



Water, sanitation, and hygiene (WASH) insecurity will exacerbate the toll of COVID-19 on women and girls in low-income countries

Ellis Adjei Adams, Yenupini Joyce Adams & Christa Koki

To cite this article: Ellis Adjei Adams, Yenupini Joyce Adams & Christa Koki (2021) Water, sanitation, and hygiene (WASH) insecurity will exacerbate the toll of COVID-19 on women and girls in low-income countries, Sustainability: Science, Practice and Policy, 17:1, 86-90, DOI: [10.1080/15487733.2021.1875682](https://doi.org/10.1080/15487733.2021.1875682)

To link to this article: <https://doi.org/10.1080/15487733.2021.1875682>



© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 01 Feb 2021.



[Submit your article to this journal](#)



Article views: 1699



[View related articles](#)



[View Crossmark data](#)



Citing articles: 1 [View citing articles](#)

Water, sanitation, and hygiene (WASH) insecurity will exacerbate the toll of COVID-19 on women and girls in low-income countries

Ellis Adjei Adams^{a,b}, Yenupini Joyce Adams^{a,b} and Christa Koki^c

^aKeough School of Global Affairs, University of Notre Dame, South Bend, IN, USA; ^bEck Institute for Global Health, University of Notre Dame, South Bend, IN, USA; ^cDepartment of Geosciences, Georgia State University, Atlanta, GA, USA

ABSTRACT

The novel coronavirus disease (COVID-19) pandemic is having a significant global impact on livelihoods, health, and general well-being. This policy brief argues that in low-income countries (LICs) where water, sanitation, and hygiene (WASH) insecurity is widespread and closely entangled with poverty and other vulnerabilities, COVID-19 will have a particularly devastating impact on women and girls because they bear the disproportionate burden of water collection, sanitation, hygiene, and family welfare – responsibilities embedded in longstanding sociocultural norms. WASH insecurity refers to the physical and relational inequities in WASH access. Using three pathways – reproductive and perinatal health, cultural norms and the risk of COVID-19 infections, and physical and mental health – we discuss how WASH insecurity will worsen the impact of COVID-19 on women and girls in LICs.

ARTICLE HISTORY

Received 9 December 2020
Accepted 9 January 2021

KEYWORDS

COVID-19; women and girls; low-income countries; water, sanitation, and hygiene (WASH); health

COVID-19 and gendered WASH struggles in low-income countries

The United Nations estimates that 2.2 billion people lack safely managed drinking water and 4.2 billion people lack access to safe sanitation, while 3 billion people lack basic handwashing facilities at home (WHO and UNICEF 2017). However, the vast majority of those without access to safe water and sanitation reside in low-income countries (LICs). Most households in LICs depend on water and toilet sources outside their premises. Women and girls are primarily responsible for water collection and household and community sanitation. They often walk long distances to fetch, carry, and transport water; spend countless hours queuing for water; and devote a high proportion of their income securing water for their families. In Sub-Saharan Africa, about half of the population must leave their homes to search for water, and women and girls spend, cumulatively, 40 billion hours a year collecting water (United Nations Women 2014). These gendered roles, expectations, and responsibilities are often embedded in deeply patriarchal cultural norms and expectations, as well as in material inequalities (Crow and Sultana 2002; Adams, Juran, and Ajibade 2018). The social and economic costs of WASH

insecurity, already enormous for women and girls, will be exacerbated by COVID-19.

COVID-19, WASH, and reproductive and perinatal health

Women's and girls' access to clean water is essential for maintaining their reproductive health and routine perineal care. Women have an increased need for water during menstruation to maintain hygiene, including washing menstrual cloths, underwear, and clothing. Many women who live in rural areas in developing countries use reusable cloths during menstruation and these cloths must be washed with soap and clean water to prevent infections. Poor water access, complicated by the COVID-19 pandemic, can lead to poor menstrual hygiene for women if they are unable to maintain frequent perineal hygiene. Poor water access also means women cannot frequently wash menstrual cloths with clean water and soap. Guidelines for preventing the spread of the virus have reinforced the need for frequent handwashing with soap and water. Women, to protect their families, may divert their limited household-water supply to more frequent hand washing while disregarding their own need for personal hygiene, which exposes them to urinary tract and vaginal infections (Das et al. 2015).

