

Gender-based Differences in the Societal Impact of the COVID-19 Pandemic

CHRISTINA MATULIS, MD; MEHRNOOSH SAMAEI, MD, MPH; GHADA BOURJEILY, MD; ALYSON J. MCGREGOR, MD, MA

COVID-19 has been referred to as the ‘great equalizer,’ given that anyone can be affected by the virus. However, as the pandemic continues, it has become apparent that sociocultural factors are intricately tied to vulnerability and illness severity, as well as post-viral complications. There is evolving evidence regarding the influence of biological sex in COVID-19 susceptibility, pathophysiology, and more. Additionally, with physical distancing, patterns of daily life have been disrupted and differential consequences relating to societal gender identity have emerged. While not all inclusive, several key sociocultural areas impacted by COVID-19 are outlined below.

Educational Gap

Educational systems have been affected worldwide by the need for physical distancing. It is estimated that 23.8 million children that were enrolled in school, 11 million of whom are female, are at risk of dropping out.¹ The implications of disrupted education are vast, as many children will be without access to digital learning resources and appropriate nutrition through school lunches.

In many countries, access to education is already tenuous for girls, and during a pandemic many are pressured to stay home to help with housework. During the Ebola epidemic, there was a rise in teen pregnancies due to reduced accessibility to reproductive resources as well

as an increase in sexual exploitation and arranged marriages.¹ Subsequently, these girls were ostracized upon returning to school.

Unique challenges are also evident among boys, particularly in Latin America, where poverty leading to work demands and societal stereotypes cause boys to disengage at the secondary school level.¹ It is essential to use lessons from previous emergencies to enact services to prevent widening of the pre-existing gender gap between children worldwide.

Intimate Partner Violence

Similar to previous emergencies, this pandemic has coincided with a rise in intimate partner violence (IPV). While IPV affects everyone, globally, the burden is borne mostly by women, with 1 in 3 experiencing sexual violence in their lifetime, according to the World Health Organization.² Additionally, marginalized communities, such as those with lower socioeconomic status and underrepresented minorities, are particularly at risk.

Social distancing has resulted in victims being confined to close quarters with their abusers and without adequate resources for assistance. Key places for IPV screening, like shelters and clinics, have dramatically decreased, leading to difficulty in accessing resources. Locally, the RI Coalition for Domestic Violence has seen an increase in some

resource utilization, such as telephone hotlines, but decreased use of shelters and safe living arrangements.³

Implementing unique ways to screen and support IPV victims, such as through telehealth, will be essential given the risks to physical and mental health associated with IPV.

Declining Mental Health

Disasters are often accompanied by an increase in psychopathologies, such as PTSD, anxiety, and depression. Early data confirms that COVID-19 is no different, where the prevalence of depressive symptoms in the US is more than 3 times higher than pre-pandemic.⁴ Those with reduced access to socio-economic resources and stressors such as job loss exhibit increased symptoms. Women are more likely than men to have depressive symptoms both pre- and during the pandemic. Additionally, specific subpopulations are differentially affected. In Italy, healthcare workers (HCWs) reported higher rates of depressive and post-traumatic stress symptoms (PTSS). Female sex and single status were associated with higher levels of depression, while female sex and older age were associated with increased PTSS.⁵

Pregnant women are at particularly high risk, with 18–25% experiencing anxiety and 18% reporting depression during pregnancy pre-pandemic.⁶ This is increased from baseline US characteristics, where 8% of the population

experiences depression and 16% experiences generalized anxiety.

Alarming, a Canadian study found that pregnant women experienced increased psychological stresses compared to pre-pandemic cohorts, with 37% reporting depressive symptoms and 57% reporting anxiety. Factors contributing to this include isolation, job loss, and misinformation disseminated from some social and other media platforms.

Examining maternal health across different countries is essential, given this particularly high-risk group at baseline.

