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COVID-19 and Gender Research in LMICs: July-September 2020 Quarterly Review Report

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Rationale. Research on COVID-19 and the social, economic and health ramifications of this pandemic is rapidly emerging from many disciplines. Concerns about losses to gender equality and the gendered impacts of the pandemic have been raised from its early stages,[1,2] and research is increasingly beginning to consider the role gender plays in these relationships. Gendered impacts of COVID-19 included an increase in violence against women, unpaid labor, disproportionate levels of unemployment, and increased barriers to accessing maternal, reproductive, and sexual health services. From a policy perspective, it is important to synthesize findings from the multitude of studies that are being published, in order to:

- Identify more widespread trends
- Design responsive research, programs and policies, and
- Underline the need for greater focus on issues of gender and COVID-19.

Additionally, as the virus spreads across nations, and the world looks towards a potential increase in infections in some regions over the coming months, it is imperative to keep track of if and how gendered impacts vary by time and geography.

With this background, we launched a periodic literature review of studies related to COVID-19 and gender in June 2020 (with studies dating back to February 2020). The review assesses research focusing on one or more low- and middle-income countries (LMICs), and covers five broad thematic areas of interest:

1. *Health (women and girls' health outcomes including health workers)*
2. *Gender norms and gendered social impacts (unpaid work, gender-based violence, girls' education, child marriage)*
3. *Economic impacts (financial distress, employment)*
4. *Women's collectives*
5. *Women's leadership*

HIGHLIGHTS

→ Peer-reviewed literature on COVID-19 has mainly focused on women and girls' health, particularly mental health.

→ Women are generally experiencing compromised mental health, barriers to accessing health services, and increases in domestic and unpaid work, unemployment, and income losses.

→ Women's collectives and women's leadership in relation to COVID-19 are highly understudied areas.

→ There is a lack of longitudinal and causal research to identify outcomes of COVID-19 on women and girls' health and well-being.

→ Little is known about how COVID-19 is affecting the health and well-being of younger women and girls, as well as about gendered social impacts including women's agency, menstrual hygiene and social support.

Methods. The review is carried out every week for research published in the past 7 days; findings are synthesized bi-weekly. Inclusion criteria for eligibility are: 1) peer-reviewed and grey literature (working papers and manuscript pre-prints) meeting pre-defined search criterion (Appendix A) 2) articles must contain empirical analyses and complete information on the methodology adopted for the study[1] and 3) articles must include findings on the gendered aspects of social, economic and health impacts of the pandemic and spread containment responses in LMIC contexts. Each eligible article is then reviewed for scientific quality, and scored across three characteristics: sampling, measurement instruments, and analysis. Scores can range from 0-6, with 0-2 denoting weak scores, 3-4 denoting moderate scores, and 5-6 referring to strong scores.

[1] Articles must include sample size and description [demographics, particularly sex], nature of measures, analytic approach, for non-modelled papers; for modelled or ecological papers, full information on data sources and modelling assumptions

In addition to the weekly review of published peer-reviewed, working papers and pre-print articles, we also carry out a monthly review of eight key websites, for reports and briefs that include some empirical analysis of data related to gender and COVID-19 in LMICs. This review of websites acts as a supplement to our findings from scientific literature, providing information on ongoing surveys and studies that might not have been published as journal articles yet. The reports and briefs from website review are not scored for scientific quality.

This report presents findings from the weekly reviews, and the monthly website review carried out between July and September 2020. **A total of 1,704 peer-reviewed, working papers, and pre-print articles, and 199 website reports and briefs were identified during this time-period based on our search criterion.** Of these, 162 (10%) and 39 (20%) respectively met inclusion criteria and were eligible for further review.

Review summary. Of the 162 eligible articles, nearly 90% (n=141) were peer-reviewed literature, with only 17 working papers, and four pre-prints. While the peer-reviewed literature focused largely on aspects related to women and girls' health outcomes (130 articles), the working papers and pre-prints had greater representation of economic impacts (6 articles) and gendered social impacts of COVID-19 (9 articles)(Figure 1). Only two articles were identified on women's leadership (one working paper and one peer-reviewed), and none on women's collectives. Our review of websites for reports and briefs also did not yield any studies on women's collectives, though it did have a substantial proportion of material assessing economic impacts.

