for women with a high risk pregnancy during antepartum hospitalization. *MCN Am J Matern Child Nurs* 2016;41:356–62.
16. Nillni YI, Mehralizade A, Mayer L, Milanovic S. Treatment of depression, anxiety, and trauma-related disorders during the perinatal period: a systematic review. *Clin Psychol Rev* 2018;66:136–48.
17. Smith CA, Shewamene Z, Galbally M, Schmied V, Dahlen H. The effect of complementary medicines and therapies on maternal anxiety and depression in pregnancy: a systematic review and meta-analysis. *J Affect Disord* 2019;245:428–39.
18. Manber R, Schnyer RN, Lyell D, et al. Acupuncture for depression during pregnancy: a randomized controlled trial. *Obstet Gynecol* 2010;115:511–20.

19. Suzuki S, Tobe C. Effect of acupressure, acupuncture and moxibustion in women with pregnancy-related anxiety and previous depression: a preliminary study. *J Clin Med Res* 2017;9:525–7.
20. Ormsby SM, Dahlen HG, Smith CA. Women's experiences of having depression during pregnancy and receiving acupuncture treatment—a qualitative study. *Women Birth* 2018;31:469–78.
21. Bishop KC, Ford AC, Kuller JA, Dotters-Katz S. Acupuncture in obstetrics and gynecology. *Obstet Gynecol Surv* 2019;74:241–51.
22. Samadi P, Alipour Z, Lamyian M. The effect of acupressure at spleen 6 acupuncture point on the anxiety level and sedative and analgesics consumption of women during labor: a randomized, single-blind clinical trial. *Iran J Nurs Midwifery Res* 2018;23:87–92.
23. Soliman N. Auricular treatment of maternal depressive disorders. *Med Acupunct* 2019;31:259–66.
24. Bacaro V, Benz F, Pappaccogli A, et al. Interventions for sleep problems during pregnancy: a systematic review. *Sleep Med Rev* 2020;50:101234.
25. Hollenbach D, Broker R, Herlehy S, Stuber K. Non-pharmacological interventions for sleep quality and insomnia during pregnancy: a systematic review. *J Can Chiropr Assoc* 2013;57:260–70.
26. Mirzadeh M, Khedmat L. Pregnant women in the exposure to COVID-19 infection outbreak: the unseen risk factors and preventive healthcare patterns. *J Matern Fetal Neonatal Med* 2020;1–2.
27. Tara F, Bahrami-Taghanaki H, Amini Ghalandarabad M, et al. The effect of acupressure on the severity of nausea, vomiting, and retching in pregnant women: a randomized controlled trial. *Complement Med Res* 2020:1–8.
28. Brici P, Franconi G, Scatassa C, Fabbri E, Assirelli P. Turning foetal breech presentation at 32–35 weeks of gestational age by acupuncture and moxibustion. *Evid Based Complement Alternat Med* 2019;2019:8950924.
29. Wang ZC, Zhang SP, Yuen PC, et al. Intra-rater and inter-rater reliability of tongue coating diagnosis in traditional chinese medicine using smartphones: Quasi-delphi study. *JMIR Mhealth Uhealth* 2020.
30. Jiang Q, Li J, Wang G, Wang J. The relationship between constitution of traditional chinese medicine in the first trimester and pregnancy symptoms: a longitudinal observational study. *Evid Based Complement Alternat Med* 2016;2016:3901485.
31. Moon HY, Kim MR, Hwang DS, et al. Safety of acupuncture during pregnancy: a retrospective cohort study in Korea. *Bjog* 2020;127:79–86.
32. Zhu LH, Yu SJ, Shao MM, Yu YX. Safety analysis of traditional Chinese medicine in the treatment of patients with new type of corona virus disease 2019 during pregnancy. *Chinese Journal of Hospital Pharmacy* 2020:1–7 [In Chinese].
33. Kawchuk G, Hartvigsen J, Innes S, Simpson JK, Gushaty B. The use of internet analytics by a Canadian provincial chiropractic regulator to monitor, evaluate and remediate misleading claims regarding specific health conditions, pregnancy, and COVID-19. *Chiropr Man Therap* 2020;28:24.

Wei Wang^{a,1}

Qing Zhang^{b,1}

Fan Qu ^{b,c,*}

^a Tongde Hospital of Zhejiang Province, Hangzhou, China

^b Women's Hospital, School of Medicine, Zhejiang University, Hangzhou, China

^c Institute for Women's Health, University College London, London, United Kingdom

* Corresponding author at: Women's Hospital, School of Medicine, Zhejiang University, 1 Xueshi Road, Hangzhou 310006, China.

E-mail address: syqufan@zju.edu.cn (F. Qu)

¹ The two authors contributed equally to the paper.

10 June 2020