

**“CONCEPT OF SUSTAINABLE MENSTRUATION: A STUDY ON  
SUSTAINABLE MENSTRUAL PRACTICES AND  
ENVIRONMENTAL IMPACT IN KERALA.”**

**Dissertation submitted to**

**Mahatma Gandhi University, Kottayam in partial fulfilment of the  
requirement for the degree of**

**MASTER OF SOCIAL WORK**

**Specialising in**

**COMMUNITY DEVELOPMENT**

**Submitted by,**

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**(2022 – 2024)**

## CERTIFICATE

This is to certify that this dissertation titled “**CONCEPT OF SUSTAINABLE MENSTRUATION: A STUDY ON SUSTAINABLE MENSTRUAL PRACTICES AND ENVIRONMENTAL IMPACT IN KERALA.**” is a record of genuine and original work done by **JESSILA MOL N**, REG NO: **220011000183** of IVth102 Semester Master of Social Work course of this college under my guidance and supervision and it is hereby approved for submission.

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Submitted to viva voce held on: \_\_\_\_\_

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## DECLARATION

I Jessila Mol N hereby declare that the research work titled “**Concept of sustainable menstruation: A study on sustainable menstrual practices and environmental impact in Kerala.**” submitted to the Mahatma Gandhi University, Kottayam, is a record of genuine and original work done by me under the guidance of, Dr. Sheena Rajan Philp, Assistant Professor, Bharata Mata School of Social Work Thrikkakara, and this research work is submitted in partial fulfilment of the requirements for the award of the degree of Master of Social Work specialising in **Community Development.**

I hereby declare that the results embedded in this research have not been submitted to any other University or Institute for the award of any degree or diploma, to the best of my knowledge and belief.

Place: Thrikkakara

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## ABSTRACT

The research delves into the concept of sustainable menstruation within environmental context of Kerala, aiming to provide empirical evidence regarding usage patterns of sustainable products, disposal methods and environmental effects associated with sustainable menstrual products. The study shows a substantial degree of awareness (82.8%) among respondents regarding sustainable menstrual products using quantitative surveys. But even with this understanding, there is still a lack of actual adoption of sustainable alternatives, which may indicate a disconnect between knowledge and practice. The results highlight the need for focused educational campaigns and initiatives to close this gap, stressing the importance of social media as a means of information dissemination while also emphasizing the need for all-encompassing strategies to effectively close the knowledge gap and promote the adoption of environmentally friendly alternatives.

Additionally, the study assesses Kerala women's knowledge regarding sustainable menstrual practices, revealing a dependence on social media as an essential tool for raising awareness. Notwithstanding worries regarding the environmental impact of conventional menstruation products, obstacles like poor disposal facilities continue to impede their broad adoption.

The study also emphasizes the critical role that professional social workers have in resolving socioeconomic obstacles, cultural stigmas, and accessibility concerns while promoting sustainable menstruation. Overall, the study underscores the value of comprehensive strategies that include systemic interventions as well as individual behavior modification to support a sustainable menstrual culture in Kerala, encouraging group action and environmental awareness.

## **ACKNOWLEDGEMENT**

I wish to express my sincere gratitude to my research supervisor Dr. Sheena Raja Philip, Assistant Professor of Bharata Mata School of Social Work Thrikkakara and other faculties of social work department for their guidance and encouragement in carrying out this research and all academic activities. I'm grateful for your love, tolerance, and insightful criticism, all of which have made my work possible. I was able to complete my all stages of writing my thesis with their guidance and advice.

Then, I would like to thank my parents, siblings and friends who have helped and supported me with their valuable suggestions, love and guidance has been helpful in various phases of the completion of the research.

I sincerely thank all participants who participated in my research survey, without your cooperation and support this study wouldn't be completed. I thank God almighty for the guidance in my studies and throughout my life.

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# **CHAPTER 1**

# **INTRODUCTION**

The concept of sustainable menstruation revolves around adopting eco-friendly menstrual practices to minimize environmental impact. In the context of Kerala, a state in India, a study explores how sustainable menstrual practices can be integrated into the local culture. This involves examining the environmental consequences of conventional menstrual products, such as disposable pads, and investigating alternatives like reusable cloth pads, menstrual cups. The study delves into the socio-cultural aspects influencing menstrual hygiene practices in Kerala and assesses the awareness and acceptance of sustainable alternatives among women. It also explores the economic implications of adopting sustainable menstruation practices and how these choices can empower women economically. Furthermore, the research analyzes the waste management challenges posed by traditional menstrual products and assesses how embracing sustainable options contributes to reducing the ecological footprint. The study investigates the role of education and awareness campaigns in promoting sustainable menstruation and aims to provide insights that can inform policies for promoting eco-friendly menstrual practices in Kerala.

Sustainable menstrual practices encompass a transformative approach to menstrual hygiene that goes beyond personal well-being, extending to profound implications for the environment. By opting for eco-friendly alternatives like reusable menstrual products—such as cloth pads or menstrual cups individuals contribute to both their own hygiene and global environmental preservation. The significance lies in mitigating the adverse health effects associated with conventional disposable products, reducing exposure to harmful chemicals. Moreover, embracing sustainability in menstruation addresses a pressing environmental concern by curbing the excessive waste generated by disposable products. This shift not only minimizes the burden on landfills but also

conserves resources, such as water and energy, associated with the production and disposal of disposable menstrual items.

In this Indian state, efforts are being made to shift from conventional disposable products to more sustainable alternatives, such as reusable cloth pads or menstrual cups. The focus is on reducing environmental impact, promoting menstrual hygiene, and addressing social taboos associated with menstruation. Initiatives also include education programs to raise awareness about sustainable options and to destigmatize menstrual health, contributing to a more environmentally conscious and inclusive approach to menstruation in Kerala. In essence, sustainable menstrual practices emerge as a holistic solution that intertwines personal health, hygiene, and environmental stewardship, fostering a conscious and responsible approach to menstruation.

With a focus on Kerala specifically, sustainable menstruation seeks to offer statistical and empirical evidence regarding the awareness, attitudes, behaviours, and environmental effects related to menstrual practices in the area. By addressing the urgent need for data-driven methods to comprehend the relationships between menstrual health and environmental sustainability, this project hopes to provide insightful information that will be used in the creation of policies, in lobbying campaigns, and in community interventions. Kerala offers a distinctive context against the backdrop of widespread worries about the environmental impact of traditional menstruation products. The state is distinguished by its socio-cultural variety, high literacy rates, and history of progressive social policies. This study uses rigorous quantitative methodologies, such as surveys and statistical analyses, to measure the prevalence of sustainable menstrual practices, gauge menstruator's knowledge and perceptions, and compare the environmental effects of different menstrual products.

The concerns about the environmental effects of traditional menstrual products and an increasing focus on promoting eco-friendly alternatives have given rise to the notion of sustainable menstruation. In the context of Kerala, this study examines an important facet of sustainable menstruation: assessing the usage habits and disposal techniques of menstrual products. It is critical to comprehend how menstruators in Kerala use and discard menstruation products in order to evaluate present practices and pinpoint areas that could be improved in order to achieve higher sustainability. Kerala provides a distinctive environment for such a study because of its socio-cultural diversity and high literacy rates. Kerala is renowned for its progressive social policies and environmental consciousness. This study intends to offer important insights into the prevalent norms, attitudes, and behaviours around menstruation in the area as well as the environmental effects of these practices by looking at the usage patterns and disposal techniques of menstrual products in Kerala. This study aims to produce empirical evidence that can guide policy interventions, educational campaigns, and community initiatives aimed at promoting sustainable menstrual practices and lowering the environmental footprint of menstruation in Kerala. It does this by combining quantitative surveys, qualitative interviews, and environmental assessments. This introduction lays the groundwork for a thorough investigation of sustainable menstruation in the particular context of Kerala, with a particular emphasis on the first goal of assessing menstrual product usage and disposal practices as a critical first step in achieving menstrual health and environmental sustainability.

## **THE CONTEXT OF KERALA: SOCIAL AND ENVIRONMENTAL LANDSCAPE**

The menstrual cycle, a physiological phenomenon that is normal for billions of women globally, has significant environmental effects that are frequently eclipsed by its social and health-related aspects. The idea of sustainable menstruation has gained popularity recently, supporting menstrual habits that limit their negative effects on the environment while enhancing the health and dignity of women (Crichton et al., 2013; Bobel et al., 2019). Sustainable menstruation is still largely unexplored, especially when it comes to Kerala, India, even with increased awareness. Examining sustainable menstruation practices and their environmental effects is made easier with Kerala as a case study. Kerala is known for its progressive social policies and environmental sensitivity. Kerala provides insights into the relationship between traditional menstrual practices, environmental sustainability, and public health because of its distinct cultural and socioeconomic setting (John et al., 2020).

Kerala, known as "God's Own Country," is praised for its abundant greenery, dynamic culture, and forward-thinking social indicators. Kerala, an Indian state on the southwest coast, is renowned for its distinctive combination of sociocultural variety, abundant wildlife, and the history of social reform movements (Kurian & Kumar, 2018). Kerala, one of the most densely populated states in India, is home to more than 35 million people and is distinguished by a strong public health system, a high rate of literacy, and relatively low levels of poverty (Sivanandan et al., 2019). Kerala faces numerous environmental issues as a result of increasing industrialization, urbanization, and shifting land-use patterns, even in spite of its socioeconomic progress (Ajith &

Jayakumar, 2020). The delicate ecosystems of the state, such as its complex web of rivers, backwaters, and woods, are becoming more and more endangered.

Furthermore, the social fabric of Kerala is intricately entwined with the environment, influencing livelihoods, cultural customs, and the resilience of the society (Kannan et al., 2017). Kerala's cultural ethos has long been embedded with traditional ecological knowledge and sustainable practices, as seen by the state's indigenous farming methods, community-based resource management initiatives, and respect for the natural world (Saradhamoni & Raveendran, 2018). It becomes essential to comprehend menstrual health and hygiene behaviors in this socioenvironmental context. Menstruation interacts with education, work, and social involvement, among other aspects of women's lives, and is frequently associated with cultural taboos and stigmas (Sankar et al., 2020). Investigating sustainable menstrual patterns assumes additional significance in Kerala, where development initiatives have placed a strong emphasis on gender parity and women's empowerment (Bindu & Pillai, 2019).

Menstrual hygiene needs to be addressed from a sustainable viewpoint as Kerala works to strike a balance between social inclusion, environmental preservation, and economic growth. In order to shed light on the opportunities and problems associated with promoting sustainable menstruation in the state of Kerala, this study aims to investigate the dynamic interplay between menstrual health, environmental sustainability, and social dynamics within the context of Kerala.

## **INTRODUCTION TO MENSTRUAL HEALTH AND HYGIENE**

Menstrual health and hygiene, which include the social, cultural, and environmental aspects of menstruation in addition to its physical features, are essential components of women's overall wellbeing. Suppter and Torondel (2013) state that access to

appropriate menstrual hygiene management (MHM) is crucial for preserving women's and girls' health, dignity, and ability to participate in society. However, there are still several obstacles to menstruation health around the world, including enduring taboos, restricted access to resources, and poor sanitary facilities (Hennegan et al., 2020). Menstruation is stigmatized and taboo in many regions of the world, including India (Sommer et al., 2015). This has a detrimental effect on women's empowerment and health. Inadequate menstrual hygiene habits raise the risk of reproductive tract infections and pollute the environment, especially when non-biodegradable menstrual items are disposed of (Mahmood et al., 2019). Therefore, achieving gender equality, health equity, and environmental sustainability requires an understanding of and attention to menstruation health and hygiene.

