Addressing Menstrual Health & Hygiene Practices in the Era of COVID-19 Pandemic

Santosh KUMAR MISHRA¹

¹Technical Assistant, Population Education Resource Centre (PERC), Department of Lifelong Learning and Extension, S. N. D. T. Women's University, Patkar Hall Building, First Floor, 1, Nathibai Thackersey Road Mumbai-400020, Maharashtra, India, drskmishrain@yahoo.com

Abstract: Menstruation is the natural bodily process of releasing blood and associated matter from the uterus through the vagina as part of the menstrual cycle. Menstrual health take into account both menstrual hygiene management (MHM) practices and the broader interventions that link menstruation to health, wellbeing, gender, education, equality, empowerment and rights. Ensuring menstrual health & hygiene (MHH) practices in the face of COVID-19 health crisis gains increased significance in today's world. In relation to MHM, several countries have reported that COVID-19 pandemic has worsened key challenges for women and adolescent girls who bleed due to several reasons. This research work aims to address strategies needed to mitigate the impacts of COVID-19 on MHH. Also, attempts have been made to investigate into considerations needed for ensuring MHH practices among women and girls with disabilities, and refugee and displaced people, as they are likely to be severely impacted by the COVID-19 pandemic. Secondary data (largely qualitative in nature) have been used in the work and nature of data analysis is descriptive. The paper concludes that there is need to ensure that MHH supplies and water, sanitation and hygiene (WASH) are in place for both menstruating women and girls, and health care workers in hospital settings offering both menstrual health and COVID-19 care and services.

Keywords: *Menstrual Health; Hygiene; Reproductive Health; Women; COVID-19; Menstrual Hygiene Management (MHM); Menstrual Health and Hygiene (MHH); Pandemic; Sexual and Reproductive Health (SRH); and Water, Sanitation and Hygiene (WASH)..*

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1. Introduction & Rationale:

In the broader context of sexual and reproductive health (SRH), the concept of menstrual hygiene management (MHM) plays meaningful role in addressing key issues associated with menstrual health (MH). Health professionals, in several parts of the globe, are of the considered view that menstrual hygiene management (MHM) should be prioritized in health agendas at all levels. This growing recognition has emerged in view of the fact that scientific MHM practices have potential to ensure menstrual hygiene for women and adolescent girls (between menarche and menopause) even during difficult situations like COVID-19 induced health crisis. The fact remains is that the COVID-19 pandemic has resulted in breakdown (or failure) of health infrastructure in almost all countries, both rich and poor, and developed and developing. Various factors are responsible for this scenario. However, author does not wish to further elaborate on this discussion, as it is beyond objectives and scope of this research.

As outlined above, the aspect of MHM of paramount importance which needs to be prioritized in developmental plans in all societies and countries. If this aspect is overlooked, it may result in poor health status of women in the society which, in, turn, will lead to undesired demographic trends. This realization has emerged in view of the fact that the menstrual hygiene is one of the important aspects of overall health of women and adolescent girls which is determined by different social and demographic factors.

Despite the fact that MH services should be necessarily provided to all women and adolescent girls in time (that ensure overall satisfactory health indicators among them), it is disappointing to note that several of them are denied of such services mainly due to (a) *“inadequate number of trained health professionals”*, and (b) *“poor health infrastructure”*. The author of this research argues that the growing realization of providing MS services to the needy and eligible women has been felt in view of the fact that more than one fifth of the world’s population consists of women of reproductive age (which refers to 15–49 years of age). Menstruation is a natural fact of life. In terms of proportion of population who need MH services, it is desirable to have a look at the data published by the United Nations Children’s Fund (UNICEF). According to estimates by the (UNICEF), menstruation is a monthly occurrence for nearly 1.8 billion girls and women placed in reproductive age group. Despite this fact, it is disheartening to note that

countless number of women experiencing menstruation, from across the regions of the world, are do not have access to adequate RH and MH survives when needed. Most importantly, several of them are denied the right to manage their monthly menstrual cycle in a manner that is (a) '*dignified*', and (b) '*healthy*'. This demographic trend points to a research statement that menstruation is a natural and essential part of the reproductive cycle, and that all developmental policies (in all countries) should be mandated with providing MH services to eligible women and adolescent girls in safe and hygienic environments. The author of this work also argues that some of the menstruation related complications are severe in nature. For instance, women (and girls), in all nations, experience vaginal bleeding. These issues need to be addressed at national, sub-national, and provincial (regional) levels by all involved stakeholders in the health-sector. *Most importantly*, in addition to bleeding during menstruation, several women experience several reproductive health related complications that occur after reproductive cycle. Again, some of the post-reproductive cycle health complications are witnessed during menopause also [1].

