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Journal Pre-proof

Integrative Medicine Research is Needed to Improve Female Reproductive Health during COVID-19

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PII: S2213-4220(22)00061-0
DOI: <https://doi.org/10.1016/j.imr.2022.100894>
Reference: IMR 100894



To appear in: *Integrative Medicine Research*

Received date: 2 September 2022
Revised date: 11 October 2022
Accepted date: 17 October 2022

Please cite this article as: Jue Zhou , Weihuan Hu , Fan Qu , Integrative Medicine Research is Needed to Improve Female Reproductive Health during COVID-19, *Integrative Medicine Research* (2022), doi: <https://doi.org/10.1016/j.imr.2022.100894>

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Editorial

**Integrative Medicine Research is Needed to Improve Female Reproductive Health
during COVID-19**Jue Zhou^{1*}, Weihuan Hu², Fan Qu²

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The new coronavirus disease 2019 (COVID-19) has constituted a public health emergency according to the World Health Organization (WHO)¹. The COVID-19 pandemic itself and the quarantine policies may have negative social and economic consequences, which could contribute adverse impact to people's lives and health^{2,3}. Although the pregnancy outcomes and laboratory outcomes exhibited no significant differences between women who received assisted reproductive techniques before and after the COVID-19 pandemic⁴, the related stress and psychological distress of COVID-19 have negative effects on women's reproductive health, including menstrual disorder and worsening premenstrual symptoms⁵.

The pregnant women are more vulnerable to be affected by SARS-CoV-19 due to the increasing expression of angiotensin-converting enzyme-2 (ACE-2)⁶ and the series of physiological changes in nearly all of the systems. Meanwhile, they are much easier to have some mental disorders like depression and anxiety during the perinatal period^{7,8}. The COVID-19 confinement has changed the common health behavior, which led to the decreased physical activities and the increased sedentary time⁹. This would further affect the physical and mental health of pregnant women, and even on their offsprings¹⁰.

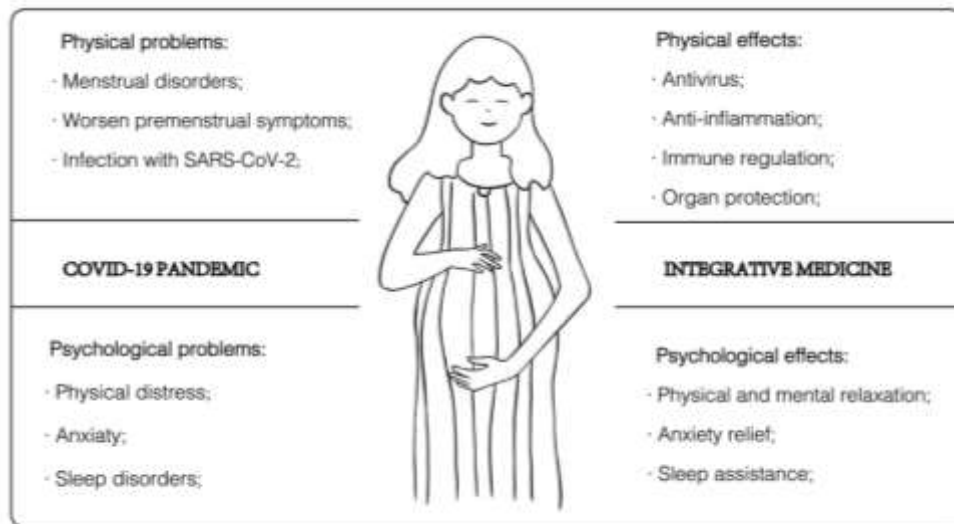


Fig.1 The potential effects of integrative medicine for women's health during the COVID-19 pandemic.

Note : Integrative medicine can help to improve women's physical and psychological health during COVID-19 pandemic. Its physical effects, such as antivirus, anti-inflammation, immune regulation and organ protection could relieve the possible menstrual disorders, premenstrual symptoms and even prevent the women from the infection of SARS-CoV-2. Meanwhile, integrative medicine has some psychological effects like physical and mental relaxation, anxiety relief and sleep assistance, which can improve women's psychological health during this special time period.

As we know, most of the outcome's measures used in routine clinical trials are disease specific and they must follow the international classification of diseases. There are different types of measures: objective, subjective and patient-centered outcomes. Under the complicated and uncertain COVID-19 pandemic, the patient-centered outcome measures could be recommended to be designed and used to assess the effects of integrative medicine on the female reproductive health relevant to the virus. Integrative medicine like Chinese herbal medicine¹¹, acupoint hot compress¹² makes great promises in addressing these issues, because the integrative medicine not only has the ability of antivirus, anti-inflammation, immune regulation and organ protection from integrative medicine in management of COVID-19¹³ but also can be applied for physical and mental relaxation, anxiety relief and sleep assistance to improve female reproductive health during the COVID-19 pandemic (Fig.1). However, the clinical practices may have been hampered due to

lack of evidences from scientific researches.

As the real strength of integrative medicine may lay in the longer-term, sustained health benefits, a long enough follow-up period should be considered. The importance of conducting the researches concerning the effects of integrative medicine on the female reproductive health during COVID-19 is to influence policy and ultimately lead to the provision of effective interventions and the cost effectiveness is also an important issue.

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