In order to set the stage for the investigation of sustainable menstruation practices in Kerala, this part presents an overview of the major ideas, difficulties, and solutions pertaining to menstrual health and cleanliness. Despite being important aspects of women's health and rights, menstrual health and cleanliness are frequently disregarded in public health discourse and policy agendas (Phillips-Howard & Caruso, 2016). Nearly half of the world's population experiences menstruation naturally, but access to menstrual hygiene management (MHM) facilities and products is still a problem worldwide, especially in low- and middle-income nations (Hennegan et al., 2019). Women's health can be significantly impacted by poor menstrual hygiene practices, which can raise their risk of developing urinary tract infections and reproductive tract infections such as bacterial vaginosis (Tegegne et al., 2014). Furthermore, women's and girls' access to economic and educational prospects may be hampered by the absence of sanitary, private facilities in businesses and schools (Phillips-Howard et al., 2017). Menstruating people often experience shame, embarrassment, and social exclusion as



a result of the stigma, myths, and misconceptions surrounding menstruation in various cultural contexts (Chandra-Mouli et al., 2018). Promoting menstrual equity and creating a welcoming environment where menstruation is accepted as a normal and natural part of life require addressing these sociocultural barriers (Kuhlmann et al., 2020).

There are still large gaps in research, legislation, and programming regarding menstrual health and cleanliness, despite the importance of these issues being increasingly recognized. In order to establish the foundation for the investigation of sustainable menstruation practices within the particular context of Kerala, this section presents an overview of the major problems and obstacles related to menstrual health and cleanliness. Menstrual health and cleanliness are essential elements of gender equality and reproductive health, but they are still taboo topics in many communities, which feeds the cycle of health disparities and social inequality (Van Eijk et al., 2016). Although menstruation is a natural physiological process, women and girls are disproportionately affected by the lack of access to menstrual hygiene facilities, products, and education, especially in settings with limited resources (Hennegan et al., 2020).

Inadequate management of menstrual hygiene (MHM) habits can have significant negative effects on health, including an elevated risk of infections of the reproductive tract, such as candidiasis and pelvic inflammatory disease (Kaur et al., 2021). Moreover, women's dignity and wellbeing are undermined by the stigma and taboo around menstruation, which frequently results in social exclusion, humiliation, and discrimination (Bloom et al., 2020). Menstruating people must have access to sanitary

facilities and menstrual products in order to manage their periods in a safe, hygienic, and dignified manner. But access to vital menstrual hygiene resources is hampered by enduring obstacles, such as cost, availability, and cultural norms (Girod et al., 2018). Furthermore, the environmental effects of throwaway menstruation items, such as tampons and pads, add to the depletion of resources and plastic pollution (Nanda et al., 2020). Comprehensive methods that address the socio-cultural, economic, and environmental aspects of menstruation must be incorporated into efforts to address menstrual health and cleanliness. Achieving menstrual equity and increasing the health and well-being of women and girls worldwide requires promoting menstrual education, de-stigmatizing menstruation, and expanding access to sustainable menstrual products and sanitary facilities.

### **CONCEPT OF SUSTAINABLE MENSTRUATION AND IT'S GOALS**

The primary goal of this research is to determine how much knowledge Kerala women currently have about sustainable menstrual practices. This goal is important because it has the ability to provide light on the region's current knowledge gaps, attitudes, and practices related to sustainable menstruation. This will help to establish the foundation for well-informed interventions and policy initiatives. Kerala, a state well-known for its high literacy rates and progressive social indices, offers an interesting context for this kind of study, providing insights on the ways in which education, culture, and environmental consciousness interact to shape menstrual attitudes. This study uses rigorous quantitative approaches, such as surveys and statistical analyses, to measure the awareness of women in Kerala about sustainable menstrual practices, including the use of alternative menstrual products like cloth pads , menstrual cups and reusable

sanitary products. Additionally, through examining demographic differences in awareness levels among age groups, educational attainment, and socioeconomic backgrounds, this study seeks to pinpoint important factors and discrepancies in the diffusion of knowledge and adoption of sustainable menstruation practices. The study's conclusions have a big impact on policy measures, educational programmes, and public health campaigns that support menstrual health and environmental sustainability in Kerala and beyond. This research aims to provide empirical evidence through methodical data collecting and analysis that may guide focused actions to raise awareness, empower women, and promote a sustainable menstrual culture within the rich social fabric of Kerala. This introduction, which emphasises the significance of sustainable menstruation awareness as a driving force for improvements in menstrual health and environmental stewardship in the area, thus establishes the groundwork for a quantitative investigation of this topic among Keralan women.

The another goal of this research is to assess the environmental advantages of sustainable menstruation practices and their alternatives in Kerala. Recognising the observable environmental benefits of adopting sustainable menstruation is crucial, as worries about the environmental impact of traditional menstrual products are growing and interest in eco-friendly substitutes is rising. Kerala, a state renowned for its environmentally concerned laws and progressive social policies, offers a perfect setting for this research because of its strong environmental consciousness and diverse cultural heritage. This research has far-reaching consequences for public health policy, consumer advocacy campaigns, and environmental conservation programmes. Its implications go well beyond the boundaries of academic investigation. This study aims to provide empirical information to support informed decision-making and encourage the widespread adoption of eco-friendly menstrual habits in Kerala and beyond by

statistically clarifying the environmental benefits of sustainable menstruation. This research attempts to spark transformative change by bringing the conversation on menstrual health and environmental sustainability to the forefront of the region's societal consciousness through methodical data analysis and deliberate dissemination. Consequently, this introduction emphasises the importance of menstruation as a catalyst for good environmental change and sets the stage for a quantitative investigation of the environmental advantages of choosing sustainable alternatives.

The concept of sustainable menstruation has emerged as a critical area of inquiry amidst mounting concerns over the environmental and health impacts associated with conventional menstrual products. This quantitative research endeavors to delve into the realm of sustainable menstrual practices within the unique socio-cultural landscape of Kerala, India, with a specific focus on assessing their environmental impact. The relevance of this study is manifold, given the pressing need to address the twin challenges of menstrual health and environmental sustainability in Kerala, a state celebrated for its progressive social policies and environmental consciousness. Recognising the connections between women's health, environmental stewardship, and menstruation is at the core of this research. The majority of the materials used to make conventional menstruation products, such as disposable pads and tampons, are not biodegradable, which adds to landfill trash and environmental damage. Furthermore, there is an increased environmental impact associated with menstruation due to the significant energy consumption and carbon emissions involved in the production and disposal of these items. Kerala provides a rich setting for investigating sustainable alternatives and cultivating an eco-friendly menstruation culture since the state's social fabric places a strong emphasis on women's empowerment and environmental protection.

In

light of this, the goal of this research is to offer empirical insights into Kerala's adoption of sustainable menstrual habits and the potential environmental advantages associated with them. The research attempts to quantify important metrics like waste reduction, energy savings, and carbon emissions mitigation associated with sustainable menstrual alternatives, such as menstrual cups, cloth pads, and reusable sanitary products, by using rigorous quantitative methodologies, including surveys and statistical analyses. The study also intends to evaluate menstruators' awareness levels, attitudes, and obstacles to adopting sustainable menstruation practices in Kerala, thereby illuminating the socio-cultural elements that impact menstrual hygiene decision-making.

## **SUSTAINABLE MENSTRUATION IN GLOBAL PERSPECTIVE**

A vital component of female reproductive health, the menstrual cycle has historically been associated with taboos and cultural traditions in many civilizations (Bobel et al., 2019). On a worldwide scale, nevertheless, the effects of menstruation activities on the environment have just recently come to light. According to Crichton et al. (2013), the idea of sustainable menstruation promotes methods of menstruation that reduce environmental damage while enhancing the health and wellbeing of women. Because they are not biodegradable, traditional menstruation products like disposable pads and tampons greatly contribute to environmental pollution in many regions of the world (John et al., 2020). These products' manufacture, shipping, and disposal result in significant carbon emissions and contaminate landfills and waterways (Crichton et al., 2013). A growing movement towards sustainable menstrual practises has emerged in response to these worries; these practises include a variety of alternatives such as menstrual cups, reusable cloth pads, and organic disposable goods (Bobel et al., 2019).

According to Crichton et al. (2013), sustainable choices have the potential to mitigate environmental impact while simultaneously providing economic benefits and promoting menstrual hygiene management in settings with limited resources. Adoption rates of sustainable menstruation products vary greatly throughout groups and regions, despite increased awareness of these products and their availability. These variations can be attributed to various factors, including pricing, accessibility, and socio-cultural norms (Bobel et al., 2019). Furthermore, there are connections between the discourse on sustainable menstruation and more general discussions about environmental justice, gender equity, and public health (John et al., 2020).

Policies and interventions aiming at encouraging eco-friendly menstruation practices and reducing environmental degradation must be informed by an understanding of the global landscape of sustainable menstrual menstruation. Researchers can pinpoint opportunities, obstacles, and best practices for increasing sustainable menstruation globally by looking at case studies from various contexts and geographies. The interdependence of social justice, public health, and environmental sustainability is highlighted by the global perspective on sustainable menstruation. Menstruation affects not only the environment but also gender equality and menstrual equity. This is especially true in low- and middle-income nations where access to menstruation products and facilities for managing menstrual hygiene may be restricted (Crichton et al., 2013). The necessity for comprehensive approaches to menstruation health that address both environmental and social dimensions is highlighted by the fact that limited availability to reasonably priced and hygienic menstrual products can increase health risks and lead to social stigma and exclusion (Bobel et al., 2019).

Collaboration between a variety of stakeholders, including governments, non-governmental organizations (NGOs), players in the commercial sector, and civil society organizations, is necessary to advance sustainable menstruation on a worldwide scale. Through initiatives like subsidizing eco-friendly menstrual products, incorporating menstrual hygiene education into school curricula, and enhancing access to sanitation facilities, policy interventions play a crucial role in fostering the adoption of sustainable menstrual practices (John et al., 2020). Additionally, grassroots movements and community-based programs have grown in number to dispel stigmas associated with menstruation, increase knowledge of sustainable alternatives, and provide women and girls with the power to make decisions about their menstrual health (Bobel et al., 2019). With programs like the Sustainable Development Goals (SDGs) acknowledging the significance of managing menstrual hygiene management for accomplishing gender equality, health, and sanitation targets, the conversation about sustainable menstruation has gained traction within the global development agenda in recent years (Crichton et al., 2013). In addition to being a matter of environmental necessity, sustainable menstruation also pertains to human rights, since the realization of women's and girls' rights to equality, health, and education depends on their ability to access safe and respectable menstrual products and facilities (Bobel et al., 2019). The international community can endeavor to create a future that is both environmentally sustainable and fair for everybody by including sustainable menstruation practices into larger frameworks of sustainable development.

