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**Breaking Taboos: Menstruation, Female Subordination
and Reproductive Health, the case of India**

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Abstract

This paper aims to overcome a culture of silence and shame that persists not only within traditional communities but among development professionals, by showing how traditional cultural views and practices that are derogatory towards menstruation are not only a violation of human rights that perpetuates women subordination but also a serious development problem, that needs to be addressed. These traditional cultural views, norms and practices reinforce negative perceptions about the female body that maintain patriarchal subordination of women and girls. They cause embarrassment, shame and low self-esteem among girls who transition into womanhood, affecting not only their school attendance but their academic performance and their social interactions within the school and at home –where in many cases they are confined into segregated spaces during their menstruation. This article focus on three aspects of menstruation as a development problem and as a women rights problem: 1) it will first review the implications of derogatory notions of menstruation on female subordination and on gender identities and why it reproduces patriarchal stereotypes, facilitating the construction of gender as a hierarchy based on sexual and biological differences; 2) it will review the negative effects of menstruation on girl’s education, early marriage and lower female productivity from the perspective of human capital, and 3) it will review how limitations imposed on girls and women in a context of poverty and marginality leads to improper menstruation hygiene management (MHM), which cause serious reproductive health problems that not only affect women reproductive rights but also creates some large public health issues. After our conclusions, we present some recommendations to overcome this problem.

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1. Introduction

The onset of menarche and menstruation marks a turning point for girls around the world and are important processes ensuring the reproduction of the human race. It is estimated that women spend around 3000 days of menstruation in an average lifetime (McVeigh & Guillebaud, 2008) while about 52% of the global population is of reproductive age and go through their monthly menstrual cycle (Sommer, 2010). Unfortunately, most patriarchal traditional societies associate menstruation with impurity, holding negative views and restrictive practices associated with menstruation. In addition to the values, norms and practices that are derogatory for menstruating women, there are practical challenges for women living in poverty, such as: lack of access to running water and sewers, privacy and safety to change/dispose pads, medicine to control cramps and bleeding, as well as access to sanitary pads. Sanitary pads are a luxury poor women cannot afford, and not only in developing countries. There are concerns about the lack of access to sanitary pads among poor families, homeless and women in prisons in the USA, where the average cost of a 24 pad package goes for \$5.00 (Alperstein, 2017). In lieu of sanitary pads, girls and women resort to all types of absorbents like paper, used clothing and even grass or leaves, risking infections and other complications. Seclusion during menstruation is another problem associated with lack of menstruation hygiene management as well as with derogatory views of menstruation as pollution.

Myths and stigma around menstruation and menstrual hygiene inflict humiliation upon millions of women and girls and discriminates against one gender. Menstruation taboos not only violate women's rights but also the right to bodily integrity, health, equality, integrity, privacy, and the rights to freedom from inhumane treatment (Kaiser, 2013). In order to achieve Sustainable Development Goals (SDG)¹, organizations, decision makers, and development practitioners must address the persisting inequalities between men and women, including the right to non-discrimination, the right to gender equality and girls and the rights to universal access to water and sanitation for all women and girls across the globe. There is an utmost need to overcome stigmatization, taboos and derogatory attitudes towards menstruation.

Reproductive rights have found its way within the development agenda after women rights were recognized as human rights and as fundamental basis for sustainable development. Still, more than 20 years after the Beijing Declaration, menstruation and the specific challenges it imposes on women, especially poor women in developing countries, remains taboo not only within local communities but within development circles and even within the agenda for women's rights. Considering the invisibility of menstruation within the mainstream development agenda – including those focused on women rights, it seems that menstruation has become the forgotten reproductive right.

A culture of silence, menstruation remains a taboo in many cultures. Menstruation related problems are not openly discussed and there is stigma surrounding personal hygiene and health (Crawford, Lauren, & Kaufman R., n.d.). Cultural taboos, myths and superstitious beliefs surrounding menstruation substitute appropriate information in the adolescent years (Karkada, Jatanna, & Abraham, 2012). The silence around

¹ The Sustainable Development Goals were adopted by the international community under the leadership of the United Nations in 2015. They contain 17 goals and 169 targets and cover issues like poverty and hunger reduction, improved health and education access for all, gender equity, social justice and climate change. The SDG replace the Millennium Development Goals that were set for 2015, which built on a series of principles agreed after the Rio+20 Conference held in 2012. For further information go to <https://sustainabledevelopment.un.org/post2015/transformingourworld>

menstruation hygiene management is a major barrier for community members to secure support for positive practices (Singh & Chadha, 2012).