CONTACT Ellis Adjei Adams  eadams7@nd.edu  Keough School of Global Affairs, University of Notre Dame, 1010 Jenkins Nanovic Halls, Notre Dame, IN 46556, USA

This article has been republished with minor changes. These changes do not impact the academic content of the article.

© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Numerous studies have shown that in developing societies, women and girls experience stigma, shame, and fear during menstruation due to discriminatory norms and social taboos (Crawford, Menger, and Kaufman 2014; MacLean, Hearle, and Ruwanpura 2020). In parts of South Asia for example, a menstruating woman cannot enter a temple or a kitchen, share a bed with a husband, or touch a male relative (Crawford, Menger, and Kaufman 2014). In such contexts, not only are menstruating women perceived as impure and unholy, and restricted from public and shared spaces, they are required to bathe frequently and wash any physical objects with which they come into contact. Where menstrual stigma is already widespread and private toilets and water for cleaning and washing are scarce, COVID-19 will affect women's and girls' menstrual hygiene management and add to their overall mental stress from restricted mobility, limited privacy, and increased water use at home.

WASH insecurity will deepen the impact of COVID-19 on pregnancy and postpartum health – periods with increased need for water and good hygiene. During pregnancy, women are more prone to developing urinary tract infections (UTIs). Drinking ample volumes of water, urinating frequently, and keeping good perineal hygiene is important to reducing the risk of UTIs in pregnancy. Daily showers are particularly necessary during the postpartum period, especially when a woman is still bleeding. During the early postpartum period, women are encouraged to rinse their perineum with water after they have used the bathroom. This practice helps them to maintain proper perineal hygiene. Sitz baths are also recommended for postpartum vaginal recovery, especially for women who had vaginal trauma during delivery. Likewise, women who delivered via cesarean section are encouraged to shower daily and clean their incision site with unscented soap and water to prevent infections. Increased water demand due to COVID-19 could compel women to compromise their perinatal water needs.

Pregnant and postpartum women in LICs are seldom exempt from water-fetching responsibilities, although they may find it challenging to travel long distances and carry heavy containers of water. In western Kenya, women recounted walking over steep and rocky terrains, and sometimes wading through streams and rivers to retrieve water even during late pregnancy and early postpartum (Collins et al. 2019). In another study in Odisha, India, pregnant women noted that carrying water was among the most stressful activities they perform (Hulland et al. 2015). During lockdowns, social networks could become less useful, and reciprocal water-sharing arrangements that pregnant and postpartum women rely on to meet their families' water needs

could be threatened. Pregnant and postpartum women, despite their vulnerability, will be forced to engage in water fetching and transportation.

WASH, gender norms, and the risk of COVID-19 infections

A major pathway for COVID-19 infection among women and girls in LICs could be in shared sanitation spaces because many families lack household toilets. Out of the 2.3 billion people globally without basic sanitation, an estimated 892 million either practice open defecation, depend on pit latrines, or use bucket latrines (WHO and UNICEF 2017). Women and girls are particularly vulnerable to the risk of infection from shared sanitation, not only because of more frequent use during menstruation but also due to gender norms that compel them to take care of their family members' sanitation needs (Caruso et al. 2017). Gender-based activities such as cleaning and family hygiene, caring for the sick and elderly, and waste disposal could increase the vulnerability of women to COVID-19 infections. Women and girls are often responsible for cleaning shared toilet spaces, which could further increase the risk of exposure, particularly during lockdown periods with increased toilet use at home. During the Ebola outbreak, gendered cultural norms around caregiving and care contributed to high infection rates among women (Wenham, Smith, and Morgan 2020).