It concludes by highlighting the growing body of knowledge on sustainable menstruation in a global setting and highlighting its importance for gender equity, public health, and environmental sustainability. The discourse highlights the diverse aspects of managing menstrual hygiene, recognizing the intricate interaction between

cultural standards, socio-economic variables, and environmental elements. The introduction lays the groundwork for a more thorough investigation of sustainable menstruation habits in Kerala by looking at the effects traditional menstrual products have on the environment and the possibilities of sustainable alternatives. The chance to promote sustainable menstruation as an essential resource is expanding thanks to cooperative efforts across industries and geographical areas.

## **EDUCATION AND AWARENESS FOR SUSTAINABLE MENSTRUATION**

By providing people with knowledge and encouraging good attitudes about menstrual health and cleanliness, education and awareness are essential for supporting sustainable menstrual practices (Ameade et al., 2018). Comprehensive programs for menstruation health education seek to debunk stereotypes, eliminate discrimination, and provide factual knowledge on period biology, hygiene, and environmentally friendly menstrual products (Hennegan et al., 2021). Lack of knowledge and understanding about menstruation discourages the adoption of sustainable alternatives and maintains harmful behaviors in many cultures (Higgins et al., 2018). Social conventions and cultural taboos frequently impede candid conversations about menstruation, leaving people ignorant and unable to make decisions about managing menstrual hygiene (Sommer et al., 2017).

By integrating environmental sustainability into menstrual health curriculum and encouraging the use of eco-friendly menstrual products, education programs centered on sustainable menstruation aim to close these gaps (Bobel et al., 2019). Education programs enable people to make decisions that are both environmentally conscious and health-conscious by bringing attention to the effects of disposable menstruation



products on the environment and emphasizing the advantages of reusable alternatives (Caruso et al., 2019). Additionally, by creating inclusive and encouraging environments for those who menstruate, education and awareness campaigns seek to question gender norms and advance menstrual equity (Sommer et al., 2020). These programs address a variety of audiences and encourage important discussions about gender, menstruation, and environmental sustainability by collaborating with healthcare practitioners, community organizations, and schools (Van Eijk et al., 2016).

Efforts to raise knowledge and provide avenues for empowerment, informed decision-making, and social transformation are crucial in accelerating the transition to sustainable menstrual practices. Education in the context of menstruation is more than just information sharing; it's a comprehensive strategy that takes human agency, contextual factors, and socio-cultural norms into account (Bobel et al., 2019). Education interventions establish the foundation for long-term behavior change and environmental stewardship by encouraging critical thinking, dispelling preconceptions, and developing positive attitudes around menstruation (Caruso et al., 2020). Comprehensive programs for menstruation health education give participants the information and abilities they need to manage their period hygiene and choose products wisely (Sommer et al., 2017). Menstrual biology, hygienic habits, menstrual product options, and the environmental effect of throwaway menstrual products are just a few of the subjects covered in these programs (Hennegan et al., 2021). Education programs enable people to take charge of their menstrual health and well-being by dispelling myths, clearing up misunderstandings, and disseminating fact-based information (Ameade et al., 2018).

Additionally, initiatives to raise awareness and educate others aim to overcome the stigma and silence associated with menstruation by fostering inclusive and encouraging environments (Higgins et al., 2018). These programs combat stigma and advance menstrual equity by promoting gender-sensitive practices, open communication, and the development of empathy and understanding (Jain et al., 2019). Education programs build networks of support and advocacy that propel systemic change by interacting with a variety of stakeholders, such as educators, healthcare professionals, legislators, and community leaders (Van Eijk et al., 2016). There is a special chance to use the infrastructure and resources already in place in Kerala, India, where education and literacy rates are quite high, to increase education and awareness for sustainable menstruation (George et al., 2019). Kerala may take the lead in promoting a culture of menstruation literacy, environmental stewardship, and social justice by including menstrual health education into school curriculum, community health initiatives, and public awareness campaigns (Sommer et al., 2020).

There is a chance to incorporate sustainable menstruation education into current school curriculum and community outreach programs in Kerala, India, where education and literacy rates are quite high (George et al., 2019). We can empower people to make knowledgeable decisions about their menstrual health and make a stronger contribution to environmental conservation efforts by using the power of education and awareness.

### **SUSTAINABLE MENSTRUATION: ALIGNING WITH SUSTAINABLE DEVELOPMENT GOALS (SDG's)**

Fundamental to gender equality, health, and well-being, menstrual health and hygiene have a big impact on sustainable development. The Sustainable Development Goals (SDGs) established by the United Nations (2015) offer an all-encompassing structure

for tackling worldwide issues and promoting advancements in social, economic, and environmental domains. Eco-friendly menstrual hygiene practices and products are part of sustainable menstruation, which is closely aligned with various SDGs, including those concerning health, gender equality, clean water and sanitation, and sustainable consumption and production.

Goal 3: Good Health and Well-Being, which attempts to guarantee healthy lives and promote well-being for everyone at all ages, is one of the main SDGs pertinent to sustainable menstruation (United Nations, 2015). Suppter and Torondel (2013) state that preserving menstrual health and avoiding infections and problems with reproductive health depend on having access to safe and hygienic menstruation products and facilities. Countries can help achieve SDG 3.7, which calls for universal access to sexual and reproductive health care, by supporting sustainable menstruation practices such the use of biodegradable sanitary napkins and menstrual cups (United Nations, 2015).

Additionally, Goal 5: Gender Equality—which aims to empower all women and girls and achieve gender equality—intersects with sustainable menstruation (United Nations, 2015). In order to address gender inequities and fight menstrual stigma and prejudice, menstrual hygiene management is essential (Hennegan et al., 2019). According to George et al. (2019), sustainable menstrual products facilitate menstrual equity by offering cost-effective and eco-friendly substitutes. This, in turn, improves the availability of menstrual hygiene supplies for marginalized populations, particularly low-income women and girls.

Sustainable menstruation also helps achieve Goal 6: Clean Water and Sanitation, which is to guarantee that water and sanitation are accessible and managed sustainably for

everyone (United Nations, 2015). Disposable sanitary napkins and other traditional menstruation products pollute water and generate waste, which makes sanitation infrastructure and environmental sustainability difficult to maintain (Patel et al., 2018). Countries can lessen the impact of menstrual waste on the environment, encourage water conservation, and improve sanitation hygiene by implementing sustainable menstruation practices.

Furthermore, Goal 12: Responsible Consumption and Production—which advocates for sustainable patterns of consumption and production to reduce waste and advance resource efficiency—is in line with sustainable menstruation (United Nations, 2015). According to Patel et al. (2018), the manufacturing and disposal of traditional menstruation products produce a sizable amount of plastic waste and worsen the environment. By lowering resource consumption and environmental degradation, switching to environmentally friendly menstrual alternatives—like reusable cotton pads and biodegradable sanitary napkins supports the ideas of sustainable consumption and production (George et al., 2020).

In order to solve issues with menstrual health and cleanliness and move closer to the Sustainable Development Goals (SDGs), sustainable menstruation emerges as a complex solution. Countries may enhance gender equality, improve access to menstrual hygiene resources, and slow down environmental deterioration all at once by encouraging eco-friendly menstrual goods and behaviors. The potential of sustainable menstruation to support comprehensive approaches to menstrual health promotion and contribute to wider development objectives is highlighted by its alignment with the Sustainable Development Goals (SDGs). Additionally, collaborations among governmental bodies, civil society organizations, and businesses can help sustainable

menstruation programs expand, guaranteeing their broad acceptance and influence. In light of gender equality, environmental sustainability, and public health, sustainable menstruation is, in the end, a vital step toward achieving menstrual health and cleanliness for all. Through the incorporation of sustainable menstrual practices into policy frameworks, research and development investments, and stakeholder collaboration, nations can leverage the potential of sustainable menstruation to propel progress towards the SDGs and establish a fairer and more sustainable future for everybody.

### **GREENING MENSTRUAL HYGEINE: SUSTAINABLE MENSTRUATION IN ENVIRONMENTAL PERSPECTIVE**

Menstruation is a natural biological phenomenon that affects over 50% of people worldwide. It has historically been associated with social shame, cultural taboos, and environmental difficulties (Van Eijk et al., 2016; Sommer et al., 2017). Because they are made mostly of plastic and are not biodegradable, disposable sanitary goods like tampons and pads are a major source of environmental pollution in traditional menstrual hygiene practices (Fisher, 2015). More sustainable methods of managing menstrual waste are required, as the environmental effects of menstrual waste have come to light in recent years (Bourne et al., 2019). Sustainable menstruation refers to a variety of methods designed to reduce the negative effects of menstruation on the environment while maintaining the rights, dignity, and well-being of those who experience it.

Reducing the use of disposable menstrual products, encouraging reusable options like cloth pads and menstrual cups, and putting appropriate waste management measures in place are all part of sustainable menstruation from an environmental standpoint

(Hennegan et al., 2021). People can greatly lower their carbon footprint and aid in the preservation of natural resources by adopting sustainable menstruation practices (Higgins et al., 2018). However, overcoming numerous socio-cultural, economic, and infrastructure obstacles is necessary to achieve the broad adoption of sustainable menstruation practices (Hawkey et al., 2020). The main obstacles impeding growth in this field are cultural taboos around menstruation, lack of access to reasonably priced and clean menstrual products, inadequate sanitation facilities, and a lack of knowledge about sustainable alternatives (Mahon et al., 2019).

However, efforts to support sustainable menstruation have gained traction around the world, with grassroots movements, non-governmental organizations, and governments calling for creative solutions, educational campaigns, and regulatory changes (Mason et al., 2020). There is a rare chance to investigate the relationship between sustainable menstruation and environmental conservation in Kerala, India, where environmental consciousness is well ingrained in society (Kumar et al., 2020). By investigating the existing menstrual habits, their effects on the environment, and the possibility of encouraging eco-friendly alternatives, our research seeks to go deeper into the environmental aspects of sustainable menstruation in Kerala. This study aims to contribute to both academic scholarship and practical interventions in the field by shedding light on the environmental implications of managing menstrual hygiene and identifying ways for boosting sustainability.

This research intends to provide solid empirical information to support policy interventions, educational campaigns, and community efforts that promote sustainable menstruation and lessen the impact of menstruation on the environment in Kerala. Furthermore, the research aims to spark wider societal conversations and group action

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towards a more just and environmentally sustainable future by demonstrating the connection between menstruation health and environmental sustainability. This study's broad focus includes a detailed analysis of the uptake, cognizance, and ecological advantages of sustainable menstrual substitutes, like cloth pads, reusable sanitary products, and menstrual cups, as opposed to traditional disposable menstrual products like tampons and pads. This work has broad implications that cut across several fields. First of all, by offering quantitative insights and actual data regarding the environmental advantages of eco-friendly menstrual practices, it advances the conversation on sustainable menstruation. Enhancing menstrual cleanliness, lowering the incidence of menstrual disorders, and enabling people to make educated decisions about their menstrual health and environmental effects are all possible benefits of this.

