



JANUARY 25, 2021

# COVID-19 and Gender Research in LMICs: October-December 2020 Quarterly Review Report



**Contents**

Rationale.....	2
Highlights.....	2
Methods.....	2
Review summary.....	3
A. Women and Girls’ Health.....	5
B. Gender Norms and Gendered Social Impacts.....	7
C. Economic Impacts.....	8
D. Women’s Leadership.....	9
E. Women’s Collectives.....	9
Conclusion.....	9
References.....	11
Appendix A.....	20
Appendix B.....	21

**Rationale.** The COVID-19 pandemic continues to disproportionately impact women and girls across the world, with indications that some progress made towards achieving gender equality over the past few decades may be slowed, or even reversed. As vaccines begin to be deployed across multiple (largely high-income) countries, and with novel viral strains emerging more regularly, it is more important than ever to understand the gendered impacts of the pandemic, particularly for low- and middle -income countries (LMIC), to ensure a gender-intentional and evidence-based response.

In October 2020, [EMERGE synthesized findings from over 160 articles](#) published on gender and COVID-19 for LMICs between July-September 2020. This synthesis comes from an ongoing review of peer reviewed as well as grey literature, launched in June 2020 (including studies dating back to February 2020). The review assesses research focusing on one or more 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*

In our *July-September 2020 Quarterly Review Report*, the majority of peer-reviewed literature from LMICs focused on mental health outcomes. Evidence pointed to women's greater risk, relative to men, of adverse mental health such as anxiety and depressive symptoms during the COVID-19 pandemic. Women experienced barriers to accessing health services, and increases in domestic and unpaid work, unemployment, and income losses. Our review, however, identified only two papers on women's leadership, and a complete lack of research on women's collectives. Additionally, there was a dearth of methodologically robust studies using longitudinal or experimental designs able to establish causal relationships between COVID-19 and gendered outcomes.

There has been an ongoing large volume and high frequency of publications subsequent to our first Quarterly Review Report in October 2020. The current report, the second in this quarterly series, synthesizes over 300 articles (peer-reviewed, working papers, pre-prints, and grey literature), published between October and December 2020.

**Methods.** We carry out a weekly review of research published on gender and COVID-19 across the five thematic areas noted above using six databases: EconLit, NBER, PsycInfo, Pubmed, RePEc and Web of Science; findings are synthesized bi-weekly. Inclusion criteria for eligibility are: 1) peer-reviewed papers, pre-prints and working papers

#### HIGHLIGHTS

- Peer-reviewed literature on COVID-19 and gender continues to focus on women and girls' health, particularly mental health.
- Pandemic-related restrictions and response have created barriers in accessing sexual, reproductive and maternal health services in many settings; tele-health and home-based services may help mitigate these obstacles.
- There is growing evidence of increased domestic violence during the pandemic, though data from LMIC contexts with pre-pandemic comparisons are limited.
- Women are bearing disproportionate economic effects of the pandemic; this burden is heightened for displaced and migrant women. Female enterprise owners appear to face more pandemic-related challenges than male counterparts in many contexts.
- Women's leadership and women's collectives in relation to COVID-19 are highly understudied areas.
- Most identified research was cross-sectional and observational, thus unable to causally link COVID-19 and women and girls' health and well-being.

meeting pre-defined search criteria (Appendix A) 2) articles must contain empirical analyses and complete information on the methodology adopted for the study<sup>1</sup> and 3) articles must include findings on the gendered aspects of social, economic and health impacts of the pandemic 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. Papers reporting biological or biomedical outcomes such as case studies on vertical transmission of COVID-19, or studies examining medical outcomes of COVID-19 for pregnant women, have been included in our review but not scored for scientific quality in this Quarterly Review Report.

In addition to the weekly review of published peer-reviewed, working papers and pre-print articles (hereafter referred to as “articles”), we also carry out a monthly review of key websites (Appendix B), for grey literature 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. Reports and briefs from website reviews are not scored for scientific quality.

This report presents findings from the weekly research paper reviews, and the monthly website reviews carried out between October and December 2020. **A total of 1,612 peer-reviewed, working papers, and pre-print articles, and 84 website reports and briefs were identified during this time-period based on our search criterion.** Of these, 315 articles (20%) and 15 website reports and briefs (18%) respectively met inclusion criteria and were eligible for further review.

**Review summary.** Of the 315 eligible articles, most were peer-reviewed literature (93%; 294 articles), with eight working papers and 13 pre-prints. Since the inception of our review, the majority of eligible peer-reviewed literature has focused on women and girls’ health, with a notable increase in the number of articles published since July 2020 (Figure 1). Peer-reviewed studies on gender norms and gendered social outcomes, and economic impacts of the pandemic have remained consistently low.

In the October-December 2020 period, peer-reviewed literature as well as working papers and pre-prints primarily covered aspects of women and girls’ health outcomes (270 of 294 peer-reviewed articles; 14 of 21 working papers and pre-prints) (Figure 2). Working papers and pre-prints had relatively higher proportions of articles focused on gendered social outcomes and economic impacts of the pandemic. Our review of websites for reports and briefs also found a substantial proportion of reports and briefs assessing economic impacts as well as gender norms and gendered social impacts. We identified only one peer-reviewed article on women’s leadership, and none on women’s collectives.

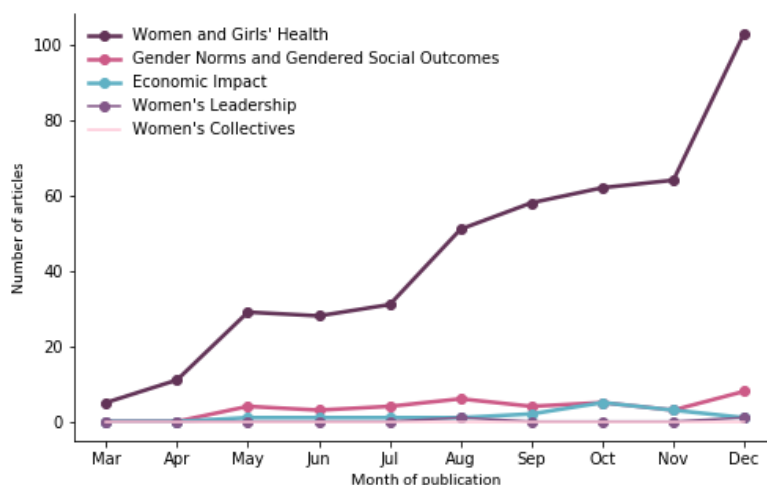


Figure 1: Number of eligible peer-reviewed articles by month of publication

Notes: We anticipate finding more articles published in December 2020 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.

<sup>1</sup> 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

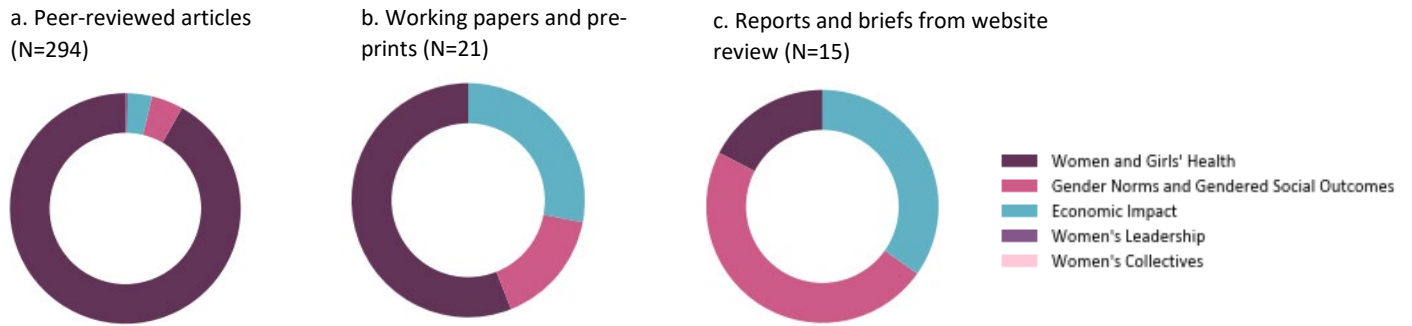


Figure 2: Distribution of articles by type of article and thematic areas (reviewed from October–December 2020)

Consistent with our prior round of quarterly review, **China and Turkey were the most represented LMIC research settings within peer-reviewed articles, working papers and pre-prints** (68 and 43 articles, respectively) (Figure 3). This was followed by studies conducted in India, Iran, and Brazil (25, 21 and 17 studies, respectively). Representation from African countries was lower, with 13 studies from Ethiopia followed by eight studies from Nigeria. Other geographies with more than one study conducted within their country boundary included Pakistan (12 studies), Bangladesh (11 studies), Mexico (seven studies), Peru (six studies), Argentina (five studies), Jordan (five studies), Nepal (four studies), Colombia, Ecuador, Egypt, Indonesia, Lebanon, Malaysia, Philippines, Rwanda, Vietnam, and West Bank and Gaza Strip (two studies each).

Authorship from LMICs was well-represented in research articles; 254 peer-reviewed articles (86%) and 14 working papers or pre-print articles (66%) had either first and/or senior authors affiliated with an institution in a LMIC or were authored by an LMIC-based institution.

