



RECOGNIZE.

STRENGTHENING HEALTH SYSTEMS FOR MENSTRUAL HEALTH IN LOW- AND MIDDLE-INCOME COUNTRIES

BRIEF 1: MENSTRUAL CONCERNS AND DISORDERS

MENSTRUAL CONCERNS AND DISORDERS IN LOW- AND MIDDLE- INCOME COUNTRIES

Menstrual health remains an overlooked yet transformative opportunity to advance gender equality, health outcomes, and economic productivity in low- and middle-income countries (LMICs). Millions of girls and women silently suffer from preventable or manageable menstrual disorders — such as heavy menstrual bleeding (HMB), menstrual pain, polycystic ovarian syndrome (PCOS), and endometriosis — that profoundly affect their physical, mental, social, and economic well-

being. Despite clear links to priority health issues like anaemia, maternal health, and chronic disease, menstrual concerns are largely absent from health systems.

This first brief in a three-part series calls for urgent, evidence-based investment to recognize and address menstrual health disorders as legitimate and pressing public health needs.

KEY MESSAGES

MENSTRUAL HEALTH IS A HIGH-IMPACT, LOW-RECOGNITION PUBLIC HEALTH AND DEVELOPMENT ISSUE. Despite affecting over 1.7 billion people in LMICs, menstrual health, especially menstrual concerns and disorders, remains invisible in health systems, undermining gender equity, health outcomes, and economic productivity.

MENSTRUAL CONCERNS AND DISORDERS ARE PREVALENT ACROSS THE LIFE COURSE. Conditions such as HMB, dysmenorrhea, PCOS, endometriosis, and premenstrual syndrome (PMS) affect millions during adolescence, the reproductive years, and in mid-life, and have knock-on effects over the life course.

MENSTRUAL CONCERNS AND DISORDERS ARE SIGNIFICANTLY BURDENSOME. These conditions undermine the physical, mental, and social wellbeing of people experiencing them, and are intimately intertwined with other public health priorities in LMICs like anaemia, maternal health, and chronic diseases.

NEGLECTING MENSTRUAL HEALTH DRIVES PREVENTABLE COSTS. Limited body literacy, and the absence of timely and appropriate diagnosis, treatment, and support services have implications for lost school and work days, avoidable surgeries, long-term health complications, increased out-of-pocket health expenditures, and costs to health systems.

INVESTING IN MENSTRUAL HEALTH IS STRATEGIC, URGENT, AND CATALYTIC. Strengthening health systems to recognize and respond to menstrual concerns and disorders will yield cross-cutting returns — in education, employment, gender equality, and healthcare cost savings.

Menstrual health is increasingly recognized yet poorly understood.



“ Menstrual health issues do not receive enough attention from policymakers because they are not seen as life-threatening, unlike other health priorities like infant mortality or maternal mortality. ”