In this context, one must note that series of consultations on RH and MH have taken place at academic and research platforms in the past. Also, findings of large scale studies have, once again, emphasized the need for providing MH servicers to all eligible people. Prominent international bodies (such as the World Health Organization [WHO] and the United Nations Development Programme [UNDP] have enacted laws and legislations in these matters. The author of this paper makes a specific point at this juncture that according to international conventions on RH and MHH, it is obligatory on the part of all signatory states (nations) to ensure that health of women are given priority in developmental agendas. The MH is an essential human right. Implementation of this institutional (and universal) commitment enables women to have the ability to manage their menstrual health. In addition, they are also equipped with required skills needed to manage their all other forms of vaginal bleeding. They can do so with (a) adequate scientific knowledge, (b) safety, and (c) dignity. Importantly, adequately designed MHM enables them to manage their MH without stigma. This aspect gains increased significance in view of the fact that stigma attached to menstruation (and resulting bleeding) is one of the barriers in accessing RH and MH services by women and adolescent girls when they need them most. The United Nations Human Rights Office of the High Commissioner, for instance, argue that women's MH is related to multiple human rights. Some of such human rights are comprised of the

right to: (a) life, (b) be free from torture, (c) health, (d) privacy, (e) education, and (f) prohibition of discrimination (in all forms) [2].

Further, it is significant to note that in addition to the legislation enacted by the United Nations Human Rights Office of the High Commissioner, the Committee on Economic, Social and Cultural Rights and the Committee on the Elimination of Discrimination against Women (CEDAW) has also emphasized need for MH services. The CEDAW has indicated that women's right to health includes their sexual and reproductive health (SRH). Adolescent girls, in many countries and societies, need SRH services most, as they are vulnerable to many unhealthy sexual health practices [2].

However, despite growing importance attached to providing required services to women and girls, the fact remains is that the MH, today, is a taboo topic in almost all cultures in countries from around the world. There is stigma associated with menstruation (and resulting bleeding during reproductive cycle). Even in today's world situation, the subject of menstrual health is not openly discussed and debated into in many societies and nations. The bottom line is that MH and RH of women and girls is not prioritised in health agenda of several countries (especially those with inadequate health infrastructure) to the desired extent. Policy makers and health care providers need to be adequately sensitized about issues pertaining to (a) stigma, and (b) taboo. They should envisage these considerations while designing and implementing health development initiatives. It is due to these reasons (stigma and taboo) that several women and girls in reproductive age do not get access to required services in time (when they need the MH services most). It has been reported that often they have lack of access to the information, products, and infrastructure that are needed to manage their menstruation with dignity.

Most importantly, there are several other odd situations that deprive women and adolescent girls of needed MS services. For instance, in situations where women and girls are isolated from their families, they have their physical safety at risk. In some countries, some of them are forced to be absent from work, school, or community activities. These deprivation and isolation situations hinder women and girls in accessing services. In fact, isolation from family results in a situation that has severe impact on their (a) health, (b) well-being, and (c) rights. Also, it is pertinent to note that that adolescent girls and women confronted with disability-related

complications, are more vulnerable to negative outcomes related to MH. The negative outcomes are also reflected in the form of consequences (of isolation from family, sometimes for prolonged duration) on their overall self-esteem, including confidence, during later stages of life. This situation makes it necessary to impart menstrual health education at appropriate levels, both through formal and non-formal streams of education [3].

Efficient and more scientific MHM is, thus, an area that requires attention of health care workers and other stakeholders, across the regions of the globe. The term MHM implies management of hygiene and health practices. Notably, such practices are connected with the process of menstrual cycle among women and adolescent girls. The conceptual framework of MHM has been explained by several authors (including international organizations and research institutions) in different ways. However, the definition provided by the World Organization (WHO) and the United Nations Children's Fund (UNICEF) is universally accepted, as it is comprehensive in nature, envisaging all relevant aspects of both RH and MH. The WHO and the UNICEF define MHM in these terms: *"Women and adolescent girls are using a clean menstrual management material to absorb or collect menstrual blood, that can be changed in privacy as often as necessary for the duration of a menstrual period, using soap and water for washing the body as required, and having access to safe and convenient facilities to dispose of used menstrual management materials"*. An important consideration in this definition is that MHM enables women and adolescent girls (in reproductive age) to understand the basic and scientific facts that are linked to the menstrual cycle. Also, it equips them with skills needed to manage menstrual-related complications with dignity and without discomfort or fear. All these enabling factors together empower them for understanding and addressing issues associated with MH in more meaningful ways. It is for these reasons that May 28 is celebrated as Menstrual Hygiene Day (MH Day) [3].

The MHM practices are, thus, important considerations for health professionals and other stakeholders. It gains increased significance in the face of COVID-19 health crisis the international community is confronted with today. It is established fact that periods associated with menstrual cycle do not stop during times of a health crisis, like COVID-19 pandemic. It has been reported that millions of people, from across the regions of the globe, are menstruating amid COVID-19 pandemic [8]. The COVID-19 health crisis has led to a situation that has eliminated privacy for many. Interventions by health care providers in this matter are, thus, needed.

Significance of such strategic interventions in the health-sector becomes more obvious in view of the fact that over 500 million women worldwide do not have access to MH services that they need in order to manage their menstruation. This forms the rationale in the context of which this paper has been authored. Presented below is information on review of literature.