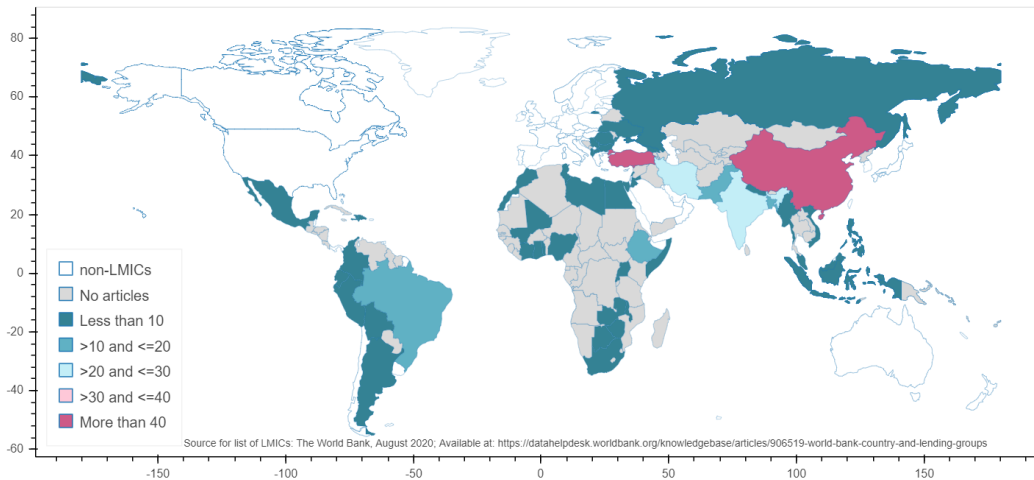


Figure 3: Number of peer-reviewed, working papers, and pre-print articles, by country (reviewed from October–December 2020)

Over the past six months, there have generally been more and more papers being published with strong scientific quality (based on our review of study sampling, measurement instruments, and analysis; Figure 4). In the October–December period, approximately half of the articles assessed for scientific quality received strong scores (25, 57, and 45 articles for October, November and December, respectively).

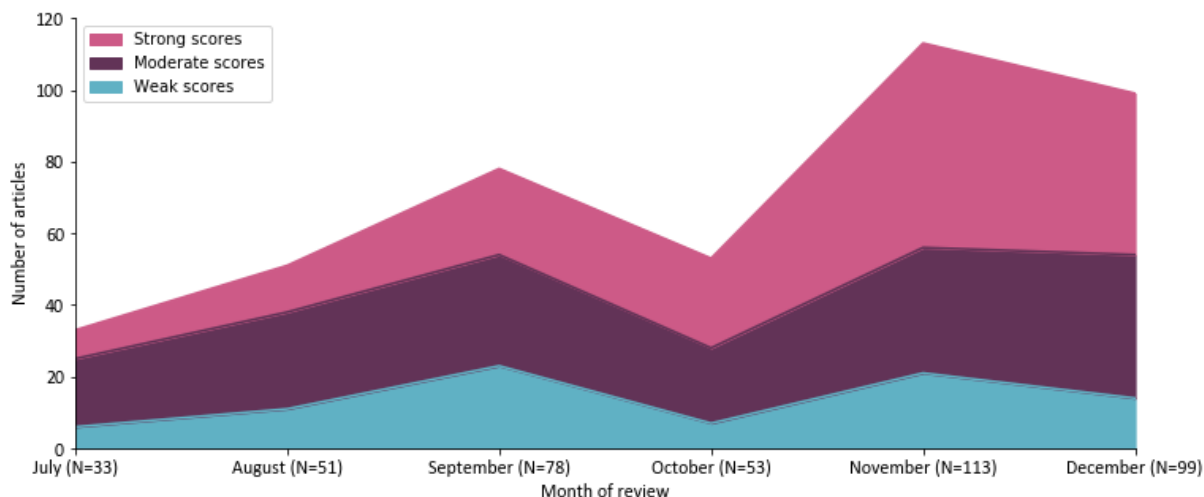


Figure 4: Number of peer-reviewed, working papers, and pre-print articles, by scores received for scientific quality, over month of review (reviewed from October-December 2020)

Most reviewed articles focused on general population groups in their target areas (95 studies; 30%). Thirty-five studies examined outcomes for health care workers (11%), and 19 studies included students and teachers as their samples of interest (6%). Pregnant women, mothers, adolescents, elderly population, female workers, transgender persons, COVID-19 patients, and individuals with other diseases, were some of the other population sub-groups covered by smaller numbers of the reviewed articles.

### A. Women and Girls’ Health

**Evidence indicates men to have higher risk of COVID-19 disease severity and mortality relative to women, across multiple geographies.**<sup>1-6</sup> A meta-analysis of 41 studies covering over 5,000 COVID-19 patients found men to be around twice as likely to develop severe cases of COVID-19 infection.<sup>1</sup> A review of COVID-19 infections among health workers found that women and nurses (the majority of whom are female) had a higher likelihood of being infected, but that men and doctors (the majority of whom are male) had a higher likelihood of dying from COVID-19.<sup>4</sup> While there have been some exceptions to these findings, they tend to focus on specific populations and contexts, including a study among COVID-19 patients in an economically marginalized geography in Brazil and a small sample study with patients from one hospital in China, both of which found no significant sex differences in COVID-19 disease severity or mortality.<sup>7,8</sup> Population-based studies examining sex differences in COVID-19 prevalence were notably few,<sup>9,10</sup> as most studies focused on hospital data from COVID-19 patients assessing COVID-19 disease severity and mortality. This is unsurprising given the lack of population-based testing and disease surveillance in most settings. A repeated cross-sectional study in over 100 cities in Brazil found no significant difference in COVID-19 prevalence by sex.<sup>9</sup>

COVID-19-related health outcomes among pregnant women studied in multiple hospital-based and case studies show mixed findings in terms of maternal complications, pre-term births and cesarean section.<sup>11-18</sup> Research from surveillance data in Brazil suggests that existing socioeconomic inequities heighten the risk of adverse COVID-19-related peripartum outcomes,<sup>11</sup> indicating the importance of considering social and economic characteristics in addition to women’s physical and biological health status when researching these outcomes. There is an ongoing tension in identifying the most effective, ethical and efficient ways to develop optimal responses to treating pregnant women infected with COVID-19, as highlighted by a recent review of COVID-19 treatment studies indicating that 74%-80% of studies opted to exclude pregnant women from their study populations.<sup>19</sup>

**Overall, evidence suggests significant gender differences in knowledge and behaviors related to COVID-19.** Most reviewed research indicates higher COVID-19-related knowledge, as well as adherence to protective behaviors such as mask wearing and handwashing, among women than men in multiple settings including Iran, China, Rwanda, Democratic Republic of Congo, Bangladesh, and Brazil.<sup>20-30</sup> These findings were not uniform, however. Research on Chinese adults across 30 provinces found no significant difference in knowledge and practices related to COVID-19 by gender,<sup>31</sup> while another study from China found men to be more likely than women to wear masks.<sup>32</sup> Among young adults in India, and health workers in Nepal, men were more likely to have higher levels of COVID-19 knowledge than women.<sup>33,34</sup> It is highly likely that social, political, and cultural factors influence these outcomes, particularly preventive behaviors such as mask wearing and social distancing. As such, COVID-19 knowledge and practices can be expected to be context- and population-specific. Additionally, no reviewed studies have developed or used standard, validated measure for knowledge and practices in the context of COVID-19, suggesting that measurement variance may contribute to some of the identified variations.

**Call- and text-based messaging campaigns can be effective in improving knowledge levels among women,** as shown by an experimental study in Bangladesh and India. Messaging was more effective in increasing awareness among women than among men, though the gender-based treatment effects were stronger in Bangladesh than in India. The experiment also found that women who were concerned about family members' health complied significantly more with COVID-19 rules, and women concerned about household finances complied less with COVID-19 regulations.<sup>35</sup>

**Consistent with our previous Quarterly Review, we continue to observe strong evidence from most geographies that women's mental health has been worse than men's during the COVID-19 pandemic.** Over 80% of reviewed studies on mental health (82 of 98 articles) indicated that women had higher risk of anxiety, depression, psychological distress, post-traumatic symptoms, and suicidal thoughts, in comparison to men.<sup>36-118</sup> This body of research spans a broad range of geographies, including Argentina, Bangladesh, Brazil, Bulgaria, China, Ecuador, Egypt, India, Iran, Jordan, Lebanon, Mali, Mexico, Nigeria, Philippines, Russia, Turkey, Vietnam, and West Bank and Gaza. A meta-analysis of mental health outcomes during the pandemic examining 68 studies across 19 countries found that women had higher odds of anxiety as well as depressive symptoms.<sup>91</sup> However, as with our July-September 2020 Quarterly Report review, the predominant use of cross-sectional surveys in the reviewed studies hinders our ability to make inferences about temporal changes in gender differences during the COVID-19 pandemic. Among the few studies that followed more robust designs, longitudinal studies from India and Brazil confirm our prior findings that women have higher risk of stress and anxiety relative to men due to the pandemic.<sup>48,60</sup>

Men and women also differ with regard to coping strategies for the psychological distress they have been experiencing during the pandemic. Female students in Malaysia engaged more in more interaction-based coping strategies, which included support seeking, whereas male students relied on mental disengagement and acceptance to cope with stress during COVID-19.<sup>119</sup> Relatedly, among people living with HIV in Argentina, women benefited more from resilient coping compared to men, in terms of its ability to mitigate the relationship between economic hardship and perceived stress.<sup>120</sup> This highlights the need for targeted, gender-intentional interventions to support individuals in dealing with adverse mental health outcomes during the pandemic.