This paper aims to overcome this culture of silence by showing how the negative cultural views on and practices and norms related to menstruation are a serious development problem that needs to be addressed, as well as a violation of human rights that perpetuates women subordination. These views, norms and practices reinforce negative perceptions about the female body that maintain patriarchal subordination of women and girls. They cause embarrassment, shame and low self-esteem among girls who transition into womanhood, affecting not only their school attendance but their academic performance and their social interactions within the school and at home –where in many cases they are confined into segregated spaces during their menstruation.

This whole notion of being polluted or impure while menstruating defines a series of restrictions and taboos that have long-lasting impact on women's lives, identities, sexuality and health. Menstruation hygiene and management is a problem that has not been receiving adequate attention within reproductive health or within the Health and Water, Sanitation and Hygiene initiative (WASH) or within the education sectors in developing countries- including India (IRC WASH, 2010). Lack of proper menstruation hygiene management results in infections and related health issues that compromise women's health, productivity and well-being. These problems also have implications for hindering economic and human development, by eroding human capital in developing countries, reproducing gender inequalities in terms of education, public and economic participation and violating fundamental human rights of girls and women.

There is a need to overcome the secrecy and the embarrassment associated with menstruation – prevalent not only in traditional groups at the local and national level but among development professionals, including too frequently those working towards women rights and empowerment.

In terms of methodology, this is an applied study of a cultural phenomenon that has practical implications in terms of development interventions and results. We explore how the traditional beliefs and practices associated with menstruation affect both the subjective (internalization of subordinated gender identities) and the objective (behavior of girls at home, school and the community, which affect its schooling and their reproductive health) aspects of women and girls' identities and status. This applied study builds on a previous exploratory study conducted by the first author, which used mixed methods: use of secondary data through a literature review and primary information collected through focus group discussion conducted in India during 2015-16². This article aims to call attention to the problems associated with menstruation from an integrate perspective that includes human and women rights and the goals of sustainable inclusive development. While the FGD were conducted in India, the literature review includes cases from India and from other cultures in order to highlight that the problems presented here are not exclusive from India.

This article focus on three aspects of menstruation as a development problem and as a women rights problem: 1) it will first review the implications of derogatory notions of menstruation on female subordination, gender identities and the reproduction of patriarchal stereotypes and women subordination;

² The FGD was conducted by Richa Karki in villages and in two government schools in Haryana and Uttar Pradesh states of India through the help of READ, India's center staff and ICRW. Girls aged 14-18 years who had begun their puberty few women from the villages were also invited to take part. Prior to the FDG we informed the FGD would involve menstruating school girls. Participation was voluntary and privacy was ensured. See Karki, (2016) more details.

2) it will review the negative effects of menstruation on girl's education, early marriage and lower female productivity from the perspective of human capital, and 3) it will review how limitations imposed on girls and women in a context of poverty and marginality leads to improper menstruation hygiene management (MHM), which cause female reproductive health problems that not only affect women reproductive rights but also creates some large public health issues. Finally, the article presents conclusions and recommendations. In each of the three following sections, we will first present evidence from literature review and then evidence collected in the focus group discussion held in India during 2015-16, hereby referred as FGD

2. Why are current practices & beliefs associated with menstruation in traditional patriarchal societies a "development problem", a violation of women's human rights and a public health issue?

2.1 Stigmatization of menstruation, female subordination and the impact on gender identities

Menstruation is one of the most fundamental changes that girls experience, marking their transition to womanhood and potential motherhood. Albeit a natural process that deserves to be celebrated (Karkada et al., 2012; Chebii, 2012), menstruation is still in many parts of the world associated with misconceptions and taboo practices that have an adverse effect on the well-being of girls and women. The perception of women's blood being polluting and dirty creates a range of restrictions on their physical mobility and activities that affect their self-esteem and limits their agency and capabilities. Social control on menstruating girls make them believe that a girl is different and inferior to their male peers, which has physiological impact on women in terms of feeling ashamed, embarrassed, even angry and negative about their own bodies' functions. This social control and derogatory notions on menstruation also affect perceptions of femininity that will limit girls' access to education and to social interactions that will be marked by her inferior status. Social control on menstruating girls function to internalize the notion that women are inferior to men and that their own biology defines their weaker and subordinated position at home and in society.