2. Review of Literature:

Review of literature forms an integral part in research studies, especially in the field of social science research. It is for this reason that, description on review of literature related to objectives of the research paper needs to be presented. However, the author of this work did not find much of meaningful and relevant research work (in the area of MHM and COVID-19 pandemic) that can form part of review of literature in this work. Reason behind non-availability of required research work may be attributed to the fact that COVID-19 pandemic has emerged recently and no study has been undertaken to understand application of this world wide health crisis on MHM. In view of this consideration, no information under review of literature (of this research work) has been presented. However, some micro level initiatives (that matches objectives of this paper) have been briefly quoted at appropriate sections of the text of this paper. Following section deals with objectives and research methodology employed in this work by the author.

3. Objectives and Methodology:

With regards to objectives, this work aims to address strategies that health care providers need to take into account in order to adequately address and mitigate the consequences of COVID-19 pandemic on MHH (menstrual health and hygiene). In this review (which is based in secondary data), essential considerations for ensuring continuation of MHH during the pandemic crisis have been looked into by the author. Further, the author of this research attempts to:

A) investigates into how the implications of COVID-19 pandemic is adding to challenges for people who menstruate around the world, and

B) offers viable recommendations on how to include menstrual hygiene management (MHM) within the context of COVID-19 response.

The discussion, in this research paper, emphasizes on challenges associated with MHH care in hospital and health care settings wherein COVID-19 patients are being treated. In addition, this work also aims to

investigate into considerations needed for ensuring MHH practices women and girls with disabilities, and refugee and displaced people. In broad terms, the author of this paper considers women and girls needing menstrual health & hygiene treatment (and care) in hospitals as “non-COVID-19 patients”. In terms of methodology employed in this research paper, secondary data has been used (sources are quoted in the reference section). Secondary data used are ‘*qualitative*’ in nature. Method of data analysis is descriptive. This study is based on “*desk-based research*” method.

4. Quick Look at Emergence of COVID-19 Pandemic and Resulting Consequences:

In this section of the research, the author presents brief description on emergence of COVID-19 pandemic and resulting consequences on MH and RH services at national and sub-national levels. According to WHO and other health scientists, the SARS-CoV-2 is the virus that results in COVID-19. In terms of consequences, this pandemic (COVID-19) has significantly impacted human health the world over. The most notable aspect of this health crisis is that since it has infected a large number of people in all countries within short span of time, the global health infrastructure has crumbled. Also, the COVID-19 has resulted in many severe and critical diseases among people, especially those with low-immunity and comorbidities. Elderly people are more at risk. Menstruating women and girls are also vulnerable. In terms of negative consequences, the pandemic has also been found to be associated with “long-term health consequences”. Adequately addressing these issues has posed renewed challenges for all nations.

Overall, the COVID-19 crisis has led to: (a) *death and excess mortality, especially among older and vulnerable populations*; (b) *interrupting routine healthcare services*; (c) *travel restrictions*; (d) *interruptions in trade, education and many other societal functions*; and (e) *negative impact on physical and mental health of people* [4]. In addition, countless number of people have lost jobs. Students, pursuing education at all levels (ranging from school to university/higher education) from all over the world are also most severely affected. The cumulative impact of all these negative consequences is that the global economy has collapsed.

Health scientists and medical personnel, from around the globe, are of the determined view that the Coronavirus disease (COVID-19) is an infectious disease. According to the WHO, premier global health body, the

COVID-19 virus is caused by a newly discovered coronavirus. Health experts have further, discovered: (a) that most people infected with the COVID-19 virus experience mild to moderate respiratory illness, and (b) that many recover without requiring special treatment from health professionals. However, another important and threatening dimension of the pandemic is that those aged (or older people aged 60 years and over) with prevailing illness (like cardiovascular disease, diabetes, chronic respiratory disease, and cancer) are more likely to develop serious health complications resulting from COVID-19 virus. This virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes [5].

Most importantly, another significant (rather threatening) aspect of COVID-19 pandemic is reflected in “changing nature of the virus”. Experts today term it as “*new variants of the virus*”. Recently, new variants of the virus (that results in COVID-19) has been discovered in the United Kingdom (UK). The new variant has slowly spread to other nations, including India, Brazil, and South Africa. It has been reported that these new variants have potential to spread more easily and quickly than other variants. This renewed phenomenon may lead to more cases of COVID-19 in all countries and regions of the globe. As a result of this, there has been rise in number of people infected with COVID-19 virus (and resulting fatalities). Today, health experts are discovering new information about the characteristics of these variants (which are more transmittable). New findings of the research studies indicate that new variants of the virus are rapidly spreading among more and more people in many countries, as viruses constantly change through mutation. Study findings are also indicative of the fact that new variants of the virus are expected to occur over time. Health scientists also opine that new variants, sometimes, emerge and then disappear. It is pertinent to note that multiple variants of the virus that causes COVID-19 have been documented in the countries like United States of America (USA), South Africa, Brazil, Australia, including other countries in the European Union [6]. This new variant of the COVID-19 has more challenging implications for care of MHH for women and girls.