The study also has social consequences, especially in regards to social justice and gender equality. The study emphasises the significance of taking women's needs and views into account in environmental discourse by addressing the intersections of menstrual health and environmental sustainability. In last, there is much to be gained from this quantitative study on Kerala's sustainable menstruation habits and environmental impact in the fields of social justice, public health, gender equality, and environmental conservation. The goal of the study is to promote positive change towards more egalitarian and sustainable menstrual habits in Kerala and abroad by offering empirical facts and quantitative insights. In summary, quantitative study on sustainable menstruation habits and their environmental impact in Kerala has significant and broad implications in terms of its relevance, scope, and potential. This research advances the discussion on sustainable menstruation by quantifying the environmental effects of adopting eco-friendly menstrual practices. This information

informs policy interventions, advocacy campaigns, and community initiatives targeted at promoting environmentally sustainable menstruation practices in the area.

This research offers a plethora of opportunities. The research has the potential to improve policy-making procedures, educational efforts, and consumer behaviour interventions aimed at lowering the environmental footprint of menstruation in Kerala by quantifying the advantages of sustainable menstruation. Furthermore, by enabling people, groups, and institutions to make knowledgeable decisions regarding menstrual health and environmental sustainability, the research's conclusions can promote a sustainable culture and gender-inclusive environmental action in the area. To summarise, the significance, breadth, and potential of carrying out quantitative research on sustainable menstruation practises and their influence on the environment in Kerala emphasise its role as a driving force for progress. This study has the potential to bring about transformative change towards more equitable and sustainable menstrual practices in Kerala and beyond by offering empirical evidence and quantitative insights. In the end, this could support the larger objectives of social justice, public health, gender equality, and environmental conservation.

In conclusion, menstrual health, environmental sustainability, and social development are critically entwined at the intersection of the notion of sustainable menstruation. According to recent research (Sumpter & Torondel, 2013), traditional menstrual hygiene techniques frequently exacerbate public health issues and environmental degradation. The use of disposable menstrual products, including sanitary napkins, increases pollution and waste production, which puts the sanitation system and ecosystem health at risk (Patel & Daher, 2018). Furthermore, the need for sustainable



alternatives is highlighted by the negative environmental effects of conventional menstrual products. Menstrual cups, reusable cloth pads, and biodegradable sanitary napkins are a few examples of eco-friendly menstrual habits that are being promoted. These initiatives show promise in reducing the environmental impact of menstruation (Hennegan et al., 2019). The dual concerns of menstruation health and environmental sustainability can be addressed by countries by incorporating sustainable menstrual practices into legislative frameworks and community-based solutions.

Understanding the frequency of sustainable menstruation habits and their environmental implications is crucial, especially in Kerala, where public health and environmental conservation are major concerns. By investigating the adoption of sustainable menstruation habits among individuals in Kerala and evaluating their environmental impact, this study aims to close current information gaps. Our goal is to produce insights that guide the development of policies, advocacy campaigns, and community-based initiatives that support sustainable menstruation and enhance environmental sustainability in Kerala through empirical research and data analysis.

# **CHAPTER 2**

# **REVIEW OF**

# **LITERATURE**

**1. A Study into Public Awareness of the Environmental Impact of Menstrual Products and Product Choice , by Elizabeth Peberdy,Aled Jones, 2019.**

The article examines people's attitudes and awareness of the effects menstruation products have on the environment, focusing on the common presence of hidden plastics in throwaway goods. This study is set against the backdrop of the extant literature on environmentally conscious menstruation and sustainable menstruation.

The studies also emphasized how traditional menstruation products contribute to plastic waste and ecological harm, raising environmental concerns about them. Numerous research have addressed the need for environmentally friendly substitutes as well as the possible advantages of implementing sustainable menstruation practices. Still, there are gaps in our knowledge of the public's awareness of these issues and the decisions they make about which products to buy.

The results show that individuals were not aware of the concealed plastic in disposable menstrual products. This is consistent with previous research highlighting the necessity of more education and awareness raising initiatives to close this knowledge gap. The literature study highlights how crucial it is to take into account any differences in product availability, environmental attitudes, and awareness among various nations.

The difficulties of breaking cultural taboos and deeply ingrained menstrual routines are covered in the article's conclusion. The study does, however, offer some promise for reform, suggesting that public views toward more environmentally friendly menstruation product options may improve as a result of greater awareness. This is consistent with the body of research that supports all-encompassing initiatives aimed at changing societal attitudes and practices surrounding menstruation for the environment's benefit.

**2. Menstruation: Environmental impact and need for global health equity, Megan E. Harrison, Nichole Tyson, 04 July 2022.**

The research emphasizes important components of menstrual health hygiene equity while highlighting the difficulties that many menstruators encounter globally, such as limited access to sanitary products and the negative environmental effects of throwaway menstruation products. Cultural influences on product use are discussed, highlighting the necessity for a comprehensive understanding. It does, however, highlight the paucity of thorough scientific research on the effects of menstruation products on the environment, mentioning possible markers including the depletion of fossil fuels, the usage of minerals, gas emissions, and trash production.

The issues including raw material usage, production procedures, product composition (cotton vs. plastics), packaging materials, and worldwide consumption patterns, the article emphasizes how difficult it is to measure environmental impact. Notably, it lists disposable menstrual pads as the product that is used the most frequently globally.

**3. Sustainable menstrual products: The challenges ahead Prerna Ahuja, Navjit Singh, 2022.**

This study explores how women's menstrual experiences are impacted by business marketing and societal taboos. The study includes in-depth interviews to pinpoint problems, and it finds that many prefer conventional menstruation products. The study finds gaps in knowledge and awareness about self-concept, preconceptions, accessibility, habits, and information regarding sustainable menstruation products (SMPs). Closing these gaps could increase SMP adoption and awareness. The literature evaluation suggests a significant contribution to the advancement of knowledge in this

subject by highlighting the need for future research on innovative sustainable menstrual products.

**4. Examining the Need for Sustainable Menstruation in India Akshara Maurya, Shalini Goyal Bhalla, 2020.**

The study that is supplied highlights the critical need for sustainable menstruation practices in India because of the harm that disposable plastic sanitary napkins cause to the environment and the health hazards they pose. The authors draw attention to how long it takes for these napkins to decompose and stress that the purpose of the study is to examine the effects on the environment, waste management strategies, and health-related concerns. In place of disposable sanitary pads, the text promotes 100% compostable sanitary pads, washable cloth pads, and menstruation cups as sustainable options. The factors for difference encompass sustainability, accessibility, and durability. The authors also highlight the negative health effects of throwaway napkins on women, connecting their use to infections, disruption of biological systems, and cervical cancer. The essay also discusses how incorrect waste management and production methods related to commercial plastic sanitary napkins contribute to climate change.

**5. Role of menstrual hygiene in sustainable development goals Anuradha R Tiwary, 2018.**

The body of research highlights how important it is to refocus attention on menstrual hygiene practices in order to lead a sustainable lifestyle. Despite advances in technology, a significant portion of the female population remains undereducated and unhealthy, and menstruation is still highly stigmatized. The accompanying taboos impact education and health by making problems worse, especially with menstrual

hygiene. With its emphasis on the knock-on implications on socioeconomic development, the article functions as an urgent call to action. It also emphasizes how important menstrual hygiene is to the environment, health, and achieving the Sustainable Development Goals (SDGs), providing guidance for future approaches to these problems.

## **6. Sustainable menstruation- (California State University San Marcos)**

The literature underscores its multifaceted implications. Studies highlight the environmental dimension, emphasizing the adverse effects of disposable hygiene products on ecosystems, particularly the alarming accumulation of plastic waste in oceans and landfills. The discourse extends beyond environmental concerns, delving into the socio-economic aspects of menstrual health. Researchers advocate for universal access to sustainable menstruation products, emphasizing the right of all menstruating individuals to affordable and healthy alternatives.

The literature also explores the perceptions and motivations driving the adoption of sustainable menstrual products. It unveils a growing trend among those facing challenges in procuring traditional menstrual items, as they increasingly view sustainable options as not only environmentally conscious but also as healthier and cost-effective choices. The literature indicates a dynamic interaction involving ecological factors, accessibility challenges, and individual well-being. This interplay significantly influences the trajectory of sustainable menstruation, positioning it as a crucial movement where environmentalism and public health intersect.

**7. What's impeding an eco-friendly shift in menstrual waste disposal? Stigma, ignorance, and accessibility, Deep Bajaj, 2023.**

The material that is being presented provides a thorough analysis of the environmental issues surrounding the disposal of menstrual waste, highlighting the necessity of changing management procedures to be more environmentally friendly. The essay starts out by recognizing that menstruation is a normal occurrence and emphasizing the negative effects that throwing away sanitary pads, tampons, and associated products can have on the environment. It emphasizes how urgent it is to address barriers like stigma, ignorance, and accessibility issues in order to advance sustainable menstruation practices and contribute to a more environmentally friendly future. A quantitative viewpoint on the scope of the problem is offered by the estimate that 8,000 to 17,000 sanitary pads are used over a menstruator's lifetime, highlighting the cumulative effect on landfill garbage worldwide. Menstruation is identified as the main hurdle in the discussion of the stigma surrounding it, and efforts to destigmatize and provide thorough knowledge are necessary to create awareness.

The book does a good job of addressing ignorance by bringing to light people's ignorance of the non-biodegradable materials used in conventional items and their hazardous production methods. The closing remarks emphasize how important it is for everyone to work together to overcome these challenges via honest communication, instruction, and teamwork. All things considered, this review of the literature offers a comprehensive investigation of the complex issues surrounding menstrual waste management and suggests workable alternatives for a more inclusive and sustainable strategy.

**8. Menstrual Hygiene, Management, and Waste Disposal: Practices and Challenges Faced by Girls/Women of Developing Countries, Rajanbir Kaur,<sup>1</sup>Kanwaljit Kaur,<sup>2</sup>and Rajinder Kaur <sup>1</sup>, 2018.**

The literature on menstrual hygiene management (MHM) in developing countries, particularly focusing on young girls, has garnered increased attention within the water, sanitation, and hygiene (WASH) sector. The water, sanitation, and hygiene (WASH) sector has paid more attention to the literature on menstrual hygiene management (MHM) in poor nations, with an emphasis on young girls. Notably, interventions including the distribution of sanitary pads, educational initiatives, and the construction of private restrooms have been acknowledged for their significant influence on girls' education and self-determination. An understanding of menstruation that is socialized and sexualized is common among young girls, families, teachers, and local non-governmental organizations (NGOs) according to field research done in Ghana's Northern Region.

The report does, however, draw attention to a shortcoming of WASH programs, highlighting the fact that they largely deal with menstrual hygiene management without sufficiently addressing more general sexuality issues. Little girls and people in their social environments are left to deal with more extensive subgroups of sexual education and awareness as a result. The study makes the case for expanding the conversation about menstruation beyond a medicalized viewpoint, pointing out that taking into account alternative interpretations and experiences could have a big impact on young adolescent girls' empowerment and education.



