



Research Paper

Bio-cultural Perspective on Menstruation: A Holistic Study

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Abstract

Menstruation frequently possesses psychological, social and health challenges for women of all ages, living in the different strata of society. In countries like India, where menstruation is stigmatised, it can be particularly difficult. These challenges related to menstruation for women living in different villages, slums, towns of India have become a daily life problem as they are facing issues related to it regularly. On the different level, many women all over the country lack knowledge about menstruation. In social sphere, women experience stigma around menstruation, lack opportunities to discuss with others about menstruation and experience limitation around mobility and other activities during menstruation. At the institutional level, there are very few resources in schools, colleges and offices to support menstruating females. Therefore, menstruating women face an array of challenges at multiple levels. The present research suggests that multi-level interventions are warranted to create supportive context for menstruation.

Keywords: Menstruation, Biological process, Society, Social taboos, Menstrual Hygiene Management, Menstrual diseases, Bio-cultural perspectives.

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I. Introduction

Good health is the condition of the body which leads to a disease-free wellbeing. The menstrual cycle is often conceptualized in the biomedical literature as a unidimensional, biological, and pathological aspect of women's bodies and health. In 1948, the World Health Organization (WHO) defined health as "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." In 1986, the WHO further clarified that health is: "A resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities." This means that health is a resource to support an individual's function in wider society. A healthful lifestyle provides the means to lead a full life. More recently, researchers have defined health as the ability of a body to adapt to new threats and infirmities. They base this on the idea that modern science has dramatically increased human awareness of diseases and how they work in the last few decades. Sexual health and growth of the primary and secondary sexual organs are a great part of healthy life cycle of men and women both. Especially, women go through the biological process, "Menstruation" to get matured physically and to be able to give birth of a new life.

Menstruation is the monthly shedding of blood and tissue from the uterus of the female body through the opening of the vagina. Menstruation is an important part of the reproductive process and is a signal that a girl is maturing and that she is healthy. The average length of the menstrual cycle is 28–29 days, but this can vary between women and from one cycle to the next. The length of menstrual cycle is calculated from the first day of period to the day before next period starts.

Girls get their first period (menarche), on average, between the ages of 11 and 14 years. By this stage, other sexual characteristics have developed, such as pubic hair and budding breasts. The menstrual cycle is complex and controlled by many different glands and the hormones that these glands produce. A brain structure called the hypothalamus causes the nearby pituitary gland to produce certain chemicals, which prompt the ovaries to produce the sex hormones oestrogen and progesterone.

Phases of Menstrual Cycle

The menstrual cycle is defined by the complex interplay of hormonal secretions. A typical menstrual cycle lasts between 21 and 35 days, though it can vary from woman to woman. The cycle is controlled by a

delicate interplay of hormones, including follicle-stimulating hormone (FSH), luteinizing hormone (LH), estrogen, and progesterone, all of which regulate the four phases: the menstrual phase, the follicular phase, the ovulatory phase, and the luteal phase.

Menstrual phase: Day 1, uterus lining which is prepared for implantation starts to shed which lasts 3 to 5 days. This phase starts when an egg from the previous cycle isn't fertilized, levels of the hormones estrogen and progesterone drop.

Follicular phase: In this phase, the primary follicle starts developing into a mature Graffian follicle. The endometrium also starts proliferating. The uterus starts preparation for another pregnancy.

Ovulatory phase: Mid-cycle phase, this is the phase in which ovulation takes place i.e., day 13-17. The end of the follicular phase along with the ovulation period defines the fertilisation period.

Luteal phase: It is the post-ovulation phase, where the fate of the corpus luteum is decided. If fertilisation occurs, pregnancy starts. If fertilisation doesn't occur, it marks the onset of another cycle.

Objectives

The objectives of the present study are as follows-

- To detect the social barriers associated with menstrual cycle and their possible reasons.
- To detect whether education has changed some thoughts of people regarding the menstrual cycle.
- To gain knowledge about Menstrual Hygiene Management (MHM).
- To know about the diseases associated with the menstrual cycle in the context of MHM.