- Public health expert from India

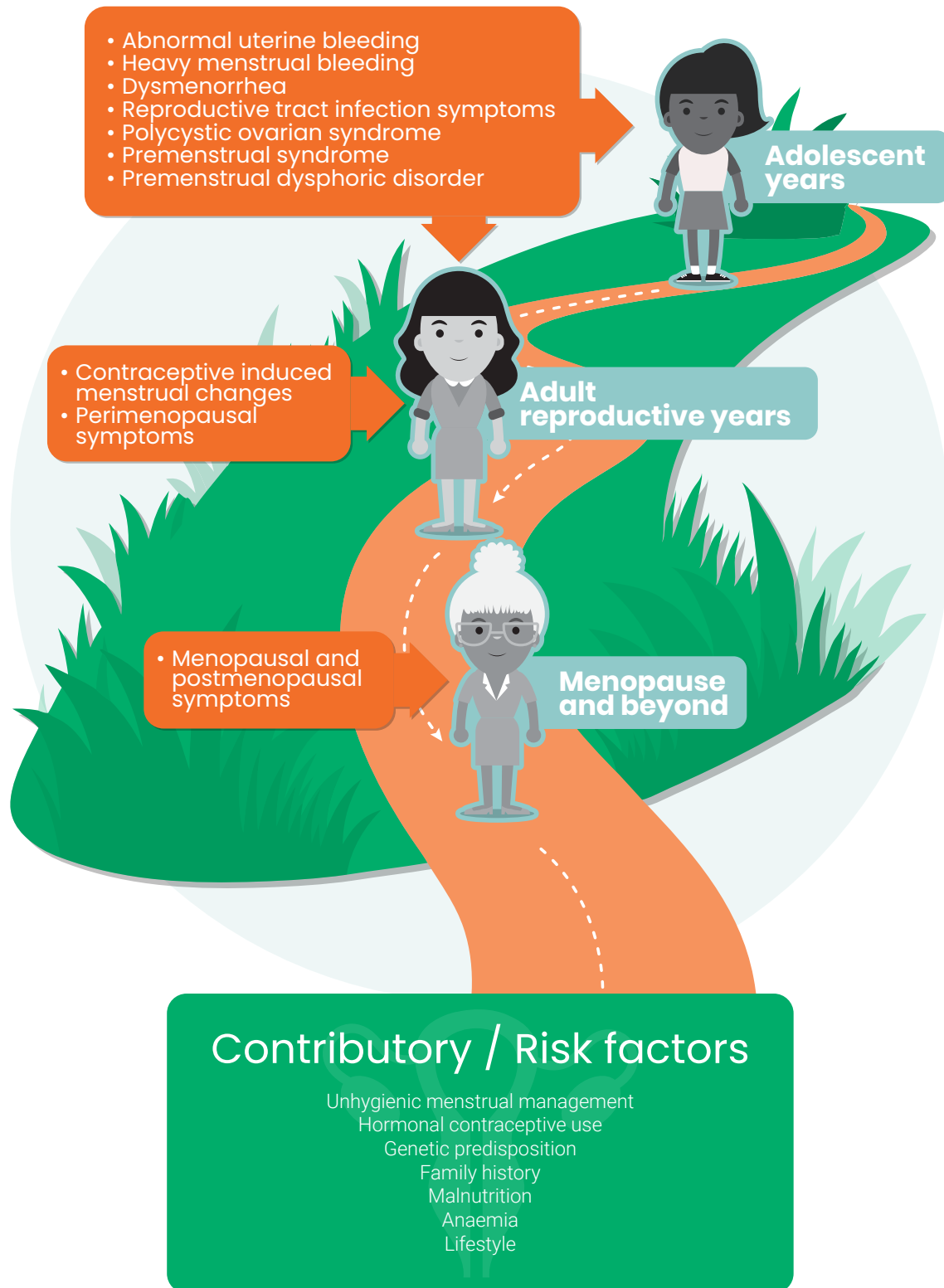
1.7 billion people menstruate across LMICs.¹ Good menstrual health requires access to accurate information, products, water and sanitation, pain relief, and care for menstrual disorders — as well as the freedom to manage menstruation without stigma or barriers.² Compelling narratives from LMICs emphasize that girls often discontinue their education after menarche or absent themselves during their periods as they have limited or no access to menstrual products and/or toilet facilities in schools.^{3,4} Consequently, policies and programmatic actions have provided menstrual products, established water, sanitation and hygiene facilities, and imparted awareness, particularly in educational settings.^{4,5,6} At the same time, research and field insights from LMICs note menstrual pain as a possible contributing factor to school absenteeism among school girls - a consid-

eration that is overlooked in policies and programs.^{7,8} While hygienic menstrual products and WASH facilities can help protect against avoidable urinary and reproductive infections, those already experiencing symptoms of infections have limited recourse to supportive health interventions, if any.