In areas where water supply is intermittent, high-density queues are almost guaranteed for women and girls during water collection. With abundant evidence that COVID-19 is transmitted through droplets and close contact, high-density queues could increase the vulnerability of women and girls to infections. Howard et al. (2020) reported recently that the use of shared water sources could facilitate inter-household infections because of the sheer number of people handling communal taps. It is customary for women queuing at water points to exchange, touch, and rearrange water containers. Women often help one another to lift and put heavy water containers on their heads, an activity that involves close contact. In rural areas, water fetchers at borehole points take turns to pump water by holding the handle. Multiple touching in these contexts is a recipe for increased infection among women and girls (Figure 1).

COVID-19, WASH insecurity, and women's physical and mental health

Water fetching and carrying are known to lead to physical injuries (Adams, Stoler, and Adams 2020).



Figure 1. Women and girls queuing for water in Malawi. Picture by Ellis Adjei Adams.

COVID-19-related expectations on water fetching can potentially contribute to poor physical health. Women and girls whose households are too far from water sources may be forced to carry heavier water containers to reduce the number of trips, which could be physically taxing and lead to short- and long-term injuries. It is common for women and girls in LICs to be subjected to physical attacks, rape, and verbal abuse on their water-fetching path. Increased sanitation and hygiene needs due to COVID-19 could force more water-collection trips on women and girls, particularly in poor households without sufficient capital to purchase storage containers, further exposing them to physical and sexual abuse. In areas with chronic intermittent water supply, women often wake up at night to look for water for their families, risking exposure to physical and sexual violence and compromising their safety (Rusca et al. 2017).

Evidence linking water insecurity to mental and psychosocial health has been growing steadily. A recent discussion by Wutich, Brewis, and Tsai (2020) is particularly instructive in providing a comprehensive analysis of the potential linkages between water insecurity and mental health. COVID-19 stands to facilitate the multiple pathways between water insecurity and poor mental health. Due to frequent handwashing and cleaning required to prevent COVID infections, cultural responsibilities on women and girls to provide water and clean homes will increase. This expanded responsibility comes with fear of failure on the part of women and girls to live up to social expectations, which will in turn

heighten feelings of shame, worry, humiliation, and emotional stress (Wutich, Brewis, and Tsai 2020). New mothers must navigate a delicate balance between the provision of water and childcare duties. A study in urban Nepal discovered that mothers who spent more time looking for water at the expense of their childcare duties were considerably more stressed because they felt shame from abandoning a more important responsibility (Aihara, Shrestha, and Sharma 2016). Under lockdown conditions, women will be expected to meet increased food demand at home. Given the growing evidence that water insecurity co-occurs with food insecurity to trigger psycho-emotional stress (Workman and Ureksoy 2017), the pressure on women to balance complex tradeoffs between water for food preparation and sanitation and hygiene could have severe impacts on mental health.

COVID-19 could aggravate the different forms of violence associated with WASH insecurity. Water insecurity is widely known to trigger intimate partner violence, emotional and physical violence, and other forms of gender-based violence (Choudhary et al. 2020). Competing water needs at home, including spousal water requirements, can heighten tension at home. Married women in LICs routinely put their husbands' water needs above their own to avoid potential domestic violence. In our fieldwork in Malawi, some women have shared that the last bucket of water available at home is for the husband (the head of the household) to shower and go to work. Many women viewed this cultural norm as non-negotiable under any circumstance because

they consider their husbands to be providers. A similar trend was found among women in Kenya who prioritized the water needs of family members, especially husbands, to avoid verbal abuse at home (Collins et al. 2019). These kinds of expectations will be difficult to honor when water needs for handwashing are on the rise due to COVID-19.

Conclusion: centralizing the WASH needs of women and girls in COVID-19 interventions

Never before in the history of humanity has WASH been more critical to the prevention and control of infectious outbreaks. COVID-19 has brought long overdue and much needed global attention to WASH insecurity. WASH insecurity will create additional burdens for women and girls during COVID and worsen the pandemic's overall impact on their health and wellbeing.