5. Results:

In view of the facts presented in previous sections of this research, the author argues that it is imperative to include menstrual health and

hygiene (MHH) in COVID-19 emergency response interventions and policies across sectors. In the context of coronavirus, it is more significant, than ever before, to prioritize maternal health (MH) issues on the health agenda. This should be done at both national and international platforms, as it is not possible to tackle COVID-19 emergency by a single country or organization. In more specific terms, all collaborators need to join hands together to safeguard MH of women and girls in best possible manner. There is need to broaden the horizon of the global health infrastructure in order to secure a world in which every woman and every girl can achieve her full potential and realise her dreams in MHH matters. Stated differently, it is time for action, in all countries, and at all levels. The author presents below significant results in view of objectives:

5.1 Impact of COVID-19 on Menstrual Health & Hygiene:

Globally, many women and girls, infected with COVID-19 virus, have spoken about how the prolonged state of illness has affected their menstrual cycles, further impacting their overall quality of life. The COVID-19 pandemic situation has implications for MHH. Implications are reflected in general physical and mental health well-being of people in all regions (and countries) of the globe. The author of this work argues that in the context of MHH, there are two types of impacts: (a) primary impacts, and (b) secondary impacts. The primary impacts of COVID-19 pandemic are seen as the direct and immediate consequences of the epidemic on MHH, in general, and on human health, in particular. The secondary impacts, on the other hand, are perceived as those caused by the coronavirus epidemic (COVID-19) indirectly by two ways: (a) through the effect of fear on the population, and/or (b) because of the measures taken to contain and control it [7].

It is pertinent to note that pandemic is a new disease and evidence (as outlined earlier in this paper). This outbreak has emerged (and continue to transmit to others) in all countries, regions and continents of the globe, severely impacting MHH practices. The COVID-19 virus spreads mainly from person to person through respiratory droplets and contact with these droplets on surfaces. As indicated earlier, the virus does not spread through faeces or blood, including menstrual blood. Till date, there is no scientific evidence to suggest that the COVID-19 pandemic has implications on the women's menstrual cycle directly. However, health experts advocate that other outcomes of the pandemic can severely impact reproductive health of women and adolescent girls. Other consequences of the outbreak include (a)

stress, (b) anxiety, and (c) malnutrition. Also, the COVID-19 pandemic has been found to have secondary impacts on ability of girls and women (in reproductive age group) to manage their MH. *Most importantly*, the consequences of the pandemic on MHH care and practices vary according to (a) contexts of the countries, (b) ability to respond to the pandemic, and (b) locally prevailing social and cultural practices. For instance, consequences may be determined by factors such as “*social protection mechanism*”, and (b) “*effectiveness of health care system*” [7]. This perspective makes it obligatory for the COVID-19 outbreak team in all countries to address MH and RH issues in broader contexts of availability of health infrastructure and prevalence of other developmental indicators.

It should be noted that the cultural shame associated with menstruation and inadequate resources prevent many women and girls from going to school and working every day. Poverty situations are characterized by lack of access to: (a) sanitary products, (b) menstrual hygiene education, (c) toilets, and (d) hand washing facilities. In the context of MHH care and practices, the most affected of adolescent girls and women are those who are deprived of basic facilities, and are marginalized. They are the poorest, and are most vulnerable to economic and social shocks. Such deprived women and girls are located in countries with inadequate health infrastructure, and lack of other developmental initiatives. Women and girls from these countries will be most severely affected in managing their menstrual health. Also, women with certain occupations will be subjected to greater vulnerability. Research findings are indicative of the fact that millions of menstruators, from across the regions or continents of the globe, are unable to manage their MH and monthly cycle-related issues in a manner that is ‘*dignified*’, and ‘*healthy*’. Thus, in view of COVID-19 crisis, what is needed for women is to tackle their issues related to MH in a healthy (and dignified) way. Another area of concern is that even during pre-COVID-19 pandemic years, several factors resulted in a situation wherein MHH needs of women and adolescent girls were not adequately unmet. Some of such contributory factors include (a) gender inequality, (b) low level of education, (c) lack of awareness on health matters, (d) discriminatory social norms, (e) cultural taboos, (f) poverty, and (g) lack of basic health services. These pre-COVID-19 situations (which are prevailing outbreak time also) make addressing RH and MH issues more challenging for the national governments and for others responsible for health management [8].

In addition to the dimension of inadequate health facilities and other social, economic and cultural scenarios (as outlined above), MH services are also hindered by emergency situations in some countries. During such emergency situations (normally reflected in the form of civil war, conflict, natural disasters, etc.), these deprivations can be exacerbated. The combined (or cumulative) impact of all these factors is far reaching negative impacts on the lives of those who menstruate. In situations resulting from COVID-19 pandemic, menstruators (like their male counterparts) have several restrictions. The author of this research note specifically makes a point herewith that COVID-19 induced lockdowns, in almost all parts of the planet, have resulted in (a) restricting mobility, freedom and choices; (b) reduced participation in school, work and community life; (c) compromising safety; and (d) stress and anxiety. Restrictions on mobility, imposed to curb the spread of COVID-19 outbreak, have deprived several women and adolescent girls of access to RH services at a time when they needed the services most [8].