Low self-esteem, shame and guilt usually builds up when girls and women are restricted and segregated during menstruation. In many cultures like in the case of India, menstruating women are forbidden from entering religious spaces and social activities. This creates a feeling of helplessness and of being treated unfairly because of their menstruation. These sentiments tend to be accompanied by feelings of hatred to their own body.

Many Indian communities isolate women and girls during their menses, in spaces that are not suitable to their dignity, safety and particular needs – such as stables or huts for animals (Dhingra et al., 2009). Menstruation is considered shameful and women have been taught to feel shame about their periods (Singh & Chadha, 2012). The most common restrictions and socio cultural practices associated with menstruation in India include prohibition from: attending religious functions, taking a bath, changing clothes, touching family members, and entering the kitchen during monthly cycles (Dhingra et al., 2009). Other restrictions related to diet (taboo on eating curd, milk, pickles, onion, potatoes among other items) are also imposed (Garg & Anand, 2015). Such practices ostracize women and girls making them feel awkward during menstruation to the point of feeling guilty if they violate such taboos. Even in situations where women and girls do not face strict taboos related to menstruation, their menstruation is still to remain imperceptible and women are not supposed to talk about their periods openly (Winkler & Roaf, 2014). Even if a woman is facing a problem or suffering pain, she is expected to cop up with that in silence. Sometimes, such silence

is even imposed between mothers and daughters, which result in girls entering puberty in total ignorance about their own development and about the changes in their bodies brought by menstruation.

In India, menstruation is referred to colloquially as “mahina chal raha hai” (monthly occurrence), “pair chale” (bleeding) “time aana” (period time). Many girls who participated in the FDG thought that menstruation is a ‘god-given-disease’ to girls. This perception is similar to what is reported by studies in Nepal, India, Uganda and Kenya (Boosey & Wilson, 2013). Girls who didn’t consider menstruation to be a disease, still did not consider it to be a normal human body function. The inadequate knowledge and information about menstruation expressed by menstruating girls expressed during the FDG highlights the pressing need for better and earlier information to reach girls, a point also recommended by other studies (Kaur, 2015; O’Sullivan, 2006; Joshi & Fawcett, 2001).

When girls were asked questions regarding their menstruation, the response was a long uncomfortable silence, which once broken showed girls being extremely shy when talking, keeping their answers short. 90% of the participating girls were not aware of menstruation when they first faced it. This confirms school and home environments not preparing girls for this event (O’Sullivan, 2006). The girls constantly struggled to discuss menstruation at the FDG: they nervously giggled or remained silent, keeping their heads down towards the floor when speaking. This reveals that the topic of menstruation is taboo for them, a shameful and embarrassing experience and a difficult topic for conversation. Such feelings expressed about menstruation is supported by findings from other studies conducted in Nepal, Peru and Pakistan (Chung et al., 2001; Hyatt, 2014; Rizvi & Ali, 2016; Garg & Anand, 2015).

When asked about the social restrictions faced during menstruation, all the girls reported they were not allowed to visit temples or other religious sites while menstruating. Surprisingly, girls supported this restriction, as they have been taught by their elders and religious figures to obey this taboo. They believed that female bodies are polluted during this time and that entering sacred places would angry their gods and bringing bad luck for their families. In regard to their daily chores, 70 % of the girls reported that they were not permitted to cook, fetch water or work in fields during their periods. Such practices are also observed in many other parts of the world (Douglas, 2002; Garg & Anand, 2015; Sommer, 2010). The girls opposed these restrictions because they exposed their menstruation to other members of their family, something they would preferred to keep a secret due to shame.