Many mental health related studies also focused on two specific populations: healthcare workers, and pregnant women. **Female healthcare workers are experiencing higher levels of anxiety, helplessness, emotional exhaustion, depression and insomnia than male counterparts in multiple countries across the world.**<sup>37,41,51,55,61,69,71,83,85,88,97</sup> **The pandemic has also compromised pregnant women's mental health,** including elevated levels of fear, anxiety and depression, as noted by studies from China, Turkey, Iran, Argentina, India, and

Ethiopia.<sup>78,101,108,121-132</sup> Social support for pregnant women has, however, been shown to reduce fear of COVID-19, anxiety, and stress during the pandemic in China and Ethiopia.<sup>121,133</sup> Utilizing social media communication channels for antenatal health care information can also improve pregnant women's experiences of perceived stress, anxiety, and depression, at a higher rate than texting or hospital hotlines during the COVID-19 pandemic, as noted by research from China.<sup>134</sup>

**The COVID-19 pandemic has created barriers in accessing health services, particularly sexual and reproductive health care, for women and girls.** An ecological modelling study of country-level contraceptive method mix, unmet need, and potential declines in contraceptive use during the pandemic found Latin America and Sub-Saharan Africa to be the regions at greatest risk of reductions in contraceptive use. This was because of a higher reliance on short-term contraceptive methods which have faced more COVID-19-related disruptions than permanent methods such as sterilization.<sup>135</sup> These findings are echoed by a global survey with researchers, policy makers, and health care providers, which highlighted a striking reduction in access to contraception as well as abortion services across different countries, as sexual and reproductive health services were deprioritized in favor of pandemic response and COVID-19-related services.<sup>136</sup> **One potential solution to mitigating challenges in accessing clinical abortion services may be improving the access to home-based medical abortions,** as advocated by a recent systematic review which found no difference in the effectiveness of home-based vs. clinic-based medical abortions.<sup>137</sup>

**Evidence from India, China, Turkey, Jordan, and Peru indicates reductions in access to antenatal care services for pregnant women due to lockdown restrictions.**<sup>138-141</sup> An analysis of deliveries in a single hospital in India found a significant increase in the stillbirth rate during the pandemic when compared to deliveries during the same months in 2019; among the stillbirth cases, 31% reported delay in provision of care in 2020, whereas only 11% reported delays in 2019.<sup>142</sup> Tele-consultations for pregnant women could prove a useful intervention for pregnant women in this situation, as noted by a cross-sectional study in China which found high levels of patient satisfaction with a free online communication platform that allowed pregnant women to consult professional obstetricians.<sup>143</sup>

**The challenges in accessing non-COVID-19-related health services are disproportionately higher for marginalized groups, including transgender and non-binary individuals.** A multi-country survey with transgender and non-binary participants (nearly half of whom were from Turkey or Thailand) noted decreased access to gender-affirming resources such as hormone therapy, surgical aftercare materials, cosmetic supplies and services, mental health counseling and therapy services, and body modifiers.<sup>144</sup> Mental health counseling and therapy was the most commonly cited resource affected (around 43%), with a greater proportion of transmasculine individuals reporting reduced access to counseling than non-binary and transfeminine individuals.

## B. Gender Norms and Gendered Social Impacts

The current Quarterly Review identified 29 articles on gendered social impacts of the pandemic, 11 of which were non-academic reports and briefs from our monthly website review. **There is growing evidence of increased domestic violence during the pandemic.** While our previous Quarterly Review Report focused on studies that analyzed data from domestic violence and women's helpline centers in different countries (India, Peru, and Argentina), there are now studies emerging that have been able to collect primary data from women. Reports from multi-country surveys carried out by UN Women,<sup>145,146</sup> as well as small scale surveys with women in Tunisia,<sup>147</sup> and social worker reports in Zimbabwe,<sup>148</sup> have indicated that more women are experiencing violence within their homes during the COVID-19 related lockdowns. **However, we continue to observe a lack of longitudinal studies, or studies comparing incidences of violence before and during the pandemic for most LMIC contexts.**<sup>149-151</sup> A recent synthesis of global research related to violence against women and children (VAWC)



during the pandemic has also noted the relatively limited amount of evidence from LMICs.<sup>152</sup> Studies are beginning to adopt more innovative methodologies to study violence against women, including a global analysis of Tweets related to family violence, which found mentions of rising rates of domestic violence as a consequence of COVID-19 to be the most common family violence-related Tweets.<sup>153</sup>

Consistent with our previous Quarterly Review Report, we find **strong evidence of the disproportionate increase in unpaid domestic burdens for women relative to men across multiple geographies in Asia-Pacific and Africa.**<sup>154-</sup>

<sup>156</sup> A review of studies published prior to the pandemic, on impacts of working from home found women to be experiencing higher rates of work exhaustion when they work from home; women reported greater work-family conflict due to difficulty in detaching from work.<sup>157</sup> While the burden of domestic work has increased, women's professional achievements may be reducing during the pandemic, particularly in academia. An analysis of journal submissions to Elsevier between February and May 2018-2020 found that women submitted significantly fewer manuscripts than men during the pandemic, especially in health & medicine journals, and if women were in more advanced career stages.<sup>158</sup>

**We continue to observe a limited number of studies on the gendered impacts of COVID-19 amongst children and young adults.** Only one peer-reviewed study for this population sub-group was identified in our review, which was a qualitative analysis that noted an increase in bodily integrity risks such as increased exposure to intra-household violence, mixed exposure to child marriage risks, and elevated community-level violence during the pandemic for young girls in Ethiopia, Côte d'Ivoire and Lebanon.<sup>159</sup> Grey literature in the form of policy briefs and reports also points to stark gender differences for youths in LMICs, often reflective of existing gender norms. A telephone survey with families in Pakistan found no significant differences between girls and boys with regards to educational activities during the lockdown, but that girls were more likely to be carrying out household chores than boys.<sup>160</sup> Gender differences have also been reported by adolescents in Jordan in terms of freedom of movement, with female adolescents being more likely than male adolescents to be asked to stay at home without visitors.<sup>161</sup> In the same survey, female adolescents also reported increasing challenges in obtaining female menstrual hygiene products during the pandemic.

**As with the previous Quarterly Review Report, the current round of review did not identify any articles on key areas of gendered impacts of the pandemic,** such as women's agency within the household, social support, access to information, and women's digital agency. A more comprehensive understanding on how COVID-19 is affecting these areas is necessary to inform effective policy action and mitigation strategies.

### C. Economic Impacts

**There is strong evidence from peer-reviewed as well as grey literature indicating the disproportionate economic impacts of the pandemic for women, relative to men.** Analysis of data from the Colombian labor market during COVID-19 found that overall, wages fell significantly more for women compared to men; the gender gap for employment rate increased from 8.0 percentage points pre-COVID-19 to 9.5 percentage points post COVID-19.<sup>162</sup> Women in Colombia also experienced lower rates of labor market participation after the inception of the COVID-19 pandemic, and had a higher likelihood of dedicating most of their time to domestic work. **Displaced women appear to be particularly vulnerable the pandemic,** with research from Colombia showing that displaced Venezuelan women are at higher risk of adverse economic impacts, relative to Colombian women; displaced women constitute a majority of the workforce in highly impacted sectors such as informal work and wage work.<sup>163</sup> Similarly, female garment factory workers in Ethiopia reported loss of income, food insecurity, and a lack of funds for migration during the pandemic.<sup>164</sup>

**The pandemic has impacted self-employed women** in Zambia,<sup>165</sup> Bangladesh,<sup>166</sup> China<sup>167</sup>, Malawi and Liberia,<sup>168</sup> causing significant income losses and challenges in acquiring the necessary monetary and other supplies for running their businesses. A qualitative study with female small-business owners in Bangladesh reported that an increase in household work, lack of money, and difficulty in mobility posed key challenges during the pandemic.<sup>166</sup> In China, female farm owners experienced more shocks to resource allocations, and were more vulnerable to long-term pandemic impacts, than male farm owners.<sup>167</sup>

**Findings with regards to economic impacts by sex of the head of the household are mixed.** A microsimulation of potential income losses at the household level in Argentina, Brazil, and Mexico, based on the economic sector in which household members worked, found no significant difference in poverty related impacts of COVID-19 by sex of the head of the household.<sup>169</sup> In contrast, in Ethiopia, Malawi, Nigeria, and Uganda, female-headed households experienced worse economic impacts such as loss of income, and food insecurity.<sup>170</sup> Individual agency within the family may also impact economic outcomes; In Indonesia, households where the wife was involved in decision-making on savings had significantly higher likelihood of savings, thereby increasing the potential resilience of households to shocks such as the COVID-19 pandemic.<sup>171</sup>

**There is evidence of variable implementation of social protection programs in Latin American countries, including Ecuador, Mexico, Brazil, and Argentina.**<sup>172</sup> In Ecuador, 88% of the recipients of a cash transfer program during the pandemic were women, while in Argentina, 56% of the beneficiaries of an emergency family income program were women. More information on targeting and selection procedure, actual beneficiaries, and the short-term impacts of the new cash transfers across countries, will enable a better understanding of effects of such programs on vulnerable groups including women.