This brief draws attention to diagnosable menstrual disorders as well as symptoms and concerns related to menstruation and the menstrual cycle experienced by people across the life course from menarche to menopause.^a It highlights the prevalence of these conditions in LMICs, as well as associated health and quality of life implications, based on existing clinical and public health literature from LMICs.^b

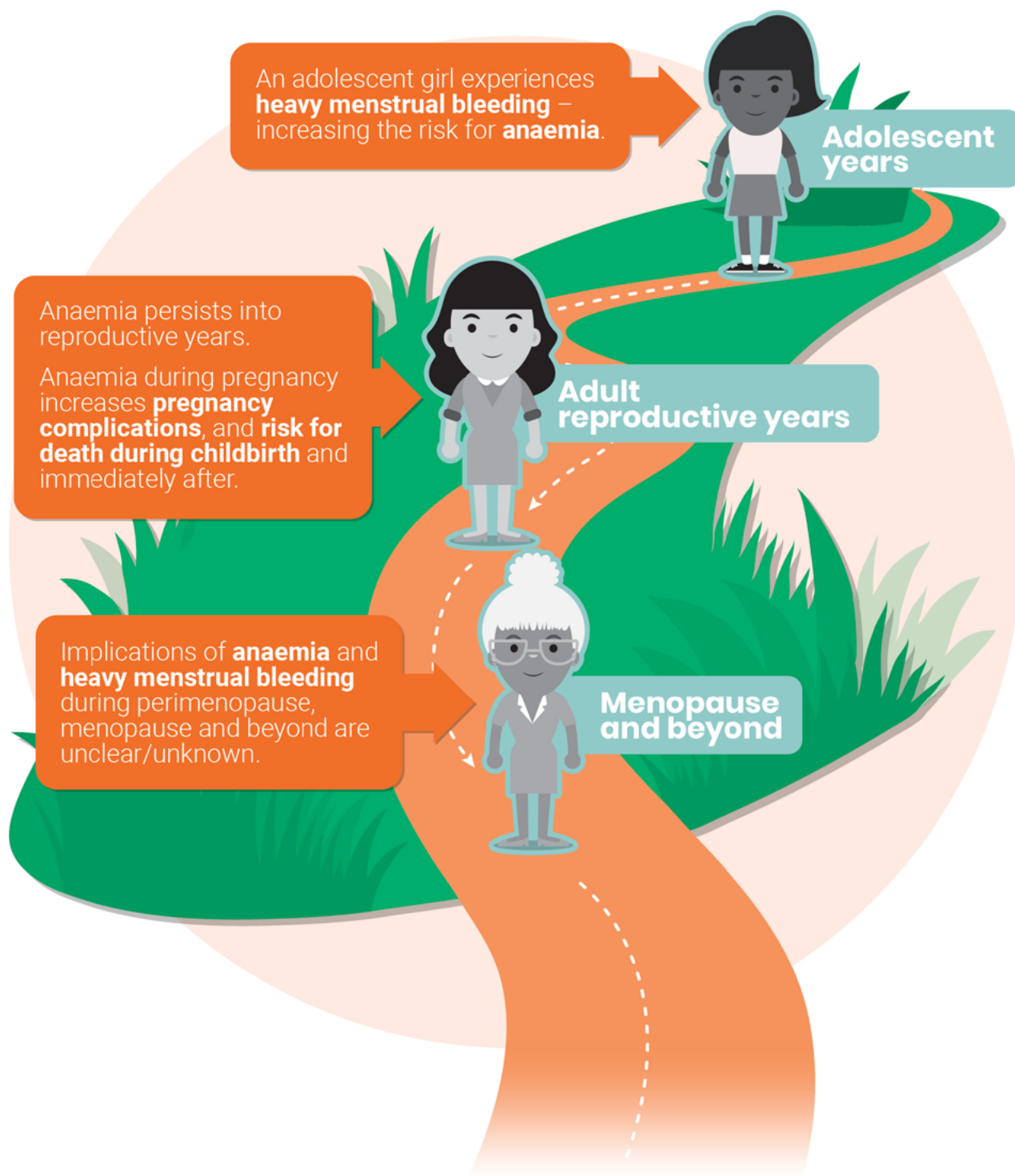


MENSTRUAL CONCERNS & DISORDERS ACROSS THE LIFE COURSE



MENSTRUAL CONCERNS & DISORDERS ACROSS THE LIFE COURSE

EXAMPLE: HEAVY MENSTRUAL BLEEDING





MENSTRUAL HEALTH CONCERNS AFFECT HEALTH & WELLBEING

ABNORMAL UTERINE BLEEDING (AUB)

