

Received: 20 April 2022; Accepted: 28 July 2022

DOI: <https://doi.org/10.33282/rr.vx9il.25>

## Preexisting Gender Disparities COVID -19 in India and Other Countries: A Narrative Review

**Dr. Shashi Pandit**

*Guest Faculty, Department of Sociology  
Jai Narain Vyas University, Jodhpur (Rajasthan)*

### **ABSTRACT:**

The COVID-19 pandemic has had a swift and profound impact on global health and economies. While some data suggest that women are less likely to experience severe illness from the virus, the available sex-disaggregated data are incomplete, leading to potential misinterpretations. Focusing solely on biological sex overlooks the broader gendered effects of the pandemic on women. This narrative review examines the gender disparities that have emerged during the pandemic, highlighting the economic, domestic, and health burdens, along with the intersecting vulnerabilities faced by women. Additionally, it provides recommended strategies for advocacy groups, community leaders, and policymakers to address and mitigate the growing gender disparities caused by COVID-19.

### **INTRODUCTION:**

The COVID-19 pandemic, caused by the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has rapidly evolved since its initial detection in Wuhan, China, in December 2019. Over 112 million confirmed cases and more than 2 million deaths have been reported worldwide [1]. The vast scale of the pandemic has had profound effects on global health and economies. Global data suggest notable sex differences in COVID-19 mortality [2,3], with studies examining biological differences in hospitalization and death rates between cisgender men and women [4-8]. Additionally, gendered behavioral differences, such as women's greater adherence to hand hygiene and mask-wearing practices, may influence the risk profiles of men and women [9, 10].

However, suggesting that women are less impacted by COVID-19 based solely on biological sex overlooks the broader gendered effects of the pandemic [11-13].

Past health crises have shown that populations with fewer protections for their human rights are more vulnerable to health, social, and economic consequences during crises [13-14]. In the United States, the pandemic has worsened preexisting inequities, with low-income, Black, Latinx, immigrant, and Native American communities disproportionately affected [15, 16]. Often overlooked is the crucial role women play during the pandemic and how gender inequities have been exacerbated, leaving them more vulnerable [16, 17].

Understanding the intersection of sex, gender, and health inequities is critical for effective public health

responses. Yet, approximately two-thirds of global data are not sex-disaggregated, obscuring gender-specific issues related to COVID-19. This review explores the non-biological impact of COVID-19 on women and highlights recommended actions to ensure that gender disparities are addressed in resource allocation and policy decisions during the pandemic [2, 18 19].

## ARTICLE HIGHLIGHTS

- ❖ The COVID-19 pandemic is widening preexisting gender disparities.
- ❖ Incomplete sex-disaggregated data underestimate the gendered impact of the pandemic.
- ❖ Identified categories of impact include occupational, economic, domestic violence, gender-based violence, mental health, and sexual and reproductive health rights.
- ❖ The impacts of gender disparities are compounded by overlapping vulnerabilities of race, ethnicity, and poverty and the status of lesbian, gay, bisexual, transgender, queer, and other marginalized sexual orientations.
- ❖ We commend that policy makers, leaders, innovators, investors, and advocacy groups implement systematic changes to mitigate widening disparities in response to COVID-19.

## METHODS

This paper examines the gender dimension of COVID-19 in India, focusing on three key areas: women's work, domestic violence, and education. A qualitative approach was adopted, with interviews and data collection limited to the southern states of Telangana, Andhra Pradesh, Karnataka, and Tamil Nadu. Since most participants were reached via phone and the internet, the sample primarily comprised middle- and upper-class individuals.

In the first stage of the research, an informal survey was conducted to assess how much time men and women spent on housework before and after the lockdown. Semi-structured interviews followed in the second stage to explore the reasons behind the initial responses. Given the focus on the impact of COVID-19 on unpaid work, individuals were the unit of analysis, with men and women as the primary subjects. Unpaid work was defined to include tasks such as house cleaning, cooking, dishwashing, childcare, elderly care, and laundry.

Sampling decisions were based on non-probability techniques, specifically convenience and judgmental sampling for both the survey and interviews. A sub-sample from the first stage was selected for interviews, based on factors such as marital status, employment status, use of domestic help, and reported changes in unpaid chore time during the lockdown. In total, 75 participants were involved in stage one and 25 in stage two. The study focused on urban and semi-urban areas in India.

To comply with lockdown measures and ensure social distancing, all data was collected through phone calls and internet platforms. Surveys and interviews were conducted in Hindi or English, depending on the respondent's language preference. Additionally, reports and studies from international and national journals and newspapers were analyzed to gather data on issues related to violence and education.

## WOMEN IN THE WORKFORCE: OCCUPATIONAL EXPOSURE RISKS, UNEMPLOYMENT, AND FINANCIAL IMPACT

### The Pandemic in India

India has experienced three waves of the COVID-19 pandemic. The first case was reported on January 30, 2020, when a patient returned from Wuhan. After two additional cases in February, the situation escalated in March, with cases rising significantly by mid-April 2020. At the time India entered a nationwide lockdown on March 24, following a 14-hour "Janata Curfew," there were only 500 confirmed cases and fewer than 10 deaths. This sudden lockdown had a profound impact on millions of low-income migrant workers and daily wage earners, leading to widespread food insecurity and hardship, which forced many to take to the streets. This marked the first wave of the pandemic [17].

The second wave of COVID-19 in India was exacerbated by a period of state indifference from September to December 2020, during which preventive measures were relaxed. As a result, new infections surged dramatically. By the peak of the second wave, India had reported 18.7 million cases and 208,000 deaths. The healthcare system became overwhelmed, with hospitals facing severe shortages of beds, oxygen, and medicines. Many patients, particularly those with severe COVID-19, struggled to access necessary care.

Even specialized COVID-19 hospitals, such as those in Mumbai, were under strain, and non-COVID care was severely affected [12, 16].

Between October 2020 and mid-February 2021, the number of new infections began to decline, but this period was marked as one of the most devastating phases of the pandemic. Public health experts attributed this resurgence to a false sense of security, as people became lax in following preventive measures such as mask-wearing and physical distancing. Large rallies and gatherings of "super-spreaders" further fueled the spread of the virus. India's high population density also made it difficult to enforce these safety protocols in public spaces [19].

### **Other Countries**

In a multi-year analysis of U.S. census data, women made up 52% of all "essential workers" who could not stay home or practice social distancing for safety during the pandemic [20]. This group includes healthcare personnel and primary caregivers, both paid and unpaid, who face an increased risk of exposure to COVID-19 due to their contact with patients and infectious materials. Globally, women account for 70% of healthcare workers, with 80% of nurses and midwives identifying as women [21]. In China's Hubei province, more than 90% of healthcare workers were women [21]. In one study, 60% of healthcare workers in China hospitalized with COVID-19 were women [22]. Similarly, the Centers for Disease Control and Prevention (CDC) reported that healthcare providers in the U.S. made up 11% of all COVID-19 cases, with 73% of those cases being women [23].

Gender disparities are also evident within the paid healthcare workforce. In most countries, men occupy many of the highest-paid roles (e.g., physicians, dentists, and pharmacists) [21]. While women hold the majority of lower-paying jobs (e.g., personal care workers) [21]. Women in these roles are more likely to be employed in the private sector, which offers less job security, lower wages, and fewer opportunities for full-time employment and benefits. The pandemic has worsened the economic burden on women in healthcare, with an 11% pay gap between men and women for similar work [21].