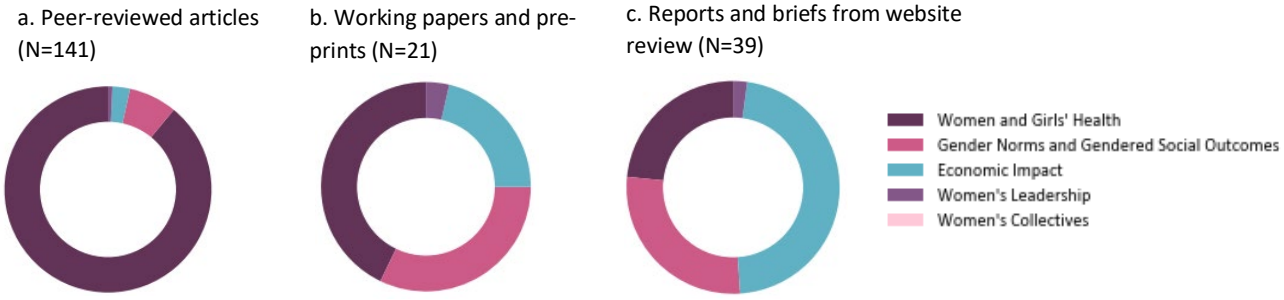


Figure 1: Distribution of articles by type of article and thematic areas (reviewed from July-September 2020)

Note: Articles may be categorized into more than one thematic area

Since March, there has been a relatively steady increase in the number of peer-reviewed articles on women and girls' health outcomes (Figure 2). We also note a small increase in studies on gendered social impacts over time. Within women and girls' health, most articles emphasized four major areas of enquiry – a) mental health, b) maternal health, c) sex-disaggregated COVID-19 information (infection, severity, and mortality), and d) knowledge and practices related to COVID-19 (Figure 3).

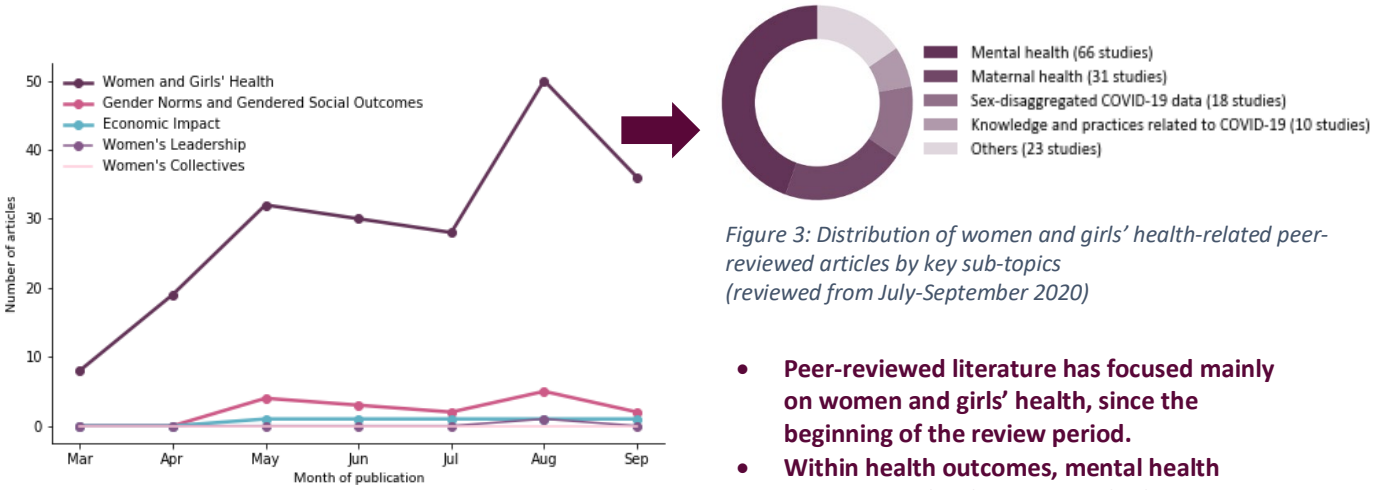


Figure 2: Number of peer-reviewed articles by month of publication

Notes: We anticipate finding more articles published in September during future rounds of review, given delays between publication and database indexing. This graph includes articles identified since the beginning of our review and covers publications since the beginning of the pandemic.

