READON INSIGHTS



FROM TABOO TO TRANSFORMATION

MENSTRUAL HYGIENE INDUSTRY IN INDIA



OCTOBER 2023

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Executive Summary

India has the largest adolescent population (both girls and boys aged 10-19) of ~116 million in the world. Though women constitute to approximately 48% of India's population, menstruation, which is a natural biological process, faces many stigmas and taboos.

Though rising awareness and preference for menstrual products are boosting demand for feminine hygiene products in India, the lack of menstrual education and proper sanitation facilities pose major challenges for the INR 6,630 Crore² Indian feminine hygiene market.

78% of adolescent girls have reported they use a hygienic method of protection during their menstrual cycle in 2019-21, with majority of them still using sanitary napkins.

This report looks at the different menstrual products and explores sustainable alternatives to the conventional menstrual products that are harmful for the environment. India uses 12.3 billion sanitary napkins every year, 98% of which ends up in water bodies or landfills. This calls for more sustainable methods for disposal of menstrual waste.

¹ Unicef.org

² Mordor Intelligence

³ NFHS 2019-21; The National Family Health Survey (NFHS) 2019-21 collected information about the use of locally manufactured/produced napkins, sanitary napkins, tampons, and menstrual cups among ever-menstruated respondents; Respondents of the NFHS 2019-21 were women aged 15-24 years; around 2,41,112 women were surveyed

⁴ Menstrual Hygiene Alliance India (MHAI)

Menstruation: Normal or Taboo?

Menstruation is a natural biological process experienced by adolescent girls and women starting from menarche to menopause; the total duration of these days of menstruation adds up to about **seven years** of their lives.

Number of women between the ages 15 and 49 **menstruating** on any given day around the world





India has the largest adolescent population (both boys and girls aged 10-19) in the world

Number of adolescents living in homes without toilets in India



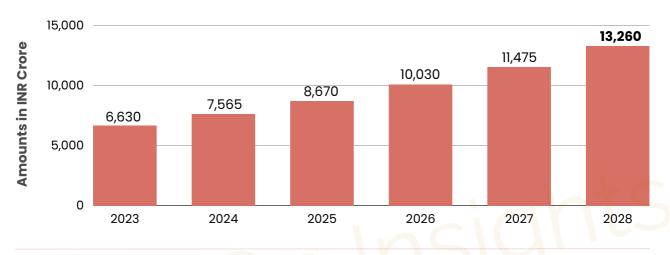
Despite the scale, menstruation remains a taboo subject, shrouded in secrecy, and suppressed by silence and shame.



Menstrual Hygiene in India: an Overview

By 2028, the India Feminine Hygiene Market size is estimated to reach INR 13,260 Crore.

India's Feminine Hygiene Market Size (in INR Cr):



The term '**feminine hygiene**' refers to the use of sanitary protection and personal care products such as:

- Sanitary napkins / pads
- Period underwears
- Tampons
- Menstrual cups
- Panty liners

Growth drivers for demand for feminine hygiene products:

- Increasing awareness about importance of intimate hygiene
- Rising urbanisation and changing lifestyles of women have led to a rise in demand for convenient menstrual products
- Growing disposable income (for both men and women) to spend on personal care products, including intimate hygiene products

Source: Mordor Intelligence

Challenges of Menstrual Hygiene in India

Though rising awareness and preference for menstrual products are boosting demand for feminine hygiene products in India, the factors below have predominantly impacted menstrual hygiene in India:

Lack of menstrual education



Women in India are not aware about menstruation before its onset, leaving no choice but to resort to unhygienic products like cloth



This lack of awareness also causes stigma and taboos around menstruation

Lack of adequate facilities



Poor sanitation facilities and lack of toilets at homes makes it difficult for women to maintain proper hygiene during menstruation



Inadequate disposal facilities at schools and workplaces lead to absenteeism

Lack of disposable income



High prices of menstrual products makes it difficult for all sections of the society to use hygienic products for protection



Paid use of public toilets may also become financially inconvenient for some women in India

What does the current landscape of menstrual hygiene look like in India?