Definition^c: Bleeding from the uterine corpus that is abnormal in regularity, volume, frequency, or duration and occurs in the absence of pregnancy.⁹

Prevalence: Estimated to affect approximately one-third of women during their lifetime. Prevalence is higher among adolescents and perimenopausal women.^{10,9,11}

Implications: AUB affects quality of life, school and work productivity, and has also been found to increase maternal morbidity and mortality for pregnant women with pre-existing anaemia associated with AUB.^{9,12,13,14}

HEAVY MENSTRUAL BLEEDING (HMB)

Definition: Excessive menstrual blood loss (>80 ml), which interferes with a person's physical, social, emotional and/or material quality of life.^{9,15}

Prevalence: Pooled prevalence estimated at 48.6% across selected countries.^{d,16} Adolescents and perimenopausal women are more likely to experience this condition.

Implications: HMB is a significant contributor to iron deficiency anaemia among girls and women of reproductive age, as well as hysterectomies in certain countries like India.^{17,18,19} HMB is also linked with severe pain and infertility, and can be symptomatic of underlying conditions like uterine fibroids, endometriosis and ovulatory dysfunction.^{9,16,20,21}

HMB can lead to work absenteeism, and even reduced work efficiency due to pain and discomfort, impacting work and wage prospects.²² The potential economic impact includes higher costs for sanitary products, out-of-pocket expenses for "symptom management" and cost of unnecessary surgical procedures.^{2,24}

POLYCYSTIC OVARIAN SYNDROME (PCOS)

Definition: One of the most common endocrine and metabolic conditions that typically manifests through

menstrual irregularities, infertility, as well as signs and symptoms of androgen excess (e.g., excessive hair growth).²

Prevalence: Prevalence ranges between 6-13%.^{e,26} The Global Burden of Disease purports that girls and women of reproductive age account for 1.55 million incident cases of PCOS in 2007 - 2017, with a higher incidence among adolescents 15 - 19 years.²⁷

Implications: PCOS is a leading cause of infertility in women and linked with adverse reproductive outcomes and pregnancy complications.^{25,28} It reduces health-related quality of life, including psychological and emotional aspects, leads to negative body image, weight gain, hirsutism and acne, menstrual irregularities, infertility, chronic conditions, and even social issues.^{25,29,30} People with PCOS have an increased risk of obesity, diabetes, long-term cardiovascular diseases and even endometrial cancer.^{25,27,30,31} The condition is associated with 0.43 million disability adjusted life years (DALY).²⁷

ENDOMETRIOSIS

Definition: Endometriosis is a disease in which tissue similar to the lining of the uterus grows outside the uterus, causing severe pelvic pain (particularly during menstruation), heavy bleeding, and fatigue.³²

Prevalence: Experienced by 10-18% of menstruating girls and women globally, with studies reporting higher prevalence rates in Asia (36%) and Africa (26%) compared to Europe (17%) and the Americas (19%).^{33,34} This condition is more prevalent among women with chronic pelvic pain, infertility, hysterectomy, ovarian cancer, and tubal sterilization.^{34,35,36}

Implications: Research strongly alludes to the pervasive impact of endometriosis on reproductive and sexual health, and overall health. Critical evidence exists that associates endometriosis with an increased risk of cancer (notably ovarian and breast cancer), as well as for cardiovascular disease, asthma, and even some autoimmune diseases.^{37,38} Endometriosis affects physical and mental health, interfering with daily life and work performance significantly, often manifesting in the inability to complete daily chores

and work tasks.³⁵ People with this condition may have increased rates of depression and anxiety, experience negative effects on their social and intimate relationships, and even withdraw from social life.^{35,39,40} Endometriosis is estimated to have caused a loss of approximately 56.61 DALYs for every 100,000 people in 2019.³⁶

CONTRACEPTIVE-INDUCED MENSTRUAL CHANGES (CIMC)

Definition: CIMC encompass all changes to a person's menstrual cycle caused by using contraception, including changes in bleeding duration, volume, frequency, and/or regularity/predictability; changes in blood (and other uterine and cervical effluent) consistency, colour, and/or smell; changes in uterine cramping and pain; changes in other symptoms before, during, and after menstruation (e.g., migraines, breast tenderness, gastrointestinal symptoms); changes in experiences of menstrual and gynaecologic disorders and symptoms; changes over time with continued contraceptive method use; and short-term changes to the menstrual cycle after contraceptive discontinuation.⁴¹

Prevalence: While CIMCs are to be expected with the use of hormonal contraceptives, people using these methods may be uncomfortable and worried about the changes and symptoms experienced, but estimates are unclear and hard to measure.