Impacts on Academic Productivity

Social distancing has caused an intersection of household, school, and work commitments, inevitably affecting productivity in academia. Gender differences have been previously characterized with regard to compensation, tenure, and female representation in the sciences.⁷ Early research suggests that women in academia exhibited decreased productivity during the pandemic. While there was an increase in overall social science-related submissions by 35% during the first 10 weeks of the pandemic, female academic research productivity dropped 13.9% compared to males.⁷ In this analysis, males were found to be more productive than females, who maintained their baseline productivity, suggesting widening of a gendered productivity gap.

Women consistently authored 20% of academic papers since 2015, but authored only 12% of COVID-19 related data.⁸ Reasons are likely multifactorial and include increased home and teaching commitments.⁸ As the pandemic

persists, these differences must be recognized to prevent worsening of pre-existing differences in academia.

Cultural Influences on Mortality

Thus far, it is established that COVID-19 mortality is reported to be higher in men, though this may reflect a deeper gender disparity. In Afghanistan, men comprise 70% of COVID-19 cases and 74% of mortality.⁹ Is this difference due to females' biological advantage or rather due to decreased access to care and lack of autonomy in healthcare decision making? Additionally, there are other deviations from the worldwide trend worth highlighting. According to the Global Health 50/50 and US Gender/Sex COVID data, there are at least eight countries and nine US states where mortality in females exceeds males.^{10,11}

Additionally, female HCWs disproportionately face a higher rate of infection and death from COVID-19. This is partly, but not fully, explained by the higher percentage of women in healthcare. Personal Protective Equipment (PPE) can effectively lower the risk of infection, but fit testing of respirators demonstrates that pass rates are lower in female and Asian HCWs.¹² A study showed that female sex was an independent risk factor for proven or suspected COVID-19 infection of HCWs following intubation.¹³ The CDC has taken into account the effects of various facial hairstyles on the functionality of face masks in men, yet has failed to consider the biological differences between male and female facial contours that predispose women to increased infection risk even with PPE.

Global Leadership

Although women comprise 70% of the global health workforce, they constitute only 24% of COVID response committees.¹⁴ Low representation of women in leadership roles in healthcare is not new, and not surprisingly, only 3.5% of COVID-19 national task forces show gender parity.¹⁵ Lack of leadership skills is not an adequate reason for lack of representation of women in decision-making bodies. Female-led countries (including Iceland, New Zealand, Norway, and Taiwan) had less death per capita and lower excess mortality due to COVID-19. Similarly, states governed by females were more successful in controlling COVID-19.¹⁶ While many factors contribute to these correlations, increased diversity in leadership will benefit all.

Conclusion

Various disparities have emerged with the COVID-19 pandemic and recognizing those who are disproportionately affected by the virus is critical in order to prevent deepening of pre-existing inequalities. As the pandemic continues, efforts must be made to understand risk based on the interaction of sex, gender, race, age, and other social determinants of health. Combining available data with knowledge from previous emergencies can help build more equitable societies. ❖

Disclaimer

The views and opinions expressed in this Commentary reflect those of the authors alone and not necessarily those of the institutions or organizations they are associated with.

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Authors

Christina Matulis, MD, Department of Emergency Medicine, Warren Alpert Medical School of Brown University and Rhode Island Hospital, Providence, RI.

Mehrnoosh Samaei, MD, MPH, Division of Sex and Gender in Emergency Medicine, Department of Emergency Medicine, Warren Alpert Medical School of Brown University, Providence, RI.

Ghada Bourjeily, MD, Department of Medicine, The Miriam Hospital, Warren Alpert Medical School of Brown University, Providence, RI.

Alyson J. McGregor, MD, MA, Director, Division of Sex and Gender in Emergency Medicine (SGEM); Director, Sex and Gender in Emergency Medicine (SGEM) Fellowship; Associate Professor of Emergency Medicine, Warren Alpert Medical School of Brown University, Providence, RI.

Correspondence

Alyson_McGregor@brown.edu