#### D. Women's Leadership

**The single paper on women's leadership reviewed between October and December 2020 finds no significant differences in COVID-19 fatality rates between countries led by men and countries led by women;**<sup>173</sup> these findings differ from what has been observed in prior studies.<sup>174,175</sup> This divergent finding may be attributable to several methodological differences across studies, including the conceptualization of the term 'leader', as well as variations in the COVID-19-related outcomes examined in these studies (number of cases, death rate). The current study identifies a country as being women-led if a woman holds executive authority and wields real power (commands a military), regardless of whether she is head of state or head of government. The study also notes that countries with stronger feminine cultures, less power distance, long-term orientation, and collectivism have significantly fewer COVID-19 related deaths. These findings point to the strong influence of cultural dimensions with regard to COVID-19 performance of countries. The contrast with previous studies underscores the need for more research on how to define women's leadership, as well as the role of gender and leadership style in addressing the pandemic.

#### E. Women's Collectives

Between July and December 2020, **we have not identified any eligible article on women's collectives.** Women's collectives and women's groups are an important platform for providing social support, as well as economic, and health benefits to women in low-resource settings. As such, it is essential to examine the role played by these groups in alleviating the gendered impacts of the pandemic.

### Conclusion

The current report covers articles identified during the review period October-December 2020. Encouragingly, this three-month window saw both a marked increase in the number of eligible publications relating to COVID-19 and gender (over 120 more than the July-September Quarterly Review Report), as well as improvements in the

scientific quality of this research (in terms of sampling, measurement instruments, and analysis). Overall, the findings from this round reinforce our understanding of gendered impacts of the pandemic from the previous round of review. Mental health continues to be the most studied topic, with strong and relatively consistent findings across different geographies highlighting the disproportionate prevalence of psychological stress among women relative to men, and among high-risk populations such as health care workers. Relative to the last Quarterly Review Report, we note a higher number of studies related to COVID-19 knowledge and adherence to preventive behaviors, as well as a small increase in research on access to health care and gendered impacts of the pandemic.

Studies from multiple LMIC settings indicate interruptions in the provision of, and/or barriers in accessing sexual, reproductive, and maternal health services. These barriers are the result of many factors, including the reallocation of personnel and resources to basic COVID-19 response activities, as well as restrictions on movement during protracted lockdowns. Research is increasingly indicating that alternatives to traditional service delivery, including telemedicine and home-based health care, as well as mobile phone-based health education campaigns, may be timely and effective means of mitigating interruptions in service delivery and access moving forward. Key to this approach, however, is thorough consideration of the digital divide, to avoid further marginalizing underserved populations.

Women's economic activity continues to be hampered more than men's, with additional vulnerability highlighted for displaced and migrant populations, as well as female enterprise owners, in this round of review. As previously noted, this hindrance is experienced in tandem with disproportionate increases in unpaid domestic work for women and girls. There has been some research on the social protection programs implemented to mitigate some of this damage, but the targeting and implementation of these programs, as well as the benefits achieved therefrom, are inadequately understood.

There remain clear gaps in research designed to improve our understanding of the ways that the COVID-19 pandemic has, is, and will continue to, affect the health and well-being of women and girls in LMICs worldwide. We have limited, and in some cases no research, to explicate the relationship between the pandemic and women's collectives, women's leadership, social protection programs, menstrual health, adolescent health, and household agency and family dynamics. There is a great need for more robust research, with longitudinal study designs or advanced analytical techniques that can allow for interpretations regarding causal relationship of the outcomes with the pandemic, to move beyond the cross-sectional snapshots on which most of this research is reliant. Additionally, we lack appropriate baseline data for some of the gendered outcomes important to understanding how COVID-19 is affecting women and girls, inhibiting our understanding of the changes experienced over the past year. Finally, while there are measures in development or recently released for some gendered aspects of COVID-19, particularly in the area of mental health, many aspects of women's lives affected by this pandemic (e.g. women's leadership, agency, participation in collectives) do not have field-standard measures that would enable comparison across settings.

Addressing these measurement, methodological, and data gaps, and continuing to expand our understanding of how COVID-19 is affecting the lives of women and girls around the world, is critical to a robust pandemic response. A broader and deeper evidence base is urgently needed to ensure that programs and policies designed to mitigate the adverse effects of this pandemic are designed, implemented and evaluated with gender-intentional lenses.

*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.*

## References

1. Wu X, Liu L, Jiao J, Yang L, Zhu B, Li X. Characterisation of clinical, laboratory and imaging factors related to mild vs. severe covid-19 infection: a systematic review and meta-analysis. *Ann Med* 2020; **52**(7): 334-44.
2. Jahan N, Rubeshkumar P, Karuppiah M, et al. Entry and initial spread of COVID-19 in India: Epidemiological analysis of media surveillance data, India, 2020. *Clinical epidemiology and global health* 2020; **9**: 347-54.
3. Yanez ND, Weiss NS, Romand J-A, Treggiari MM. COVID-19 mortality risk for older men and women. *BMC Public Health* 2020; **20**(1): 1-7.
4. Bandyopadhyay S, Baticulon RE, Kadhum M, et al. Infection and mortality of healthcare workers worldwide from COVID-19: a systematic review. *BMJ global health* 2020; **5**(12): e003097.
5. Nascimento IJBd, Pinto LR, Fernandes VA, et al. Clinical characteristics and outcomes among Brazilian patients with severe acute respiratory syndrome coronavirus 2 infection: an observational retrospective study. *Sao Paulo Medical Journal* 2020; (AHEAD).
6. Murillo-Zamora E, Hernandez-Suarez CM. Survival in adult inpatients with COVID-19. *medRxiv* 2020.
7. Li D, Liu C, Liu J, Hu J, Yang Y, Zhou Y. Analysis of Risk Factors for 24 Patients With COVID-19 Developing From Moderate to Severe Condition. *Frontiers in cellular and infection microbiology* 2020; **10**: 532.
8. Martins-Filho PR, de Souza Araújo AA, Pereira LX, et al. Factors Associated with Mortality among Hospitalized Patients with COVID-19: A Retrospective Cohort Study. *The American journal of tropical medicine and hygiene* 2020; **104**(1): 103-5.
9. Hallal PC, Hartwig FP, Horta BL, et al. SARS-CoV-2 antibody prevalence in Brazil: results from two successive nationwide serological household surveys. *The Lancet Global Health* 2020; **8**(11): e1390-e8.
10. Borges LP, Martins AF, de Melo MS, et al. Seroprevalence of SARS-CoV-2 IgM and IgG antibodies in an asymptomatic population in Sergipe, Brazil. *Rev Panam Salud Publica* 2020; **44**.
11. Menezes MO, Takemoto MLS, Nakamura-Pereira M, et al. Risk factors for adverse outcomes among pregnant and postpartum women with acute respiratory distress syndrome due to COVID-19 in Brazil. *Int J Gynaecol Obstet* 2020; **151**(3): 415-23.
12. Alay I, Yildiz S, Kaya C, et al. The clinical findings and outcomes of symptomatic pregnant women diagnosed with or suspected of having coronavirus disease 2019 in a tertiary pandemic hospital in Istanbul, Turkey. *J Obstet Gynaecol Res* 2020.
13. Zhou J, Wang Y, Zhao J, et al. The metabolic and immunological characteristics of pregnant women with COVID-19 and their neonates. *Eur J Clin Microbiol Infect Dis* 2020: 1-10.
14. Zhang J, Zhang Y, Ma Y, et al. The associated factors of cesarean section during COVID-19 pandemic: a cross-sectional study in nine cities of China. *Environmental health and preventive medicine* 2020; **25**(1): 60.
15. Yang R, Mei H, Zheng T, et al. Pregnant women with COVID-19 and risk of adverse birth outcomes and maternal-fetal vertical transmission: a population-based cohort study in Wuhan, China. *BMC Med* 2020; **18**(1): 330.
16. Yazihan N, Tanacan A, Erol SA, et al. Comparison of VEGF-A values between pregnant women with COVID-19 and healthy pregnancies and its association with composite adverse outcomes. *J Med Virol* 2020.
17. Yee J, Kim W, Han JM, et al. Clinical manifestations and perinatal outcomes of pregnant women with COVID-19: a systematic review and meta-analysis. *Sci Rep* 2020; **10**(1): 18126.
18. Abou Ghayda R, Li H, Lee KH, et al. COVID-19 and Adverse Pregnancy Outcome: A Systematic Review of 104 Cases. *J Clin Med* 2020; **9**(11).
19. Taylor MM, Kobeissi L, Kim C, et al. Inclusion of pregnant women in COVID-19 treatment trials: a review and global call to action. *The Lancet Global health* 2020.
20. Okafor C, Madu C, Ajaero C, Ajaero H, Nzekwe C, Nebo L. Perception of COVID-19 Pandemic among Residents of a High Density-Low Income Area in Enugu City, Nigeria. *Technium Soc Sci J* 2020; **11**: 575.
21. Carsi Kuhangana T, Kamanda Mbayo C, Pyana Kitenge J, et al. COVID-19 Pandemic: Knowledge and Attitudes in Public Markets in the Former Katanga Province of the Democratic Republic of Congo. *International Journal of Environmental Research and Public Health* 2020; **17**(20): 7441.