5.2 Key Issues Related to COVID-19 and Access to Menstrual Health Services:

As outlined by the author in the previous sections of this work, during COVID-19 pandemic, women face added challenges in managing their menstruation. This resulting situation makes them to compromise on their health and dignity. It is pertinent to note that during COVID-19 outbreak, the ability of the health system to deliver required services is also hindered. In this context, there are seven key issues related to covid-19 and MH that require special attention by health care providers. Description on these key issues is presented below:

1. COVID-19 lockdowns and border closures: Women and girls, in several parts of the globe, have limited or inadequate access to menstrual hygiene products. In broader contexts, this situation is resulted from primarily three factors, namely, (a) lockdowns, (b) border closures, and (c) supply disruptions. All these three factors are associated with the COVID-19 pandemic situations that many countries are witnessing today. Due to disruptions in global supply chains and smaller scale private sector enterprises cease trading, deliveries of menstrual health related sanitary products and goods has significantly slowed down in many countries, especially in regions in the European Union (EU) that share inter-country borders. Also, this situation is more prevalent in remote areas. It has been found that shops and markets remain closed and restrictions on movement

due to lockdowns have made sourcing goods more challenging for health care providers in many countries. It is pertinent to note that the resulting restrictions have made sanitary products a “*scarce resource*”, which many girls and women have experienced during lockdown period (that now goes beyond one year for the whole of world). Due to COVID-19 lockdowns, many people are made to avoid going out to local markets (or supermarkets) in order to obtain essential supplies. Locally imposed lockdown rules do not permit them to venture out of the houses owing to fear of the exposure to COVID-19 infection in public places. Most significant aspect of the MHH in this very context is that in situations where sanitary products are difficult to procure, women and girls in need may be inclined to resort to using unhygienic alternatives that can significantly increase their risk of reproductive and urinary tract infections (UTIs). Lack (or inadequate) access to safe sanitary products during COVID-19 situation poses an increased threat to the health and safety of women and girls who menstruate. During the COVID-19 pandemic era, this situation prevails in all countries (as lockdowns have been imposed in all countries to curb the spread of outbreak. As of now, health experts are uncertain on period of probable lockdowns for the time ahead. In such situations, community health workers have a meaningful role to play in the time ahead [8].

2. Inadequate access to facilities during menstruation:

According to an estimate, nearly 500 million women and girls globally lack adequate and required facilities for safe MHH practices. The author of this research makes a point that they have limited and/or disrupted access to facilities for changing, washing and cleaning during menstruation cycle. More specifically, during situations (arising from the COVID-19 pandemic), many women and girls have inadequate access to clean water (to wash), toilets with doors (for safety and privacy), and a lack of means to safely discard used sanitary products. These are some examples of the challenges that people face during COVID-19 pandemic restrictions (and resulting lockdowns) in managing their MH (including RH) issues in a manner that is (a) ‘*private*’, (b) ‘*safe*’, and (c) ‘*dignified*’ [8].

3. Increased price of sanitary products:

Owing to disruptions in global supply chains in the health manufacturing sector, many of the women and girls find an increased price of sanitary products. People and families with no or limited income are most severely affected by increase in prices (which is applicable not only to sanitary products, but also to other prescribed medicines that are needed for treatment of various ailments).

Increased prices can be partially attributed to limited or disrupted supplies of sanitary products. However, reports of several research studies point to the fact that in some parts of the world, prices have been intentionally opportunistically inflated with motive of making unreasonable profits. With the COVID-19 pandemic significantly affecting livelihoods and household incomes globally, it is now more difficult, than earlier (during pre-COVID-19 outbreak years) for adolescent girls and women to afford to buy sanitary products. It is pertinent to note that lack or inadequate access to sanitary products (needed to maintain safe MHH practices) has been witnessed in situations where products are available. This situation is, indeed, worrisome for government machinery and health care providers in all countries. This scenario warrants special attention of national governments, and other stakeholders [8].

4. Problems pertaining to access to reliable information and support for MHH initiatives: The COVID-19 lockdowns have also caused problems with access to reliable information, infrastructure and other health-related support needed to adequately address MHH issues women and girls are confronted with. It is pertinent to note that with millions of student population placed out of schools, colleges and the university system around the world, the immediate connections that adolescent girls have with their teachers, friends, health workers and family networks are missing. Social connectivity, which is key to overall development of both physical and mental health of people, is on its lowest side during the COVID-19 outbreak. This particular situation can (and has) resulted in girls having limited information on their first period and MHM. This is particularly heightened in areas where young people have limited/or no access to computer, Internet, and other required online resources [8].

5. Access to clean water to maintain good MH during COVID-19 pandemic: It is well known fact that access to clean water is key in managing menstruation safely and hygienically for women and girls. Importantly, people who were already facing difficulties in accessing supply of clean and hygienic water, the situation may become more profound for them during the COVID-19 outbreak. The pandemic-induced curbs and restrictions on movement have posed added risks and challenges, particularly for women and girls, who are often responsible for managing household chores. In many cases, they are responsible for collecting household water for which they are made to walk long distances. With the COVID-19 intensifying in many countries, household water needs in water

scarce environments and with lockdown reducing access to water, women and girls may not prioritise water for their menstruation needs. This situation is alarming. Likewise, they may be unable to access a clean and safe toilet facilities. They are, often, made to share toilets that are located nearby (or close to their house) due to the risks of contracting COVID-19. Additionally, in a time of scarce resources, basic items and health products (such as soap needed for hand washing) may also be difficult to procure. Again, for those women and girls placed in refugee camps (including internally displaced camps), lack of access to clean water is even more acutely felt [8].