Menstrual Hygiene in India: Key Trends

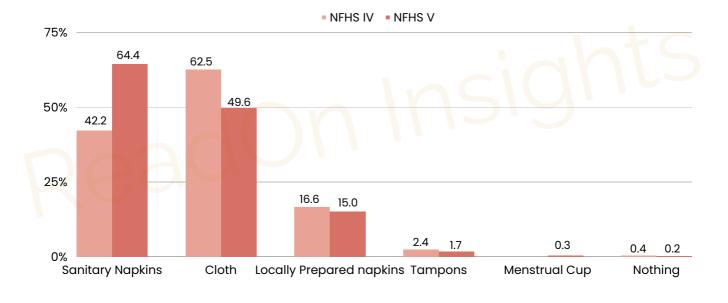


Adoption of menstrual cups and tampons is still very low in India due to lack of menstrual awareness



The use of sanitary napkins is increasing due to more acceptability and government/NGO campaigns

Percentage of women aged 15-19 (of 2,41,112 women surveyed) who have ever menstruated by type of protection used during their menstrual period in India:



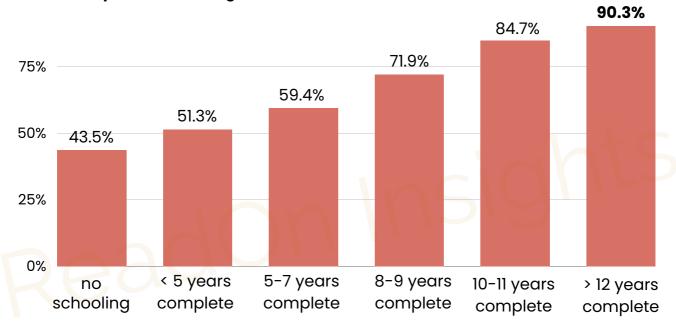
78% of adolescent girls have reported they use a hygienic method of protection during their menstrual cycle (2019-21), a substantial increase from 58.3% about five years back.



Menstrual Hygiene and Schooling

It is observed that girls with higher than secondary level of education are **more than twice** as likely to be using a hygienic method than girls with no schooling.

Percentage of women aged 15-24 (of 2,41,112 women surveyed) who use a hygienic method of protection during menstruation in India:



Only

43.5%

women without any schooling use a hygienic method of protection, while

90.3%

women with higher than secondary level of education use a hygienic method of protection during menstruation.

Menstrual Hygiene and Schooling

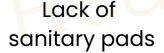
According to UN's child protection agency, UNICEF, **71% of adolescent girls** in India remain unaware of menstruation until they get their first period. When they do so, many drop out of school.



girls drop out of school annually in India due to a lack of menstrual hygiene management facilities.

Key reasons for early school dropouts





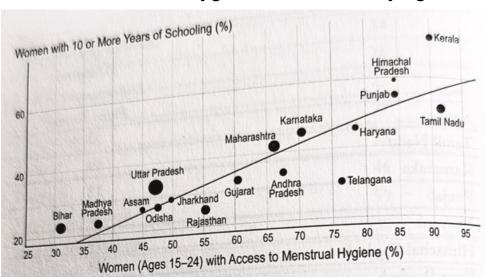


Lack of Functional toilets



Lack of awareness and knowledge

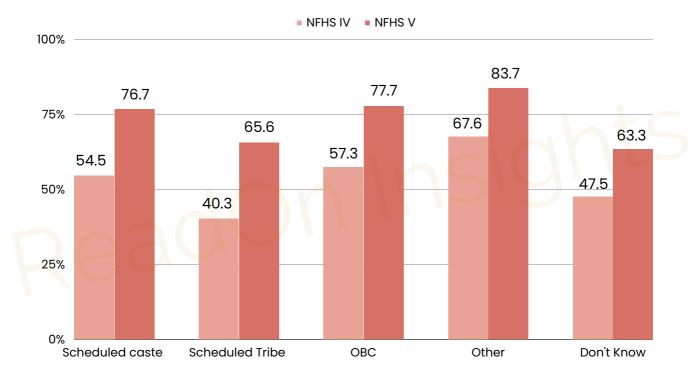
Access to menstrual hygiene vs women staying in school:



Menstrual Hygiene and Castes

The percentage of girls using a hygienic method of menstrual protection has seen a rise across various caste categories due to rising awareness and acceptance.

