A planetary health perspective on menstruation: menstrual equity and climate action

Historically, blood-shedding has often been associated with heroic acts of valour. However, menstruation is not praised and cherished in the same way. Rather, menstruation is shrouded in secrecy, stigma, and stress, despite being a natural physiological process that occurs in a quarter of the global population.

Access to and availability of menstrual hygiene products (MHPs) is inadequate for many women, girls, and transgender and non-binary people, particularly in low-income and middle-income countries and among vulnerable populations (eg, sexual or gender minorities and people experiencing homelessness, poverty, or incarceration) worldwide.[1,2] With an estimated 500 million people globally still unable to access MHPs, menstrual inequity (ie, inadequate provision of affordable, accessible, and safe menstrual health and hygiene management [MHHM]) persists.[1,2] In the past three decades, non-profit organisations, grassroot movements, entrepreneurs, and academics have tirelessly advocated to combat period poverty, expanding access to safe MHHM in some countries and settings. For example, this work has led to the removal of so-called tampon taxes, free MHP provision in public settings, and improved access to safe water, sanitation, and hygiene.

Although various aspects of MHHM, such as sociopolitical factors and wellbeing, are increasingly recognised, the implications of inadequate MHHM for planetary health and environmental justice are discussed and researched less frequently.[3] Here, we emphasise some planetary health perspectives on MHHM, including the environmental impact of unsustainable MHHM; the importance of menstrual equity in just climate action, and vice versa the importance of climate action for menstrual equity; and inclusive community-based solutions for environmentally friendly MHHM.

Inadequate MHHM has important environmental impacts. Among people with MHHM access, single-use menstrual products (SUMPs), such as pads or tampons, are most commonly used instead of more environmentally friendly, reusable menstrual products (RMPs), such as menstrual cups or washable cloths.[4] However, the SUMP lifecycle, from production to disposal, is environmentally detrimental. SUMPs are often non-recyclable and non-biodegradable. Consequently, improper disposal can result in SUMPs polluting beaches, sewage systems, landfills, and water bodies and breaking down into microplastics.[3] However, the environmental implications of SUMPs are not widely known; even people who self-reported awareness of the environmental impact of MHHM had limited knowledge on all of the environmental aspects.[4]

Moreover, many of the environmentally harmful chemicals used in SUMP production are also carcinogenic, allergenic, or endocrine-disrupting. When improperly disposed of, MHPs can create unsanitary working conditions for waste pickers and cleaning workers. These disposal challenges are exacerbated when people do not have access to safe disposal methods or clean water for hygiene management and washing reusable products (which is often the case in low-resource settings, during humanitarian crises, or for people experiencing homelessness).

However, SUMPs are less costly than RMPs in the short term,[5] with the initial costs of RMPs often being unaffordable. Additionally, many RMPs require the user to have privacy, more intimately touch their genitals than for SUMPs, and have access to safe water, sanitation, and hygiene conditions.[5] In some socioeconomic and cultural contexts, individuals might not have the ability to choose, access, or safely use RMPs. Nevertheless, when people have access to safe water, sanitation, and hygiene services and disposal methods, use of RMPs in the long term can benefit menstrual health, equity, and the environment. These benefits include reducing skin irritation and diseases (eg, candidiasis);[6] overall household spend on MHHM after the initial RMP purchase, which can subsequently reduce period poverty;[5] MHP distribution challenges, because RMPs are not needed in the same quantity and frequency as SUMPs;[3] and the environmental footprint of MHPs.

When emphasising the environmental impacts of MHPs, equity and justice should be central. Globally, RMPs are underused because SUMPs are often, and sometimes intergenerationally, recommended as the

cost-friendly and safest option.[7] Although providing people with information and choices might support increased sustainable behaviours in some settings (ie, mostly high-income and high-resource settings),[4] it does not address systemic problems with MHHM globally.[7] Stigma; insufficient water, sanitation, and hygiene services; lack of privacy; and inaccessibility to RMPs and safe MHHM, which are all characteristic of menstrual inequity and injustice, mean that a choice between RMPs and SUMPs is one that does not exist for most vulnerable groups and communities. Thus, movements towards sustainable MHHM and climate action should include a focus on equitable access to MHHM.

Environmental changes threaten the health and social opportunities of women, girls, and other people who menstruate. Importantly, although unsustainable MHHM might harm the environment, climate change could simultaneously worsen inadequate, inaccessible, and unsafe MHHM.[8] During and after extreme weather and climate events, access to MHPs, private spaces, disposal methods, and clean water, sanitation, and hygiene facilities is often disrupted, and ongoing MHHM initiatives might be suspended due to the prioritisation of food and shelter provision in disaster relief responses.[9] Similar challenges around menstrual health arise during climate-induced migration, which is expected to increase over the coming decades.[9] Thus, the climate crisis and menstrual injustice are closely linked.

Gender equity is widely acknowledged as central in finding solutions to the climate crisis, including the implementation of adaptation and mitigation strategies at local, national, and international levels. For example, women have shown different approaches to energy consumption, resource management, and climate change prioritisation.[10] Both climate action and tackling the planetary health implications of MHHMs call for policies that embrace proactive and gender-transformative solutions. Such solutions require the inclusion of community expertise, experiences, voices, and knowledge from all genders. However, unease around menstruation, social exclusion during menstruation, and insufficient access to adequate MHHM might act as barriers to full participation in society and sociopolitical decision making processes.

A single approach to improve MHHM across and within countries is unlikely to work for all contexts due to differences in geographical, socioeconomic, and cultural backgrounds.[3] Therefore, community-based solutions are key to addressing MHHM access, safety, and environmental issues in comprehensive, economically feasible, and socially acceptable ways.[11] These solutions include waste management system design and implementation, RMP development and advertising, and addressing specific norms and beliefs that influence MHHM. Environmentally friendly approaches, in conjunction with local experiences, have previously encouraged the production of sustainable, safe, and accessible MHHM solutions (eg, locally sewn or banana fibre pads) in different settings.[11] Importantly, sustainable MHHM should actively include the experiences of all menstruating people, including those who identify as transgender, non-binary, and other gender identities, who often experience additional barriers and discrimination in accessing safe and sustainable MHHM.

Further menstruation research is needed in collaboration with community-led initiatives, grassroot organisations, and populations that are most affected by menstrual inequity. Such research efforts should explore the comparative ecological impacts of different MHPs; contextual factors that influence access, uptake, and disposal of sustainable MHPs across settings and populations; and associations between climate change, climate action, and menstrual inequity. By recognising the planetary health perspectives on menstruation, societies can not only reduce menstrual inequities but also support women, girls, and transgender and non-binary people as active participants in society and actors of change in climate mitigation and adaptation.

We declare no competing interests.

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