The international policy community has long recognized the need for gender equality and empowerment in the WASH sector. Sustainable Development Goal (SDG) 6, Target 2, aims to achieve “[b]y 2030, access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to women and girls in vulnerable situations.” Comparably, SDG 5 seeks to “achieve gender equality and empower all women and girls.” Despite these and previous attempts, women and girls in LICs continue to be at the margins with limited access to WASH resources and decision making. In fact, the United Nations has cautioned recently that the spread of COVID-19 could undermine decades of limited progress on gender equality (United Nations 2020). Collectively, due to COVID-19-related increases in household-WASH demand, women and girls could encounter greater burden of water collection; compromise their sexual, reproductive, and perinatal health in favor of their families' needs; face more physical threats, violence, and poor mental health; and be exposed to COVID-19 infection from family-care duties. These interlinked vulnerabilities will ultimately threaten women's and girls' economic capacity, underscoring the need to centralize the needs of women and girls in national COVID-19 response programs and interventions while providing spaces for them to participate in WASH decision making.

We suggest four policy actions and steps to ease the impact of COVID-19 on women and girls in WASH-insecure households. First, there is the need for gender-sensitive WASH interventions and social protection programs that prioritize women's and girls' experiences, needs, and concerns in different cultural contexts. Second, it is important for policy makers to recognize the delicate balance between

restrictive COVID-19 mitigation measures and the cultural responsibilities around WASH that women and girls in LICs must perform daily. Whether it is handwashing, social distancing, or lockdown, COVID-19 prevention and control measures could disproportionately affect women and girls and increase their vulnerabilities. Not to mention that they will still be expected to perform their water-fetching, transportation, and cleaning duties. Exceptions should be made for households without private taps, where necessary, to allow women and girls some level of freedom to meet their personal and families' WASH needs. Third, considering the overall health implications of COVID-19 on women and girls in WASH-insecure households, emergency responses and interventions should incorporate menstrual hygiene management. Finally, community programs and media campaigns on proper hygiene and handwashing can be paired with sensitization programs on often-ignored topics, such as gender-based violence and the social stigma associated with menstruation.

Disclosure statement

No potential conflict of interest was reported by the author(s).

References

- Adams, E., L. Juran, and I. Ajibade. 2018. “Spaces of Exclusion’ in Community Water Governance: A Feminist Political Ecology of Gender and Participation in Malawi’s Urban Water User Associations.” *Geoforum* 95: 133–142. doi:10.1016/j.geoforum.2018.06.016.
- Adams, E., J. Stoler, and Y. Adams. 2020. “Water Insecurity and Urban Poverty in the Global South: Implications for Health and Human Biology.” *American Journal of Human Biology* 32 (1): e23368. doi:10.1002/ajhb.23368.
- Aihara, Y., S. Shrestha, and J. Sharma. 2016. “Household Water Insecurity, Depression and Quality of Life Among Postnatal Women Living in Urban Nepal.” *Journal of Water and Health* 14 (2): 317–324. doi:10.2166/wh.2015.166.
- Caruso, B., T. Clasen, C. Hadley, K. Yount, R. Haardörfer, M. Rout, M. Dasmohapatra, and H. Cooper. 2017. “Understanding and Defining Sanitation Insecurity: Women’s Gendered Experiences of Urination, Defecation and Menstruation in Rural Odisha, India.” *BMJ Global Health* 2 (4): e000414. doi:10.1136/bmjgh-2017-000414.
- Choudhary, N., A. Brewis, A. Wutich, and P. Udas. 2020. “Sub-Optimal Household Water Access is Associated with Greater Risk of Intimate Partner Violence Against Women: Evidence from Nepal.” *Journal of Water and Health* 18 (4): 579–594. doi:10.2166/wh.2020.024.
- Collins, S., P. Mbullo Owuor, J. Miller, G. Boateng, P. Wekesa, M. Onono, and S. Young. 2019. “‘I Know How Stressful It is to Lack Water!’ Exploring the Lived Experiences of Household Water Insecurity Among