Figure 3: Distribution of women and girls' health-related peer-reviewed articles by key sub-topics (reviewed from July-September 2020)

- **Peer-reviewed literature has focused mainly on women and girls' health, since the beginning of the review period.**
- **Within health outcomes, mental health continues to be the most studied topic.**

Geographically, **the most represented LMIC included as a research setting within reviewed peer-reviewed articles, working papers and pre-prints was China** (48 studies) (Figure 4). This was followed by studies with individuals from Turkey, India and Brazil (16, 14 and 13 studies, respectively). Representation from African countries was lacking, with limited research in Ethiopia (four studies), Nigeria (three studies), Uganda (two studies), and Kenya (two studies).

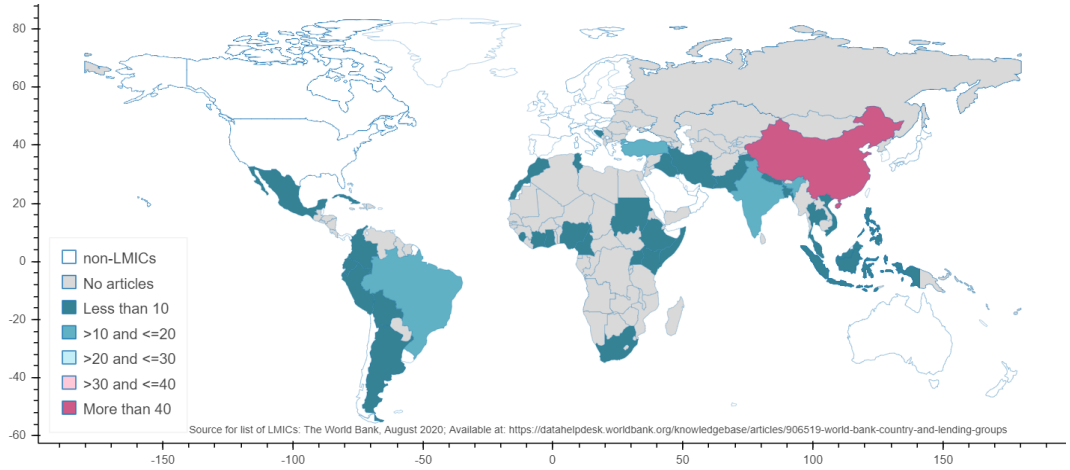


Figure 4: Number of peer-reviewed, working papers, and pre-print articles, by country (reviewed from July-September 2020)

Authorship in LMICs was well-represented in research papers; 131 peer-reviewed articles (93%) and 6 working papers or pre-print articles (35%) had either first and/or senior authors affiliated with an institution in a LMIC or were authored by an LMIC-based institution.

With regards to scientific quality of the articles, a consistent proportion have received moderate scores for each round of review from July to September 2020 (Figure 5). **The proportion of articles with strong scores has increased over the last two rounds of review.** Most reviewed articles were cross-sectional (153 studies; 94%), with only **one study using an experimental design.**