Caste based percentage of women aged 15-24 (of 2,41,112 women surveyed) who use a hygienic method of protection during menstruation in India:



83.7%

women in categories other than SC, ST and OBC use a hygienic method of protection.

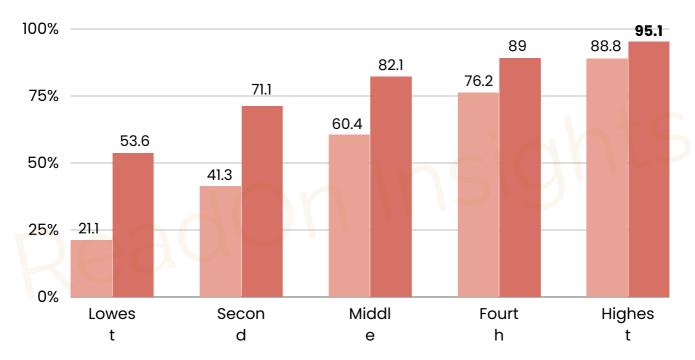
Under recognizable castes, scheduled tribes have the lowest percentage of using a hygienic method, at just

65.6%

Menstrual Hygiene and Wealth Quintile

Women in the higher income segments have a higher use of a hygienic method of protection during menstruation as education and availability of hygienic products increase.

Income based percentage of women aged 15-24 (of 2,41,112 women surveyed) who use a hygienic method of protection during menstruation:



Only

53.6%

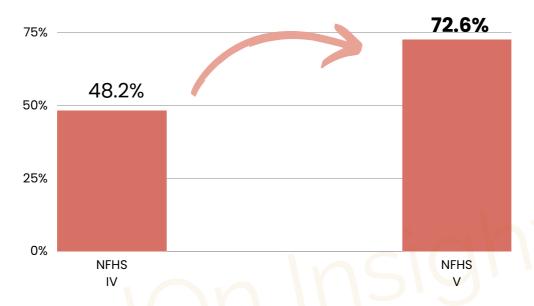
women in lowest wealth quintile use a hygienic method of menstrual protection.

95.1%

women in the highest wealth quintile use a hygienic method of menstrual protection.

Menstrual Hygiene in Rural India

Percentage of women aged 15-24 (of 2,41,112 women surveyed) using hygienic menstrual method in rural areas significantly increased from 2015-16 to 2019-20:



This rise in hygiene adoption has been majorly due to:



Accessibility and awareness has increased with the help of various SHGs and NGOs.



Penetration of internet has helped brands reach villages through social media apps.



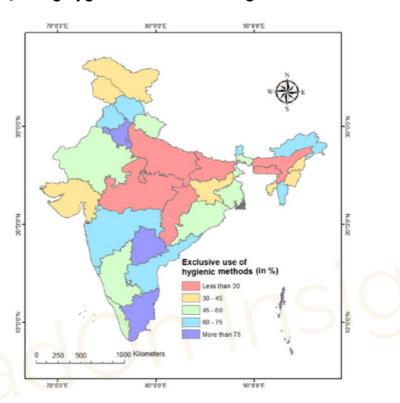
Multiple government initiatives like SABLA, NHM etc target menstrual issues in rural areas.



According to a report by the NSSO, the average monthly per capita expenditure (MPCE) in rural areas increased by 17% from 2011-12 to 2017-18.

Menstrual Hygiene in Different States

State/union territory distribution of percentage of women aged 15-24 (of 2,41,112 women surveyed) using hygienic methods during menstruation across India:



BEST PERFORMING

Puducherry (99.1%)

Andaman and Nicobar Islands (98.8%)

Tamil Nadu (98.4%)

WORST PERFORMING

Bihar (59%)

Madhya Pradesh (61%)

Meghalaya (65%)

Hygienic menstrual practices vary across India due to different levels of education, access to hygiene products, and cultural beliefs. Tamil Nadu, with a **73.44%** female literacy rate, is one of the best performing states, while Bihar, with a **53.57%** female literacy rate, faces more challenges.