Beyond healthcare, women have been heavily impacted by the economic fallout of the pandemic. In the U.S., unemployment has disproportionately affected women, as they represent a large portion of the workforce in sectors like retail, dining, and entertainment, all of which have been severely impacted by the pandemic [24]. These front-line jobs often come with few employee protections [25]. Before the pandemic, unemployment rates for women (3.4%) and men (3.8%) aged 16 and older were relatively similar [26]. However, by April 2020, the unemployment rate for women had surged to 16.2%, compared to 13.5% for men [26].

Additionally, women frequently serve as primary caregivers within households and often perform unpaid work, which is not reflected in unemployment statistics [21]. In the U.S., an estimated 65% of unpaid family caregivers are women, and 80% of them care for at least one person over the age of 50 [27, 28]. During past outbreaks such as cholera and Ebola, women bore a threefold higher caregiver burden, increasing their risk of disease exposure [29, 30]. Similarly, working women spend more time on household chores and caring for children and parents compared to their male counterparts. In households where both partners are employed full time, women typically assume more household and childcare duties than men, a disparity worsened by work-from-home situations, childcare facility closures, and remote learning [31-33].

Women are also disproportionately affected by the challenges of single parenthood [19]. In the U.S., women are more than four times as likely as men to be single parents, often with fewer resources and safety nets. Many women who are primary breadwinners have lost jobs at some of the highest rates during the pandemic [19]. These compounding factors, including unpaid care giving and household responsibilities, have amplified the workforce burden of COVID-19 on women.

### **Recommendations**

Recommendations for mitigating occupational and economic gender disparities include the following (Figure 1).

Create transformative policy changes that reduce workplace inequity and value unpaid work.

- Public and private sector policy reforms should address pay inequity by enforcing labor rights

that prevent gender-based discrimination and ensuring women receive equal pay for equal work [19, 21].

- Unpaid care work should be recognized as a crucial contribution to the economy, with policy and societal changes aimed at shifting gender norms and equitably redistributing unpaid labor between men and women [19, 24].
- Investing in the creation of formal jobs in the healthcare sector can help transform unpaid care work into paid positions within the formal labor market [21].
- Labor market policies should remove barriers to full-time employment for women, promote career advancement, ensure gender parity in leadership roles, and expand investment in childcare support services [19, 21].

Target women and girls in economic policy change efforts.

- Apply a gender lens consistently when evaluating socioeconomic impacts and assessing fiscal stimulus packages and social assistance programs to promote gender equality [14, 19].
- Ensure women are included in COVID-19 strategic planning, leadership and decision-making at local, national, and international levels.
- Evidence shows that policy interventions, economic planning, and emergency responses are more effective when women are involved; excluding women risks creating ineffective or even harmful policies [34].
- Women's leadership in their communities and frontline roles have been critical to the success of response plans during past health crises. Women should be fairly recognized and compensated for their contributions [35].
- Enhance the meaningful participation of women and girls by ensuring their equitable representation in leadership and decision-making roles in all response planning and policy development [29, 34, 36].

### **IMPACT OF GENDER-BASED VIOLENCE**

The COVID-19 pandemic has given rise to two crises: one involving the infectious disease itself, and the other, a surge in violence against women and girls due to lockdowns that confined people to their homes. During times of crisis, women and girls are more vulnerable to intimate partner violence and other forms of domestic abuse. While the message during the pandemic was to stay home and stay safe, home was not always a safe place for everyone. Many women found themselves trapped with abusive partners due to the enforced lockdowns [35].

The closure of liquor stores exacerbated the situation, as men unable to access alcohol often turned to violence. Gender-based violence is rooted in power imbalances within households, and the pandemic only intensified these dynamics [36]. Around the world, reports of domestic violence surged following the outbreak. In India, the National Commission for Women (NCW) reported a sharp increase in domestic violence cases after the national lockdown was imposed.

Between April and May 2020, 47.2 percent (1,428) of the 3,027 complaints received by the NCW involved domestic abuse across 22 different types of crimes against women. In comparison, from January to March 2020, only 20.6 percent (871) of 4,233 complaints were linked to domestic violence. A monthly review further highlights this rise: in April 2020 alone, 51.45 percent (514) of the 999 complaints received by the NCW were related to domestic abuse [36, 37].

In May, domestic abuse allegations accounted for 45.07 percent (914) of the total 2,028 complaints received [38]. Prior to the lockdown, the National Commission for Women (NCW) had been receiving reports both offline and online. Once the shutdown began, reports were accepted only online and initially via fax until a dedicated WhatsApp number (72177135372) was established on April 10, 2020, specifically for victims of domestic violence. This announcement came in response to the rising cases of domestic violence linked to the ongoing lockdown. Many women facing domestic abuse were found to be particularly vulnerable during this period [39].

In June 2020, the NCW received a total of 2,043 complaints related to crimes against women, marking the highest number in eight months. Of these, 603 complaints were about mental and emotional abuse, filed under the right to live with dignity clause (India Times, July 3, 2020). Reports from women seeking



assistance to safeguard their dignity have also been increasing. Additionally, cybercrimes against women saw a disturbing rise, escalating from 37 in March to 55 in April and 73 in May [40-42].



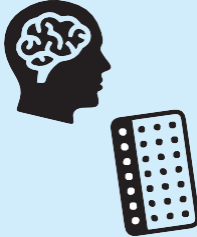
Domestic violence has been referred to as a silent pandemic (42). Even before COVID-19, domestic abuse was a serious issue in India, with approximately 37.2 percent of ever-married women (aged 15-49) having experienced physical or sexual violence from their partners. Alarming, 87 percent of this spousal abuse occurred within the first five years of marriage. The incidence of spousal abuse varied widely, from 5.9 percent in Himachal Pradesh to 59.0 percent in Bihar [43]. Since the age of 15, 30 percent of women have reported experiencing physical abuse, while 6 percent have faced sexual violence throughout their lives. Among ever-pregnant women, 4 percent experienced physical abuse during each pregnancy [44]. A total of 33 percent of ever-married women have encountered physical, sexual, or emotional abuse, with physical violence being the most prevalent at 30 percent, followed by emotional violence at 14 percent. These figures only intensified during the pandemic (The Telegraph Online, 2020). Additionally, 7 percent of ever-married women reported experiencing spousal sexual harassment (NFHS-4, 2015-16) [45].

The violence against women is not merely a symptom of a larger issue but a persistent problem that has worsened due to the crisis. Noteworthy initiatives, such as the 2008 "Bell Bajao" movement, aimed to empower men and boys to take a stand against domestic violence, highlighting their role in reducing violence against women [46].

New data from the National Legal Services Authority (NALSA) indicates a consistent rise in domestic abuse incidents during the national lockdown. The statistics reveal that Uttarakhand reported the highest number of cases, followed by Haryana in second place and Delhi, the national capital, in third (Times of India, May 18, 2020).

The lockdown has unveiled a disturbing reality of gender inequality, not only in India but globally. Women in abusive relationships have been particularly hard-hit by the pandemic, with domestic violence becoming a more frequent and regular occurrence during lockdowns. Various helplines and organizations dedicated to domestic violence are tirelessly working to address this pressing global issue [47].