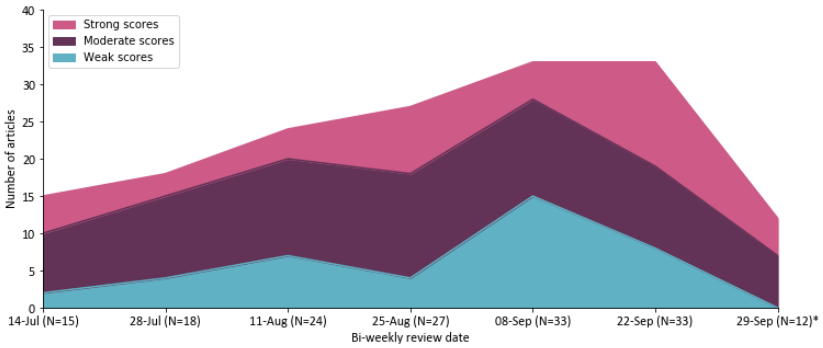


Figure 5: Number of peer-reviewed, working papers, and pre-print articles, by scores received for scientific quality, over time of review (reviewed from July-September 2020)

Note: The review is conducted every week. However, consolidation of findings is done bi-weekly. This graph provides bi-weekly numbers (articles reviewed for previous two weeks), except for the last week of September (29-Sep)

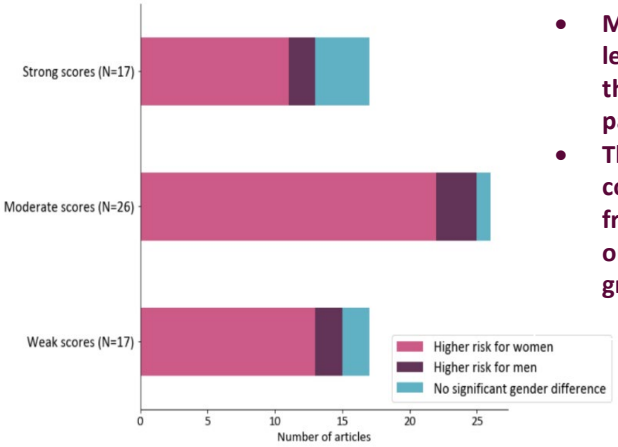
While a number of studies presented findings for the general population groups (75 studies; 46%), we also found articles that focused on special sub-groups, including pregnant women (33 studies; 20%), health workers (15 studies; 9%), mothers, adolescents, elderly population, female sex workers, students, academicians, COVID-19 patients, and individuals with other diseases.

A. Women and Girls' Health

Research is finding men to have higher risk of COVID-19 hospitalization, severity, and fatality relative to women,[3-12] **with only a few exceptions**.[13,14] There are several implicit biases that preclude drawing population-level inferences from these studies, however. All reviewed studies in this area include hospital-level data, and thus do not take into account upstream selection and gender biases and barriers with respect to access to health services, and hence access to COVID-19 testing, as well as the decision on how to allocate potentially limited resources to enable health care utilization. There is thus still a need to examine sex-disaggregated impacts of COVID-19 in LMICs with high quality data that goes beyond the hospital fatality rates, and considers other population-level, intersectional factors, including socio-economic barriers to health services. At a global level as well, there is still a huge data gap in terms of sex-disaggregated information; only 37% of the global COVID-19 cases as of July 2020 had data available for the sex of the patients, though this has since improved.[15,16]

Knowledge and behaviors related to COVID-19 tend to differ by gender, with most studies indicating higher knowledge and adherence levels for women than men.[17-25] In Ethiopia, women were observed to have better knowledge relative to men, on COVID-19 transmission and preventive behaviors.[17] In Somalia, Brazil, China, Thailand, and India, women had significantly better preventive practices and behavior for COVID-19 than men,[19,20,22,23,25] though this trend was not observed in samples from Sierra Leone, Cameroon, and Vietnam. [18,21,26] It is likely, given the strong social, cultural and normative influences that impact behavior, as well as public messaging and information campaigns, that COVID-19 knowledge and behaviors will continue to be relatively context-specific.

