

Psychological impact of the COVID-19 pandemic: do gender differences matter?

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Introduction

As a typical public health emergency, the COVID-19 has brought unprecedented challenges to people's lives. During the pandemic, social distancing, remote work and other control measures have affected people's mental health to varying degrees. A systematic review showed that in many Countries the general population reported a relatively high prevalence of depression, posttraumatic stress symptoms (PTSS) and psychological distress during the COVID-19 pandemic.¹ Unlike natural disasters that have a specific regional impact over a given period of time, the impact of this global crisis is far-reaching and lasting.² Mental health problems among the general public not only have a negative impact on the people's personal and family life, but may also trigger violent incidents and social adverse events, thus posing a threat to public safety. Therefore, people's mental health in the COVID-19 epidemic is a topic that urgently needs in-depth research.

Gender differences in mental health symptoms are considered to be one of the most powerful phenomena in psychiatry. When dealing with external emergencies, men and women present different stressors, whose impact on mental health is also significantly different. The following section will specifically summarize the gender differences in the depression and PTSS caused by the COVID-19 pandemic, in order to provide a reliable basis for gender-specific social support.

Gender differences in depression

Women are generally more vulnerable to depression than men. As a recent meta-analysis reported, women are almost twice at risk to suffer from depression than men.³ Previous studies⁴ – focused on different populations during the COVID-19 pandemic as their research objects – are consistent with the above conclusions. A cross-sectional study conducted among preparatory-year undergraduates in Saudi Arabia shows that females are more apt to suffer from depression, while the term “males” is an independent predictor of reduction of depressive symptoms.⁵ Another research on selected sam-

ples from Spain during the COVID-19 lockdown also indicates that women show more symptoms of depression than men.⁶

Moreover, among the female population, the higher prevalence of depression may also be severe for mothers, due to gender inequality in domestic chores and child care. On the one hand, the smart working arrangement of their husbands may force women to take on more housework, thus leading to excessive workloads. On the other, the closure of schools and the additional parenting work may act as extra stressors. A cross-validation study on maternal mental health during the COVID-19 lockdown in China, Italy and the Netherlands showed that COVID-19-related stress is a critical risk factor for the maternal mental health.⁷ Given that women are more susceptible to depression, research also indicates that the promotion of precautionary measures seems to be quite effective in reducing distress.⁴ In view of the above analysis, it is necessary for the government to implement corresponding targeted social support programs for women, in particular for mothers. These support policies could include, without limitation, the promotion of gender equality in the media, community procurement services, and online courses for children.

In addition – contrary to previous research reports, according to which females with higher education levels and family incomes are associated with more mental health symptoms⁸ – Guo's research found that the mothers with higher SES (higher education levels and family incomes) are associated with higher levels of mental health problems.⁷ One explanation is that the mothers with high family incomes may usually rely on supports such as housekeeping services and private kindergartens, however, they are confronted with a sudden surge of their housework and parenting burden, due to the outbreak of COVID-19. In this sense, the pandemic may disrupt their support system and cause a greater risk for depression and other mental health problems. Furthermore, the pressure faced by Italian mothers may be particularly harsh, because research has shown that gender inequality in childcare is still common among Italian families, although high education levels generally promote equal gender roles.⁷ Therefore, when it develops mental health interventions for women, the government

should at least give equal attention to women in different SES status, rather than focusing one-sidedly on women with low SES or treating them differently, especially in Countries characterized by rigid gender divisions.

Gender differences in PTSS/PTSD

In general, with a significant 2:1 ratio for women, the gender gap in PTSS is well-established.⁹ However, in the context of the COVID-19 pandemic, the issue on which gender is more likely to develop PTSS remains controversial. Some studies indicate that women are more inclined to PTSS. In Wuhan, where the epidemic hit the hardest, women reported significantly higher levels of PTSS in terms of re-experiencing, hyperarousal and negative alterations in cognition or mood.¹⁰ As the impact of the epidemic continues to expand, some studies which use samples from other Countries and Regions have indicated similar results.⁴ These results were consistent with most of the trauma studies conducted in the past, indicating that women have higher incidence rates of PTSS than their male counterparts,¹¹ which could be partially explained by the different psychological mechanism¹² and by women's heavier family burden.

However, other studies suggest that males are actually more vulnerable to post-traumatic stress disorder (PTSD) within the COVID-19 scenario. A cross-sectional research on a sample of a total of 2,992 participants from 31 provinces in China indicates that the PTSD prevalence is actually higher among males than females (OR = 1.824, 95% CI: 1.477-2.251, Cohen's $d = 0.331$). Specifically, married male respondents between 26 and 30 years of age are more likely to suffer from more severe PTSD symptoms, compared with single male respondents aged over 50.¹³ The result of higher PTSD prevalence among men may be related to two influencing factors: first, in their role of family pillars in the traditional gender division, men are under heavier psychological pressure to ensure adequate supplies and the safety of their family during the COVID-19 pandemic; second, while women tend to adapt to stressors, men are prone to search for solutions to a problem, in order to reduce its pressure,¹⁴ which is hardly achievable during the strict lockdown policies. As a result, their lack of strategies to cope with stress exacerbates men's mental health disorders.

The reason for the differences between the results may be related to the selected range of sample and sampling time. The differences in these studies remind us that, when formulating social support policies, it is not appropriate to simply offer more support to women based on past experience. Under the special circumstances of COVID-19, men should receive equal attention from relevant policies.