<b>Collect, report, and analyzed is aggregated data to understand the full gendered impact of COVID-19</b>	
<ul style="list-style-type: none"><li>• Data disaggregated for sex, gender, race, and ethnicity</li><li>• Data regarding women's SRH outcomes during the COVID-19 pandemic</li><li>• Include pregnant and lactating people in research efforts and studies of therapeutic options</li></ul>	
<b>Include women in local, national, and international COVID-19 strategic planning, leadership, and decision making</b>	
	<ul style="list-style-type: none"><li>• Ensure equitable representations women, including WOC, with culturally diverse representation</li><li>• Fairly recognize and compensate women for their time and expertise in leadership efforts</li></ul>

<b>Create transformative and innovative policy changes</b>	
<ul style="list-style-type: none"> <li>• Introduce transformative policy changes that reduce workplace inequity and value unpaid work</li> <li>• Target women and girls in economic policy change, fiscal stimulus packages, and social assistance programs to achieve gender equality</li> <li>• Create economic empowerment strategies for women to minimize economic barriers to leaving abusive relationships</li> <li>• Strengthen anti-trafficking frameworks and capacity, and update existing strategies to address trends in THB</li> <li>• Implement and study the impact of policy changes and innovations to ensure they are transformative for WOC and LGBTQ+ individuals rather than exacerbating current inequities</li> </ul>	
<b>Allocate additional crisis resources</b>	
	<ul style="list-style-type: none"> <li>• Strengthen identification of victims of GBV and THB and make services, including legal justice services, accessible to them</li> <li>• Increase funding and resources to meet an increased demand for MHPSS</li> </ul>
<b>En sure equitable access to essential health care services, including MHPSS and SRH services</b>	
<ul style="list-style-type: none"> <li>• Identify and minimize barriers to accessing MHPSS and SRH services</li> <li>• Ensure equitable access to MHPSS and SRH services, through both private and civil society channels, while minimizing the burden on primary health structures</li> <li>• Integrate MHPSS within COVID-19 outbreak response activities</li> <li>• Ensure adequate mental health resources for health care and other frontline COVID-19 workers</li> <li>• Consistently provide essential SRH services, such as contraception, emergency contraception, and safe abortion, while minimizing COVID-19 exposure</li> </ul>	

**Recommendations**

Recommendations for mitigating GBV include the following (Table).

Allocate additional resources to combat increases in GBV.

- Governments and private organizations should increase resource allocation to address the rising need for responses to gender-based violence (GBV) and human trafficking (THB) [19, 38].
- Ensure information on accessing safety and immediate security is widely available, while developing culturally sensitive, country-specific response plans [35].
- Recognize geographic and cultural differences when creating country-specific strategic plans for preparedness and response [29].
- Train local and national first responders to address GBV with compassion and nonjudgment, ensuring they are knowledgeable about community resources and can refer survivors promptly [29].
- Health care facilities and systems should establish clear referral pathways to ensure the safe relocation of survivors of GBV and THB when they seek help [29].

Develop innovative solutions to combat GBV, such as leveraging technology and creative support systems.

- Utilize social media to raise advocacy and awareness about the increase in violence against women, and collaborate with media outlets to make resources more visible [38].
- Address the economic barriers that prevent women from leaving abusive relationships by focusing on economic empowerment strategies, providing financial support for recovery and resilience-building.
- Build strategic public-private partnerships to create innovative resources for survivors of domestic violence, ensuring regional authorities are prepared to support them [38].
- Strengthen anti-trafficking frameworks and capacity, and update strategies to address new trends in

human trafficking and the consequences of the COVID-19 pandemic [45].

TABLE .Global Examples of Innovations to Combat Gender-Based Violence <sup>38,46,47</sup>	
Category	Example(country)
Social media advocacy campaigns	#Anti Domestic Violence During Epidemic(China) #End Trafficking, #Freedom First and tag @UNICEFUSA (United States)
Allocation of additional Financial resources	Allocation of resources for shelters and provision of alternative accommodations when shelters fill (Canada, France, Caribbean countries) Accelerated community-level service delivery for survivors of GBV (South Africa, Australia, France, United Kingdom)
Governmental and legal policy changes	Instead of GBV survivor's leaving home, abuser must leave family home (Italy) Develop virtual justice system to provide legal services and extended protection orders incase of court delays (Kazakhstan, Argentina, Colombia)
Strategic partnerships	Mobile service partnerships with telecommunication firms to provide free calls to helplines (Antigua, Barbuda) Instant messaging service with geolocation for immediate support for survivors (Spain) Secure mobile phone applications and code messaging at pharmacies for domestic violence survivors to bring in additional support without raising attention of abusers (United Kingdom, Spain) Training postal workers and delivery drivers to look for signs of abuse(United Kingdom)

GBV, gender-based violence.

### MENTAL HEALTH IMPACT

Fear, stress, and anxiety have surged significantly among the general population as COVID-19 continues to spread. Quarantine measures have heightened feelings of loneliness and isolation, potentially worsening mental health issues, substance abuse, and self-harm or suicidal behaviors [35]. Depressive disorders are twice as prevalent in women compared to men, with depression and anxiety intricately linked to gender-based roles, stressors, and life experiences [48].

Numerous studies indicate that women are more likely than men to experience anxiety and post-traumatic stress symptoms during the COVID-19 pandemic [49-51]. For instance, a large population study from Iran found that women reported higher anxiety levels than men, regardless of whether they lived in high-prevalence areas [50]. In China, the likelihood of women experiencing anxiety symptoms was found to be 3.01 times greater than that of men during the early months of the pandemic [51].

Women have also shown significantly higher levels of post-traumatic stress symptoms compared to men, including re-experiencing, avoidance behaviors, poor sleep, and negative cognitive or mood states. An analysis conducted in the United States revealed that depressive symptoms during the pandemic have tripled from baseline levels [49]; however, access to more resources was associated with lower levels of depression. This indicates a compounded effect of increased financial, work, and domestic burdens on women's mental health due to COVID-19 [52].

Moreover, multiple studies have found that the mental health of healthcare workers is more adversely affected than that of other professions, with women being overrepresented in this field [21, 49, 53, 54]. A study in China examining various mental health factors in medical and non-medical workers found that medical personnel exhibited higher rates of insomnia, anxiety, depression, somatization symptoms, and obsessive-compulsive symptoms. Being female was identified as an independent risk factor for both anxiety (odds ratio [OR], 1.8) and depression (OR, 1.85) [55]. Additionally, a survey of frontline



healthcare workers in Wuhan reported that women experienced higher rates of depression, anxiety, insomnia, and distress compared to men. After controlling for confounding variables, women were nearly twice as likely as men to suffer from severe depression (OR, 1.94), and their mean scores on the Generalized Anxiety Disorder 7-item scale were double those of men (4.0 vs. 2.0) [56].

### **Recommendations**

Recommendations for mitigating mental health impacts include the following.

Integrate interventions for mental health and psychosocial support (MHPSS) services within COVID-19 outbreak response activities.