Across settings, women's mental health tends to be more compromised than men's by the COVID-19 pandemic. Of 61 reviewed studies that compared mental health status and outcomes during the COVID-19 pandemic, more than three-quarters (n=47) indicated that women were experiencing more adverse mental health effects than men. Studies that received strong scores on scientific quality in our review identify higher levels of stress, anxiety, depression, and fear of COVID-19 among women than men (Figure 6).[27-36] These findings reflect diverse geographies, including Bosnia and Herzegovina, Brazil, China, Ethiopia, India, Morocco and Turkey. A major limitation of this body of research to date is use of cross-sectional surveys, which generally limit the ability to draw inferences about temporal changes in gender differences. The only identified longitudinal analysis of the effects of COVID-19 on women's mental health is in line with cross-sectional findings, and indicates **increased depression and anxiety attributable to the pandemic** among Bangladeshi mothers.[37]



- **Most studies show higher levels of psychological distress than men during the COVID-19 pandemic.**
- **The few studies which show contrasting results are mostly from China, and largely focus on specific population sub-groups.**

Figure 6: Summary of findings from articles that assessed gender differences for mental health outcomes, by scores for scientific quality (reviewed from July-September 2020)

There is some evidence showing contrasting findings on mental health (worse mental health among men, or no gender difference). Most of these studies (nine of 14) are from China, and are distinct from those noted above in that they primarily focus on specific population sub-groups, including teachers,[38] students[39,40], people living with HIV,[41] and participants of an online self-help crisis intervention program.[42] **Mental health outcomes may operate and manifest differently for specific sub-groups across geographies.**

Apart from analyzing the impacts of COVID-19 on the psychological health of the general population, two important sub-groups were also highlighted by the mental health related studies – 1) health care workers (HCW), and 2) pregnant women. Most of the frontline health work across countries is carried out by women, putting them at higher risk of psychological distress.[43] Eleven of 12 reviewed studies found female health care workers at higher risk of adverse mental health status than male health care workers during COVID-19; studies encompassed China, Turkey, Iran, Colombia, and India.[27,28,44-52]

Similar findings for maternal mental health were reported from China, Colombia, Turkey, and Iran, highlighting the risk of anxiety, stress, and depression among pregnant women during COVID-19.[53-60] These studies, however, did not provide any comparisons to pre-pandemic mental health among pregnant women, highlighting a data and analysis gap.

Findings regarding other health impacts of COVID-19 on pregnant women, including maternal and neonatal outcomes, are mixed.[61-66] While surveillance data from pregnant women with severe COVID-19 in Brazil found the case fatality rate to be quite high (12.7%),[63] findings from Iran indicate no difference between pregnant women with and without COVID-19, in terms of birth and pregnancy complications.[65] Gestational age at diagnosis was a significant determinant of adverse perinatal outcomes in COVID-19 infected pregnant women across a large multi-country study;[61] further analytic consideration of this and other health factors may help to explain observed differences across countries. Multiple studies explored the potential for vertical transmission of COVID-19.[67-73]

Findings were again mixed, though the majority of studies did not find evidence supporting widespread vertical transmission.

COVID-19 has increased barriers to women accessing essential health services. In Nepal, institutional deliveries in rural areas have reduced significantly since COVID-19, with an increase in neonatal deaths and stillbirths.[74] Studies from slums in Kenya, Nigeria, Pakistan, and Bangladesh report increased challenges to accessing sexual and reproductive health services, particularly for marginalized groups including female sex workers (FSW).[75,76]

B. Gender Norms and Gendered Social Impacts

Our literature review revealed multiple peer-reviewed papers and grey literature reports with empirical findings on gendered social impacts of COVID-19 in the context of LMICs. **There is strong evidence of the disproportionate increase in unpaid domestic burdens for women relative to men.** Multi-country surveys conducted by United Nations across Asia, Asia-Pacific, and Europe, as well as several independent studies show that while domestic work increased for both men and women across contexts, the increase was significantly higher for women.[77-80]

Though there is limited evidence on how the pandemic has affected perpetration of violence against women, initial research suggests increases in domestic violence since the COVID-19 related lockdowns. Analysis of data from domestic violence and women's helpline centers in India,[81] Argentina,[82] and Peru[83] found significant increases in the number of domestic violence-related calls since the inception of the pandemic. A longitudinal survey with mothers in Bangladesh also found an increase in the self-reported prevalence of violence perpetrated by husbands.[37] Given the safety and privacy challenges associated with conducting in-person or telephonic interviews with women about violence, data from helpline centers may serve as a useful proxy for examining gender based violence in LMIC contexts where less is known about COVID-19's impact on violence against women and children, though other methods of assessing this phenomenon are urgently needed.