Importance of Menstrual Hygiene



Proper health and well-being

Proper menstrual hygiene practices are essential to maintain physical and emotional health of women.



Access to education

Inadequate menstrual hygiene can force girls to miss school during their periods or dropping out. Ensuring good menstrual hygiene enables girls to attend school and access future opportunities.



Proper disposal of menstrual waste

Improper disposal of menstrual waste can harm the environment. Promoting eco-friendly menstrual products and proper disposal methods can help reduce this impact.



Prevention of skin irritation

Prolonged contact with wet sanitary products can lead to skin irritation. Using eco-friendly products can help reduce rashes and irritation.



Prevention of infections

Introduction of bacteria into the urethra may cause urinary tract infections. It can happen anywhere in the urinary tract and can be fatal. Proper menstrual hygiene can prevent such infections.

Results of Poor Menstrual Hygiene



Reproductive tract infection

Bacteria can proliferate quickly in the reproductive system, beginning with the cervix and progressing higher, resulting in sepsis and other complications.



Urinary tract infection

When hazardous bacteria enter the urinary system, they can irritate the mucosal area, causing infections.



Yeast infection

Improper menstrual hygiene can cause Candidiasis, a fungal infection caused by yeast.



Hepatitis B

Poor menstrual hygiene like neglecting to wash hands after changing menstrual products can lead to the spread of infections like hepatitis B and thrush.



Cervical cancer

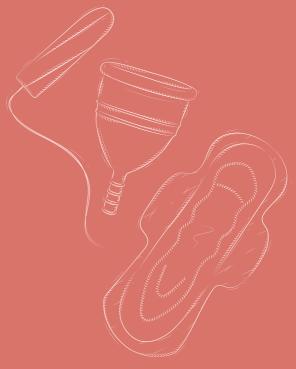
Cervical cancer, developed in the cervix (entrance to the uterus from the vagina) can be caused by the Human Papillomavirus, if proper menstrual hygiene practices are not followed.



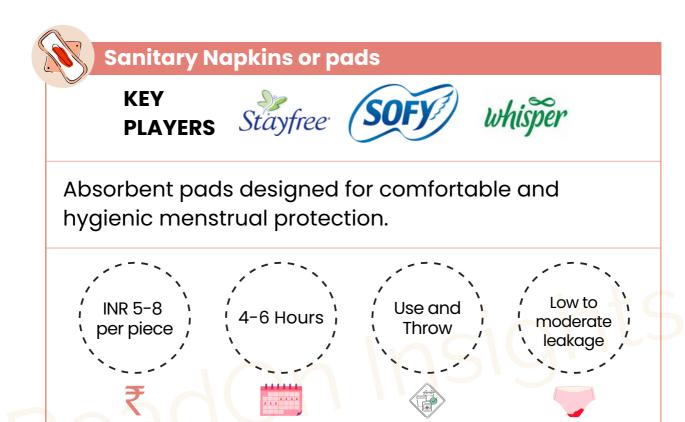
Fungal infections

Using unclean sanitary napkins and other products can lead to health hazards, including fungal infections.

With the growing awareness around menstrual hygiene, what are the different menstrual products?