Despite marking the transition to womanhood, menstruation in so many cultures becomes a curse for women and girls. For girls this phase of life is not something to be celebrated since it brings complicated challenges that further push girls outside of social activities and discourages their school attendance. Once girls begin puberty, they are closely monitored whereas boys during their adolescent years learn to be free. Menarche, a girl’s first menstrual period, is considered to be the end of childhood for girls in India. The end of childhood for many means increased responsibilities at home and the end of formal education. Unfortunately, this transition also marks the eligibility of girls for marriage in places where child marriage is still prevalent. Child marriage is an institution that is based on and exacerbates women subordination; it prevents girls to continue their education and burden them with early pregnancies for which their bodies are not fully prepared. Furthermore, it ensures the gender asymmetries will continue since girls join the marriage in a completely vulnerable and dependent state.

Many religious norms and practices in India are patriarchal in nature and they represent patriarchal views. Patriarchy plays a pivotal role in India in restricting and or changing practices and perceptions about women’s reproductive rights, and sexuality rights. For instance, creating embarrassment and humiliation around menstruation and regulating social exclusion and taboos to exclude and marginalize women during their period. The male members in many societies in India influence and make decisions regarding various

cultural and religious practices to be followed. For changing attitude and practices it is important to keep male members educated and informed in conversation surrounding menstruation.

Perceptions and practices across the globe influence menstruation health management (MHM) practices in different ways. It seems that patriarchal views in the context of persistent traditionalism and marginalization are associated with derogatory views on and restrictive practices associated with menstruation and inadequate MHM. For instance, in Bolivia, women and girls believe they should not take a bath in cold water while menstruating, for fear of falling ill and becoming barren (UN Women, 2015). In China, women are not permitted to wash their hair throughout menstruation (UN Women, 2015). In Western Uganda, menstruating women and girls are not allowed to consume milk in fear of causing the cows to produce bloody milk (Ten, 2007). In Bangladesh, menstruating women and girls are not supposed to cook foodstuff or work in the rice fields (UN Women, 2015). These beliefs operate in contexts where poor families have no access to water and sanitation or can afford to buy sanitary disposable pads, and where schools lack proper bathrooms in terms of privacy, cleaning materials and proper disposal bins. All these elements compound to make menstruating girls embarrassed and unable to keep proper MHM, and limiting their activities and mobility –reinforcing derogatory views on menstruation imposed on them.

These derogatory views on menstruation are old, some even found in the Bible: - “Leviticus 15 verses 19 - 20” refers explicitly to the impurity of women during menstruation and their needed temporal seclusion from the rest of the community. Such social barring of women during menstruation is still practiced in Nepal and India as part of the Hindu traditions, where women and girls during their menstruation are kept in cow sheds or huts (Upreti, 2005). Similar restrictive taboos are still followed by the Muslim communities, where women and girls during their menstruation are forbidden from touching the Quran, offering *namaz* prayer, fasting, or having sex (Ten 2007). Menstruation taboos curb women and girls’ mobility and daily activities. When women and girls are restrained, discriminated against and differentiated between men while on periods, they learn to become submissive, dependent and to internalize the notion of being subordinate to men (Sen & Ostlin, 2007).

It seems that modernization associated with industrialization and the growth of a middle class, which brings some changes in gender roles in terms of better access to education, employment, sports and social life in general also brings changes in the views on menstruation, overcoming most of the taboos more prevalent in traditional societies. However, that does not mean that modernization eliminates patriarchy or women subordination, however it brings new forms of subordinations with their own contradictions. For instance, the fact that women take more economic roles in contexts where the breadwinner role of men is eroded, while women remain responsible for domestic and reproductive roles. While modernization does not mean the end of patriarchy it brings better conditions for MHM and it opens up the oppressive set of beliefs that so badly limit the life of young women during menstruation. On the other hand, we should not accept the idea that every traditional society has derogatory views on menstruation or restrict women during their period. In this regard the work of Buckley and Gotlieb (1988) is illuminating in providing ethnographic evidence of the diverse ways in which traditional societies define menstruation. Unfortunately, there is still a large numbers of traditional societies in Asia, Asia in Latin America that keep these traditional patriarchal derogatory views on menstruation, negatively affecting the lives of menstruating women and sanctioning their subordination based on their biology (see for instance Pilleteri (2011), Roberts (2015) or Rizvi (2016).