6. Less hygienic environment for disposal of products and waste management: It has been reported from across the continents of the globe that disruptions resulting from the COVID-19 pandemic have created a less hygienic environment for (a) *“disposal of products”*, and (b) *“waste management”*. Findings of recent studies indicate the fact that during COVID-19 restrictions and resulting lockdowns, safe disposal of sanitary products has become more difficult for women and adolescent girls (who menstruate), as they cannot walk long distances due to fear of getting infected by COVID-19 virus. In the absence of access to waste disposal systems, many women and girls often burn (or bury) used pads at locations that are close to their homes. Due to restrictions of movement resulting from COVID-19 pandemic, safe disposal of used sanitary products may not be always possible. Most importantly, the resulting situation can increase (a) the risk of environmental degradation, and (b) risks of disease transmission among people living in nearby locations. Additionally, the embarrassment and stigma of soiled sanitary products being found close to (or in and around homes) reduce the likelihood that women and adolescent girls will use safe and hygienic sanitary products [8].

7. Stigma, shaming or harmful cultural practices associated with MH: It has been found that the stigma, cultural taboos and shaming associated with menstruation have become more profound during COVID-19 pandemic situations in many countries and societies. These types of stigma and taboos are harmful cultural practices which must be discouraged. *Most importantly*, in societies and cultures where menstruation is considered impure, women and girls who menstruate are often excluded from daily activities. They are discriminated in many matters. In addition, the discrimination for those who face intersecting issues (such as being transgender, non-binary, and intersex) is even greater. In addition to this, if a

person is suspected of having or has been diagnosed with COVID-19 virus (which is newly emerged health outbreak), the stigma is even further entrenched in some societies. The shame and stigmatisation associated with COVID-19 virus (that may be often felt) poses a serious risk to women and adolescent girls' access to essential services and scarce resources (including their mental health and overall well-being). Lack or inadequate scientific knowledge and the stigma and taboo concerning menstruation (including COVID-19 virus) increase women and girls' feelings of shame, embarrassment and discomfort. All these factors together can lead to increasingly poor mental health outcomes among women and girls [8].

5.3 Challenges for Menstruators during the Covid-19 pandemic:

Health experts from around the globe argue that water, sanitation and hygiene (WASH) are the first line of defence against COVID-19 pandemic situation. The WHO and other inter-governmental agencies have recommended that access to clean water and soap for hand washing is a critical need. Efforts are needed to ensure that these needs are met. This initiative is part of global response to the COVID-19 pandemic. There are, however, other essential aspects of WASH initiatives that, according to the Plan International, Surrey (United Kingdom)-based agency, should not be forgotten by the health care providers [8]. More specifically, it has been found that girls and women hospitalized (or placed in quarantine centres) for treatment of COVID-19 virus may lack access to WASH and MHH supplies in many societies and countries due to curbs and restrictions [7].

More specifically, initiatives aimed at mitigating the impacts of COVID-19 on MHH need to address some critical challenges. Prominent among the challenges (that require attention of all stakeholders) are: (a) health care providers not being aware of and/or not prioritizing the MHH needs, (b) lack of (or inadequate) documented evidence of MHH experiences and challenges of women in health care settings (which may differ from context to context and country to country), (c) lack of MH materials (in print and digital formats) for healthcare workers, and (d) inadequate (or lack of) access to WASH facilities at health care facilities. These are hindrances that prevent women from managing basic hygiene, including MH (especially when they are away at the work place) [7].

In the context of MHH practices, the initiative on “WASH in health care facilities” is of paramount importance. In broader terms, this initiative indicates to adequate and required provision of water, sanitation, health care

waste management, hygiene and environmental cleaning infrastructure, and services across all parts of a facility, and in all countries and societies. The term “health care facilities” envisages all formally recognized facilities that provide health care at various levels. In the context of present research, health care facilities include primary, secondary, and tertiary (district, provincial or national hospitals) public and private hospitals designed for the purpose of treatment of various ailments (including for treating emergency contexts, e.g., cholera or HIV/AIDS treatment). Such health care facilities may be located in urban or rural areas. It has been found that WASH services in health care facilities, across all regions of the globe, often do not meet national standards, including those standards recommended by the WHO. It is established fact that the availability of adequate and effective WASH services (especially in maternity and primary-care settings, where they are often absent) provides support to core universal health care aspects of quality, equity, and dignity for all. However, it is pertinent to note that basic WASH services and facilities in health care are key players in providing quality care. Also, they are essential for ensuring that primary health commitments (as detailed in the Astana Declaration) are achieved) [9].