Menstrual Hygiene Product Categories



Menstrual Cups

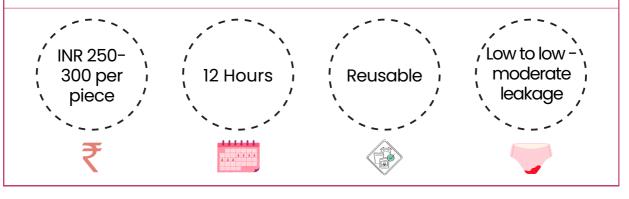
KEY PLAYERS



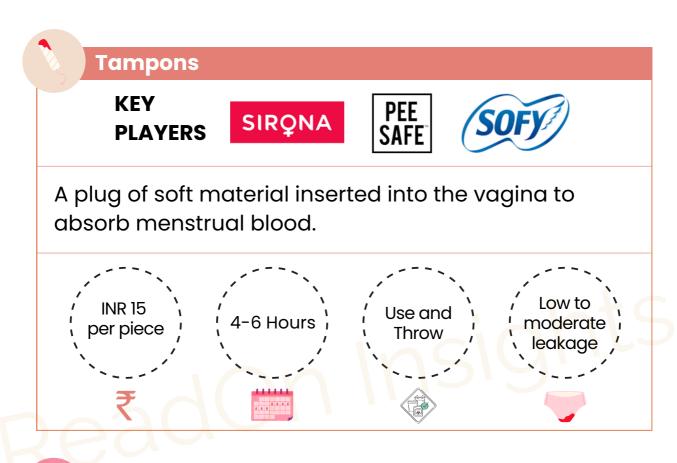




Bell-shaped cup (made of silicone, latex, or elastomer) inserted into the vagina to collect menstrual fluid.



Menstrual Hygiene Product Categories





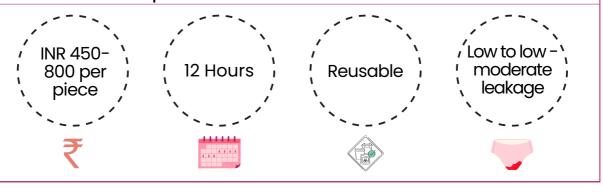
KEY PLAYERS







It is like a traditional "cup" that has a more shallow design like a disc. It helps in mess-free sex and also reduces cramps.



There is a new product category in the market...

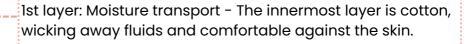


Menstrual Hygiene Product: Period Underwear



About the Product

Like regular panties, period panties come with extra layers and highly absorbent fabrics in the crotch area that helps absorb menstrual blood.



2nd layer: Moisture absorption - It can absorb blood up to four times that of a tampon.

3rd layer: Protective membrane - It prevents leaks and stains by being impermeable to water.

4th layer: Fabric - the outermost layer of femtis period panties consists of different fabrics.

Materials used

Organic cotton

Spandex

Bamboo

Nylon

Elastane

Polyester fabric



Period Underwear: Pros and Cons

Pros	Cons	
Some period underwears can be reused for six months to two years.	High pricing (~700) is a significant concern with these undergarments.	
Made of soft, breathable material for comfort.	May require 24-48 hours of drying time.	
Aid as a prevention method for toxic shock syndrome.	Changing in public restrooms may be a hassle.	
Can be worn for a longer duration (12 hours).	Some period panties are not odour free.	
Environment friendly as they can be reused for two years.	Anti-bacterial abilities may diminish after multiple wash.	



Period Underwear Brands In India

Brands	About	Products Offered	Period Underwear features	Price
Naarica	It manufactures period panties designed in France and engineered in Germany.	• Period Underwear	 12-15 hours protection Eco-friendly and sustainable Antimicrobial Reusable for 3 years 	INR 1,000- 1,100
SochGreen	It offers innovative reusable period products designed to revolutionise menstrual experience.	 Organic lingerie Period panty Menstrual cup Cloth pad Daily discharge pad Urine leak panty 	 Range of sizes, styles, and absorbencies Skin-Friendly Latex-free elastic 	INR 299-1,899
Adira	Started by Yashram Lifestyle Brands Pvt Ltd., Adira pioneered innovative products including period panties, starter bras, and more	PantiesPeriod pantiesStarter BrasCamis	Support patch to hold pad in place	INR 350-500
HealthFab	India's top-ranked leak-proof reusable period panty, with top ranks in global markets, including Amazon India's top 100	Period UnderwearPeriod pain relief cream	 Absorbs 6 times more than pads Eco-friendly Breathable fabric Rash free Reusable for 2 years 	INR 500-1,250
Super Bottoms	Sustainable baby products like diapers, innovative period products including underwear, cloth pads, and bladder leak solutions	DiapersPeriod pantyUnderwearsWipesLangots	 Full coverage with high waist design Comfortable and soft Stretchable, breathable Rash free 	INR 500- 1,000