- Identify the barriers female patients and caregivers encounter in accessing mental health and psychosocial support (MHPSS) services, and ensure that responses to disease outbreaks are adaptable to the evolving needs of women during these crises [35].
- Incorporate women's perspectives and knowledge into prevention initiatives, ensuring their representation in the development of national and local COVID-19 policies [19, 29, 35].
- Address stigma and discrimination rooted in misinformation and lack of knowledge, which contribute to heightened fear and anxiety. Highlight positive community activities that emerged during the outbreak [35].
- Map existing MHPSS expertise and resources to facilitate coordination across all emergency response sectors. Strengthen local care structures when feasible, share tools and resources among agencies, and identify gaps where MHPSS services are lacking [35].

Ensure that sufficient mental health resources are available for healthcare and other frontline workers responding to COVID-19.

- Employers should acknowledge the disproportionate impact of the pandemic on women and implement gender-sensitive solutions for more vulnerable staff.
- Health care leaders and employers should aim to provide adequate time off between shifts for workers, rotate them between high-stress and low-stress roles, offer flexible scheduling, establish buddy support systems, and ensure that workers are informed about accessing MHPSS resources [56].
- Individuals should prioritize self-care when possible, employing coping strategies such as adequate rest, nutritious eating, physical activity, and maintaining social connections between work shifts [56].

### **Increase in the Care Burden of Women**

Since the onset of the COVID-19 pandemic and the subsequent lockdowns, the burden of unpaid care work has risen sharply, disproportionately impacting women. Care work plays a crucial economic and social role, yet much of this responsibility has fallen on women, even as they manage their own professional duties from home. As Renu shared, "At least in the office, we can leave these tasks behind and focus on work, but at home, we're the ones who have to do most things, whether it's answering the doorbell or managing the cooking and cleaning" (Personal interview, September 20, 2021).

During the pandemic, women were primarily responsible for caring for infants, the elderly, and those with mental and physical disabilities, in addition to routine household chores like cooking and cleaning. With no domestic help available during lockdowns, women were often overburdened. While many men could retreat to a separate room and focus on office work, women found themselves juggling professional responsibilities and household duties.

Globally, women perform the majority of unpaid care work, dedicating significant time to tasks like cooking, cleaning, and caring for children, the elderly, and those in need, without any form of compensation. Despite its importance, unpaid care work is often excluded from policy discussions due to the misconception that it is too difficult to measure and less relevant to economic policy (OECD, 2014). However, ignoring this work leads to false assumptions about well-being and resource value, which undermines effective policy interventions, especially in addressing gender disparities in employment and empowerment (OECD, 2018).

### **SEXUAL AND REPRODUCTIVE HEALTH IMPACT**



As evidenced during previous infectious outbreaks, such as those caused by the Ebola and Zika viruses, women's sexual and reproductive health (SRH) rights are often severely restricted during challenging times [29, 57]. The COVID-19 pandemic places additional strain on health systems, further limiting access to SRH services, particularly in resource-constrained, low-income, and middle-income countries [57, 58]. Disruptions to regular clinic operations can lead to interruptions in essential SRH services, including contraception, safe abortion care, and treatment for human immunodeficiency virus (HIV) and sexually transmitted infections (STIs) [59]. Prior crises have shown that decreased access to SRH care results in higher rates of unintended pregnancies, unsafe abortions, sexually transmitted infections, pregnancy complications, mental health issues, and increased maternal and infant mortality [14, 60, 61].

The COVID-19 pandemic has had a profound impact on sexual and reproductive health (SRH) in India, exacerbating existing challenges and creating new barriers. Here are some key aspects of this issue:

#### **Disruption of Services**

1. **Healthcare Facility Closures:** Many healthcare facilities were repurposed to handle COVID-19 cases, leading to the temporary closure or reduced availability of reproductive health services, including family planning, prenatal care, and safe abortion services [62].
2. **Interrupted Family Planning Services:** The pandemic disrupted the supply chains for contraceptives and reproductive health products, leading to shortages. Many women faced difficulties in accessing family planning services, which could lead to unintended pregnancies [63].
3. **Increased Abortions:** Reports indicated an increase in unsafe abortions due to restricted access to safe abortion services. The inability to access essential healthcare pushed many women to seek unsafe methods, risking their health and lives [64].

#### **Impact on Maternal Health**

1. **Delayed Prenatal Care:** Pregnant women experienced barriers to accessing essential prenatal care, leading to increased risks for complications during pregnancy and childbirth. Many were hesitant to visit healthcare facilities due to fear of contracting the virus [65-67].
2. **Increased Maternal Mortality:** Delayed access to healthcare services and emergency care during childbirth may have contributed to increased maternal mortality rates during the pandemic.
3. **Mental Health Impacts:** Pregnant women faced heightened anxiety and stress due to the uncertainties of the pandemic, impacting their mental well-being and potentially affecting their pregnancies [68].

#### **Increased Vulnerability and Inequality**

1. **Marginalized Groups:** Women from marginalized communities faced heightened challenges in accessing sexual and reproductive health services. Economic instability, lack of transportation, and limited access to healthcare facilities further compounded their difficulties.
2. **Gender-Based Violence:** The pandemic exacerbated gender-based violence, leading to increased sexual violence against women. Victims of violence often found it challenging to access support services, including sexual and reproductive health care [69].

#### **Barriers to Education and Awareness**

1. **Disruption of Education Programs:** Sexual and reproductive health education programs were disrupted during the pandemic, limiting awareness about safe sexual practices, family planning options, and reproductive rights.
2. **Lack of Information:** Many women faced difficulties in accessing accurate information about SRH services during the pandemic, leading to confusion and misinformation.

#### **Government and NGO Responses**

1. **Telemedicine Services:** In response to the disruptions, many healthcare providers turned to telemedicine to continue offering reproductive health services, including consultations for family planning and prenatal care [70].
2. **Community Outreach:** NGOs and community organizations worked to provide information and support for women regarding reproductive health services, emphasizing the importance of accessing care despite the pandemic.

3. Policy Initiatives: The Indian government has recognized the need for continuous access to sexual and reproductive health services during emergencies and has taken steps to ensure essential services remain available [70]

### Recommendations

Recommendations for mitigating SRH impacts include the following.

Health care providers and organizations should prioritize innovative solutions to ensure equitable access to essential SRH services through both private and civil society channels [19,29,71].

- Acknowledge that sexual and reproductive health (SRH) services are essential and must remain accessible at all times, especially during crises [14, 19, 34, 58, 70, 71].
- Offer counseling and information on fertility awareness and proper condom use in case other contraceptive supplies are disrupted [70].

Reduce barriers for current contraceptive users in accessing SRH services [29, 71].

- Allow women who are already using combined hormonal contraceptives and progesterone-only pills to continue their use for an additional 6 to 12 months without needing office visits or monitoring during the pandemic [63].
- Prescribers should provide refills for multiple months to minimize the number of trips patients must make to the pharmacy. Health insurance plans and medical office policies should eliminate restrictions on refill timelines [70].
- Users of depot medroxyprogesterone acetate can transition to available progesterone-only pills, or patients can be trained to self-administer injectable contraception to reduce face-to-face contact and limit office visits [36, 70].
- Users of long-acting reversible contraceptives should extend their use to avoid in-person visits during the pandemic, as evidence indicates efficacy for two years beyond the timeline approved by the US Food & Drug Administration [70].