22. Iradukunda PG, Pierre G, Muhozi V, Denhere K, Dzinamarira T. Knowledge, Attitude, and Practice Towards COVID-19 Among People Living with HIV/AIDS in Kigali, Rwanda. *J Community Health* 2020; 1-6.
23. Mohammadpour M, Ghorbani V, Khoramnia S, Ahmadi SM, Ghvami M, Maleki M. Anxiety, Self-Compassion, Gender Differences and COVID-19: Predicting Self-Care Behaviors and Fear of COVID-19 Based on Anxiety and Self-Compassion with an Emphasis on Gender Differences. *Iranian Journal of Psychiatry* 2020; **15**(3): 213.
24. Ning L, Niu J, Bi X, et al. The impacts of knowledge, risk perception, emotion and information on citizens' protective behaviors during the outbreak of COVID-19: a cross-sectional study in China. *BMC public health* 2020; **20**(1): 1-12.
25. Batista SR, Souza ASSd, Nogueira J, et al. Protective behaviors for COVID-19 among Brazilian adults and elderly living with multimorbidity: the ELSI-COVID-19 initiative. *Cad Saude Publica* 2020; **36**: e00196120.
26. Bekele F, Sheleme T, Fekadu G, Bekele K. Patterns and associated factors of COVID-19 knowledge, attitude, and practice among general population and health care workers: A systematic review. *SAGE open medicine* 2020; **8**: 2050312120970721.
27. Ahmed I, Hasan M, Akter R, et al. Behavioral preventive measures and the use of medicines and herbal products among the public in response to Covid-19 in Bangladesh: A cross-sectional study. *PLoS ONE* 2020; **15**(12): e0243706.
28. Guo Y, Qin W, Wang Z, Yang F. Factors influencing social distancing to prevent the community spread of COVID-19 among Chinese adults. *Prev Med* 2020; **143**: 106385.
29. Iorfa SK, Ottu IFA, Oguntayo R, et al. COVID-19 knowledge, risk perception and precautionary behaviour among Nigerians: A moderated mediation approach. *medRxiv* 2020.
30. Tan M, Wang Y, Luo L, Hu J. How the public used face masks in China during the coronavirus disease pandemic: A survey study. *Int J Nurs Stud* 2020; **115**: 103853.
31. Gao H, Hu R, Yin L, et al. Knowledge, attitudes and practices of the Chinese public with respect to coronavirus disease (COVID-19): an online cross-sectional survey. *BMC public health* 2020; **20**(1): 1-8.
32. Zhou M, Long P, Kong N, Campy KS. Characterizing Wuhan residents' mask-wearing intention at early stages of the COVID-19 pandemic. *Patient Educ Couns* 2020.
33. Pinchoff J, Santhya KG, White C, Rampal S, Acharya R, Ngo TD. Gender specific differences in COVID-19 knowledge, behavior and health effects among adolescents and young adults in Uttar Pradesh and Bihar, India. *PLoS one* 2020; **15**(12): e0244053.
34. Tamang N, Rai P, Dhungana S, et al. COVID-19: a National Survey on perceived level of knowledge, attitude and practice among frontline healthcare Workers in Nepal. *BMC public health* 2020; **20**(1): 1-10.
35. Siddique A, Rahman T, Pakrashi D, Islam A, Ahmed F. Raising COVID-19 Awareness in Rural Communities: A Randomized Experiment in Bangladesh and India: TUM School of Governance at the Technical University of Munich, 2020.
36. Fuentes-García JP, Patiño MJM, Villafaina S, Clemente-Suárez VJ. The Effect of COVID-19 confinement in behavioral, psychological, and training patterns of chess players. *Front Psychol* 2020; **11**.
37. Uyaroglu OA, Başaran NÇ, Ozisik L, et al. Evaluation of the effect of COVID-19 pandemic on anxiety severity of physicians working in the internal medicine department of a tertiary care hospital: a cross-sectional survey. *Internal medicine journal* 2020; **50**(11): 1350-8.
38. Paz C, Mascialino G, Adana-Díaz L, et al. Behavioral and sociodemographic predictors of anxiety and depression in patients under epidemiological surveillance for COVID-19 in Ecuador. *PLoS One* 2020; **15**(9): e0240008.
39. Kowal M, Coll-Martín T, Ikizer G, et al. Who is the most stressed during the covid-19 pandemic? Data from 26 countries and areas. *Applied Psychology: Health Well-Being* 2020; **12**(4): 946-66.
40. Mohammadzadeh F, Noghabi AD, Khosravan S, Bazeli J, Armanmehr V, Paykani T. Anxiety Severity Levels and Coping Strategies during the COVID-19 Pandemic among People Aged 15 Years and Above in Gonabad, Iran. *Archives of Iranian Medicine* 2020; **23**(9).

41. Hacimusalar Y, Kahve AC, Yasar AB, Aydin MS. Anxiety and hopelessness levels in COVID-19 pandemic: A comparative study of healthcare professionals and other community sample in Turkey. *J Psychiatr Res* 2020; **129**: 181-8.
42. Yang X, Yang X, Kumar P, Cao B, Ma X, Li T. Social support and clinical improvement in COVID-19 positive patients in China. *Nurs Outlook* 2020; **68**(6): 830-7.
43. Kurt O, Deveci SE, Oguzoncul AF. Levels of anxiety and depression related to covid-19 among physicians: An online cross-sectional study from turkey. *Annals of Clinical and Analytical Medicine* 2020; **11**: S288-S93.
44. Goularte JF, Serafim SD, Colombo R, Hogg B, Caldieraro MA, Rosa AR. COVID-19 and mental health in Brazil: Psychiatric symptoms in the general population. *J Psychiatr Res* 2020; **132**: 32-7.
45. Chen S, Cheng Z, Wu J. Risk factors for adolescents' mental health during the COVID-19 pandemic: a comparison between Wuhan and other urban areas in China. *Globalization and Health* 2020; **16**(1): 1-11.
46. Shrestha DB, Thapa BB, Katuwal N, et al. Psychological distress in Nepalese residents during COVID-19 pandemic: a community level survey. *BMC Psychiatry* 2020; **20**(1): 1-8.
47. Badellino H, Gobbo ME, Torres E, Aschieri ME. Early indicators and risk factors associated with mental health problems during COVID-19 quarantine: Is there a relationship with the number of confirmed cases and deaths? *The International Journal of Social Psychiatry* 2020.
48. Gopal A, Sharma AJ, Subramanyam MA. Dynamics of psychological responses to COVID-19 in India: A longitudinal study. *PLoS One* 2020; **15**(10): e0240650.
49. Ara T, Rahman M, Hossain M, Ahmed A. Identifying the associated risk factors of sleep disturbance during the COVID-19 lockdown in Bangladesh: A web-based survey. *Frontiers in Psychiatry* 2020; **11**: 966.
50. Domuschieva-Rogleva G, Savcheva E. The Psychological Impact of COVID-19 on University Lecturers in the Field of Sports Education. *Pedagogy* 2020; **92**(S7): 163-75.
51. Chen R, Sun C, Chen JJ, et al. A Large-Scale Survey on Trauma, Burnout, and Posttraumatic Growth among Nurses during the COVID-19 Pandemic. *International journal of mental health nursing* 2020.
52. Wang G-Y, Tang S-F. Perceived psychosocial health and its sociodemographic correlates in times of the COVID-19 pandemic: a community-based online study in China. *Infectious diseases of poverty* 2020; **9**(1): 1-10.
53. Li A, Wang S, Cai M, Sun R, Liu X. Self-compassion and life-satisfaction among Chinese self-quarantined residents during COVID-19 pandemic: A moderated mediation model of positive coping and gender. *Personality Individual Differences* 2020; **170**: 110457.
54. Ali M, Ahsan GU, Khan R, Khan HR, Hossain A. Immediate impact of stay-at-home orders to control COVID-19 transmission on mental well-being in Bangladeshi adults: Patterns, Explanations, and future directions. *BMC research notes* 2020; **13**(1): 1-7.
55. Sagaon-Teyssier L, Kamissoko A, Yattassaye A, et al. Assessment of mental health outcomes and associated factors among workers in community-based HIV care centers in the early stage of the COVID-19 outbreak in Mali. *Health Policy Open* 2020; **1**: 100017.
56. Nakhostin-Ansari A, Sherafati A, Aghajani F, Khonji MS, Aghajani R, Shahmansouri N. Depression and anxiety among Iranian Medical Students during COVID-19 pandemic. *Iranian Journal of Psychiatry* 2020; **15**(3): 228.
57. Mousavi SA-M, Hooshyari Z, Ahmadi A. The most stressful events during the COVID-19 epidemic. *Iranian journal of psychiatry* 2020; **15**(3): 220.
58. García-Reyna B, Castillo-García GD, Barbosa-Camacho FJ, et al. Fear of COVID-19 Scale for Hospital Staff in Regional Hospitals in Mexico: a Brief Report. *International Journal of Mental Health Addiction* 2020: 1-12.
59. Chen H, Wang B, Cheng Y, et al. Prevalence of posttraumatic stress symptoms in health care workers after exposure to patients with COVID-19. *Neurobiology of Stress* 2020; **13**: 100261.
60. Amaral-Prado HM, Borghi F, Mello TMVF, Grassi-Kassisse DM. The impact of confinement in the psychosocial behaviour due COVID-19 among members of a Brazilian university. *The International Journal of Social Psychiatry* 2020.
61. Labrague LJ, De Los Santos JAA. Prevalence and predictors of coronaphobia among frontline hospital and public health nurses. *Public Health Nurs* 2020.