Implications: Women's perceptions and experiences of CIMCs as having a negative impact on the menstrual cycle and fertility, may lead to discontinuation of the contraceptive altogether, placing them at risk for unintended pregnancy and consequently poor maternal health outcomes.⁴¹ CIMCs like heavy and longer duration of bleeding have implications for menstrual management including the increased use of menstrual products, the need for private spaces to wash and change more frequently, and requirements for pain medication.⁴¹ CIMCs may compromise participation in daily activities and work.⁴² CIMCs like heavy and longer duration of bleeding can cause concern over personal health, while others like paused or reduced bleeding may be perceived as dirty or bad blood accumulating in the body with the potential to cause problems, especially infertility.^{42,43} On the other hand, the use of hormonal contraceptives can be first line treatment for certain menstrual concerns and disorders, and may bring benefits to people with HMB and pain.^{41,42}

REPRODUCTIVE TRACT INFECTIONS (RTI)

Definition: RTIs are infections of the reproductive tract that affect the reproductive organs, and can be endogenous (having an internal cause like growth of bacteria in the vagina), iatrogenic (due to illness or medical treatment), or sexually transmitted.⁴⁴ RTIs associated with menstruation, namely bacterial vaginosis (and vulvovaginal candidiasis, are endogenous in nature, arising from unhygienic management of menstruation through the use of unsafe materials and/or poor personal hygiene practices.⁴⁵

Prevalence: Research on RTIs associated with sub-optimal menstrual management suggests that the use of cloth during menses, inappropriate washing and drying of menstrual cloth, and poor personal hygiene practices are associated with increased risk of certain RTIs, especially bacterial vaginosis and vulvovaginal candidiasis.⁴⁶ With 22% of girls and women in LMICs using non-purpose made materials (e.g., rags, hay, ash) to manage their menses, RTIs pose a risk to menstrual health.¹

Implications: RTI symptoms cause discomfort and pain. If left untreated, RTIs enhance the risk of more serious infections - bacterial vaginosis is associated with an increased risk for HIV and HPV infection, and with adverse pregnancy outcomes; vulvovaginal candidiasis has been linked with increased risk for HIV infection.⁴⁷ Untreated and repeated RTIs are also associated with damage to the reproductive organs, pregnancy complications, and infertility.^{48,49,50,51} RTI symptoms have mental health implications, causing psychological distress from stigma, discrimination, shame and even social isolation.^{52,53}

MENOPAUSAL SYMPTOMS

Definition: Menopause signals the natural end of the reproductive years. Natural menopause occurs after 12 consecutive months without menstruation, for which there is no other obvious physiological or pathological cause, and in the absence of clinical intervention. Surgical menopause is induced by hysterectomy (removal of the uterus and ovaries) or oophorectomy (removal of ovaries), or by treatments such as chemotherapy or radiation therapy. Perimenopause is the phase before menopause, and can last for a few months to a few years, during which women continue to experience a menstrual cycle and periods. The menopausal transition is accompanied by a host of symptoms - somatic (e.g., hot flashes, sleep disturbance, muscle and joint pain),

psychological (e.g., physical and mental exhaustion, irritability, anxiety, mood swings, depression), urogenital (e.g., vaginal dryness, sexual problems), and cognitive (e.g., forgetfulness).⁵⁴

Prevalence: Menopausal symptoms are reported by more women from low-income countries (65.93%) compared to those from lower-middle income (54.17%), upper-middle income (54.72%), and high-income (49.72%).⁵⁴ Further, women in LMICs may experience menopause at a younger age than their counterparts in high-income countries.⁵⁵

Implications: During the menopausal transition, women's bodies produce significantly lower amounts of oestrogen, and resultantly, they are more susceptible to chronic health risks such as cardiovascular disease, reduced bone density, and osteoporosis.^{56,57} Osteoporosis increases the likelihood of fractures and disability, and urogenital weakening is associated with vaginal dryness, incontinence and the risk of urinary tract infections.⁵⁷ For some people, symptoms can be severe enough to disrupt their daily routines, work lives, and even social interactions.