**9. Menstrual hygiene management: education and empowerment for girls? Deepa Joshi, Gerlinde Buit, Diana González-Botero, 2015.**

The literature on menstrual hygiene management (MHM) in developing countries, particularly focusing on young girls, has garnered increased attention within the water, sanitation, and hygiene (WASH) sector. The water, sanitation, and hygiene (WASH) sector has paid more attention to the literature on menstrual hygiene management (MHM) in poor nations, with an emphasis on young girls. Notably, interventions including the distribution of sanitary pads, educational initiatives, and the construction of private restrooms have been acknowledged for their significant influence on girls' education and self-determination. An understanding of menstruation that is socialized and sexualized is common among young girls, families, teachers, and local non-governmental organizations (NGOs) according to field research done in Ghana's Northern Region.

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**10. Period product disposal in India: the tipping point Ashna Biju, May 12, 2023.**

The research on the subject of sanitary waste disposal emphasises the urgent need for workable ways to lessen the negative effects of existing practices like local incineration or burial of sanitary products. Given that India is now the most populous country in the world according to the UN, it is imperative that this issue be addressed. The suggested three-sphere model—which includes sustainability, national organisation, and education—appears as a thorough framework for coming up with long-term fixes.

The Studies already conducted highlight the significance of education in changing sanitary waste disposal behaviours and the necessity of awareness and educated behaviour. The absence of a centralised waste management system is a common theme in the literature, and discussions frequently centre on the role that national organisations and government policies play in putting in place efficient waste disposal systems. Global research on environmentally friendly disposal technologies and practices explores the sustainability aspect. The Viewpoint offers a nuanced analysis of the reasons why change has been slow to occur thus far by taking into account the shortcomings of existing solutions and critically assessing suggested tactics. The case study in Kerala provides as a useful illustration, integrating all three domains with the aid of a regional non-governmental organisation. Overall, the literature underscores the urgency for the Indian government to develop a centralized system to tackle sanitary waste disposal before reaching a tipping point, serving as a call to action informed by insights from both global and local perspectives.

**11. Enabling factors for sustainable menstrual hygiene management practices: a rapid review Sulochana Pednekar, Shreya Some, Kajal Rivankar, Renuka Thakore,2022.**

The study examines important variables that affect the management of menstrual hygiene, highlighting the reliance on a range of factors including privacy, social, cultural, and economic considerations, as well as water availability. It emphasizes the value of gender equality and women's empowerment in addressing the unique needs of half of the world's population, and it is consistent with the larger framework of the Sustainable Development Goals (SDGs).

The study explores the variety of menstrual products, classifying them as reusable (fabric pads, menstrual cups, period panties) and disposable (pads, tampons). The literature search finds few research examining the effects of menstruation products on women's health and the environment, despite the fact that these items are widely used.

The literature pinpoints variables that affect the selection of menstruation products, collecting the opinions of women who use them and their effects on the environment and health. In order to fully understand women's preferences for menstrual products, it is imperative that relevant variables be used in the study's conclusion. It promotes gender equity in menstrual management, addresses issues with the disposal system, builds infrastructure for teenage girls, guarantees access to reasonably priced sanitary goods, and raises knowledge of sustainable and reusable solutions.

In summary, the evaluation of the literature highlights the deficiencies in the existing research and advocates for a more thorough comprehension of women's choices, underscoring the necessity of more study on sustainable management of menstrual hygiene.

**12. Biodegradable sanitary napkins—a sustainable approach towards menstrual and environmental hygiene Mohit Panjwani, Yugendhar Rapolu, Mehak Chaudhary, Mohak Gulati, Karan Razdan, Ananya Dhawan, VR Sinha, 2023.**

The article on "Biodegradable sanitary napkins" examines how traditional sanitary napkins, which are primarily non-biodegradable and contain hazardous materials, affect the environment. A variety of sustainable strategies are included in the paper, including plant-based substitutes made of materials including cotton, jute, bamboo, banana fibers, and neem leaves. In order to produce environmentally friendly napkins, it also highlights the utilization of industrial waste in absorbent layers, addressing both financial and environmental problems. The essay emphasizes how important it is to switch to biodegradable sanitary napkins in order to lessen the risks that traditional sanitary napkins cause to human health and the environment. The literature on the subject addresses the need for a comprehensive approach within the framework of gender equality and human rights, while highlighting the social stigma associated with menstruation. The article emphasizes the detrimental effects that poor menstrual hygiene can have on women's and girls' rights to employment, education, and health. It emphasizes how crucial it is to have laws that encourage gender equality as well as menstrual health and hygiene (MHH) education incorporated into school curricula. It is suggested that government actors be involved at different levels in order to successfully solve MHH concerns.

**13. Towards a sustainable solution for school menstrual hygiene management: cases of Ethiopia, Uganda, South-Sudan, Tanzania, and Zimbabwe Selamawit**

**Tamiru, Kuribachew Mamo, Pasquina Acidria, Rozalia Mushi, Chemisto Satya Ali, Lindiwe Ndebele, 2015.**

The research shows difficulties which African schoolgirls encounter in controlling their menstruation are complex and include social views that menstruation is a taboo topic. Girls are left to handle this issue alone due to a lack of assistance from their homes, schools, and communities, which has an effect on their academic achievement. Interventions focused only on material supply are insufficient; a holistic strategy is required. It is imperative to address the knowledge, attitudes, and practices of girls, parents, and communities in addition to providing sanitary materials, improving policies, and making physical changes. Research and real-world case studies are still hard to come by, even though menstrual hygiene management is being increasingly acknowledged in development agendas. Baseline survey results from Ethiopia, South Sudan, Uganda, Tanzania, and Zimbabwe demonstrate how the SNV Netherlands Development Organization's WASH in School initiative is actively addressing menstrual hygiene in these regions as well as in Latin America, Africa, and Asia. The suggested method highlights a holistic solution to inform future policy and practice.

**14. Menstrual products as a source of environmental chemical exposure: A review from the epidemiologic perspective Kristen Upson, PhD, MPH,<sup>1,\*</sup> Jenni A. Shearston, MPH,<sup>2</sup> and Marianthi-Anna Kioumourtzoglou, DSc, MSPH<sup>2</sup>**

A considerable proportion of the population routinely experiences menstruation, which can expose them to chemicals from the environment. The literature offers a thorough investigation of this topic. Given that a woman may use over 10,000 menstruation products throughout her lifetime, the study highlights the need for a more thorough

investigation into how these items affect the absorption of chemicals into the environment. The body of research indicates that about two dozen investigations have been conducted specifically to quantify environmental pollutants found in menstruation products. While there is a constant detection of environmental chemicals, the complexity of this research topic is shown by the divergent conclusions regarding exposure dangers.

The analysis also notes that only three human studies—all of which have found associations—have explicitly looked into the relationship between the use of menstrual products and environmental chemical concentrations. The dearth of human research, difficulties in determining exposure, and the prevalence of monthly bleeding all contribute to serious worries regarding the possible long-term consequences of exposure to environmental chemicals. As a result, the literature highlights the shortcomings and difficulties in the existing body of research in addition to shedding light on the existence of environmental chemicals in menstruation products. The combination of widespread exposure, few human trials, and conflicting results calls for additional research. The suggestions made here are meant to serve as a roadmap for future investigations, leading to a deeper comprehension of the environmental effects of menstruation product use.

**15. Menstrual Hygiene Management in India The Concerns, Sinha, Rabindra Nath, Paul Bobby.**

The study emphasizes the critical significance that menstruation, a normal physiological function for women, plays in their general health. Women's health and social relationships are greatly impacted by enduring cultural taboos,

misunderstandings, and a lack of awareness, despite its inherent normalcy. The study highlights the difficulties in managing menstrual hygiene (MHM) in low- and middle-income nations, an issue acknowledged by international organizations like UNICEF and WHO. Menstrual Hygiene Day was established on May 28 in an effort to raise awareness of these issues. Interestingly, the UN Sustainable Development Goals acknowledge that poor MHM practices might hamper progress toward a number of crucial developmental goals, including those pertaining to health, education, gender equality, water and sanitation, and even if they do not specifically include menstrual health.

**16. A novel banana fiber pad for menstrual hygiene in India: a feasibility and acceptability study, Krishnashree Achuthan, Sharanya Muthupalani, Vysakh Kani Kolil, Anju Bist, Krishna Sreesuthan, Aswathy Sreedevi, 2021.**

The study shared that, menstruation hygiene products are changing, as noted in the literature assessment for the study on the Feasibility and Acceptability (FA) of banana fiber-based menstruation pads (BFP) among women in rural and urban areas in India. Cost, convenience of usage, and comfort have all impacted women's purchasing decisions in recent decades. Nonetheless, the analysis draws attention to the serious environmental effects of the non-biodegradable waste produced by traditional menstruation products, particularly in a nation like India where women make up almost 50% of the population.

The research review also discusses how the COVID-19 epidemic increased periods of poverty, which led women to look for reusable items as durable and affordable alternatives. This lays the groundwork for the study's emphasis, which will examine the

acceptability and viability of menstrual pads made of banana fiber in both urban and rural settings.

The analysis highlights the difficulty of promoting healthy menstrual hygiene practices with environmentally friendly products in the context of India's socioeconomic variety, especially for women from low-middle class backgrounds. Given the enormous amount of menstrual waste and the financial hardships that a significant percentage of the population experiences, the need for reasonably priced and extremely sustainable alternatives is highlighted.

**17. Menstrual products: sustainability and futurity – an imperative study on the cognizance towards eco-friendly sanitary products and practices, Anju Dwivedi  
July 2021**

The literature surrounding the intersection of menstruation, pollution, and sustainable menstrual practices encompasses a diverse array of studies and perspectives. The understanding that menstruation is both a normal biological phenomenon and a social taboo is a recurring issue in literary work. Discussions about menstrual hygiene and waste management have historically been limited by cultural norms and societal stigmas surrounding menstruation. However, the environmental effects of using traditional sanitary products have come under increased scrutiny from academics and campaigners alike. The alarming amounts of waste that disposable pads and tampons produce each year have been measured in studies, underscoring the critical need for sustainable alternatives. The article investigates the connections between elements like knowledge of menstruation pollution, opinions regarding environmentally friendly goods, and actual adoption practices. Researchers use rigorous procedures in an effort



to find insights that might guide advocacy efforts, educational programs, and policy changes.

The main objective of this material is to promote menstrual management strategies that are sustainable. Scholars attempt to mediate workable routes toward lowering menstrual pollution while advancing menstrual equity and environmental justice by combining empirical data and theoretical frameworks. The interdependence of social, environmental, and health issues is emphasized by this interdisciplinary endeavor, underscoring the significance of holistic approaches in tackling intricate global difficulties.

**18. Green is the new colour for menstruation. Environmentally sustainable, Uger fabric pads, shows the way, Lakshmi Murthy**

The abstract describes a significant change in menstrual management from historically sustainable ways to modern, disposable-product-dominated, non-sustainable methods. Women in past societies dealt with menstruation in an eco-friendly way, including using cloth or leaves, so they were in harmony with the natural world and did as little damage as possible to their communities. But as society changed, other techniques appeared, which paved the way for the widespread use of disposable menstrual products, which greatly increase pollution in the environment. Acknowledging this problem, the study looks at menstruation product use in South Rajasthan from a sustainable angle. It shows Uger fabric sanitary napkins as a new sustainable product and presents the PASS diagram as a tool for evaluating sustainability in menstrual management.