Economics of Menstrual Hygiene Products

Product	Avg Price per piece	Number of pieces needed in a year	Average Yearly cost
Pads	INR 7	Considering 6 days of periods (3 heavy flow days and 3 non peak days), and a pad lasts 5 hours in peak days and 8 hours in non peak days, Number of pads needed on peak days = 24/5 = 5 pads/day Number of pads needed in non peak days = 24/8= 3 Number of pads in one month = 5*3 + 3*3 = 24 Number of pads in one year = 24*12 = 288	INR 2,016 (=288*7)
Tampons	INR 15	Considering that the average usage time is the same as pads, Number of tampons needed in a month = 24 Number of tampons needed in a year = 288	INR 4,320 (=288*15)
Menstrual Cups	INR 300	Menstrual cups are reusable as they can be washed and reinserted. Considering a new cup is used after every wash (during a cycle of 6 days), 2 cups would be needed every year.	INR 600 (=300*2)
Period Underwear	INR 600	A period panty usually lasts for 10-12 hours. Considering the time for cleaning and drying, a woman should have at least have 3 panties	Total cost= INR 1,800 (600*3) But a period panty usually lasts for 3 years, so yearly cost = 1,800/3 = INR 600

Sustainable Alternatives for Menstrual Products

Bamboo

Biodegradable pads harness the natural properties of bamboo to provide comfort and reduce the ecological impact of menstrual product waste.

Cornstarch

Bioplastics derived from cornstarch create a soft and absorbent core, blending innovation and sustainability.

Hemp

Hemp has antibacterial properties, high tensile strength, mildew resistance and biodegradable attributes, making it an excellent choice for menstrual products.

Banana Fibre

Biodegradable banana fibres are highly absorbent and can handle heavy flows, promoting environmental conservation and community involvement.









Impact of Menstrual Hygiene on Workforce Participation and Productivity



Absence in the workplace

Access to affordable and hygienic menstrual products is essential for workforce participation. Without such access, women may face difficulties in managing their periods during work hours. This may lead to discomfort, lower productivity and even absenteeism at work.



Discomfort at work

Access to clean sanitation facilities is crucial for women to maintain menstrual hygiene. The lack of such facilities can make it challenging for women to maintain menstrual hygiene affecting their comfort and productivity at the workplace.



Loss of productivity

Menstruation can be accompanied by various symptoms such as pain, fatigue and mood changes. These symptoms can affect women's overall wellbeing and work performance.



Economic implications

Inadequate access to menstrual hygiene practices can lead to absenteeism, lower productivity and economic losses to companies. Proper menstrual hygiene management can contribute to the economic empowerment of women by enabling their active and uninterrupted participation in the workforce.

Challenges in Integrating Menstrual Hygiene Management at Workplace

Stigma and Taboos

Menstruation is still considered a taboo subject in many parts of India. There is a lack of awareness and understanding about menstrual hygiene, and the associated stigma can make it difficult to openly discuss or implement policies related to menstruation in the workplace.

Lack of Awareness

Many organisations lack awareness about the importance of menstrual hygiene. This can result in a lack of understanding of the need for facilities and support related to menstruation.

Cost concerns

Companies may be concerned about the costs of implementing menstrual hygiene management practices. Providing facilities, education, and free or subsidized sanitary products can be costly, especially for SMSEs.

Companies offering menstrual leave













GOZOOP



In many countries like Japan, South Korea and Italy, menstrual leave is a part of women employees' leave policy.

Menstrual hygiene is important. But menstrual waste management is equally important.



Menstrual Waste Management

12.3 Billion sanitary napkins used every year in India

98% ends up in water bodies or landfills

800 years to decompose a single sanitary pad

Throwing away in the dustbin or in the open (rivers, lakes) is the most common menstrual waste disposal practice in India.

Problems with sanitary napkin disposal:



Health risk



Environmental risk



Long term economic burden

Solutions:



Biodegradable alternatives like bamboo pads, banana fiber pads and cloth pads could be used instead of sanitary pads.



Sanitary napkin incinerators can be installed in schools and larger public toilets to safely burn used sanitary products, reducing waste and eliminating hygiene concerns.

Moving towards Sustainable Menstrual Waste Management



PadCare Labs is an innovative menstrual waste management startup that focuses on finding greener alternatives to harmful menstrual waste disposal methods.