Remove barriers for women seeking initial SRH services while alleviating the burden on primary health care systems.

- Utilize telemedicine with remote assessments for new contraceptive users to provide prescriptions for combined hormonal contraceptives, progesterone-only pills, or self-injectable contraception for 6 to 12 months [63, 70].
- Continue offering long-acting reversible contraceptives with initial remote assessments, minimal face-to-face contact, and adequate safety protocols [36, 70].
- Provide postpartum counseling on contraception before hospital discharge, including options for long-acting reversible contraceptives (immediately postpartum), permanent contraception (at delivery), and the lactational amenorrhea method [29, 70].

Maintain access to emergency contraception and safe abortion services while minimizing the risk of COVID-19 exposure.

- Educate individuals about available over-the-counter and prescription emergency contraceptive options. Use remote assessments to determine the choice of emergency contraceptives and provide them with minimal face-to-face contact [36, 70].
- All practice recommendations and position papers advocate for the continuation of safe abortion services without requiring in-person contact after a remote assessment. Ensure that no-touch/no-test early medication protocols are implemented to reduce COVID-19 exposure risks while delivering essential services [63].

Collect, analyze, and report data on women's SRH outcomes during COVID-19 to fully understand the pandemic's impact and inform future mitigation strategies.

- Conduct timely research and surveillance on the key clinical, epidemiologic, and psychosocial connections between COVID-19 and SRH to assess the immediate, midterm, and long-term impacts on women and girls [58]. This data will help strengthen health system capabilities and community engagement, ensuring the accessibility and quality of SRH services for vulnerable populations during future health emergencies [59].
- Investigate the effectiveness of innovative solutions and barriers to access, developing data-driven evidence for best practice standards and ensuring that innovations do not further marginalize those most at risk [71].
- Include pregnant and lactating individuals in research efforts. As private companies and

governments swiftly work to develop treatment and prevention therapeutics, they must prioritize studying therapeutic options for pregnant and lactating individuals. There should be an open exchange of information and data from maternity hospitals worldwide to ensure optimal management of pregnant and lactating individuals infected with COVID-19 [68].

### **The Gender Gap in India**

The Gender Gap Index measures gender equality and disparities between men and women across four key areas: health and survival, educational attainment, economic participation and opportunities, and political empowerment. According to the 2020 Global Gender Gap Report by the World Economic Forum, India scored 66.8 percent, ranking 112th out of 152 countries—a notable widening of the gap since 2006. Despite some progress, the situation for women in India remains precarious, with the country falling four positions from its previous rank.

Women's economic participation and opportunities remain extremely limited, at just 35.4 percent, placing India 149th in this category. Only 22 percent of Indian women are engaged in the labor market, compared to 82 percent of men, making India's female workforce participation one of the lowest globally. This widening economic gender gap has led to women earning only about one-fifth of what men earn, resulting in a ranking of 144th in terms of estimated earned income, again one of the lowest in the world.

In terms of educational attainment, India ranks 112th with a score of 96.2 percent. The country performs poorly in health and survival, ranking 150th, reflecting significant disparities in access to healthcare. However, there has been some progress in political empowerment, where India ranks 18th. Despite this, women hold only 14 percent of leadership roles (ranking 136th) and make up just 30 percent of professional and technical workers.

These statistics reveal that many Indian women lack financial independence, which can make it difficult for them to leave abusive situations due to their dependence on family or spouses. The gender gap in healthcare access, reflected in a low ranking of 150th on the health and survival subindex with 94.4 percent parity, further underscores the vulnerability of Indian women (World Economic Forum 2020).

### **Education and Women**

The COVID-19 pandemic has dramatically altered educational methods worldwide. Traditional classroom teaching has become impractical due to concerns about infection and the need for social distancing. For instance, Harvard University gave its on-campus students just five days' notice to vacate the campus, advising them not to return until the semester had ended. Many Ivy League institutions quickly transitioned to virtual classrooms as part of their academic programs. Schools in thirteen countries were closed in an unprecedented effort to curb the spread of the virus. According to UNESCO, over 300 million children worldwide were out of school due to the pandemic, significantly increasing the responsibilities of women (UNESCO, 2020).

Many universities in the United States and other countries adopted similar measures in response to COVID-19. By March 11th, 2020, 39 countries across Asia, Africa, the Middle East, North America, and South America had announced or implemented school and university closures. This affected around 37.23 million children and teenagers across 22 nations (Xavier, 2020).

In India, the shift to online teaching had a significant impact on all levels of education, from primary to higher education. Teachers were forced to quickly adapt to online platforms, learning how to deliver lessons via electronic communication, exchange materials through email, and use instant messaging apps. Meena, a school teacher, explained, "Now it's all about connecting with students through phone calls and voice messages. Overnight, we had to get used to teaching online and make sure students were learning something" (Personal interview, April 10, 2020). This technological shift helped keep the education system functioning during the crisis. Lectures were scheduled on digital platforms, and students participated by listening and interacting, with platforms like MS Teams, CISCO Webex, Zoom, and Google Meet facilitating teacher-student engagement in a virtual classroom setting (Isaac, 2020).

However, the pandemic also exposed a significant digital divide in education. Private schools, better funded and attended by students from wealthier backgrounds, were able to transition smoothly to online learning, as students were already familiar with using computers. In contrast, government schools faced a severe crisis. Initially, schools were simply closed, but when this became unsustainable, teachers began teaching online, sending lessons through WhatsApp. However, many students lacked access to smartphones or stable internet connections. In families with multiple children attending government schools, there was often only one phone available, making it difficult for students to access online education.

### **Recommendations**

Recommendations for mitigating the impact of overlapping vulnerabilities include the following.

The overlapping risks associated with gender, race, and sexual orientation in relation to vulnerabilities from COVID-19 must be explicitly recognized.

Policy changes implemented during the pandemic should aim to be transformative for women of color and LGBTQ+ individuals, rather than deepening existing inequalities [34].

Furthermore all mitigating measures must prioritize not only gender representation but also racial and cultural representation [19].

### **LIMITATIONS**

While we aimed to asynchronously identify relevant data for inclusion, it is important to note that the available information is continuously evolving. This review is not exhaustive and does not encompass all significant areas of impact or mitigation strategies. The studies primarily focused on cis gender women, and gender-diverse individuals are notably underrepresented in the data. A key limitation of the existing data is the categorization by anatomical sex rather than gender, which likely results in the underrepresentation of these populations in our analysis. We made an effort to use gender-inclusive language whenever possible; however, for accuracy, we referenced the specific gendered terms used in the individual studies.

### **FUTURE DIRECTION**

The lack of comprehensive sex- and race-disaggregated data hampers our understanding of the pandemic's impact [2, 19]. Governmental and private organizations must prioritize the collection, reporting, and analysis of complete data disaggregated by sex, gender, sexual orientation, race, and ethnicity. This approach is essential for fully understanding the pandemic's effects on diverse women and for identifying critical areas for further study and intervention [2, 19].

### **CONCLUSION**

The COVID-19 pandemic and its far-reaching societal and economic consequences demand a coordinated response from all sectors of society. Pandemics tend to amplify pre-existing inequalities, influencing who is most affected, the severity of the impact, and the recovery measures taken. Women and girls, already in a vulnerable position, have seen their status deteriorate further since the outbreak. It is essential that women and girls are prioritized in COVID-19 response plans, recovery efforts, and resource distribution.