A more comprehensive framework for comprehending the development of menstrual management in human civilizations is given in the introduction. It draws attention to

the shift from more straightforward, in line with nature methods to intricate, commercialized strategies driven by throwaway goods. Recognizing this change paves the way for the study's investigation of viable substitutes to deal with the unviability of modern menstrual management. The goal of the article is to provide insights on how to transform menstruation management from an unsustainable situation to a sustainable one by defining menstruation as a biological occurrence and investigating design systems and products related to it. By using this perspective, the study aims to provide suggestions and guidance for reducing the negative effects of menstrual waste on the environment and encouraging more environmentally friendly menstruation practices.

**19. Menstrual hygiene and waste management: The survey results. Saravanan Parthasarathy, Vaishnavi Jayaraman, Selvaprabu Jeganathan, Arun Raj Lakshminarayanan**

The article presents a thorough analysis of menstruation and the development of menstrual hygiene management techniques from prehistoric to contemporary times. It talks about the evolution of modern sanitary goods, the historical techniques for controlling menstrual bleeding, and the cultural significance of menstruation. It also draws attention to the socioeconomic and environmental difficulties in managing menstrual hygiene and the possible consequences for accomplishing the Sustainable Development Goals (SDGs) established by the UN. The significance of managing menstrual hygiene for both personal health and environmental sustainability is emphasized in the literature. It talks about how the scarcity and high cost of sanitary goods might result in poor menstrual hygiene habits and environmental risks. Moreover, it emphasizes the necessity of efficient disposal methods to meet the environmental impact of menstrual waste.

To learn more about participants' current menstrual routines and disposal techniques, a survey was administered as part of the study. The results show that suitable disposal methods are not being used or recognized, especially when it comes to burning sanitary goods. The essay suggests using smart incinerators as an inexpensive and easy-to-use solution to the problems related to disposing of soiled napkins. This method could lessen the amount of biowaste that ends up in landfills, which would help to mitigate pollution to the environment. A historical summary of menstrual hygiene management techniques is also included in the text, which traces the development of sanitary products from antiquity to the present. It underlines how liquid-impermeable membranes are crucial for preventing leaks and how super absorbent polymers (SAPs) can improve absorbency. All things considered, the article offers a thorough review of menstrual hygiene management techniques, emphasizing the historical background, present difficulties, and possible remedies. In order to promote sustainable menstruation and environmental conservation, it emphasizes the significance of education, awareness, and cutting-edge technologies.

**20. [Explainer] What is sustainable menstruation and how can it help tackle menstrual waste? Snigdha Nalini Oreya , 19 March 2021**

The essay addresses the growing trend towards sustainable menstruation habits and offers a thorough analysis of the difficulties related to managing menstrual waste in India. It starts off by pointing out how much menstrual waste is produced in the nation; according to estimates, almost one billion disposable sanitary pads are used and discarded each year. The text emphasizes how disposable sanitary napkins (DSNs), which are mostly composed of plastic that is not biodegradable and takes hundreds of

years to break down, have an adverse effect on the environment. The work also looks at how menstrual trash is categorized under the Solid trash Management Rules, 2016, which classify tampons, sanitary pads, and other menstrual hygiene products as "dry municipal waste." It talks about how it's unclear if menstrual waste belongs in the biomedical waste or plastic trash category.

The essay then explores the idea of sustainable menstruation, which promotes the use of environmentally friendly menstrual hygiene items such reusable cloth pads, biodegradable sanitary napkins, menstrual cups, and underwear. The advantages of these options are covered, including their longer-term cost-effectiveness, better menstrual health, and decreased environmental impact. The essay also discusses the problem of "period poverty," emphasizing how many people who menstruate—especially those from low-income backgrounds cannot purchase sanitary menstruation supplies. It talks about programs that try to alleviate period poverty, like the Central Government's 2018 tax breaks on tampons and sanitary pads.

**CHAPTER 3**

**RESEARCH**

**METHODOLOGY**

### **3.1 INTRODUCTION**

The concept of sustainable menstruation centers on the integration of eco-friendly menstrual habits to reduce their negative ecological effects. Examining the environmental effects of traditional menstrual products, such as disposable pads, and investigating substitutes, such as reusable cloth pads and menstrual cups, are necessary to achieve this. This study explores the socio-cultural aspects of menstruation hygiene practices in Kerala and assesses women's understanding and acceptance of sustainable alternatives. Additionally, the study evaluates how adopting sustainable solutions contributes to lowering the ecological footprint and examines the waste management issues raised by traditional menstrual products.

Research methodology gives an overall idea of research the significance of topic, objectives, definition of concepts, research design, tools of data collection, methods, universe, sampling etc. This paper “Concept of sustainable menstruation: A study on sustainable menstrual practices and its environmental impact in Kerala” focuses to understand the awareness, the environmental impacts, disposal methods and usage patterns of sustainable products.

### **3.2 STATEMENT OF THE PROBLEM**

The research aims to investigate the concept of sustainable menstruation in the context of Kerala, focusing on menstrual practices and their environmental impact. The statement of the problem. The statement of the problem emphasizes how vital it is to comprehend how regional menstrual hygiene practices relate to sustainability  
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objectives. An extensive analysis is necessary given the cultural and social dimensions of menstruation and the growing global concern for environmental preservation. The study aims to answer issues including how common environmentally friendly menstruation products are, how much people know about sustainable alternatives, and how much traditional behaviors harm the environment.

It also seeks to investigate the complex relationship between hygienic habits and sustainable menstruation, exploring the effects of various menstrual practices on women's health. By examining these facets, the research hopes to provide insightful information that encourages sustainable decisions and improves menstrual hygiene and health. The study draws attention to the complex interactions that exist in Kerala between menstruation customs, the environment, and cleanliness.

### **3.3 SIGNIFICANCE OF STUDY**

The study on the concept of sustainable menstruation in Kerala holds significant importance as it addresses the intersection of menstrual health, environmental sustainability, hygiene, and affordability. By looking into sustainable menstruation behaviors in the area, the research hopes to offer helpful insights into alternate and eco-friendly methods of managing menstrual hygiene. Furthermore, by recognizing the socioeconomic factors associated with sustainable menstruation, products of this kind can be made more widely available and reasonably priced, ultimately leading to better menstrual hygiene practices among Kerala women.

It helps lessen the environmental impact of traditional solutions by looking at sustainable menstrual products. The study also looks at economic advantages, focusing on affordability and long-term savings for both people and society. It also highlights

the benefits of good hygiene, advocating for better options and expanding knowledge about menstruation health. All things considered, the study takes a comprehensive approach to women's health, social welfare, and environmental sustainability, which is in line with international initiatives to support environmentally and socially conscious menstrual habits.

### **3.4 AIM OF THE STUDY**

The aim of the study on the concept of sustainable menstruation in Kerala is multifaceted. It aims to thoroughly investigate and comprehend the range of sustainable menstrual practices Kerala women have adopted. Examining different menstrual products, trash disposal techniques, and their effects on the environment are all part of this. In order to provide insight on Kerala women's understanding and use of sanitary measures, the study also attempts to evaluate the degree of hygiene maintained during menstruation. It also strives on raising public knowledge of sustainable menstruation and its possible financial benefits for women. By addressing these factors, the project hopes to provide insightful information that will advance sustainable menstruation habits, improve cleanliness, and solve financial issues associated with current menstrual practices—all of which will ultimately improve the well-being of women in Kerala.

### **3.5 RESEARCH OBJECTIVES**

#### **1. General objective:**

Concept of sustainable menstruation: A study on sustainable menstrual practices and environmental impact in Kerala.



## 2. Specific objectives:

- To know the usage patterns and disposal methods of menstrual products in Kerala.
- To study the current awareness among women in Kerala regarding sustainable menstrual practices.
- To evaluate the benefits of adopting sustainable alternatives in environmental impacts.
- Investigate the potential for waste reduction through adoption of sustainable menstrual practices.

### 3.6 DEFINITION OF CONCEPTS

#### 1. Sustainable menstruation

**Conceptual:** Sustainable menstruation refers to the use of environmentally-friendly and responsible menstrual products. (Wikipedia)

**Operational:** Sustainable menstruation refers to using eco-friendly and reusable menstrual products to minimize environmental impact and promote long-term menstrual health.

#### 2. Eco – friendly

**Conceptual:** Not harmful to the environment, or trying to help the environment (Cambridge Dictionary)

**Operational :** Eco-friendly means being environmentally friendly or sustainable

#### 3. Conventional

**Conceptual:** Based on or in accordance with what is generally done or believed.  
(Oxford languages)

**Operational:** Conventional refers to something that follows well-established norms, practices, or standards that are commonly followed in a given community or organization

#### 4. Hygiene

**Conceptual:** Hygiene refers to conditions and practices that help to maintain health and prevent the spread of diseases. (World Health Organization)

**Operational:** It is a conditions to maintain health especially through cleanliness.

#### 5. Environmental impact

**Conceptual:** The effect that the activities of people and businesses have on the environment (Cambridge Dictionary)

**Operational:** It is any adverse or beneficial changes to the environment

#### 6. Awareness

**Conceptual:** Knowledge that something exists, or understanding of a situation or subject at the present time based on information or experience ( Cambridge Dictionary)

**Operational:** Knowledge or understanding of a situation or a fact

### 3.7 UNIVERSE OF THE STUDY

The universe of the study are the women population in Kerala.

### **3.8 SAMPLE POPULATION**

The women in the Kerala between the age group of 18 to 55.

### **3.9 SAMPLING**

Stratified random sampling

### **3.10 INCLUSION CRITERIA**

The women population in Kerala between the age group of 18 to 55.

### **3.11 EXCLUSION CRITERIA**

- The female population in Kerala under the 18 years and above the 55 years.
- Individuals who have not experienced menstruation due to physical issues

### **3.12 TOOL OF DATA COLLECTION**

- A structured questionnaire was utilized as tool of data collection to gather data, ensuring consistency and comprehensiveness in the responses.

### **3.13 METHOD OF DATA COLLECTION**

- Data collection method for this study were collected data using a structured questionnaire administered through Google Forms.

### **3.14 DATA ANALYSIS AND INTERPRETATIONS**

Excel and SPSS software used for the analysis and interpretation of data. Data analysis is carrying out by graphical representation.

### **3.15 LIMITATIONS**

Lack of standardised tool will make the study challenging to compare consistency and validity. There is still a stigma around menstruation in our society, so therefore, there is concern that expected target group will be reluctant to provide information.