62. Rodríguez-Hidalgo AJ, Pantaleón Y, Dios I, Falla D. Fear of COVID-19, Stress, and Anxiety in University Undergraduate Students: A Predictive Model for Depression. *Front Psychol* 2020; **11**: 3041.
63. Murat M, Köse S, Savaşer S. Determination of stress, depression and burnout levels of front-line nurses during the COVID-19 pandemic. *International Journal of Mental Health Nursing* 2020.
64. Lofrano-Prado MC, do Prado WL, Botero JP, et al. The same storm but not the same boat: Effects of COVID-19 stay-at-home order on mental health in individuals with overweight. *Clinical obesity* 2021; **11**(1): e12425.
65. Essangri H, Sabir M, Benkabbou A, et al. Predictive Factors for Impaired Mental Health among Medical Students during the Early Stage of the COVID-19 Pandemic in Morocco. *The American journal of tropical medicine and hygiene* 2020; **104**(1): 95-102.
66. Silva WAD, de Sampaio Brito TR, Pereira CR. COVID-19 anxiety scale (CAS): Development and psychometric properties. *Current Psychology* 2020: 1-10.
67. Ahuja P, Syal G, Kaur A. Psychological stress: Repercussions of COVID-19 on gender. *Journal of Public Affairs*: e2533.
68. Lal A, Sanaullah A, Saleem MKM, Ahmed N, Maqsood A. Psychological Distress among Adults in Home Confinement in the Midst of COVID-19 Outbreak. *European Journal of Dentistry* 2020; **14**(S 01): S27-S33.
69. Zandifar A, Badrfam R, Khonsari NM, Mohammadi MR, Asayesh H, Qorbani M. Prevalence and associated factors of posttraumatic stress symptoms and stigma among health care workers in contact with COVID-19 patients. *Iranian journal of psychiatry* 2020; **15**(4): 340.
70. Prout TA, Zilcha-Mano S, Aafjes-van Doorn K, et al. Identifying Predictors of Psychological Distress During COVID-19: A Machine Learning Approach. *Front Psychol* 2020; **11**.
71. Eweida RS, Desoky GM, Khonji LM, Rashwan ZI. Mental Strain and Changes in Psychological Health Hub among Intern-nursing Students at Pediatric and Medical-Surgical Units amid Ambience of COVID-19 Pandemic: A Comprehensive Survey. *Nurse Education in Practice* 2020: 102915.
72. Mirhosseini S, Dadgari A, Basirinezhad MH, Mohammadpourhodki R, Ebrahimi H. The Role of Hope to Alleviate Anxiety in COVID-19 Outbreak among Community Dwellers: An Online Cross-sectional Survey. *Ann Acad Med Singapore* 2020; **49**(10): 723-30.
73. Kamberi F, Jaho J, Mechili EA, Sinaj E, Skendo H. Effect of Covid-19 pandemic on mental health among Albanian people residing in the country and abroad—Implications for mental care. *Arch Psychiatr Nurs* 2020; **34**(6): 507-12.
74. Aslan I, Ochnik D, Çınar O. Exploring Perceived Stress among Students in Turkey during the COVID-19 Pandemic. *International Journal of Environmental Research and Public Health* 2020; **17**(23): 8961.
75. Jiang W, Liu X, Zhang J, Feng Z. Mental health status of Chinese residents during the COVID-19 epidemic. *BMC Psychiatry* 2020; **20**(1): 1-14.
76. Şahan E, Ünal SM, Kırpınar İ. Can we predict who will be more anxious and depressed in the COVID-19 ward? *J Psychosom Res* 2020; **140**: 110302.
77. Medeiros RAD, Vieira DL, Silva EVFD, Rezende LVMDL, Santos RWD, Tabata LF. Prevalence of symptoms of temporomandibular disorders, oral behaviors, anxiety, and depression in Dentistry students during the period of social isolation due to COVID-19. *Journal of Applied Oral Science* 2020; **28**.
78. Kumari A, Ranjan P, Sharma KA, et al. Impact of COVID-19 on psychosocial functioning of peripartum women: A qualitative study comprising focus group discussions and in-depth interviews. *International Journal of Gynecology & Obstetrics* 2020.
79. Yang X, Song B, Wu A, et al. Whether and how lockdown and mandatory quarantine regarding COVID-19 may affect mental health among pregnant women in China: Potential social, cognitive, and eHealth-related mechanisms. *Journal of medical Internet research* 2020.
80. Poyraz BÇ, Poyraz CA, Olgun Y, et al. Psychiatric morbidity and protracted symptoms after COVID-19. *Psychiatry Res* 2020; **295**: 113604.
81. Cigiloglu A, Ozturk ZA, Efendioglu EM. How have older adults reacted to coronavirus disease 2019? *J Psychogeriatrics* 2020.

82. Yilmaz SK, Eskici G. Evaluation of Emotional (Depression) and Behavioral (Nutritional, Physical Activity, Sleep) Status of Turkish Adults during the Covid-19 Pandemic Period. *Public health nutrition* 2020: 1-21.
83. Batra K, Singh TP, Sharma M, Batra R, Schvaneveldt N. Investigating the Psychological Impact of COVID-19 among Healthcare Workers: A Meta-Analysis. *International Journal of Environmental Research and Public Health* 2020; **17**(23): 9096.
84. Mani A, Estedlal AR, Kamali M, et al. Mental health status during COVID-19 pandemic in Fars Province, Iran: timely measures. *BMC Public Health* 2020; **20**(1): 1-11.
85. Gupta B, Sharma V, Kumar N, Mahajan A. The "Wounded Healer"-Anxiety and Sleep Disturbance Amongst Healthcare Workers Facing COVID-19 Pandemic in India: A Cross-sectional Online Survey. *JMIR Public Health Surveillance* 2020.
86. Radwan E, Radwan A, Radwan W. The role of social media in spreading panic among primary and secondary school students during the COVID-19 pandemic: An online questionnaire study from the Gaza Strip, Palestine. *Heliyon* 2020; **6**(12): e05807.
87. Feter N, Caputo E, Doring I, et al. Sharp increase in depression and anxiety among Brazilian adults during the COVID-19 pandemic: findings from the PAMPA cohort. *Public Health* 2020; **190**: 101-7.
88. Mosolova E, Chung S, Sosin D, Mosolov S. Stress and Anxiety Among Healthcare Workers Associated with COVID-19 Pandemic in Russia. *SSRN Electronic Journal* 2020.
89. Canlı D, Karaşar B. Health Anxiety and Emotion Regulation during the Period of COVID-19 Outbreak in Turkey. *Psychiatria Danubina* 2020; **32**(3-4): 513-20.
90. Sayeed A, Kundu S, Al Banna MH, et al. Mental health outcomes of adults with comorbidity and chronic diseases during the COVID-19 pandemic: a matched case-control study. *Psychiatria Danubina* 2020; **32**(3-4): 491-8.
91. Wang Y, Kala MP, Jafar TH. Factors associated with psychological distress during the coronavirus disease 2019 (COVID-19) pandemic on the predominantly general population: A systematic review and meta-analysis. *PLoS One* 2020; **15**(12): e0244630.
92. Bashir TF, Hassan S, Maqsood A, et al. Covid-19 Pandemic and Challenges of Dentistry: The Psychological Impact Analysis of Novel COVID-19 Pandemic in Health Sciences Students: A Global Survey. *European Journal of Dentistry* 2020; **14**(Suppl 1): S91.
93. López Steinmetz LC, Dutto Florio MA, Leyes CA, Fong SB, Rigalli A, Godoy JC. Levels and predictors of depression, anxiety, and suicidal risk during COVID-19 pandemic in Argentina: the impacts of quarantine extensions on mental health state. *Psychol Health Med* 2020: 1-17.
94. Shen M, Xu H, Fu J, et al. Investigation of anxiety levels of 1637 healthcare workers during the epidemic of COVID-19. *PLoS One* 2020; **15**(12): e0243890.
95. Wu Y, Xiong X, Fang X, et al. Psychological status of TMD patients, orthodontic patients and the general population during the COVID-19 pandemic. *Psychol Health Med* 2020: 1-13.
96. Mousavi SF. Psychological Well-Being, Marital Satisfaction, and Parental Burnout in Iranian Parents: The Effect of Home Quarantine During COVID-19 Outbreaks. *Front Psychol* 2020; **11**: 3305.
97. Robles R, Rodríguez E, Vega-Ramírez H, et al. Mental health problems among healthcare workers involved with the COVID-19 outbreak. *Brazilian Journal of Psychiatry* 2020; (AHEAD).
98. Kong X, Kong F, Zheng K, et al. Effect of Psychological–Behavioral Intervention on the Depression and Anxiety of COVID-19 Patients. *Frontiers in Psychiatry* 2020; **11**: 1241.
99. Sun F, Zhu J, Tao H, Ma Y, Jin W. A systematic review involving 11,187 participants evaluating the impact of COVID-19 on anxiety and depression in pregnant women. *Journal of Psychosomatic Obstetrics Gynecology* 2020: 1-9.
100. Giordani RCF, Zanoni da Silva M, Muhl C, Giolo SR. Fear of COVID-19 scale: Assessing fear of the coronavirus pandemic in Brazil. *Journal of Health Psychology* 2020: 1359105320982035.
101. Yan H, Ding Y, Guo W. Mental Health of Pregnant and Postpartum Women During the Coronavirus Disease 2019 Pandemic: A Systematic Review and Meta-Analysis. *Front Psychol* 2020; **11**: 3324.