Despite the challenges, the pandemic has also fostered collaboration among individuals, organizations, cultures, governments, and societies, all working toward a solution. Women and women's organizations must be actively involved in the COVID-19 response. Building an inclusive care economy and socio-economic recovery plans that focus on women's lives and futures is crucial. By prioritizing the advancement of women and girls, we can achieve the Sustainable Development Goals (SDGs) more effectively, ensuring faster, better, and more sustainable progress for all. This approach opens the door to peaceful coexistence and the potential to create a society rooted in equality and gender justice.

Though finding long-term solutions may take time, alternative strategies can address both the immediate challenges and contribute to building future societies based on gender equality. What is needed now is a massive civil society effort to come together and collectively develop comprehensive interventions. This includes immediate relief, such as providing dry rations to families in need, and creating job opportunities for women once the lockdown is lifted.

As women emerge from lockdown, they will require immediate mental health support and counseling, and the lockdown period offers an ideal time to train field teams for this. Tele-counseling services and city

helplines can provide valuable assistance, while legal advice and training for frontline workers to identify domestic violence cases are critical. A massive public awareness campaign is needed to educate the public on what constitutes domestic violence, the steps to take, and how to access help. NGOs and activists must push for swift police and legal action in response to domestic violence incidents.

While finding a permanent solution to these issues will take time, interim strategies can address both the current crisis and help lay the foundation for a more equal, gender-just society in the future.

Numerous national and international organizations have proposed strategies to address the widening disparities affecting women during the COVID-19 pandemic. We urge policymakers, leaders, innovators, investors, and advocacy groups to take these categories of impact and proposed mitigation strategies into account when developing programs and policies in response to COVID-19.

## REFERENCES

1. World Health Organization. WHO coronavirus disease (COVID-19) dashboard. <https://covid19.who.int/>. Accessed February 25, **2021**.
2. Global Health 5050. International Center for Research on Women, and African Population and Health Research Center. The sex, gender and COVID-19 project. <http://globalhealth5050.org/covid19/>. Accessed July 7, **2020**.
3. Centers for Disease Control and Prevention. COVID data tracker. [https://covid.cdc.gov/covid-data-tracker/?utm\\_source¼morning\\_brew#demographics](https://covid.cdc.gov/covid-data-tracker/?utm_source¼morning_brew#demographics). Accessed September 3, **2020**.
4. Bi Q, Wu Y, Mei S, et al. Epidemiology and transmission of COVID-19 in 391 cases and 1286 of their close contacts in Shenzhen, China: a retrospective cohort study [erratum appears in *Lancet Infect Dis.* 2020;20(7):e148]. *Lancet Infect Dis.* **2020**;20(8):911-919.
5. Channappanavar R, Fett C, Mack M, Ten Eyck PP, Meyerholz DK, Perlman S. Sex-based differences in susceptibility to severe acute respiratory syndrome coronavirus infection. *J Immunol.* **2017**;198(10):4046-4053.
6. La Vignera S, Cannarella R, Condorelli RA, Torre F, Aversa A, Calogero AE. Sex-specific SARS-CoV-2 mortality: among hormone-modulated ACE2 expression, risk of venous thromboembolism and hypovitaminosis D. *Int J Mol Sci.* **2020**;21(8): 2948.
7. Meng Y, Lu W, Liu K, et al. Sex-specific clinical characteristics and prognosis of coronavirus disease-19 infection in Wuhan, China: a retrospective study of 168 severe patients. *PLoS Pathog.* **2020**;16(4):e1008520.
8. Sharma G, Volgman AS, Michos ED. Sex differences in mortality from COVID-19 pandemic: are men vulnerable and women protected? *JACC Case Rep.* **2020**;2(9):1407-1410.
9. Johnson HD, Sholcosky D, Gabello K, Ragni R, Ogonosky N. Sex differences in public restroom handwashing behavior associated with visual behavior prompts. *Percept Mot Skills.* **2003**;97(3, pt 1):805-810.
10. Chen X, Ran L, Liu Q, Hu Q, Du X, Tan X. Hand hygiene, mask-wearing behaviors and its associated factors during the COVID-19 epidemic: a cross-sectional study among primary school students in Wuhan, China. *Int J Environ Res Public Health.* **2020**;17(8):2893.
11. The Lancet. The gendered dimensions of COVID-19. *Lancet.* 2020;395(10231):1168.
12. Gausman J, Langer A. Sex and gender disparities in the COVID-19 pandemic. *J Womens Health (Larchmt).* **2020**; 29(4):465-466.
13. Wenham C, Smith J, Morgan R. COVID-19: the gendered impacts of the outbreak. *Lancet.* **2020**;395(10227):846-848.
14. United Nations Population Fund. COVID-19: a gender lens. Protecting sexual and reproductive health and rights, and promoting gender equality. <https://www.unfpa.org/resources/covid-19-gender-lens>. Accessed May 15, **2020**.
15. Canova V, Lederer Schläpfer H, Piso RJ, et al. Transmission risk of SARS-CoV-2 to healthcare workers and observational results of a primary care hospital contact tracing. *Swiss Med Wkly.* **2020**;150:w20257.
16. Webb Hooper M, Nápoles AM, Pérez-Stable EJ. COVID-19 and racial/ethnic disparities. *JAMA.* **2020**;323(24):2466-2467.
17. Dorn AV, Cooney RE, Sabin ML. COVID-19 exacerbating inequalities in the US. *Lancet.* **2020**;395(10232):1243-1244.
18. Purdie A, Hawkes S, Buse K, et al. Sex, gender and COVID-19: disaggregated data and health