### **3.16 HYPOTHESIS**

Hypothesis used in the study were Null hypothesis (H<sub>0</sub>) and Alternative (H<sub>1</sub>)

#### **Hypothesis 1: Assessing relationship between Awareness and Education**

(H<sub>0</sub>) – There is no significant relationship between awareness and education

(H<sub>1</sub>) – There is a significant relationship between awareness and education

#### **Hypothesis 2: Assessing relationship between Age and Usage patterns**

(H<sub>0</sub>) – There is no significant relationship between age and usage patterns of sustainable menstrual products

(H<sub>1</sub>) – There is significant relationship between age and usage patterns of sustainable menstrual products

### **3.17 CHAPTERISATION**

CHAPTER 1: INTRODUCTION

CHAPTER 2: REVIEW OF LITERATURE

CHAPTER 3: METHODOLOGY

CHAPTER 4: DATA ANALYSIS AND INTERPRETATION

CHAPTER 5: FINDING, RECOMMENDATIONS, IMPLICATION FOR PROFESSIONAL SOCIAL WORK PRACTICE

# **CHAPTER 4**

# **DATA ANALYSIS AND**

# **INTERPRETATION**

**INTRODUCTION**

This chapter presents the analysis of data and subsequent interpretation based on the objectives and hypothesis. It is represented in the form of tables and graphs. Self made questionnaire is used for data collection. The participants were women between the age group of 18 to 55. The sample size of the study is 102. Data collected through google form and shared it with the help of social media platforms and the discussions of results is provided in this chapter.

**4.1 DEMOGRAPHIC DETAILS**

**AGE**

**TABLE 4.1.1**

Mean	1.21
Median	1.00
Mode	1
Std. Deviation	.635
Range	3

**TABLE 4.1.1 Age frequency**

	Frequency	Percent	Valid Percent	Cumulative Percent
18 - 25	90	88.2	88.2	88.2
26 - 35	6	5.9	5.9	94.1

36 - 45	3	2.9	2.9	97.1
46 - 55	3	2.9	2.9	100.0
Total	102	100.0	100.0	

Table indicates that, respondents, with the majority falling within the 18-25 age bracket, comprising 88.2% of the sample. This dominance underscores a significant focus on younger demographics within the surveyed population. The concentration is highest in the 18-25 range, there is still representation across other age groups, 26-35, 36-45, and 46-55 age groups each account for 5.9%, 2.9%, and 2.9% of respondents, respectively. This indicates some level of diversity across age groups, although with decreasing frequencies as age increases. The cumulative understanding demonstrates that the majority of respondents are relatively young, with over 94% falling within the first two age groups.

The statistical summary of the age data provides additional insights into the distribution beyond the frequency table. The mean age of 1.21 suggests that, on average, respondents tend to be towards the lower end of the age spectrum aligning with the dominance of the 18-25 age group. The median age of 1.00 further supports this, indicating that half of the respondents fall within the 18-25 range. The relatively low standard deviation of 0.635 indicates that the ages are clustered closely around the mean, reinforcing the concentration of responses within the younger age brackets. The range of ages spans three units, indicating some variability in the data but still emphasizing the dominance of younger respondents.

**EDUCATION****TABLE 4.1.2**

	Frequency	Percent	Valid Percent	Cumulative Percent
Primary education	3	2.9	2.9	2.9
Secondary education	3	2.9	2.9	5.9
Under graduate	43	42.2	42.2	48.0
Postgraduate	49	48.0	48.0	96.1
Others	4	3.9	3.9	100.0
Total	102	100.0	100.0	

The education distribution data provides insights into the educational backgrounds of the respondents, categorized into five levels: primary education, secondary education, undergraduate, postgraduate, and others. The majority of respondents (48.0%) fall into the postgraduate category, indicating a significant proportion of individuals with advanced academic qualifications. This suggests that the surveyed population likely consists of individuals with specialized knowledge and expertise. Preceding postgraduates, 42.2% of respondents reported undergraduate education, highlighting the importance of higher education within the sample. Additionally, 2.9% each indicated primary and secondary education, suggesting a small but present representation of individuals with basic and secondary level qualifications. The "others" category, comprising 3.9% of respondents. Overall the data underscores the diversity in educational backgrounds within the sample, with a notable emphasis on postgraduate and under graduate qualifications, indicative of a highly educated population.



**MARITAL STATUS****TABLE 4.1.3**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Married	19	18.6	18.6	18.6
Unmarried	83	81.4	81.4	100.0
Total	102	100.0	100.0	

The data represents the marital status distribution of the sample population under study. Out of the total 102 participants, 19 individuals, constituting 18.6% of the sample, reported being married, while the majority, comprising 81.4% (83 individuals), identified as unmarried. The figures illustrate a clear predominance of unmarried individuals within the sample.

**OCCUPATION****TABLE 4.1.4**

	Frequency	Percent	Valid Percent	Cumulative Percent
Employed	21	20.6	20.6	20.6
Unemployed	18	17.6	17.6	38.2
Buisness	63	61.8	61.8	100.0
Total	102	100.0	100.0	

The data presents the distribution of occupations among the sample population. Among the 102 participants, the majority, comprising 61.8% of the sample, are engaged in

business-related activities. This suggests a significant proportion of individuals within the sample are either self-employed, entrepreneurs, or involved in business ventures. Additionally, 20.6% of the sample reported being employed, indicating participation in wage-earning work within established organizations. On the other hand, 17.6% identified as unemployed, suggesting a portion of the sample population currently not engaged in any form of paid employment.

**ANNUAL INCOME**

**TABLE 4.1.5**

Mean	1.94
Median	2.00
Mode	1
Std. Deviation	1.070
Range	3

**TABLE 4.5.1**

	Frequency	Percent	Valid Percent	Cumulative Percent
10000 - 25000	49	48.0	48.0	48.0
25000 - 50000	22	21.6	21.6	69.6
50000 - 1 lakh	19	18.6	18.6	88.2
1 lakh above	12	11.8	11.8	100.0
Total	102	100.0	100.0	

The data provides the information into the distribution of annual income levels among the surveyed population. The majority of participants, comprising 48% of the sample, an annual income ranging from 10,000 to 25,000 units. Following this, 21.6% of respondents fell into the income bracket of 25,000 to 50,000 units, while 18.6% reported earning between 50,000 and 1 lakh units annually. A smaller proportion, representing 11.8% of the sample, reported an income exceeding 1 lakh units per year. This breakdown highlights the diversity in income levels within the sample, reflecting a socio- economic backgrounds.

The statistical summary reveals a mean income of approximately 1.94, with a median of 2.00. The mode, or most frequent value, is 1, indicating that the income bracket of 10,000 to 25,000 units is the most prevalent. The standard deviation, a measure of the dispersion of values from the mean, is approximately 1.070, suggesting moderate variability in income levels within the sample. The range, which indicates the difference between the highest and lowest income values, is 3.

**4.2 AWARENESS REGARDING SUSTAINABLE MENSTRUAL PRACTICES****TABLE 4.2.1 AWARENESS OF SUSTAINABLE PRODUCTS**

	Frequency	Percent	Valid Percent	Cumulative Percent
Always	84	82.4	82.4	82.4
Sometimes	15	14.7	14.7	97.1
Rarely	2	2.0	2.0	99.0
Never	1	1.0	1.0	100.0
Total	102	100.0	100.0	

This data provides insights into the awareness of sustainable products within the sample population. Among the 102 participants, a substantial majority, comprising 82.4% of the sample, reported being always aware of sustainable products. This suggests a strong level of consciousness and familiarity with environmentally-friendly and socially-responsible products among the respondents. Additionally, 14.7% indicated that they are sometimes aware of sustainable products indicating a less consistent but still notable level of awareness. And only a small proportion reported rarely (2%) or never (1%) being aware of sustainable products. These figures underscore a generally high level of awareness within the sample population, suggesting a growing consciousness towards sustainability issues and an increasing interest in adopting environmentally-friendly consumption patterns.

**TABLE 4.2.2 IF AWARE, WHICH PRODUCTS?**

	Frequency	Percent	Valid Percent	Cumulative Percent
	1	1.0	1.0	1.0
Menstrual cup	45	44.1	44.1	45.1
Reusable cloth pads	16	15.7	15.7	60.8
Period underwear	6	5.9	5.9	66.7
others	34	33.3	33.3	100.0
Total	102	100.0	100.0	

The data provides insights into the specific sustainable products that individuals are aware of, among those who reported being conscious of such products. Among the 102 respondents, 44.1% mentioned awareness of menstrual cups, making it the most commonly known sustainable products in the sample. In addition to menstruation cups, reusable cloth pads offer a sustainable substitute for single-use menstrual items, as reported by 15.7% of participants. These cotton pads are washable and reusable, less trash is produced overall. In addition to menstruation cups, reusable cloth pads offer a sustainable substitute for single-use menstrual items, as reported by 15.7% of participants. Because these cotton pads are machine washable and reusable, less trash is produced overall.

Additionally, 5.9% of respondents mentioned awareness of period underwear, which offers another reusable option for managing menstruation without the need for disposable products. Interestingly, 33.3% of respondents cited awareness of other sustainable products not specifically listed in the survey options. This category could

encompass a wide range of eco-friendly menstrual products such as organic cotton tampons, biodegradable pads, or alternative menstrual management solutions. Overall, the data suggests a notable level of awareness among respondents regarding various sustainable menstrual products, indicating a growing interest in eco-friendly alternatives to conventional menstrual hygiene products.

**TABLE 4.2.3 WHERE DID YOU LEARN ABOUT SUSTAINABLE PRODUCTS?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Social media	48	47.1	47.1	47.1
Friends/family	40	39.2	39.2	86.3
Health care providers	3	2.9	2.9	89.2
Educational institutions	9	8.8	8.8	98.0
others	2	2.0	2.0	100.0
Total	102	100.0	100.0	

The data provides information that a significant portion of individuals, around 47.1%, have learned about sustainable products through social media, indicating the influence of online platforms in spreading awareness and information about sustainable practices. Following closely behind 39.2% of respondents reported learning about sustainable product from friends and family indicating the role of interpersonal networks in disseminating information indicating the role of interpersonal networks in

disseminating information. A smaller percentage, 8.8% have gained knowledge about sustainable products through educational institutions, highlighting the role of formal education in raising awareness about sustainability issues. And also only 2.9% have learned from health care providers and additionally, a small percentage have cited other sources not covered in the provided options. The overall data underscores the diverse channels through which individuals acquire knowledge about sustainable product.

**TABLE 4.2.4 HOW STAY UPDATED**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Social media	78	76.5	76.5	76.5
Online communities	7	6.9	6.9	83.3
Educational workshop	7	6.9	6.9	90.2
Others	10	9.8	9.8	100.0
Total	102	100.0	100.0	

The data indicates the various methods used by individuals to stay updated on matters related to sustainable menstruation. A significant majority comprising 76.5% of respondents, reported using social media as their primary source of information, highlighting the pervasive influence of online platforms in disseminating updates and trends in sustainability. A smaller percentage, 6.9% rely on online communities to stay updated, suggesting virtual network in sharing knowledge. Another 6.9% reported attending educational workshop as a means of staying updated. Furthermore, a minority 9.8% cited other methods not specified in the provided options, suggesting a diverse range of strategies employed by individuals to stay informed about sustainability.

Overall the data underscores the significance of various platforms in facilitating learning and engagement in sustainable practices.