There is a paucity of studies on the gendered impacts of COVID-19 amongst children and young adults. Among assessed articles and reports, no peer-reviewed publications focused on gendered impacts for children and young adults. Several reports presented findings from qualitative research assessing the ways that COVID-19 has affected education and child marriage. Results highlight striking gender differences in access to education for vulnerable populations such as refugees in Bangladesh, with boys having more favorable school enrollment outcomes.[84] In this same population, however, girls and boys both report increases in time spent in domestic work, and thus a reduction in overall time spent on education. There were mixed findings on the impact of COVID-19 on child marriage. A multi-country qualitative study found that girls in Jordan and Gaza resisted marriage in the face of bans on large gatherings, including weddings.[85] In contrast, respondents in Ethiopia identified school closures and the absence of government officials within communities during the lockdown as contributors to increases in child marriages.

Research on several key areas of potential gendered impacts of COVID-19 remains entirely lacking. No reviewed articles or reports to date have assessed the way that the pandemic has affected menstrual hygiene and access to menstrual products, women's agency within the household, social support, access to information, and women's digital agency and access. Information is needed not only about the digital divide in general, but also on whether there is equal access to connectivity in households in a context where more people are home regularly. Information across all these areas is urgently needed to understand the impacts of COVID-19 on the lives of women and girls.

C. Economic Impacts

There is strong evidence from reports, peer-reviewed papers and working papers demonstrating the disproportionately negative economic impact of COVID-19 on women compared to men. Women had higher levels of job loss and pay reductions in Bangladesh, India and South Africa, as well as declining quarterly ILO estimates across numerous countries.[86-94] There is also a growing employment gap, with women doing less paid work than men in Zambia[95] and the Philippines;[96] this may be exacerbated by existing intra-household earnings inequalities.[97] While there is some COVID-related research on the distribution of unpaid work and care in higher income countries, there is an overall lack of such information from LMICs.

Evidence on gender differences in unemployment and income loss appear robust across multiple settings and populations; vulnerable women appear particularly impacted. Refugee women in Colombia, Ethiopia, Peru and Uganda had higher levels of employment in pandemic-impacted sectors such as food services and hospitality, and experienced more barriers in accessing social support and legal services. [98] Female garment and domestic workers in Ethiopia reported ongoing income reductions, as well as exacerbations in abusive working conditions.[99,100] COVID-19 has also amplified the risk of employment and income loss in groups such as adolescents in Bangladesh,[84], youth with HIV,[101] and commercial sex workers.[102] This loss of economic stability has resulted in **increased food insecurity** in female-headed households in Nigeria,[103] and among female garment workers in Ethiopia.[99]

The ability to work remotely is dependent on job type, and sex differentials across job types vary by country. Women in Tunisia were less likely to be employed in professions able to be performed remotely.[104] In contrast, more women than men in Pakistan worked in jobs able to pivot to remove work.[105] Men also report a higher level of concern than women regarding their ability to work or earn income during the pandemic across 16 countries in Asia, Africa, and Latin America.[106]

There are inconsistent findings on the economic impact of COVID-19 for female-headed businesses and households. Research from Pakistan suggests that female-run businesses were more likely to experience 100% decreases in business revenue than those run by men.[107] Evidence from rural Uganda shows no gender difference in economic outcomes when comparing female-headed households with male-headed households in Uganda, and greater relative increases in farm and enterprise labor.[108] There is need for more research to unpack the nuances of the gendered impact of COVID-19 on labor, business, enterprise, and entrepreneurship, particularly in the context of limited access to educational opportunities, and professional and vocational.