II. Literature Review

1. Nicolson (1995) in the paper 'The menstrual cycle, science and femininity: Assumptions underlying menstrual cycle research' examines the relationship between popular knowledge of menstruation and scientific research. It suggests that despite evidence to indicate that pre-menstrual cognitive, behavioural and emotional 'impairment' is relatively rare, the popular notion that PMS routinely affects many women adversely is difficult to displace. It concludes that mainstream menstrual cycle research is subject to the influence of misogynist methodology upheld as staunchly by women influenced by patriarchy as by men. Reasons are suggested which lie in the differential power of claims to knowledge.

2. O'Flynn (2006) in the article 'Menstrual symptoms: the importance of social factors in women's experiences' described that management of menstruation was a prominent theme. Women acted to comply with a strong social message that menstruation should be concealed, although this behaviour was often 'taken for granted.' The need to conceal evidence or reminders of menstrual bleeding was particularly important. Onset of menstrual symptoms often challenged established strategies for menstrual management. Menstrual management then became a conscious problem and a source of continuing stress. The breakdown of management strategies, by real or threatened episodes of leaking or staining, influenced consultation behaviour and decisions about treatment. The social pressure to maintain concealment of menstruation is a strong influence on women's health related behaviour in response to menstrual concerns. Women's choices may be better understood if attention is paid to the social context in which they live.

3. Jha et al. (2022) in their study, 'The impact of menstrual cycle on quality of life among college girls in Andhra Pradesh' assessed the menstrual cycle's impact on the quality of life among college girls in Andhra Pradesh. A total of 153 responses were recorded, of which undergraduate students were 56.20%, followed by postgraduate 34.60% and 9.20% from Ph.D. This study showed that many college girls have irregular menstrual cycles, itching in the vaginal area, prolonged use of a single Napkin, abdominal cramps, nausea and dizziness. The menstrual cycle has different effects on college girls, such as on their physical condition, academic performance and daily activities. 26.10% of girls with severe cramps needed to change their lifestyle, take proper diet and practice yoga.

4. Brown et al. (2024) in the study named as, 'Everyone needs to be educated': pupils' voices on menstrual education' aimed to understand young people's perceptions and experiences of menstrual education in schools and their experiences of menstruating whilst at school, including within Physical Education. The findings highlight the lack of menstrual education received and subsequent impact of menstruation and menstrual-related symptoms in school and PE. The abundance of information requested by pupils highlights the deficit in understanding about how to manage periods in school and remain engaged in physical activity.

5. Das et al. (2015), "A study conducted in Odisha, India", examined the relationship between menstrual hygiene management (MHM) practices, water, sanitation access, and urogenital infections like bacterial vaginosis

(BV) and urinary tract infections (UTI) among 486 women. Results showed that women using reusable absorbent pads were more likely to experience urogenital infections compared to those using disposable pads. Factors like higher household wealth and access to private hygiene space were protective against BV, while lower education was linked to a higher risk of UTI. The study suggests that interventions ensuring access to private hygiene facilities, better education, and safer, low-cost MHM materials could help reduce urogenital diseases. The study emphasizes the need for further research on reusable pad hygiene practices and other reproductive tract infections.

6. Lahme et al. (2018), A cross-sectional study in two Indian villages investigated gynaecological and sexual diseases in 650 rural women. The study found that 55% of women had gynaecological complaints, while 92% had one or more gynaecological or sexual diseases, with an average of 3.6 diseases per woman. Genital tract infections were responsible for half of the morbidity. Only 8% had received a gynaecological examination or treatment. An association between gynaecological diseases and the use of female contraception was noted, though it explained only a small portion of the morbidity.

7. Bang et al. (1989) in their study, "A study of 715 adolescent girls from rural and urban areas of West Bengal", India, examined the relationship between socioeconomic characteristics, menstrual hygiene practices, and gynaecological problems. Urban girls reported better menstrual hygiene practices and fewer gynaecological issues than rural girls. Menstrual hygiene was a significant predictor of gynaecological problems, with higher socioeconomic status linked to better hygiene practices, reducing health issues. These findings emphasize the need for improved menstrual hygiene education and healthcare support, especially in rural areas, to enhance adolescent girls' reproductive health and well-being.

8. Mishra et al. (2017) in their study, A study using District Level Household and Facility Survey-3 (DLHS-3) data examined the determinants of menstrual hygiene practices and their impact on reproductive tract infections (RTIs) among ever-married women in India. It found that only 15% of women used sanitary pads or locally prepared napkins during menstruation. Non-use of hygienic methods was linked to higher risks of RTIs and abnormal vaginal discharge. Women using unhygienic methods were more likely to report RTI symptoms (OR=1.046) and vaginal discharge (OR=1.303). The study highlights the need for awareness, affordability, and privacy to improve menstrual hygiene and reduce reproductive morbidity.