Menstruation is crucial in the construction of gender hierarchies, which basically uses sexual biological differences to define the inferiority of women to men –based on women’s biologic reproductive processes to enclosure them in a world of impurity, dirtiness, shame and limitations.

Being so instrumental to maintain patriarchal systems, it seems somehow illogic that menstruation and the derogatory systems built around it have practically remained untouched by the campaigns to improve women status and reverse gender subordination. Is it because those involved in these campaigns are still unconsciously prey of these taboos and derogatory views and feel that the topic is too private to be exposed in debates and policy interventions? Bobel (2008) offers a critical view within the different feminist waves exploring how menstruation has addressed and this analysis helps to understand the reluctance of some feminists to address menstruation within the fight for reproductive rights. Having such opinions about women prevents free communication about women's bodily functions. There is need to further debate this within feminists and those working toward gender and social justice.

2.2 Negative effect of menstruation on girl's education and lower female productivity from the perspective of human capital and women rights

When exploring the barriers that prevent equal access to education (in a broad sense as proposed by Heward and Bunwaree (1999), and not only in terms of increasing enrollments), lack of proper sanitation facilities at school as well as sensitive flexible treatment of girls who are menstruating, have been identified as key drivers for girls dropping school once they start menstruating. The gender gap in education is not restricted to enrollments but to completion rates as well as issues of performance and a schooling system that reinforces women subordination, through textbooks, differential treatment in class, and so on.

According to Hyatt, (2014), 41% of girls globally do not attend school during menstruation; a study conducted in Nepal found out that 70.7% of girls reported missing school during menstruation (Adhikari et al. 2007); in Malawi circa 90% of girls had missed school due to menstruation related causes (Boosey & Wilson, 2013) and in India, over 25% of girls drop out school after reaching puberty (The Citizen, 2016). Girls miss school during their menses because of the lack of privacy for cleaning and washing at school compounds. Schools with a student body in the hundreds often have one single bathroom for both girls and boys, which is usually not the most hygienic or safe place (Hyatt, 2014). Girls worry that they may leak during classes –sitting in a classroom where boys and girls share one desk may also raise fears about menstrual odor. These concerns are a distraction that prevent girls for performing their best at school. There is a need for more female teacher and for male teachers to be sensitized and trained to better respond to these issues. By distracting their performance while at school and/or by missing school during menstruation, girls often fall behind in their school performance, which in turn leads to more girls repeating a grade or abandoning schools. It is important to note that school girls are expected to help at home with domestic tasks on a daily base, which is not the case for school boys. The poorer educational performing of girls and the new risk of pregnancies led to many parents to look for early marriage as a solution. Since most children in rural areas tend to start school later than the expected school age, girls who drop of school after starting menstruation do not acquire enough education during the few years they attend school. Menstruation can start as early as 9 or 10 years old. Therefore, the prevalence of child marriage is associated with derogatory news on menstruation and sexuality in general and their negative implications on girls schooling.

During the FGD conducted in governmental schools in rural India, participants stated that they usually missed 3 to 4 days of school every month, while they were on their periods. The daily challenges they reported were: lack of adequate sanitary facilities in school bathrooms, unavailability of water in toilets, acute pain and discomfort, and being teased about their condition. Even when girls attended school during their period, they reported not being able to participate in their class work lessons because they had the constant fear of leaking blood and staining their cloths and of boys finding out about their periods. Some of the things that girls identified as urgent needs in regard to their menstruation were: availability of low cost sanitary products, proper facilities at school including clean water for washing and separate toilets for

girls and boys, free medicines for managing pain, proper lighting in bathrooms, and a safe place to dispose used sanitary products.

This FGD highlights that 90% of the participating girls were unfamiliar with menstruation before they experienced it first. Most of the girls being shy, embarrassed and frightened are due to the ignorance regarding menstruation being a natural process. Previous studies conducted in India also ascertain that women and girls are generally told nothing about menstruation before their first period (Khanna et al., 2005; Garg & Anand, 2015; Kaur, 2015). Even after a girl begins puberty and experiences her first menstrual cycle, very little information is passed on to her about menstruation hygiene practices or the physiological process (Khanna et al., 2005).