- disparities. *BMJ Global Health Blog*, <https://blogs.bmj.com/bmjgh/2020/03/24/sex-gender-andcovid-19-disaggregated-data-and-health-disparities/>. Accessed March 13, **2020**.
19. Kalyanpur A, Thomas D, Wu D, Tashjian L, Sifuentes M, Hall R. Rapid gender analysis: COVID-19 in the United States. <https://www.care.org/wp-content/uploads/2020/07/7.8.2020-USA-RG-A.pdf>. Published July 13, **2020**.
  20. Robertson C, Gebloff R. How millions of women became the most essential workers in America: one in three jobs held by women has been designated as essential. *New York Times*. April 18, **2020**. <https://www.nytimes.com/2020/04/18/us/coronavirus-women-essential-workers.html>. Accessed February 25, 2021
  21. Boniol M, Mclsaac M, Xu L, Wuliji T, Diallo K, Campbell J. Gender equity in the health workforce: analysis of 104 countries. In: *Healthforce Working Paper 1*. Geneva: World Health Organization Health Workforce; **2019**. WHO/HIS/HWF/Gender/WP1/2019.1.
  22. Zhao J, Lu Y, Wang X, et al. Clinical characteristics of 80 hospitalized frontline medical workers infected with COVID-19 in Wuhan, China. *J Hosp Infect*. **2020**;105(3):399-403.
  23. CDC Covid-19 Response Team. Characteristics of health care personnel with COVID-19 in the United States, February 12–April 9, 2020. *MMWR Morb Mortal Wkly Rep*. **2020**; 69(15):477-481.
  24. Tucker J, Vogtman J. When hard work is not enough: women in low-paid jobs. *National Women's Law Center*. [https://nwlc.org/wp-content/uploads/2020/04/Women-in-Low-Paid-Jobs-report\\_pp04-FINAL-4.2.pdf](https://nwlc.org/wp-content/uploads/2020/04/Women-in-Low-Paid-Jobs-report_pp04-FINAL-4.2.pdf). Published April **2020**. Accessed February 25, 2021
  25. Frye J. On the frontlines at work and at home: the disproportionate economic effects of the coronavirus pandemic on women of color. *Center for American Progress*. <https://www.americanprogress.org/issues/women/reports/2020/04/23/48346/frontlines-work-home/>. Published April 23, **2020**. Accessed February 25, 2021
  26. US Bureau of Labor Statistics. Overview of BLS statistics on women workers. <https://www.bls.gov/bls/cpswomendata.htm>. Accessed May 15, **2020**.
  27. Langer A, Meleis A, Knaul FM, et al. Women and health: the key for sustainable development. *Lancet*. **2015**;386(9999): 1165-1210.
  28. Feinberg L, Reinhardt S, Houser A, Choula R. Valuing the invaluable: 2011 update. The growing contributions and costs of family caregiving. *AARP Public Policy Institute*. <https://assets.aarp.org/rgcenter/ppi/lrc/i51-caregiving.pdf>. Accessed May 15, **2020**.
  29. Gender in Humanitarian Action. The COVID-19 outbreak and gender: key advocacy points from Asia and the Pacific. <https://www2.unwomen.org/-/media/field%20office%20eseasia/docs/publications/2020/03/ap-giha-wg-dvocacy.pdf?la¼en&vs¼2145>. Accessed May 19, **2020**.
  30. CARE International Rescue Committee. Gender implications of COVID-19 outbreaks in development and humanitarian settings. [https://insights.careinternational.org.uk/media/k2/attachments/CARE\\_Gender-implications-of-COVID-19\\_Full-Report\\_March-2020.pdf](https://insights.careinternational.org.uk/media/k2/attachments/CARE_Gender-implications-of-COVID-19_Full-Report_March-2020.pdf). Published March 2020. Accessed February 25, **2021**.
  31. Jolly S, Griffith KA, DeCastro R, Stewart A, Ubel P, Jagsi R. Gender differences in time spent on parenting and domestic responsibilities by high-achieving young physician-researchers. *Ann Intern Med*. **2014**;160(5):344-353.
  32. Staniscuaski F, Reichert F, Werneck FP, et al. Impact of COVID-19 on academic mothers. *Science*. **2020**;368(6492):724.
  33. Bianchi SM, Sayer LC, Milkie MA, Robinson JP. Housework: who did, does or will do it, and how much does it matter? *Social Forces*. **2012**;91(1):55-63.
  34. United Nations. Policy Brief: the impact of COVID-19 on women. [https://www.un.org/sites/un2.un.org/files/policy\\_brief\\_on\\_covid\\_impact\\_on\\_women\\_9\\_apr\\_2020\\_updated.pdf](https://www.un.org/sites/un2.un.org/files/policy_brief_on_covid_impact_on_women_9_apr_2020_updated.pdf). Published April 9, 2020. Accessed June 1, **2020**.
  35. Addressing mental health and psychosocial aspects of COVID-19 outbreak. IASC Briefing Note Version 1.5. [https://interagencystandingcommittee.org/system/files/2020-11/IASC%20Interim%20Briefing%20Note%20on%20COVID-19%20Outbreak%20Readiness%20and%20Response%20Operations%20-%20MHPSS\\_3.pdf](https://interagencystandingcommittee.org/system/files/2020-11/IASC%20Interim%20Briefing%20Note%20on%20COVID-19%20Outbreak%20Readiness%20and%20Response%20Operations%20-%20MHPSS_3.pdf). Published March 17, 2020. Accessed May 15, **2020**.
  36. Mantovani A, Dalbeni A, Beatrice G. Coronavirus disease 2019 (COVID-19): we don't leave women alone. *Int J Public Health*. **2020**;65(3):235-236.
  37. World Health Organization. COVID-19 strategy update. <https://www.who.int/docs/default->

- source/coronaviruse/covidstrategy- update-14april2020.pdf?sfvrsn¼29da3ba0\_19. Published April 14, 2020. Accessed May 15, 2020.
39. UN Women. COVID-19 and ending violence against women and girls. <https://www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2020/issue-brief-covid-19-and-ending-violence-against-women-and-girls-en.pdf?la¼en&vs¼5006>. Accessed May 19, 2020.
  40. John N, Casey S, Carino G, McGovern T. Lessons never learned: crisis and gender-based violence. *Dev World Bioeth.* 2020;20(2):65-68.
  41. Bradbury-Jones C, Isham L. The pandemic paradox: the consequences of COVID-19 on domestic violence. *J Clin Nurs.* 2020; 29(13-14):2047-2049.
  42. Usher K, Bhullar N, Durkin J, Gyamfi N, Jackson D. Family violence and COVID-19: increased vulnerability and reduced options for support. *Int J Ment Health Nurs.* 2020; 29(4):549-552.
  43. Campbell AM. An increasing risk of family violence during the Covid-19 pandemic: strengthening community collaborations to save lives. *Forensic Sci Int Rep.* 2020;2:100089.
  44. National Network to End Domestic Violence. The intersections of domestic violence and human trafficking. [https://nnedv.org/latest\\_update/intersections-domestic-violence-human-trafficking/](https://nnedv.org/latest_update/intersections-domestic-violence-human-trafficking/). Published November 10, 2017. Accessed October 26, 2020.
  45. United Nations Human Rights, Office of the High Commissioner. Draft general recommendation on trafficking in women and girls in the context of global migration. <https://www.ohchr.org/EN/HRBodies/CEDAW/Pages/CallTraffickingGlobalMigration.aspx>. Accessed June 2020.
  46. UN Women. Addressing emerging human trafficking trends and consequences of the COVID-19 pandemic. <https://www.unwomen.org/en/digitallibrary/publications/2020/07/guidanceaddressing-emerging-human-trafficking-trends-and-consequences-of-the-covid-19-pandemic>. Accessed June 2020.
  47. UNICEF USA. How to help stop child trafficking. <https://www.unicefusa.org/mission/protect/trafficking/end>. Accessed October 8, 2020.
  48. US Department of State. 20 Ways you can help fight human trafficking in 2020. <https://www.state.gov/20-ways-you-canhelp-fight-human-trafficking/>. Accessed October 8, 2020.
  49. World Health Organization, Department of Mental Health and Substance Dependence. Gender disparities and mental health. [https://www.who.int/mental\\_health/media/en/242.pdf?ua¼1](https://www.who.int/mental_health/media/en/242.pdf?ua¼1). Accessed May 15, 2020.
  50. Liu N, Zhang F, Wei C, et al. Prevalence and predictors of PTSS during COVID-19 outbreak in China hardest-hit areas: gender differences matter. *Psychiatry Res.* 2020;287:112921.
  51. Moghanibashi-Mansourieh A. Assessing the anxiety level of Iranian general population during COVID-19 outbreak. *Asian J Psychiatry.* 2020;51:102076.
  52. Wang Y, Di Y, Ye J, Wei W. Study on the public psychological states and its related factors during the outbreak of coronavirus disease 2019 (COVID-19) in some regions of China. *Psychol Health Med.* 2020;26(1):13-22.
  53. Ettman CK, Abdalla SM, Cohen GH, Sampson L, Vivier PM, Galea S. Prevalence of depression symptoms in US adults before and during the COVID-19 pandemic. *JAMA Netw Open.* 2020;3(9):e2019686.
  54. Chew NWS, Lee GKH, Tan BYQ, et al. A multinational, multicentre study on the psychological outcomes and associated physical symptoms amongst healthcare workers during COVID-19 outbreak. *Brain Behav Immun.* 2020;88: 559-565.
  55. Lai J, Ma S, Wang Y, et al. Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA Netw Open.* 2020;3(3):e203976.
  56. Zhang WR, Wang K, Yin L, et al. Mental health and psychosocial problems of medical health workers during the COVID-19 epidemic in China. *Psychother Psychosom.* 2020; 89(4):242-250.
  57. World Health Organization. Mental health and psychosocial considerations during the COVID-19 outbreak. [WHO/2019-nCoV/MentalHealth/2020.1. https://www.who.int/docs/defaultsource/coronaviruse/mental-health-considerations.pdf?sfvrsn¼6d3578af\\_2](https://www.who.int/docs/defaultsource/coronaviruse/mental-health-considerations.pdf?sfvrsn¼6d3578af_2). Published March 18, 2020. Accessed July 7, 2020
  58. Chattu VK, Yaya S. Emerging infectious diseases and outbreaks: implications for women's reproductive health and rights in resource-poor settings. *Reprod Health.* 2020;17(1):43.
  59. Ahonsi B. A research agenda on the sexual and reproductive health dimensions of the COVID-