According to the study published by the Plan International in the year 2020, during health emergency resulting from the COVID-19 pandemic, on and average, nearly 800 million diverse women and girls are menstruating on any single day. What is alarming, in this context, is that they are confronted with several complications associated with MHH. The fact remains is that several of women and girls are confronted with unique challenges in managing their MH in the midst of global pandemic [9]. In relation to MHM, several countries have reported that COVID-19 outbreak has worsened key challenges for women and girls who bleed, and at the same time are confronted with several obstacles. Prominent among the obstacles, women and girls face during menstruation, include:

- a) restricting access to products (through either shortages or disrupted supply chains);
- b) restricting access to WASH facilities to help change, clean and dispose of sanitary products;
- c) increased and prohibitive prices of products;
- d) lack of access to information about menstrual hygiene management;
- e) reduced access and availability of clean water to help manage periods;
- f) less hygienic environment for sanitary hygiene product disposal; and

- g) increased stigma, shaming or harmful cultural practices associated with menstruation [7].

Further, in terms of challenges associated with MH, girls and women, in their respective communities, may be confronted with menstrual complications due to gaps in provision of water and sanitation service. Such gaps exist mainly due to two factors, namely, (a) disruption of safe water supply or lack of sewerage system maintenance, and/or (b) increased costs driven by scarcity of supply of sanitary products. Also, those with confirmed or suspected COVID-19 virus, either quarantined or isolated at home, may lack access to:

- a) piped water supply,
- b) on-site sanitation,
- c) hand washing facilities,
- d) soap, and
- e) MHH supplies [7].

Furthermore, there may be disrupted access to MH products and materials, particularly disposable materials that require monthly replenishment. Also, there may be limited access to critical information due to limited access to technology and digital platforms, school closures, suspension of community-based programming, and low levels of literacy in some settings (particularly among the most vulnerable). These situations pose added risks particularly for adolescent girls. In the context of girls and women positioned in shared or institutional settings (e. g., refugee camps, prisons, and hostels), there are four additional challenges. They are discussed below:

- a) diversion of resources away from menstrual hygiene supplies (materials and supportive supplies such as underwear and laundry soap);
- b) reliance on shared water supply, onsite sanitation, or household bathing and laundry facilities;
- c) limited or inadequate access to critical information related to menstruation or women's health due to disruption in routine health services and diversion of funding from women's health to other issues; and
- d) inadequate access to critical information (due to limited access to technology, and digital platforms and low levels of literacy) [7].

5.4 Addressing Impacts on MHH:

Description presented above indicates risks and challenges women and girls are faced with in managing their MH. The author attempts to discuss, in this section of the research, essential considerations that health care providers need to envisage in order to ensure continuation of MHH practices during the COVID-19 pandemic. Presented below is the description:

Health care providers should take note of following three aspects in matters pertaining to MHH practices:

- a) Ensuring that MHH supplies and WASH facilities are in place for healthcare workers and patients (both COVID-19 and non-COVID-19 patients).
- b) Mitigating the impact of lack of access to menstrual materials and WASH facilities by providing MH materials and food assistance for girls and women with limited movement (those located in camps or institutions).
- c) Providing basic WASH facilities and services in communities, camps, and institutional settings.

In addition to the points made above, all assistance should follow the principles of: “DO NO HARM”. Here, it is pertinent to note that during the COVID-19 pandemic, social physical distancing measures need to be in place. National governments and all developmental agencies should, therefore, ensure that:

- a) essential person to person contact is kept to a minimum,
- b) protective measures are taken, and
- c) health officials responsible for MHH practices switch to contactless methods (such as mass and social media) to the possible extent [7].

Gender sensitive and inclusive response aspects also need special attention of all stakeholders. Health care workers and developmental agencies should identify those who are most marginalised (and also those who are hard to reach). Also, they should (a) implement appropriately designed measures to reach them, and (b) monitor whether such measures are effective. The unreached section of population includes (a) girls and women with disabilities, (b) those in conflict-affected contexts, and (c) those in remote and rural communities. Most importantly, those responsible for ensuring MHH practices should adapt formats as needed to reach those who

may be hearing and visually impaired, or with low-literacy levels. These are important considerations in ensuring that MHH practices continue, without much hindrances, during the COVID-19 pandemic. [7].

5.5 Considerations for Women and Girls with Disabilities:

In the context of addressing menstrual health & hygiene practices during the COVID-19 pandemic situation, it is pertinent to note that women and girls with disabilities, in particular, are likely to be severely impacted by the health crisis. This situation also negatively affects their ability to manage their menstrual periods safely (and with dignity). It is pertinent to note that several women and girls with disabilities are significantly affected in matters pertaining to having access to MHH practices. According to some estimates, there are over one billion people living with disabilities globally. Importantly, many of them are women and girls and who face multiple and intersecting forms of discrimination mainly due to their (a) age, (b) gender, and (c) disability considerations. Health experts from the WHO team and other inter-governmental agencies are of the considered view that in view of social distancing restrictions norms in place and fear of transmission of COVID-19 pandemic, the essential community-based social services and specialised services that women and girls with disabilities rely on for information and to assist with their own MH and hygiene management, are likely to be (a) stopped, and/or (b) disrupted.