Education is fundamental for women empowerment and gender equity. It is also important from the point of view of personal growth. Educating girls has now been accepted to have larger benefits for a country's overall development (Boosey & Wilson, 2013). Education for All initiative aims at reducing the gender gap in access to education, considering that it might help to reduce fertility rates while building human capital by enhancing women's productivity. In addition to the economic growth metrics, the benefits of education need to be measured in metrics that include improvement for women in terms of quality of life, autonomy and broader and fair participation in the economy, society and politics, breaking down gender stereotypes, taboos and stigmatization.

The lesser access to education due to late enrollment, early dropouts and poor educational performance has long-term repercussions for women. First it might maintain the vicious circle of early marriage, early pregnancies and higher fertility rates as opposed to a situation where girls could complete high school and move into higher education or decent employment. The country also misses the opportunity of having a better educated labor force to attract foreign investors and foster economic growth, as seen in certain Asian countries. In addition to the erosion of human capital for the country, young women who drop out of school and marry early, remain unskilled labor who will have only job opportunities within the informal sector with highly risky, low-paid and exploitative jobs. This means that the derogatory views on menstruation and lack of MHM that push girls out of school will foster both the reproduction of inter-generational poverty as well as the reproduction of inter-generational gender subordination.

Sexual and reproductive health management –including menstruation and MHM, need to become mainstream concerns if the aim to overcome the gender gap in education is serious. In addition to the issues mentioned so far, other concerns behind the parental decision to interrupt their girls' schooling include the risks of pregnancy and sexually transmitted diseases for menstruating girls: from the long distance they have to walk to school, to the presence of sexual harassment and raping within and around the school (by male teachers, administrator or older students), they all contribute to the gender gap in education both at primary and secondary school levels, violating equal rights to education (Boosey & Wilson, 2013; Chung, et al, 2001).

2.3. Improper menstruation management and female reproductive health problem from the perspective of public health

Of the girls interviewed during the FGD, 55% used a piece cloth as sanitary pad to manage their period while only 45% of girls used a disposable sanitary pad. The girls using cloth reported they either washed their cloths or threw them away in the field or dumped it in toilets. Some even reported hiding the used menstrual cloth in unhygienic places. Many women and girls in India use a piece of cloth as absorbent during menstruation since disposable pads are very expensive for families in India. The items often used as absorbents to manage menstruation are very unhygienic and inconvenient to use, particularly in rural and

poorer regions (Das et al., 2015b). A cross-sectional survey in Nigeria reported that the type of absorbent used during menstruation is of utmost significance since reusable pads may be a source of contamination, if not used and cleaned properly (Oche et al., 2012).

There are studies linking health problems with poor menstrual hygiene management (MHM). A study conducted in Odisha, India reported that Urinary Tract Infection-UTI, is the most common infectious disease among menstruating women and girls and it is attributed to unhygienic menstrual practices (Das et al., 2015b). Many women and girls globally suffer from various gynecological problems, especially menstruation irregularities like “hypomenorrhea,” “menorrhagia,” and “dysmenorrhea” (Khanna et al., 2005).

Many FDG participants reported one or more physical symptoms associated with menstruation: 80% of the participants reported physical ‘abdominal pain’ during their menstruation, followed by ‘mood swings’ (50%) and ‘backache’ (30%). ‘Irregular menstruation’ was reported by 20% of the girls. Some other problems were ‘weaknesses,’ ‘pain/burning’ during urination and others. Such problems have also been observed in other studies in India (Kothari, 2010; Garg & Anand, 2015). When asked if they took any type of medication when they experienced pain, girls reported taking self-medication or home remedies but none of them had ever consulted a medical practitioner. Some girls would even bear the pain for long hours until the pain subsided without looking or asking for any pain relief medicine. According to Das et al., (2015b), almost 43% of the girls in India wash-down and reuse cotton cloths rather than using disposable pads. The problem is that reusable materials are often not sanitized due to lack of access to clean water and soaps and to certain taboos and restrictions that force women and girls to dry their cloths indoors away from sunlight (Rizvi & Ali, 2016). Repetition of such practices is harmful, since menstrual blood is a medium for bacteria and drying cloth in dark areas stimulates infectious growth (Roberts, 2015).