III. Research Methodology

As this research is based on secondary information, the present researchers collected data from various research articles, journals, books etc.

IV. Results and Discussions

As per 1st objective of the present study, it is found that society plays a huge role while making people's mindset regarding Menstruation as this is one type of health condition or one type of biological cycle which comes with different bio-social stigma. Menstruation is an essential and natural part of a woman's life. There are different types taboos, barriers such as socio-cultural barriers, religious barriers, environmental barriers, economic barriers, Institutional barriers etc. beard by menstruator. These barriers are described below—

Socio-cultural barriers- In Indian societies there are different communities having different upbringing which results to different mindsets. People used to think women become impure when they are menstruating. So, they cannot enter the worshipping room or kitchen. In some cultures, menstruators are restricted from participating in social events, eating with family members. It is commanded as women should not talk openly about this fact so that the men of the house know about this.

Menstruation is often considered a taboo topic, leading to feelings of shame, embarrassment, and low self-esteem among menstruators. Limited access to accurate information about menstruation, hygiene, and health can perpetuate myths and misconceptions. Menstruation considered as a typical feminine role. It reinforces harmful gender stereotypes and limiting opportunities for menstruators.

Economic Barriers- Menstrual products, such as pads, tampons, and menstrual cups, can be expensive, making them inaccessible to many individuals, particularly in low-income communities. In rural areas women are not even used to the terms such as tampons and menstrual cups. In these rural or marginalised areas there are inadequate sanitation infrastructures. It becomes difficult for menstruators to manage their hygiene and health. Due to lack of money menstruators use piece of old clothes which is very unhygienic.

Institutional Barriers- Many institutions, such as schools, workplaces, and public spaces, often lack policies and infrastructure to support menstruators, such as access to menstrual products, sanitation facilities, and leave policies. Menstruators may face challenges in accessing quality healthcare services, including reproductive health services, due to limited availability, affordability, or cultural sensitivity.

Environmental Barriers- There is inadequate access to safe water, sanitation, and hygiene (WASH) facilities in rural areas which can make it difficult for menstruators to manage their hygiene and health. The production, use, and disposal of menstrual products can have significant environmental impacts, including waste generation and pollution. In many areas, menstruators can not dispose sanitary pads properly which leads to spread of germs. Addressing these social barriers requires a multifaceted approach that involves education, policy changes, community engagement, and individual empowerment. By working together, we can help break down these barriers and promote a more inclusive and supportive environment for menstruators.

As per 2nd objective of the study, Education is a fundamental right, and every person must have an equal opportunity to learn and thrive. Education has indeed played a significant role in changing people's thoughts and attitudes towards menstrual cycles. With increasing awareness and open discussions, the stigma and myths surrounding menstruation are gradually being broken down.

For instance, educational programs have helped people understand that menstruation is a natural and normal part of life, rather than something to be ashamed of. This shift in perspective has led to increased empathy and support for individuals who menstruate.

Moreover, education has also helped to dispel common myths and misconceptions about menstruation. For example, many people now understand that menstruation is not a sickness or a sign of weakness, but rather a natural bodily function.

The importance of menstrual hygiene education cannot be overstated. It not only promotes health and well-being but also encourages self-care and improves the quality of life for girls and women worldwide.

By incorporating comprehensive menstrual health education into school curricula and community programs, we can continue to challenge societal norms and promote a more inclusive and supportive environment for all individuals, regardless of their gender or menstrual status.

As per 3rd objective of the study, Menstrual hygiene management (MHM) practices vary by socio-cultural context, educational background and economic status, and there is wide variation in MHM practices between and within countries. MHM is characterized by practices such as the type of absorbent material used and the frequency changed, associated body washing, the methods of washing, drying and storing reusable pads as well as other contextual factors, such as the location of menstruation-related changing and washing practices. These practices can be influenced by water, sanitation and hygiene (WASH) facilities at the household level, and the quality of, and access to, these facilities varies significantly between and within countries.