102. Adamson MM, Phillips A, Seenivasan S, et al. International prevalence and correlates of psychological stress during the global COVID-19 pandemic. *International Journal of Environmental Research and Public Health* 2020; **17**(24): 9248.
103. Ceri V, Cicek I. Psychological Well-Being, Depression and Stress During COVID-19 Pandemic in Turkey: A Comparative Study of Healthcare Professionals and Non-Healthcare Professionals. *Psychol Health Med* 2020: 1-13.
104. Miguel-Puga JA, Cooper-Bribiesca D, Avelar-Garnica FJ, et al. Burnout, depersonalization, and anxiety contribute to post-traumatic stress in frontline health workers at COVID-19 patient care, a follow-up study. *Brain behavior* 2020: e02007.
105. Do BN, Nguyen P-A, Pham KM, et al. Determinants of health literacy and its associations with health-related behaviors, depression among the older people with and without suspected COVID-19 symptoms: A multi-institutional study. *Frontiers in public health* 2020; **8**: 694.
106. Sayeed A, Kundu S, Al Banna MH, Hasan MT, Begum MR, Khan MSI. Mental health outcomes during the COVID-19 and perceptions towards the pandemic: Findings from a cross sectional study among Bangladeshi students. *Children Youth Services Review* 2020; **119**: 105658.
107. Megatsari H, Laksono AD, Ibad M, et al. The community psychosocial burden during the COVID-19 pandemic in Indonesia. *Heliyon* 2020; **6**(10): e05136.
108. Dong H, Hu R, Lu C, et al. Investigation on the mental health status of pregnant women in China during the Pandemic of COVID-19. *Arch Gynecol Obstet* 2020: 1-7.
109. Arslan G, Yıldırım M, Karataş Z, Kabasakal Z, Kılınç M. Meaningful living to promote complete mental health among university students in the context of the COVID-19 pandemic. *International Journal of Mental Health Addiction* 2020: 1-13.
110. Silva LRB, Seguro CS, De Oliveira CGA, et al. Physical inactivity is associated with increased levels of anxiety, depression and stress in Brazilians during the COVID-19 pandemic: a cross-sectional study. *Frontiers in Psychiatry* 2020; **11**: 1257.
111. Jiang Z, Zhu P, Wang L, et al. Psychological distress and sleep quality of COVID-19 patients in Wuhan, a lockdown city as the epicenter of COVID-19. *J Psychiatr Res* 2020.
112. Hou F, Bi F, Jiao R, Luo D, Song K. Gender differences of depression and anxiety among social media users during the COVID-19 outbreak in China: a cross-sectional study. *BMC Public Health* 2020; **20**(1): 1-11.
113. Hajure M, Tariku M, Mohammedhussein M, Dule A. Depression, anxiety and associated factors among chronic medical patients amid COVID-19 pandemic in Mettu Karl Referral Hospital, Mettu, Ethiopia, 2020. *Neuropsychiatric disease and treatment* 2020; **16**: 2511.
114. Ghandour R, Ghanayem R, Alkhanafsa F, et al. Double Burden of COVID-19 Pandemic and Military Occupation: Mental Health Among a Palestinian University Community in the West Bank. *Annals of Global Health* 2020; **86**(1).
115. Mamun MA, Sakib N, Gozal D, et al. The COVID-19 pandemic and serious psychological consequences in Bangladesh: A population-based nationwide study. *J Affect Disord* 2020; **279**: 462-72.
116. Xiong J, Lipsitz O, Nasri F, et al. Impact of COVID-19 pandemic on mental health in the general population: A systematic review. *J Affect Disord* 2020.
117. Irfan M, Shahudin F, Hooper V, Akram W, Ghani R. The psychological impact of coronavirus on university students and its socio-economic determinants in Malaysia. *medRxiv* 2020.
118. Tan Y, Lin X, Wu D, et al. Different Trajectories of Panic and the Associated Factors among Unmarried Chinese during the COVID-19 Pandemic. *Applied Psychology: Health Well-Being* 2020; **12**(4): 967-82.
119. Kamaludin K, Chinna K, Sundarasan S, et al. Coping with COVID-19 and movement control order (MCO): experiences of university students in Malaysia. *Heliyon* 2020: e05339.
120. Ballivian J, Alcaide ML, Cecchini D, Jones DL, Abbamonte JM, Casseti I. Impact of COVID-19-Related Stress and Lockdown on Mental Health Among People Living With HIV in Argentina. *JAIDS Journal of Acquired Immune Deficiency Syndromes* 2020; **85**(4): 475-82.

121. Pandey D. The prevalence of general anxiety disorder and its associated factors among women's attending at the perinatal service of Dilla University referral hospital, Dilla town, Ethiopia, April, 2020 in Covid pandemic. *Heliyon* 2020; **6**(11): e05593.
122. Sut HK, Kucukkaya B. Anxiety, depression, and related factors in pregnant women during the COVID-19 pandemic in Turkey: A web-based cross-sectional study. *Perspect Psychiatr Care* 2020.
123. Yassa M, Yassa A, Yirmibeş C, et al. Anxiety levels and obsessive compulsion symptoms of pregnant women during the COVID-19 pandemic. *Turkish journal of obstetrics and gynecology* 2020; **17**(3): 155.
124. Zeng X, Li W, Sun H, et al. Mental health outcomes in perinatal women during the remission phase of COVID-19 in China. *Frontiers in psychiatry* 2020; **11**.
125. Derya YA, Altıparmak S, Emine A, GÖkbulut N, Yılmaz AN. Pregnancy and birth planning during COVID-19: The effects of tele-education offered to pregnant women on prenatal distress and pregnancy-related anxiety. *Midwifery* 2021; **92**: 102877.
126. Sinaci S, Tokalioglu EO, Ocal D, et al. Does having a high-risk pregnancy influence anxiety level during the COVID-19 pandemic? *European Journal of Obstetrics & Gynecology and Reproductive Biology* 2020; **255**: 190-6.
127. Hessami K, Romanelli C, Chiurazzi M, Cozzolino M. COVID-19 pandemic and maternal mental health: a systematic review and meta-analysis. *The Journal of Maternal-Fetal & Neonatal Medicine* 2020: 1-8.
128. Shayganfard M, Mahdavi F, Haghighi M, Sadeghi Bahmani D, Brand S. Health Anxiety Predicts Postponing or Cancelling Routine Medical Health Care Appointments among Women in Perinatal Stage during the Covid-19 Lockdown. *International journal of environmental research and public health* 2020; **17**(21): 8272.
129. López-Morales H, Del Valle MV, Canet-Juric L, et al. Mental health of pregnant women during the COVID-19 pandemic: a longitudinal study. *Psychiatry Res* 2020: 113567.
130. Liang P, Wang Y, Shi S, Liu Y, Xiong R. Prevalence and factors associated with postpartum depression during the COVID-19 pandemic among women in Guangzhou, China: a cross-sectional study. *BMC psychiatry* 2020; **20**(1): 1-8.
131. Lin W, Wu B, Chen B, et al. Sleep Conditions Associate with Anxiety and Depression Symptoms among Pregnant Women during the Epidemic of Coronavirus Disease 2019 (COVID-19) in Shenzhen. *J Affect Disord* 2020.
132. Alan S, Vurgec BA, Cevik A, Gozuyesil E, Surucu SG. The effects of COVID-19 pandemic on pregnant women: Perceived stress, social support and sleep quality. *Yonago Acta Med* 2020.
133. Qi M, Li X, Liu S, Li Y, Huang W. Impact of the COVID-19 epidemic on patterns of pregnant women's perception of threat and its relationship to mental state: A latent class analysis. *PLoS one* 2020; **15**(10): e0239697.
134. Jiang H, Jin L, Qian X, et al. The mental health status and approaches of accessing antenatal care information among pregnant women during COVID-19 epidemic: a cross-sectional study in China. *J med internet res* 2020.
135. Dasgupta A, Kantorová V, Ueffing P. The impact of the COVID-19 crisis on meeting needs for family planning: a global scenario by contraceptive methods used. *Gates Open Research* 2020; **4**.
136. Endler M, Al-Haidari T, Benedetto C, et al. How the Covid-19 pandemic is impacting sexual and reproductive health and rights and response: results from a global survey of providers, researchers, and policy makers. *Acta Obstet Gynecol Scand* 2020.
137. Gambir K, Garnsey C, Necastro KA, Ngo TD. Effectiveness, safety and acceptability of medical abortion at home versus in the clinic: a systematic review and meta-analysis in response to COVID-19. *BMJ global health* 2020; **5**(12): e003934.
138. Sahin BM, Kabakci EN. The experiences of pregnant women during the COVID-19 pandemic in Turkey: A qualitative study. *Women and Birth* 2020.
139. Goyal M, Singh P, Singh K, Shekhar S, Agrawal N, Misra S. The effect of the COVID-19 pandemic on maternal health due to delay in seeking health care: Experience from a tertiary center. *International Journal of Gynecology & Obstetrics* 2020.
140. Muhaidat N, Fram K, Thekrallah F, Qatawneh A, Al-Btoush Aa. Pregnancy During COVID-19 Outbreak: The Impact of Lockdown in a Middle-Income Country on Antenatal Healthcare and Wellbeing. *International Journal of Women's Health* 2020; **12**: 1065.