Perimenopause, menopause and the postmenopausal phases have become more relevant today because women live longer after reaching menopause, and require support during and after this transition. Further, with women in LMICs experiencing menopause at slightly younger ages, bothersome symptoms may also be experienced earlier.

PREMENSTRUAL SYNDROME (PMS)

Definition: PMS includes clinically significant physical and/or psychological symptoms occurring during the luteal phase of the menstrual cycle, that cause significant distress and impairs daily functioning.⁵⁸ Symptoms typically disappear within a few days of the onset of menstruation.

Prevalence: Experienced by 20 - 40% of girls and women of reproductive age.⁵⁹

Implications: PMS symptoms encompass changes in appetite, weight gain, lower abdominal pain, lower back pain, breast tenderness or pain, mood changes, and even anxiety, and can sometimes affect girls and women's daily routines.⁵⁸ It may lead to lower school attendance among adolescents, and reduced productivity among working women.^{22,61} PMS "represents potential estimated gains of 2.1 million annual DALYs and \$115

billion in annual GDP in the women's health gap".⁶⁰

PREMENSTRUAL DYSPHORIC DISORDER (PMDD)

Definition: PMDD is a severe form of PMS, with the latest versions of the Diagnostic and Statistical Manual for Mental Disorders (DSM-5) and International Classification of Diseases (ICD-11) providing clear psychological and physical symptomatic criteria to diagnose this condition.⁶²

Prevalence: Pooled prevalence of PMDD was 3.2% in studies with confirmed diagnosis and 7.7% in studies with provisional diagnosis.⁶² Another study noted higher prevalence rates in LMICs (between 3.7% - 11%) compared to high income countries (3 - 4.1%).⁶³

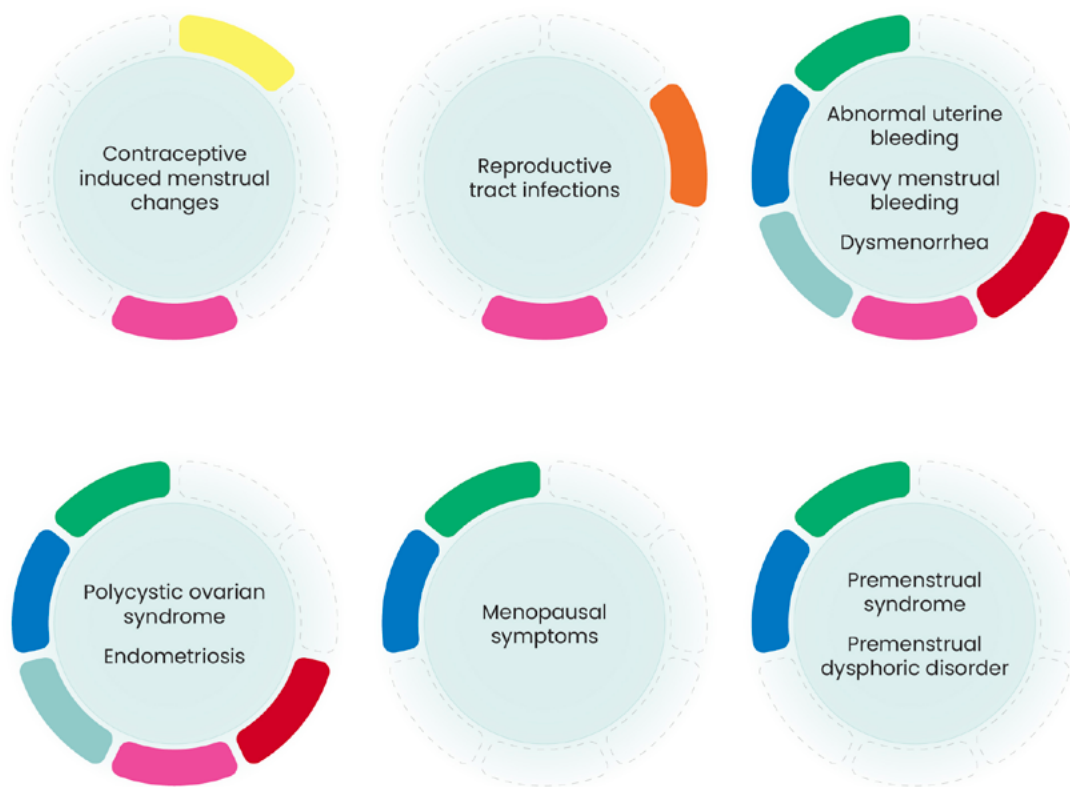
Implications: In addition to the disruptive nature of PMDD's psychological and physical symptoms, the condition is associated with several mental health conditions such as postpartum depression, personality disorders, anxiety and panic disorders, and suicidal ideation and risk of suicide.^{63,64} A systematic review noted that people with premenstrual disorders felt that their lives were controlled or "broken" by these conditions.⁶⁴