Poor menstruation hygiene knowledge is prevalent in India, where education is also limited among low income communities, often resulting in poor hygiene practices during menstruation, which violates women and girls basic right to health (Boosey & Wilson, 2013). Women of lower socio-economic groups particularly in rural India do not follow regular washing (Das et al., 2015b). Access to clean water, soap, hygiene and adequate sanitation amenities at home is a basic necessity and when not available it usually increases the chances of reproductive tract infections. Reproductive tract infection is a major public health concern, since it is prevalent in India. Studies show an increase of 26% between 1960-and 2000 in diseases associated with reproductive tract infection and sexually communicated diseases in India (Das et al., 2015b).

Many studies have reported that a majority of women and girls in developing countries especially in the rural regions use sanitary absorbents materials, such as tissues, rags, leaves, mud or toilet paper, which may have serious infective agents. Use of these items can lead to itching, uterine tract infection - UTI and pelvic infections (Dhingra et al., 2009; WaterAid, 2009; Dasgupta & Sarkar, 2008a; Oche et al., 2012). These findings coincide with a study conducted in Wardha, Maharashtra, India, reporting that the majority of girls and women using cloth as absorbents were suffering from genital diseases (Mudey et al., 2010). In most developing countries, the absence of proper items and facilities compound with the taboos associated with menstruation, hampering women and girls’ proper menstrual hygiene (Dhingra et al., 2009; Mudey et al., 2010; Dasgupta & Sarkar, 2009).

Hygiene- related practices of women and girls during menstruation are very important, as they have health impacts like increasing the vulnerability to Reproductive Tract Infection (RTI) (Dasgupta & Sarkar, 2008). “There are millions of women and girls today that suffer from RTI and its complications

and often the infection is transmitted to the offspring's of the pregnant mother" (Dasgupta & Sarkar, 2008, p. 77). These complications reveal not only a violation of women reproductive rights, an erosion of the human capital of a country but a public health challenge for developing countries considering the high prevalence of complications originating from inadequate MHM.

3. Final analysis

Stigmatizing women's natural cycle as impure and polluting imposes several restrictions controlling their bodies, reproducing patriarchal stereotypes that justify women subordination and hegemonic subaltern feminities. We have shown how these traditional cultural restrictions affect women identities, self-esteem as well as their participation in resources and activities that could help them to overcome subordination, exploitation and marginalization. The negative effects of menstruation stigmatization on education is clear and long-term, same as the negative effects of improper MHM on their health. The extensive health risks associated with a lack of understanding of menstruation present a public health issue that requires the support of multiple levels of stakeholders to fully address it. The right of girls to education is also endangered by this lack of understanding of menstruation that ultimately discourages families and girls from prioritizing education. Menstruation taboos are not only a violation of women rights but also a development problem in terms of limiting Education for All initiatives and eroding human capital in the short and long-terms.

It is important to clarify that sexual/biological differences between women and men are no basis for justifying the superiority of men over women. However, sexual differences should not be ignored since they define some very specific gender needs, as is the case of menstruation. Gender equity or gender justice means that while sexually different, male and female humans have the very same rights and entitlement. Debunking the stigmatization of menstruation is not to claim that women are the same than men. We fight for gender justice not based on sameness but claiming equal treatment of different sexes who have different needs but equal rights.

Menstruation stigmatization has been tolerated for too long, not only among those opposing women empowerment but also among those supporting it. There is a need to neutralize these derogatory views on menstruation to open up equal opportunities for girls to access education, and equal treatment within their homes and communities. There is also a need to call attention for improving basic conditions required for proper MHM and to mobilize resources to this aim.

In order to live healthy, productive and dignified lives, women and girls need to have proper access to water, sanitation, and hygiene facilities. This entails clean water for washing, privacy to change absorbents and access to alternative sanitary needs. Menstruation health needs to be considered a public health problem. Taboos and restrictive practices and norms for girls during menstruation need to be challenged through culturally sensitive education and awareness programs. NGOs should justify interventions to bring transformation among such cultures and norms. >The Sustainable Development Goal (SDG) Goal-3 aims to improve the health and well-being of every individual. Similarly, SDG Goal- 5 aims to promote gender equality. Menstruation taboos and segregation during menstruation may be one of the greatest but invisible barriers to achieving these goals (Ten, 2007). Thus, there is a significant need to raise awareness among men and women at the community level, between mother, family members, teachers, adolescent girls and vulnerable groups. It is important to have open free conversations about menstruation so that positive attitudes can be developed towards menstruation. There is a need to end discrimination against women and menstruation health is an important component for achieving gender equity.