- It manages menstrual waste, including sanitary napkins, diapers, and absorbent hygiene products.
- It uses an automated system to convert used pads into harmless, recyclable byproducts.
- It has a 5D process that transforms menstrual waste into two valuable by-products: cellulose and plastic.

PadCare has three products:

PadCare bin

stores hazardous waste for 30 days without bacteria or smell

PadCare X

recycles 15,000 sanitary napkins into wood pulp and high quality plastics

PadCare Vend

a sanitary napkin vending machine

2,40,00,000

pads are recycled by PadCare every year

42,80,000

kg carbon equivalents conserved

1,07,000

litres landfill area saved by making paper from recycled waste

50,000+

kg material processed at PadCare recycling station

Methods Currently Used for Disposal of Menstrual Products

Disposal method of menstrual waste	Concerns with the disposal method
Thrown with routine waste via a dustbin	In this disposal method, the menstrual waste undergoes the same treatment as other solid waste. This involves being placed in landfills, where it can take ~800 years to break down.
Thrown away in the open (rivers, lakes, wells, roadside etc.)	Menstrual waste has the potential to pollute water sources and obstruct drainage systems.
Burning (open)	When commercially available pads are burned at low temperatures, it can produce unpleasant odour and potentially expose nearby populations to them.
Burying	Inefficient burial methods, coupled with the absence of suitable composting, can result in waste taking several centuries to break down.
In toilets (flushing down the toilet, throwing in pit latrine)	The combination of used pads with fecal sludge poses challenges for the disposal of this sludge in septic tanks and disrupts the generation of usable manure in the context of leach pits.

Recommendations for Proper Disposal of Menstrual Waste

Tampons:

- Tampons should never be flushed down the toilet as they can cause blockages in plumbing systems.
- Used tampons should be wrapped in toilet paper or a disposal bag and placed in the trash bin.

Sanitary Pads (Disposable):

- Sanitary pads should not be flushed down the toilet due to their size and potential to cause blockages.
- Used pads should be folded in half and wrapped in a wrapper or toilet paper before placing it in a trash bin.

Menstrual Cups:

- Contents should be emptied into the toilet and the cup should be rinsed with warm water before reinserting it.
- At the end of your cycle, the cup should be boiled in water for a few minutes to sterilize it.

Reusable Cloth Pads:

- Cloth pads should be rinsed in cold water to remove blood.
- They can then be washed with regular laundry but avoid using fabric softeners or harsh detergents.
- After washing, they should be left for air dry.

Period Underwear:

- They should be rinsed in cold water to remove blood.
- They can be washed with regular laundry, and left for air dry.

Conclusion

A comprehensive analysis of the menstrual hygiene landscape in India reveals a complex interplay of challenges and opportunities. While there is a growing awareness and demand for menstrual hygiene products, significant hurdles such as cultural stigmas, limited access to proper education, and unsustainable waste management practices persist.

To address these issues effectively, it is imperative that India focuses on comprehensive menstrual education and awareness programs, encouraging the adoption of sustainable and eco-friendly menstrual products. This shift not only promotes women's health and well-being but also contributes to environmental conservation by reducing the ecological footprint of menstrual waste.

Partnerships between the government, private sector, and NGOs are essential in developing infrastructure and policies that provide affordable, accessible, and ecofriendly menstrual solutions. By breaking the taboos around menstruation and fostering a supportive environment, India can empower its female population, improve overall public health, and contribute to a more sustainable future.





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About Us

ReadOn is a research focussed digital content company led by Shantanu Jain.

Shantanu completed his graduation from St. Xavier's College, Kolkata. After he qualified as a Chartered Accountant with an All India Rank 10, he took the path less travelled and joined a startup - Swiggy. After working across different strategic functions at Swiggy, he started working with other new-age businesses to help them scale. Over the last 3 years, Shantanu has given lectures on business and finance at prestigious institutions like IIM-Kozikode, NIT-Jamshedpur, Lady Shree Ram College-Delhi, MDI-Gurgaon, NMIMS-Mumbai and Hyderabad, Ramjas College-Delhi and many more. His typical day involves talking to founders and helping them solve their business problems.

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