Existing gender gaps are exacerbating the implementation of social protection schemes to support women and girls during the pandemic. Women in Pakistan, the Philippines, Rwanda and Zambia were less likely to have access to cash transfers and emergency support funds due to existing gender gaps in digital and financial inclusion.[95,96,109,110] Moreover, qualitative studies from Bangladesh, Ethiopia, Gaza and Jordan found that many adolescents had no access to any social protection schemes.[85]

D. Women's Leadership

Women's voices and women's leadership are likely important to help support gender-inclusive responses from governments, in terms of health and economics. Our review identified only two papers focused on women's leadership during the pandemic, but they supplement each other's findings and demonstrate that nations led by women were more likely to create a more rapid and impactful response to curbing the spread of the pandemic.[111,112] These findings suggest the need for more research on women leaders and the response to the pandemic, as well as gender and leadership style in addressing the pandemic. This is true not only at the national level, but also at subnational, local and community levels.

E. Women's Collectives

Although women's collectives was one of the key thematic areas of interest in our review, **we have not identified a single eligible article on this topic.** More research is needed on the role of women's collectives to help meet health and economic needs of women and families during the pandemic, given evidence of the role of women's groups in this regard and prior research documenting the importance of women's groups in crisis.[113]

Conclusion. The current report, which includes findings for our review between July and September, yields much information for us to act upon, and to justify the need for ongoing focus on issues of gender and COVID-19 as related to health, economics and social impacts. Some results seem consistent across multiple contexts, including women having lower COVID-19-related mental health than men, barriers to accessing key sexual, reproductive and maternal health services, increases in unpaid work and care, increases in job losses and unemployment relative to men, and early suggestions of increases in domestic violence. There are clear gaps in the evidence, both in topics (women's leadership, women's collectives, gendered social impacts such as menstrual hygiene, household agency and access to resources, social support program access, utilization and outcomes, digital access and literacy, gender-based discrimination and abuses, etc.) and methodologies (longitudinal designs to improve our understanding of causality and mechanisms). Addressing these gaps comprehensively, and with an intersectional lens, is necessary to understand the full breadth of impact of COVID-19 on the lives of women and girls around the world.

We must collect and analyze these data, but most importantly, we must use the generated evidence to advance gender-inclusive to gender-transformative approaches to addressing the pandemic. As described above, current efforts are gender regressive and may inadvertently be compromising women and girls while addressing pandemic needs. Gender measures, gender data, and gender analysis are all needed to build stronger evidence-based policies and programs that can address the pandemic while still supporting gender equality and empowerment.

Please visit the EMERGE- Gender and COVID-19 webpage for survey-ready, COVID-19-related gender measures and modules. Register at the EMERGE website to register and receive updates on new gender equality and empowerment measures.

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Appendix A. Review search terms, by thematic area of focus

Thematic area	Search terms
Women and girls' health	(covid OR coronavirus OR SARS-CoV-2) AND (gender OR women OR woman) AND (maternal OR pregnant OR birth OR antenatal OR reproductive OR sexual OR "family planning" OR psychological OR mental OR anxiety OR stress OR menstrual OR "health worker" Or nurse OR midwife OR knowledge OR information)
Gender norms and gendered social outcomes	(covid OR coronavirus OR SARS-CoV-2) AND (gender OR women OR woman) AND (freedom OR coercion OR agency OR empower OR marriage OR violence OR access OR media OR unpaid OR domestic OR household OR trafficking OR exploitation OR "digital inclusion" OR "gender norms" OR "gender roles" OR "child care")
Economic impacts	(covid OR coronavirus OR SARS-CoV-2) AND (gender OR women OR woman) AND (collective OR economy OR "financial inclusion" OR money OR "food insecurity" OR loan OR borrow OR asset OR bank OR saving OR poverty OR market OR "government scheme" OR "financial autonomy" OR enterprise OR business OR "informal work")
Women's leadership	(covid OR coronavirus OR SARS-CoV-2) AND (gender OR women OR woman) AND (leader OR manager OR supervisor OR elected)
Women's collectives	(covid OR coronavirus OR SARS-CoV-2) AND (gender OR women OR woman) AND (colective OR "women's group" OR "women's collective" OR "participatory group")