CONCLUSION

The widespread prevalence of menstrual concerns and disorders in LMICs represent a critical blind spot in health policies and programs. These conditions bear health, social, and economic implications for people in each phase of their lives. They also have negative knock-on effects, starting from adolescence and continuing into the reproductive years and beyond.



MENSTRUAL HEALTH CONCERNS & DISORDERS AND ASSOCIATED HEALTH CONDITIONS



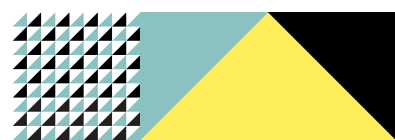
QUALITY OF LIFE

Negative impact on participation in school, workforce, daily activities, and menstrual dignity.

Associated health conditions

Associated health conditions have pervasive linkages with several menstrual concerns and disorders that exist across the reproductive life course.

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|---|---|
| ■ Contraceptive discontinuation | ■ Infertility |
| ■ Sexually transmitted infections | ■ Non-communicable diseases |
| ■ Anaemia | ■ Mental health disorders |
| ■ Adverse pregnancy outcomes | |



WHAT COMES NEXT

This brief is the first in a three-part series designed to support strategic, evidence-based investment in menstrual health. The next two briefs will:

- Explore in care-seeking and health care services for menstrual concerns.
- Present the investment case to strengthen health systems to address menstrual health.

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NOTES

- a. Menstrual disorders that have clinical diagnostic criteria include abnormal uterine bleeding (AUB), heavy menstrual bleeding (HMB), polycystic ovarian syndrome (PCOS), endometriosis, premenstrual syndrome (PMS) and premenstrual dysphoric disorder (PMDD). Symptoms and concerns associated with menstruation and the menstrual cycle, but do not necessarily have clinical diagnostic criteria are dysmenorrhea/menstrual pain, contraceptive-induced menstrual changes (CIMC), reproductive tract infections (RTI) and menopausal symptoms.
- b. The data presented in this brief has been compiled from multiple sources, including global estimates (often derived from high-income country data), country-specific studies, and analyses from global datasets (e.g., Global Burden of Disease). We have prioritized data published in peer-reviewed journals and other reliable sources. Where region-specific data was available in addition to global data, we have included it. Where a global estimate is unavailable, we present the best available regional figures. Readers should note that variations may exist between and within global estimates and LMIC-specific data due to differences in data availability, methodology, and reporting.
- c. Definitions include globally accepted clinical/diagnostic criteria for the menstrual concern or disorder
- d. This is a pooled prevalence from the latest and largest multi-city study in LMICs. HMB prevalence ranged from a low of 38.3% (in Dakar, Senegal) to a high of 77.6% (in Kathmandu, Nepal) (Sinharoy et al, 2023)
- e. This variation in the prevalence of PCOS is the result of different criteria used to assess the condition - National Institutes of Health,

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