In addition to what is stated above, health care providers in the community (including family members who are in isolation for treatment of the COVID-19 virus) will be unable to provide the daily assistance of washing and toileting facilities. Providing such facilities on regular basis and in timely manner are essential for the purpose of ensuring good MHM. Community responses, therefore, must be created with a strong gender and inclusion lens. Community response aspect is needed in order to ensure that women and girls with disabilities, who are hardest hit by the COVID-19 pandemic, are reached and their needs are met [8].

5.6 Mitigating Impacts of COVID-19 on MHH: Key Considerations:

Gender sensitive and inclusive responses are key in mitigating Impacts of COVID-19 on MHH. In addition, health care providers should identify those who are (a) most marginalized, and (b) difficult to reach due to COVID-19 lockdown restrictions (such as girls and women with disabilities, those in conflict and war zone areas or locations, and those in remote and rural communities). Measures designed to reach these sections

of population (women and girls) is of significant importance. Equally important is to ensure that such measures are effective. This will require appropriately designed monitoring and evaluation mechanism in MHM [7].

For the purpose of measures needed for mitigating impacts of Covid-19 on MHM, there is need to there is need to design strategies for different groups. In broad terms, such groups are comprised of four categories, namely, (a) health care workers; (b) female patients in health care facilities (HCFs); (c) girls and women in communities, and (d) girls and women in shared or institutional settings (for instance, refugee camps, prisons, and hostels) [7]. In addressing MHM practices in the face of COVID-19 Pandemic, following important considerations need to be taken into account for different categories of groups:

- (a) **Health Care Workers:** (1) consider MH materials as essential supplies for female and other menstruating health care workers and procure in sufficient quantity; (2) consider high absorbency pads that are safe to be changed less frequently; (3) consider providing pain killers to manage menstrual pain; and (4) provide adequate breaks, hydration and provisions for rest throughout the workday [7].
- (b) **Female Patients in Health Care Facilities (HCF):** (1) provide MH materials and painkillers at HCFs (health care facilities), and quarantine centres; (2) support and provide WASH in HCF for patients' access to facilities for menstrual hygiene; and (3) impart training to caretakers in assisting girls and women with personal hygiene including menstrual hygiene (if needed) [7].
- (c) **Girls and Women in Communities:** (1) mitigate disruptions, (2) support continuity of WASH services in the home when possible (or regular deliveries of essential WASH supplies), (3) consider separate shared facilities for girls and women with COVID-19 and those without, (4) include menstrual materials in distributions of food or non-food items to girls and women in home quarantine, (5) discourage panic buying and hoarding of sanitary products, (6) encourage purchasing of two months' supply of disposable materials to safeguard one's own access while respecting the needs of others, (7) where washing is possible, consider promoting reusable materials as an alternative, such as a menstrual cup, washable pads, or absorbent underwear, (8) promote do-it-yourself designs and

instructions for safe reuse and disposal through women's networks or digital platforms that reach girls and women, (9) consider soliciting contribution-in-kind from large private sector manufacturers of quality disposable products, and (10) determine whether girls and women are able to access sources of digital information [7].

- (d) **Girls and Women in Shared or Institutional Settings:** (1) ensure that menstrual hygiene supplies are considered essential and distributed; (2) provide a greater quantity of disposable menstrual hygiene products at each distribution (if less frequent) or consider providing reusable products as a supplement or alternative; (3) ensure disposal and waste management systems are available and maintained; (4) where possible, consider adding additional facilities and dedicating certain facilities to girls and women with confirmed COVID-19 cases; and (5) provide gender-separated laundry facilities with sufficient water, soap, drying space and drainage [7].

6. Conclusions:

Today, there is increasing need to ensure that MHH supplies and water, sanitation and hygiene (WASH) are in place for both menstruating women and girls, and health care workers. This aspect becomes more important in hospital settings offering both MH (and hygiene) and COVID-19 care and services. Severe shortages of products, a sharp rise in prices of pads, and lack of access to basic information and services about MHM are leaving girls and women, worldwide, struggling to manage their periods during COVID-19 lockdowns. In situations where it is difficult to obtain sanitary products, women and girls resort to using unhygienic alternatives and MH practices. Such practices can increase their risk of reproductive and urinary tract infections (UTIs). The lockdowns resulting from COVID-19 are causing severe problems for women and girls, in all societies and nations, who menstruate.

Another important consideration is that safely managing menstruation and addressing the taboo and stigma associated with MH are critical factors in ensuring health and dignity of women and girls who are in the reproductive health age group. Most importantly, as some countries emerge from the peak of the pandemic, and begin to ease travel restrictions

resulting from COVID-19 pandemic, the challenge for millions of women and adolescent girls who menstruate continues. To sum up, meeting the critical MHM needs of women and girls is central to an inclusive global response that promotes equality and social inclusion in the face of COVID-19 health crisis. The priority should be to anticipate and mitigate the collateral/secondary impacts of the COVID-19 pandemic on girls' and women's ability to manage their MH in safe and dignified environments, at all times, and in all countries [10].

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