- 19 pandemic in Africa. *Afr J Reprod Health*. **2020**;24(1):22-25.
60. Tang K, Gaoshan J, Ahonsi B. Sexual and reproductive health (SRH): a key issue in the emergency response to the coronavirus disease (COVID- 19) outbreak. *Reprod Health*. **2020**;17(1):59.
  61. Rasmussen SA, Smulian JC, Lednicky JA, Wen TS, Jamieson DJ. Coronavirus disease 2019 (COVID-19) and pregnancy: what obstetricians need to know. *Am J Obstet Gynecol*. **2020**; 222(5):415-426.
  62. Hall KS, Samari G, Garbers S, et al. Centring sexual and reproductive health and justice in the global COVID-19 response. *Lancet*. **2020**;395(10231):1175-1177.
  63. Bayefsky MJ, Bartz D, Watson KL. Abortion during the Covid- 19 pandemic ensuring access to an essential health service. *N Engl J Med*. **2020**;382(19):e47.
  64. Tolu LB, Feyissa GT, Jeldu WG. Guidelines and best practice recommendations on contraception and safe abortion care service provision amid COVID-19 pandemic: scoping review. *BMC Public Health*. **2021**;21(1):276.
  65. Todd-Gher J, Shah PK. Abortion in the context of COVID-19: a human rights imperative. *Sex Reprod Health Matters*. **2020**; 28(1):1758394.
  66. United Nations Population Fund. Sexual and reproductive health rights: modern contraceptives and other medical supply needs, including for COVID-19 prevention, protection, and response. [https://www.unfpa.org/sites/default/files/resourcepdf/COVID19\\_Preparedness\\_and\\_Response\\_-\\_UNFPA\\_Interim\\_Technical\\_Briefs\\_Contraceptives\\_and\\_Medical\\_Supplies\\_23\\_March.pdf](https://www.unfpa.org/sites/default/files/resourcepdf/COVID19_Preparedness_and_Response_-_UNFPA_Interim_Technical_Briefs_Contraceptives_and_Medical_Supplies_23_March.pdf). Published March 23, 2020. Accessed May 19, **2020**.
  67. Purdy C. Opinion: how will COVID-19 affect global access to contraceptives and what can we do about it?. <https://www.devex.com/news/opinion-how-will-covid-19-affect-global-access-to-contraceptives-and-what-can-we-do-about-it-96745/>. Published March 11, 2020. Accessed May **2020**.
  68. Costantine MM, Landon MB, Saade GR. Protection by exclusion: another missed opportunity to include pregnant women in research during the coronavirus disease 2019 (COVID-19) pandemic. *Obstet Gynecol*. **2020**;163(1):26-28.
  69. Faure-Bardon V, Salomon LJ, Leruez-Ville M, Ville Y. How should we treat pregnant women infected with SARS-CoV-2? *BJOG*. **2020**;127(9):1050-1052.
  70. LaCourse SM, John-Stewart G, Adams Waldorf KM. Importance of inclusion of pregnant and breastfeeding women in COVID-19 therapeutic trials. *Clin Infect Dis*. **2020**; 71(15):879-881.
  71. Nanda K, Lebetkin E, Steiner MJ, Yacobson I, Dorflinger LJ. Contraception in the era of COVID-19. *Glob Health Sci Pract*. **2020**;8(2):166-168.
  72. Townsend JW, Ten Hoop-Bender P, Sheffield J. Figo Contraception and Family Planning Committee. In the response to COVID-19, we can't forget health system commitments to contraception and family planning. *Int J Gynaecol Obstet*. **2020**; 150(3):273-274.
  73. Rho HJ, Brown H, Fremstad S. A basic demographic profile of workers in frontline industries. Center for Economic and Policy Research. <https://cepr.net/wp-content/uploads/2020/04/2020-04-Frontline-Workers.pdf>. Published April 2020. Accessed February 25, **2021**
  74. Allsbrook J. The coronavirus crisis confirm that the U.S. health care system fails women. Center for American Progress. <https://www.americanprogress.org/issues/women/reports/2020/04/23/483828/coronavirus-crisis-confirms-u-s-health-care-system-fail-women/>. Published April 23, 2020. Accessed February 25, **2021**
  75. Eadens S. LGBTQ community may be 'particularly vulnerable' to coronavirus pandemic. Here's why. *USA Today*. March 18, 2020. <https://www.usatoday.com/story/news/nation/2020/03/18/lgbtq-coronavirus-community-vulnerable-covid-19-pandemic/2863813001/>. Accessed April 13, **2020**.
  76. Zhu X, Gao Y, Gillespie A, et al. Health care and mental wellbeing in the transgender and gender-diverse Chinese population [erratum appears in *Lancet Diabetes Endocrinol*. 2019;7(6):e18]. *Lancet Diabetes Endocrinol*. **2019**;7(5):339-341.
  77. The Lancet Diabetes Endocrinology. Transgender health: access to care under threat. *Lancet Diabetes Endocrinol*. **2018**;6(6):427.
  78. Ferrando CA. Vaginoplasty complications. *Clin Plast Surg*. **2018**; 45(3):361-368.

79. United Nations Human Rights, Office of the High Commissioner. COVID-19: the suffering and resilience of LGBT persons must be visible and inform the actions of states: statement by human rights experts on the International Day Against Homophobia, Transphobia and Biphobia. <https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID%25884&LangID%25E>. Published May 17, 2020. Accessed June 2020.