MHM practices can be unhygienic and inconvenient, particularly in resource-constrained settings, with poor WASH access, and have been found to be associated with different reproductive tract infections {BV, and vulvovaginal candidiasis (VVC) and with psychosocial stress outcomes. Reproductive Tract Infections (RTIs) are a major public health concern worldwide and are particularly common in low-income settings. The prevalence of RTIs and sexually transmitted infection (STIs) in women aged 15–44 years in Odisha was 35.2% in 2002–2004. Another study from the state of West Bengal, India, has reported that girls with higher socioeconomic status generally had both safer MHM practices and fewer gynaecological problems. The most common lower reproductive tract infections are bacterial vaginosis (BV), vulvovaginal candidiasis (VVC), and *Trichomonas vaginalis* (TV). BV, the most common RTI, is characterized by an alteration in the vaginal microbiome with a decline in *Lactobacillus* colonization and an overgrowth of facultative anaerobic bacteria. Whilst vaginal inflammation is usually absent in BV, it is the most serious risk factor for women of reproductive age because of its association with adverse pregnancy outcomes such as preterm birth, acquisition of sexually transmitted infections, and the development of pelvic inflammatory disease (PID). *Candida* infection is the second most common RTI and VVC affects up to 75% of reproductive-age women at least once. *Candida* infection can be asymptomatic and is thus often referred to as colonization. VVC, the disease state of *Candida* infection, is diagnosed by observing *Candida* species in presence of local signs and symptoms of inflammation. TV infection is the most prevalent STI worldwide. TV infection can lead to reproductive complications such as pelvic inflammatory disease, tubal factor infertility, pregnancy loss, premature membrane rupture, preterm delivery, low birth weight. The clinical signs and symptoms of these infections overlap to a large extent, though the etiologies are quite different. Common clinical symptoms include vaginal discharge, dyspareunia, itching and burning sensation. However, the poor sensitivity and specificity of individual clinical symptoms, and the poor performance of standard laboratory tests in many settings, make the accurate clinical diagnosis of these infections difficult. In addition, a significant proportion of genital infections are asymptomatic such that laboratory testing is required to diagnose and identify the specific cause. Most studies assessing an association between MHM and RTI have used self-reported symptoms to measure outcomes which are likely biased. When assessing MHM practices, most published studies have focused on absorbents, either comparing the type of absorbent used (e.g. reusable vs. disposable pads) or, in fewer cases, washing, drying and storing methods for cloths used for absorption or other personal hygiene practices. In a recent case-control study in Odisha, India, it was observed that women of menstruating age with urinary tract infections (UTI) and BV were more likely using re-usable absorbent pads than using disposable pads. Both UTI and BV were also associated with a lack of a private space for changing, cleaning and washing during menstruation. In that study, BV and UTIs were not detected in a significant

proportion of women with vaginal symptoms suggesting that other urogenital infections may be responsible for these symptoms. Only one study has explored the association of VVC and TV infection with MHM practices, reporting that the use of saris for menstrual absorbent protection was safer than rags washed in river and dried at home.

As per 4th objective of the study, Common menstrual diseases are as follows-

Pre-menstrual syndrome (PMS) – Hormonal events before a period can trigger a range of side effects in women at risk, including fluid retention, headaches, fatigue and irritability. Treatment options include exercise and dietary changes.

Dysmenorrhoea – Painful periods. It is thought that the uterus is prompted by certain hormones to squeeze harder than necessary to dislodge its lining. Treatment options include pain-relieving medication and the oral contraceptive pill.

Heavy menstrual bleeding (previously known as menorrhagia) – This can cause anaemia, if untreated. Treatment options include oral contraceptives and a hormonal intrauterine device (IUD) to regulate the flow.

Amenorrhoea – Absence of menstrual periods. This is considered abnormal, except during pre-puberty, pregnancy, lactation and post-menopause. Possible causes include low or high body weight and excessive exercise.

Sanitary pads or tampons are used to absorb the menstrual flow. Both pads and tampons need to be changed regularly (at least every four hours). Using tampons has been associated with an increased risk of a rare illness called toxic shock syndrome (TSS).

Asymptomatic Nature of Some Infections: BV (Bacterial Vaginosis) and Candida infections (particularly VVC) can often be asymptomatic, making it difficult to identify them early. The fact that Candida colonization can exist without causing symptoms complicates diagnosis and treatment. The overlap in clinical symptoms, such as vaginal discharge and itching, among different RTIs further adds to the diagnostic challenge. The reliance on laboratory tests to confirm the specific cause, especially when symptoms are nonspecific, is essential but can be limited in resource-poor settings.