141. Reinders S, Alva A, Huicho L, Blas MM. Indigenous communities' responses to the COVID-19 pandemic and consequences for maternal and neonatal health in remote Peruvian Amazon: a qualitative study based on routine programme supervision. *BMJ open* 2020; **10**(12): e044197.
142. Kumar M, Puri\* M, Yadav R, et al. Stillbirths and the COVID-19 pandemic: Looking beyond SARS-CoV-2 infection. *International Journal of Gynecology & Obstetrics* 2020.
143. Chen M, Liu X, Zhang J, et al. Characteristics of online medical care consultation for pregnant women during the COVID-19 outbreak: a cross-sectional study. *BMJ open* 2020; **10**.
144. Jarrett B, Peitzmeier SM, Restar A, et al. Gender-affirming care, mental health, and economic stability in the time of COVID-19: a global cross-sectional study of transgender and non-binary people. *medRxiv* 2020.
145. UN Women. Counting the costs of COVID-19: Assessing the impact on gender and the achievement of the SDGs in Indonesia, 2020.
146. UN Women. Unlocking the lockdown: The gendered effects of COVID-19 on achieving the SDGs in Asia and the Pacific.: UN Women, 2020.
147. Sediri S, Zgueb Y, Ouanes S, et al. Women's mental health: acute impact of COVID-19 pandemic on domestic violence. *Archives of women's mental health* 2020: 1-8.
148. Ndhlovu E, Tembo A. Gendered Socio-economic Implications of the COVID-19 Pandemic in Rural Zimbabwe. *BizEcons Quarterly* 2020; **12**: 21-40.
149. Teshome A, Gudu W, Bekele D, Asfaw M, Enyew R, Compton SD. Intimate partner violence among antenatal care attendees amidst the COVID-19 crisis: The incidence in Ethiopia. *International Journal of Gynecology & Obstetrics* 2020.
150. Tadesse AW, Tarekegn SM, Wagaw GB, Muluneh MD, Kassa AM. Prevalence and associated factors of intimate partner violence among married women during CoVID-19 pandemic restrictions: a community-based study. *J Interpers Violence* 2020: 0886260520976222.
151. Gebrewahd GT, Gebremeskel GG, Tadesse DB. Intimate partner violence against reproductive age women during COVID-19 pandemic in northern Ethiopia 2020: a community-based cross-sectional study. *Reprod Health* 2020; **17**(1): 1-8.
152. Peterman A, O'Donnell M. COVID-19 and Violence against Women and Children A Third Research Round Up for the 16 Days of Activism., 2020.
153. Xue J, Chen J, Chen C, Hu R, Zhu T. The Hidden Pandemic of Family Violence During COVID-19: Unsupervised Learning of Tweets. *Journal of medical Internet research* 2020; **22**(11): e24361.
154. UN Women. Whose time to care: Unpaid care and domestic work during COVID-19. 2020.
155. Chauhan P. Gendering COVID-19: Impact of the Pandemic on Women's Burden of Unpaid Work in India. *Gender Issues* 2020: 1-25.
156. Chu IY-H, Alam P, Larson HJ, Lin L. Social consequences of mass quarantine during epidemics: a systematic review with implications for the COVID-19 response. *J Travel Med* 2020; **27**(7): taaa192.
157. Oakman J, Kinsman N, Stuckey R, Graham M, Weale V. A rapid review of mental and physical health effects of working at home: how do we optimise health? *BMC Public Health* 2020; **20**(1): 1-13.
158. Squazzoni F, Bravo G, Grimaldo F, Garcia-Costa D, Farjam M, Mehmani B. No tickets for women in the COVID-19 race? A study on manuscript submissions and reviews in 2347 Elsevier journals during the pandemic. *SSRN Electronic Journal* 2020.
159. Banati P, Jones N, Youssef S. Intersecting Vulnerabilities: The Impacts of COVID-19 on the Psycho-emotional Lives of Young People in Low-and Middle-Income Countries. *The European Journal of Development Research* 2020: 1-26.
160. Akmal M, Crawford L, Hares S, Minardi A. COVID-19 in Pakistan: A Phone Survey to Assess Education, Economic, and HealthRelated Outcomes: Center for Global Development., 2020.
161. Baird S, Jones N, Malachowska A, Masannat M, Oakley E, Qaryouti M. Adolescents' experiences of covid-19 and the public health response in Jordan: The Gender and Adolescence: Global Evidence (GAGE) 2020.
162. García-Rojas K, Herrera-Idárraga P, Morales LF, Ramírez-Bustamante N, Tribín-Urbe AM. (She) cession: The Colombian female staircase fall. *Borradores de Economía; No 1140* 2020.

163. Graham J, Ble M. The effect of COVID-19 on the Economic Inclusion of Venezuelans in Colombia. *Center for Global Development and Refugees International* 2020; **Policy Paper 188**.
164. Meyer CJ, Hardy M, Witte M, Kagy G, Demeke E. The market-reach of pandemics: Evidence from female workers in Ethiopia's ready-made garment industry. *World Development* 2020; **137**: 105179.
165. Mathew N, Deborah I, Karonga T, Rumbidzai C. The impact of COVID-19 lockdown in a developing country: narratives of self-employed women in Ndola, Zambia. *Health Care Women Int* 2020: 1-14.
166. Jaim J. Exist or exit? Women business-owners in Bangladesh during COVID-19. *Gender, Work & Organization* 2020.
167. Du Z, Lai X, Long W, Gao L. The short-and long-term impacts of the COVID-19 pandemic on family farms in China—Evidence from a survey of 2 324 farms. *Journal of Integrative Agriculture* 2020; **19**(12): 2877-90.
168. Aggarwal S, Jeong D, Kumar N, Park D, Robinson J, Spearot A. Did COVID-19 Market Disruptions Disrupt Food Security? Evidence from Households in Rural Liberia and Malawi. 2020.  
[https://people.ucsc.edu/~jmrtwo/COVID\\_malawi\\_liberia.pdf](https://people.ucsc.edu/~jmrtwo/COVID_malawi_liberia.pdf) (accessed Jan 20 2021).
169. Lustig N, Martinez Pabon V, Sanz F, Younger SD. The impact of COVID-19 lockdowns and expanded social assistance on inequality, poverty and mobility in Argentina, Brazil, Colombia and Mexico. *ECINEQ, Society for the Study of Economic Inequality* 2020.
170. Josephson A, Kilic T, Michler JD. Socioeconomic Impacts of COVID-19 in Four African Countries. The World Bank; 2020.
171. Iskandar SD, Maizar FA. Listen to Your Wife When It Comes to Saving Decision: Women's Bargaining Power and Household's Saving Outcome in Indonesia. *Institute for Economic and Social Research* 2020.
172. Blofield M, Giamb Bruno C, Filgueira F. Policy expansion in compressed time: Assessing the speed, breadth and sufficiency of post-COVID-19 social protection measures in 10 Latin American countries. 2020.
173. Windsor LC, Yannitell Reinhardt G, Windsor AJ, et al. Gender in the time of COVID-19: Evaluating national leadership and COVID-19 fatalities. *PLoS one* 2020; **15**(12): e0244531.
174. Garikipati S, Kambhampati U. Leading the Fight Against the Pandemic: Does Gender 'Really' Matter? Available at SSRN 3617953 2020.
175. Purkayastha S, Salvatore M, Mukherjee B. Are women leaders significantly better at controlling the contagion during the COVID-19 pandemic? *Journal of health and social sciences* 2020; **5**(2): 231.

**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 (collective OR "women's group" OR "women's collective" OR "participatory group")

**Appendix B.** List of websites included in monthly reviews.

1. <https://data.unwomen.org/COVID19> [Publications section only]
2. <https://www.genderandcovid-19.org/resources-page/>
3. [https://www.ilo.org/global/topics/coronavirus/impacts-and-responses/WCMS\\_749399/lang--en/index.htm](https://www.ilo.org/global/topics/coronavirus/impacts-and-responses/WCMS_749399/lang--en/index.htm)  
(monthly ILO monitors)
4. <https://www.ilo.org/global/research/lang--en/index.htm>
5. <https://www.cgdev.org/topics/coronavirus>, [Publication section only at the bottom]
6. <https://www.worldbank.org/en/topic/gender/brief/gender-and-covid-19-coronavirus>
7. <https://www.poverty-action.org/recover/research-projects>
8. <https://www.odi.org/our-work/coronavirus> [Publications section only]