Conclusion

In conclusion, gender differences in the COVID-19 epidemic's adverse effects on the population's mental health indeed exist. However, their specific discrepancy in different mental illnesses and different populations may be distinctive. Therefore, when formulating social support policies for COVID-19, it is necessary to more precisely reduce the stressors that cause psychological problems for specific groups of people, for example, by providing more employment and financial support to married Chinese men aged 26-30, who are more vulnerable to PTSD; and by delivering online childcare aids for female mothers as a family unit, regardless of their SES levels.

Meanwhile, it is also of great necessity to draw attention to the mental health conditions of the sexual and gender minority (SGM). A recent study that looked into this topic shows that even after adjusting for lifetime discrimination, family support, and pre-existing mental health diagnoses, SGM still suffers from significantly higher levels of depression and PTSD symptoms.¹⁵ However, the implementation of social support policies rarely offer relief to this group of people.

In addition, domestic violence is another major issue that could bring negative outcomes leading to female's mental health problems, especially when women are forced to live with potentially violent partners.¹⁶ According to the UN, domestic violence has considerably increased during the COVID-19 pandemic (United Nations, 2020). To make it even worse, the hidden cultural stigma usually makes those abused women unwilling to actively seek help, and prevent them from disclosing the violence they sustain. Although current studies did not find any significant difference in PTSS outcomes between women who suffer from domestic violence and those who don't, it is possible that the real discrepancy was concealed by non-objective reports, due to shame.

Therefore, future research should also draw full attention to the aforementioned disadvantaged groups, in order to provide them with the most appropriate and timely social support, and jointly better respond to the negative impact generated by the COVID-19 pandemic.

Keywords. Gender, psychological, COVID-19.

References

1. Xiong J, Lipsitz O, Nasri F, Lui LMW, Gill H, Phan L, et al. Impact of COVID-19 pandemic on mental health in the general population: a systematic review. *J Affect Disord.* 2020;277:55-64.
2. Raviola G, Rose A, Fils-Aimé JR, Thérosme T, Affricot E, Valentin C, et al. Development of a comprehensive, sus-

- tained community mental health system in post-earthquake Haiti, 2010-2019. *Glob Ment Heal*. 2020;7:e6.
3. Hyde JS, Mezulis AH. Gender differences in depression: biological, affective, cognitive, and sociocultural factors. *Harv Rev Psychiatry*. 2020;28(1):4-13.
 4. Özdin S, Bayrak Özdin Ş. Levels and predictors of anxiety, depression and health anxiety during COVID-19 pandemic in Turkish society: the importance of gender. *Int J Soc Psychiatry*. 2020;66(5):504-511.
 5. Aldhmadi BK, Kumar R, Itumalla R, Perera B. Depressive symptomatology and practice of safety measures among undergraduate students during covid-19: impact of gender. *Int J Environ Res Public Health*. 2021;18:4924.
 6. Ausín B, González-Sanguino C, Castellanos MÁ, Muñoz M. Gender-related differences in the psychological impact of confinement as a consequence of COVID-19 in Spain. *J Gend Stud*. 2020;30(1):29-38.
 7. Guo J, De Carli P, Lodder P, Bakermans-Kranenburg MJ, Riem MME. Maternal mental health during the COVID-19 lockdown in China, Italy, and the Netherlands: a cross-validation study. *Psychol Med*. 2021;13:1-11.
 8. Nisar A, Yin J, Waqas A, Bai X, Wang D, Rahman A, Li X. Prevalence of perinatal depression and its determinants in Mainland China: a systematic review and meta-analysis. *J Affect Disord*. 2020;277:1022-1037.
 9. Christiansen DM, Berke ET. Gender- and sex-based contributors to sex differences in PTSD. *Curr Psychiatry Rep*. 2020;22(4):19.
 10. Liu N, Zhang F, Wei C, Jia Y, Shang Z, Sun L, et al. Prevalence and predictors of PTSS during COVID-19 outbreak in China hardest-hit areas: gender differences matter. *Psychiatry Res*. 2020;287:112921.
 11. Farhood L, Fares S, Hamady C. Correction to: PTSD and gender: could gender differences in war trauma types, symptom clusters and risk factors predict gender differences in PTSD prevalence? *Arch Womens Ment Health*. 2018;21(6):735-743.
 12. Howard LM, Ehrlich AM, Gamlen F, Oram S. Gender-neutral mental health research is sex and gender biased. *Lancet Psychiatry*. 2017;4(1):9-11.
 13. Liu C, Liu D, Huang N, Fu M, Ahmed JF, Zhang Y, et al. The combined impact of gender and age on post-traumatic stress symptoms, depression, and insomnia during COVID-19 outbreak in China. *Front Public Health*. 2021;8:620023.
 14. Rosenfield S, Smith D. Gender and mental health: do men and women have different amounts or types of problems? In: Scheid TI, Brown TN Editors, *A handbook for the study of mental health*. Cambridge: Cambridge University Press; 2012.
 15. Kamal K, Lii JJ, Hahmb CH, Liu HC. Psychological impacts of the COVID-19 global pandemic on U.S. sexual and gender minority young adults. *Psychiatry Res*. 2021;299:113855.
 16. Wenham C, Smith J, Morgan R. COVID-19: the gendered impacts of the outbreak. *Lancet*. 2020;395:846-848.

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