Challenges with Clinical Diagnosis: As mentioned, standard diagnostic tests, which may have poor sensitivity and specificity, can lead to misdiagnosis or underdiagnosis. This underscores the need for better diagnostic tools that are more accessible and accurate, particularly in low-income settings where healthcare infrastructure may be weak.

MHM Practices and RTIs: Menstrual Hygiene Management (MHM) practices clearly play a role in the prevalence of these infections. The study from Odisha, which found an association between the use of reusable pads and higher rates of urinary tract infections (UTIs) and BV, highlights the potential risks of improper hygiene practices, such as poor washing, drying, and storage of reusable pads. The lack of private spaces for menstrual hygiene management, as noted in the study, further exacerbates these risks.

Role of Socioeconomic Factors: In the context of MHM, socioeconomic factors play a significant role. For example, the use of saris as menstrual absorbents was found to be safer than using rags washed in rivers. This reflects the importance of education, access to resources (such as disposable pads), and the socio-cultural context in shaping MHM practices. Lack of privacy and proper sanitation facilities can increase vulnerability to RTIs.

Undiagnosed Infections: The fact that many women in the study did not show significant signs of BV or UTIs despite having vaginal symptoms suggests that other urogenital infections may be contributing to these symptoms. This highlights the need for more comprehensive diagnostic approaches that consider a broader range of possible infections.

These risks can have long-term consequences for women's health, including conditions such as hepatitis B, cervical cancer, menstrual disorders, and skin irritation.

Hepatitis B

Risk of Transmission: Hepatitis B is a viral infection that primarily spreads through contact with infected blood, semen, or other body fluids. Neglecting basic hygiene practices such as washing hands after changing menstrual products can lead to the transmission of bloodborne diseases, including hepatitis B. If menstrual products, like pads or cloths, become contaminated with blood, improper handling or washing can increase the risk of cross-contamination and the spread of infections.

Preventive Measures: To reduce the risk of hepatitis B transmission, women should be encouraged to wash their hands thoroughly with soap and water after handling menstrual products, and to use sanitary products that are clean and properly disposed of or washed if reusable.

Cervical Cancer:

Link to Poor Hygiene: Poor menstrual hygiene, particularly the use of unclean menstrual products or prolonged use of sanitary pads, can create an environment where bacteria or viruses thrive. Chronic infections such as Human Papillomavirus (HPV), which can be linked to cervical cancer, may be more likely to develop in such unsanitary conditions. Although the direct link between menstrual hygiene and cervical cancer is still a subject of research, poor hygiene may contribute to an increased vulnerability to infections that cause cancer.

Preventive Measures: Regular gynecological checkups, HPV vaccinations, and the promotion of good menstrual hygiene practices (such as changing menstrual products regularly) can reduce the risk of developing infections that may lead to cervical cancer. Early screening and prevention programs should also be emphasized.

Menstrual Disorders: Irregular Periods, Heavy Bleeding, Painful Periods: Poor menstrual hygiene practices, such as infrequent changing of sanitary products or using unclean products, can lead to infections in the genital tract. These infections may disrupt normal menstrual cycles, causing irregular periods, heavy bleeding, or painful menstruation (dysmenorrhea). Moreover, untreated infections can lead to pelvic inflammatory disease (PID), which can further complicate menstrual health.

Preventive Measures: Women should be educated about the importance of proper menstrual hygiene, including changing pads or tampons regularly (every 4–6 hours), using clean sanitary products, and ensuring that menstrual products are stored and disposed of properly. Ensuring that menstrual hygiene products are safe and accessible can help reduce these risks.

Skin Irritation: Rashes and Allergic Reactions: Using unclean sanitary products or not changing them frequently enough can lead to skin irritation, rashes, and even allergic reactions. Prolonged exposure to the moisture and warmth of menstrual blood trapped in pads or cloths can create an ideal environment for bacteria to thrive, which may cause infections like dermatitis, fungal infections (such as candidiasis), or itching.

Preventive Measures: To avoid skin irritation, women should use clean and breathable menstrual products. For those who prefer reusable pads, it's crucial to ensure proper cleaning, drying, and storage between uses. Additionally, women with sensitive skin may benefit from hypoallergenic or organic sanitary products to prevent allergic reactions or rashes.

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