Recommendations

At the government level, resources allocation should reflect a true commitment to advance gender equality in education and this commitment should recognize the importance of menstruation stigmatization as a barrier to achieve that goal. This allocation of additional public resources requires the collaboration of the Ministry of Education and the Ministry of Health, supported by contributions from the private sector and the community involving multiple stakeholders. While catered to each particular community's needs, these actions should be implemented within the national strategies for improving access of girls and women to education, in order to have a unified platform for short and long-term actions. Further research (especially in rural and peri-urban areas) on the relationship between menstruation and nutrition can help girls avoid severe weakness and anemia due to menstruation.

Within the Public Education sector there is an urgent need to launch campaigns to sensitize and train male and female teachers on appropriate treatment of menstruating girls in schools, as part of a broader sensitization towards gender equity within the classroom and schools –for instance be more flexible waiving physical education for menstruating girls; allowing menstruating girls to excuse themselves anytime they need to use hygienic facilities; introducing basic education on reproductive health to take away ignorance and stigmatization, treating girls and boys equally and fairly at school. Additional funding should be allocated to improve the conditions of school bathrooms as required for adequate MHM, and the government should support efforts to engage the private sector for the provision of sanitary supplies, especially for initiatives that use local resources and technologies to produce sanitary pads at a lower cost. The government should coordinate between the formal (public and private, universities and schools) and non-formal education sectors (programs, activities, training workshops, games) as well as between private and public sectors. School breakfast programs could decrease problems of malnutrition and anemia that are aggravated by menstruation. There should be official media campaigns to raise awareness on the importance of educating boys, girls, parents, and teachers about the negative effects of current attitudes and practices on menstruation. These campaigns should also aim to encourage girls to break the silence about menstruation and demand their rights. Given the sensitive nature of this material, campaigns should adapt content for the local culture and religion. Local leaders and early adopters must be greatly engaged to influence more traditional families. Forming relationships, engaging families, and having a rollout plan rather than introducing drastic changes all at once will enhance the effectiveness of such campaigns. Research results on menstruation should be discussed openly in public conferences, inviting a wide range of stakeholders including girls and women affected by this issue, policy makers, parents, teachers, community leaders, and government officials at all levels.

Local communities are key in the process of changing current attitudes and practices on menstruation and in creating more girl-friendly schools and communities. However, they are dominated by elder men, so efforts should be made to find sensitive ways to include these men –as well as women, into a conversation that can change attitudes. Experience shows that creating women's groups, youth groups, community health workers' groups can be effective to induce some change at the community level (WaterAid, 2009). Groups should also work towards sharing information and having open communication with men and boys so that they can support their female family members and friends. Men often take major decisions that can have positive impact on menstrual hygiene service, for example the head of the family (usually the elderly man) or head master of the school can make decisions on building toilets at home or school. Therefore, it is very important to sensitize men on the importance of hygiene during menstruation. Community members can work towards improving water supplies for household sanitation and hygiene practices to make menstruation management easier for women and girls. A great example is Arunachalam Murugananthan, an Indian man pioneering the local production of affordable disposable sanitary pads, which can both meet

a local demand for adequate affordable absorbents as discussed in this article, and offer jobs and income opportunities for young men and women (see <https://www.pbs.org/newshour/show/innovator-trying-make-sanitary-pads-affordable-women-india>)

Final remarks

We have shown in this article the numerous ways in which menstruation is socially constructed to become an obstacle for girls and women –another barrier for their fair access to education, health and well-being. Women must not only be recognized as having different needs from men, but they must be recognized as being equally entitled to proper education, employment, health, well-being, agency and full citizenship. Women are not just a mean to improve a country’s development, even though this cannot be achieved without their full and fair participation. Menstruation should no longer be used to keep discrimination and marginalization of young women from school, future employment, or full participation at home and in their communities. It is time to unveil this within the development community and beyond.

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