- Pregnant and Postpartum Women in Western Kenya.” *Global Public Health* 14 (5): 649–662. doi:10.1080/17441692.2018.1521861.
- Crawford, M., L. Menger, and M. Kaufman. 2014. “This is a Natural Process’: Managing Menstrual Stigma in Nepal.” *Culture, Health and Sexuality* 16 (4): 426–439. doi:10.1080/13691058.2014.887147.
- Crow, B., and F. Sultana. 2002. “Gender, Class, and Access to Water: Three Cases in a Poor and Crowded Delta.” *Society and Natural Resources* 15 (8): 709–724. doi:10.1080/08941920290069308.
- Das, P., K. Baker, A. Dutta, T. Swain, S. Sahoo, B. Das, B. Panda, et al. 2015. “Menstrual Hygiene Practices, WASH Access and the Risk of Urogenital Infection in Women from Odisha, India.” *PLoS One* 10 (6): e0130777. doi:10.1371/journal.pone.0130777.
- Howard, G., J. Bartram, C. Brocklehurst, J. Colford, F. Costa, D. Cunliffe, R. Dreibelbis, et al. 2020. “COVID-19: Urgent Actions, Critical Reflections and Future Relevance of ‘WaSH’: Lessons for the Current and Future Pandemics.” *Journal of Water and Health* 18 (5): 613–630. doi:10.2166/wh.2020.162.
- Hulland, K., R. Chase, B. Caruso, R. Swain, B. Biswal, K. Sahoo, P. Panigrahi, and R. Dreibelbis. 2015. “Sanitation, Stress, and Life Stage: A Systematic Data Collection Study among Women in Odisha, India.” *PLoS One* 10 (11): e0141883. doi:10.1371/journal.pone.0141883.
- MacLean, K., C. Hearle, and K. Ruwanpura. 2020. “Stigma of Staining? Negotiating Menstrual Taboos Amongst Young Women in Kenya.” *Women’s Studies International Forum* 78: 102290. doi:10.1016/j.wsif.2019.102290.
- Rusca, M., C. Alda-Vidal, M. Hordijk, and N. Kral. 2017. “Bathing without Water, and Other Stories of Everyday Hygiene Practices and Risk Perception in Urban Low-Income Areas: The Case of Lilongwe.” *Environment and Urbanization* 29 (2): 533–550. doi:10.1177/0956247817700291.
- United Nations. 2020. “Policy Brief: The Impact of COVID-19 on Women.” April 9. http://www.un.org/sites/un2.un.org/files/policy_brief_on_covid_impact_on_women_9_apr_2020_updated.pdf
- United Nations Women. 2014. “Collecting and Carrying Water, Burdensome Reality for Women.” March 21. <http://www.unwomen.org/en/news/stories/2014/3/collecting-and-carrying-water-burdensome-reality-for-women>
- Wenham, C., J. Smith, and R. Morgan. 2020. “COVID-19: The Gendered Impacts of the Outbreak.” *The Lancet* 395 (10227): 846–848. doi:10.1016/S0140-6736(20)30526-2.
- Workman, C., and H. Ureksoy. 2017. “Water Insecurity in a Syndemic Context: Understanding the Psycho-emotional Stress of Water Insecurity in Lesotho, Africa.” *Social Science and Medicine* 179: 52–60. doi:10.1016/j.socscimed.2017.02.026.
- World Health Organization (WHO) and the United Nations Children’s Fund (UNICEF). 2017. “Progress on Drinking Water, Sanitation and Hygiene: 2017 Update and SDG Baselines.” Geneva. Available at https://www.unicef.org/publications/files/Progress_on_Drinking_Water_Sanitation_and_Hygiene_2017.pdf
- Wutich, A., A. Brewis, and A. Tsai. 2020. “Water and Mental Health.” *Wiley Interdisciplinary Reviews* 7 (5): e1461. doi: 10.1002/wat2.1461.