**TABLE 4.2.5 HOW CLEAN AND MAINTAIN DURING START AND END OF THE MENSTRUATION**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	82	80.4	80.4	80.4
	Sometimes	7	6.9	6.9	87.3
	Rarely	2	2.0	2.0	89.2
	Never	11	10.8	10.8	100.0
	Total	102	100.0	100.0	

The data presents details into the hygiene practices employed by individuals during the start and end of menstruation. A significant majority comprising 80.4% of respondents reported always engaging in cleaning and maintenance practices during menstruation, indicating a high level of awareness and commitment to menstrual hygiene. However, a smaller portion around 6.9%, indicated that they sometimes engage in these practices. A very small percentage, approximately 2.0% reported rarely engaging in cleaning and maintenance during menstruation, indicating that they may not prioritize hygiene as much during this time. And 10.8% of respondents reported never engaging in cleaning and maintenance practice during menstruation. This group may lack awareness of proper menstrual hygiene practices or face barriers that prevent them from accessing necessary hygiene products or facilities. Overall, the data underscores the importance



of consistent and thorough hygiene practices during menstruation for maintaining health and well-being

**TABLE 4.2.6 ENOUGH AWARENESS IN KERALA ABOUT SUSTAINABLE PRODUCTS**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Always	18	17.6	17.6	17.6
Sometimes	45	44.1	44.1	61.8
Rarely	32	31.4	31.4	93.1
Never	7	6.9	6.9	100.0
Total	102	100.0	100.0	

The data provides insights into the perception of awareness about sustainable menstrual practices in Kerala among the surveyed individuals. The responses suggest a range of opinions regarding the level of awareness in the region. Only 17.6% of respondents, indicated that there is always enough awareness about menstrual practices in Kerala. A large portion comprising 44.1% of respondents, reported that awareness about sustainable menstrual practices in Kerala is sometimes sufficient. Furthermore, 31.4% of respondents, indicated that awareness about sustainable menstrual practices in Kerala is sometimes sufficient. Lastly, a small minority, 6.9% of respondents expressed the belief that there is never enough awareness about sustainable menstrual practices in Kerala. The data overall reflects varying perspectives on the level of awareness about sustainable menstrual practices in Kerala.

**TABLE 4.2.7 HOW FAMILIAR ABOUT SUSTAINABLE PRODUCTS**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	49	48.0	48.0	48.0
	Sometimes	43	42.2	42.2	90.2
	Rarely	9	8.8	8.8	99.0
	Never	1	1.0	1.0	100.0
	Total	102	100.0	100.0	

The data provides insights into the familiarity of the surveyed individuals with sustainable menstrual products. Nearly half of the respondents constituting 48.0%, indicated that they are always familiar with sustainable menstrual products. This group likely possesses a strong understanding of the various types of sustainable menstrual products available. A significant proportion, 42.25 reported being sometimes familiar with sustainable menstrual products. A smaller percentage, 8.8% indicated that they are rarely familiar with sustainable menstrual products. Only 1.05 reported never being familiar with this. Overall, the data highlights varying level levels of familiarity with sustainable products among the surveyed individuals, with a significant portion showing some degree of awareness and openness to sustainable options, but also indicating room for further education and promotion of sustainable menstrual products.

**TABLE 4.2.8 PARTICIPATION IN EDUCATIONAL PROGRAMS OR CAMPAIGNS**

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Always	16	15.7	15.7	15.7
	Sometimes	37	36.3	36.3	52.0
	Rarely	25	24.5	24.5	76.5
	Never	24	23.5	23.5	100.0
	Total	102	100.0	100.0	

The data provides insights into the participation of individuals in educational programs or campaigns related to sustainable menstruation for ongoing awareness. A small percentage of participants, 15.7% said they consistently take part in educational initiatives or campaigns pertaining to sustainable menstruation. A higher percentage, about 36.3%, said they occasionally took part in these kinds of campaigns or educational events. This implies a sizable population that might participate in educational programs on a sporadic basis, possibly due to variables like availability, interest, or perceived significance. They show some receptivity to learning about and engaging in sustainable menstrual practices, even though they might not always participate.

Additionally, 24.5% of respondents indicated that they rarely and 23.5% never participate in educational programs or campaigns related to sustainable menstruation. The data underscores the need for sustained efforts to raise awareness, improve accessibility, and encourage participation in initiatives aimed at promoting sustainable menstrual hygiene practices by highlighting disparities in the degree of participation in educational programs or campaigns related to sustainable menstruation.

### **4.3 USAGE PATTERNS AND DISPOSAL METHODS OF MENSTRUAL PRODUCTS**

**TABLE 4.3.1 USAGE OF SUSTAINABLE PRODUCTS**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	43	42.2	42.2	42.2
	Sometimes	26	25.5	25.5	67.6
	Rarely	8	7.8	7.8	75.5
	Never	25	24.5	24.5	100.0
	Total	102	100.0	100.0	

The data provides the details into the usage of sustainable menstrual products among the surveyed individuals. 42.2% of respondents indicated that they always use sustainable menstrual products. This group demonstrates a strong commitment to incorporating sustainable options to their menstrual hygiene routine. Furthermore, 25.5% of participants stated that they occasionally use sustainable menstrual products. This implies a substantial population that may occasionally adopt sustainable solutions but may also depend on conventional disposable products for a variety of reasons. Although they might not always use sustainable menstrual products, their sporadic use suggests that they are at least somewhat open to introducing environmentally responsible options into their menstrual routine.

A smaller percentage 7.8% indicated that they rarely use sustainable menstrual products. This group may have limited experience or access to sustainable options and may primarily rely on conventional disposable products for their menstrual hygiene needs. 24.5% of respondents reported never using sustainable menstrual products.

**TABLE 4.3.2 PRIMARILY USED PRODUCT**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sustainable	52	51.0	51.0	51.0
	Non sustainable	50	49.0	49.0	100.0
	Total	102	100.0	100.0	

The data provides insights into the primary usage of menstrual hygiene products among the surveyed individuals, distinguishing between sustainable and non-sustainable options. The result indicate a near-even split in product usage, with 51.0% of respondents primarily using sustainable menstrual hygiene products and 49.0% primarily using non-sustainable options. This suggests a significant divide in consumer preferences and choices regarding menstrual hygiene products, with a roughly equal number of individuals opting for either sustainable or non-sustainable options as their primary choices.

**TABLE 4.3.4 THE FACTORS SUCH AS COMFORT, COST AND ENVIRONMENTAL CONCERNS WILL INFLUENCE THE CHOICE OF SUSTAINABLE MENSTRUAL PRODUCTS**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	63	61.8	61.8	61.8
	sometimes	29	28.4	28.4	90.2
	rarely	6	5.9	5.9	96.1
	never	4	3.9	3.9	100.0
	Total	102	100.0	100.0	

The data provides insights into the extent to which factors such as comfort, cost and environmental concerns influence the choice of sustainable menstrual product among the surveyed individuals. A majority of respondents, comprising 61.8%, reported that these factors always influence their choice of sustainable products. This suggests that for a significant portion of individuals, consideration related to comfort, cost and environmental impact play a consistent and significant role in their decision making process when selecting menstrual hygiene products. Furthermore, 28.4% of respondents indicates that these issues sometimes affect the sustainable menstrual products they choose. Only 5.9% of respondents indicates that these issues rarely affect their decision to use sustainable menstruation products. This suggests that for some individuals, other factors may take precedence over considerations related to comfort, cost, and environmental concerns when selecting menstrual hygiene products. Finally, 3.9% of participants said these issues never affected their decision to use sustainable menstrual products. Overall, the data shows how complex the factors impacting the selection of sustainable menstrual products are, with different people giving varied weight to factors like comfort, affordability, and environmental concerns.

**TABLE 4.3.5 FOLLOWING OF RECOMMENDED DISPOSAL GUIDELINES**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	71	69.6	69.6	69.6
	sometimes	19	18.6	18.6	88.2
	rarely	6	5.9	5.9	94.1
	never	6	5.9	5.9	100.0
	Total	102	100.0	100.0	

The data provides information into the extent to which individuals follow recommended disposal guidelines for sustainable menstrual products. 69.9% of the respondents, reported that they always follow recommended disposal guidelines for sustainable menstrual products. This indicates a strong commitment to proper disposal practices among a substantial portion of individuals ensuring that sustainable menstrual products are disposed of in an environmentally responsible manner. Furthermore, 18.6% of respondents indicated that they sometimes adhere to suggested disposal rules. Even though they do not always follow disposal regulations. A lower proportion, about 5.9%, reported that they rarely ever follow disposal recommendations. This implies that some people might not regularly follow the disposal rules for sustainable menstruation products. Overall, the data shows that different survey respondents adhered to different recommended disposal guidelines for sustainable menstrual products, highlighting the significance of infrastructure support, education, and awareness-raising in promoting responsible disposal practices and improving sustainability in menstrual hygiene management.

**TABLE 4.3.6 ENCOUNTERED ANY OBSTACLES**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	19	18.6	18.6	18.6
	sometimes	43	42.2	42.2	60.8
	rarely	20	19.6	19.6	80.4
	never	20	19.6	19.6	100.0
	Total	102	100.0	100.0	

The data provides insights into the frequency with which individuals encounter obstacles or limitations in disposing of sustainable menstrual products properly. A significant portion of respondents, comprising 42.2%, indicated that they sometimes encounter obstacles or limitations in disposing of sustainable menstrual products properly. This suggests that for many individuals, there are occasional challenges or barriers that hinder their ability to dispose of sustainable menstrual products in a manner that aligns with recommended guidelines. Additionally, 18.6% of respondents always encountering obstacles or limitations in disposing of sustainable menstrual products properly. On the other hand, 19.6% of respondents indicated that they rarely encountering obstacles or limitations in disposing of sustainable menstrual products properly. This implies that although certain people could experience difficulties from time to time, in general, they don't reach into major roadblocks that prevent them from appropriately disposing of sustainable menstruation products.

Finally, 19.6% of respondents indicated they never face difficulties or restrictions while properly disposing of sustainable menstrual products. Overall, the data shows how different people's experiences are when it comes to properly disposing of sustainable menstrual products; many of them encounter obstacles or constraints that could make it difficult for them to follow advised disposal protocols. Menstrual hygiene.

**TABLE 4.3.7 HELP FROM GOVERNMENT OR OTHER AGENCIES FOR MENSTRUAL WASTE DISPOSAL**

	Frequency	Percent	Valid Percent	Cumulative Percent
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Valid	Always	14	13.7	13.7	13.7
	sometimes	14	13.7	13.7	27.5
	rarely	19	18.6	18.6	46.1
	never	55	53.9	53.9	100.0
	Total	102	100.0	100.0	

The information sheds light on how often people turn to the government or other organizations for assistance with disposing of menstrual waste. 53.9% of respondents, or the majority, said they never get assistance from the government or other organizations with disposing of menstrual waste. This implies that a considerable proportion of people do not depend on outside help or backing from governmental or non-governmental entities to handle the disposal of menstrual waste. Furthermore, 18.6% of respondents said they hardly ever asked the government or other organizations for assistance with disposing of menstrual waste. This implies that although certain individuals could periodically look for aid, they typically do not extensively depend on outside resources to handle the disposal of menstrual waste.

However, 13.7% of respondents said they rarely ask the government or other organizations for assistance in disposing of menstrual waste. This is a smaller but significant subset of people who might sometimes need outside help or support services to manage the disposal of menstrual waste. When they need more resources or are having trouble properly disposing of their menstrual waste, they could ask for assistance. Overall, the data shows that different proportions of the surveyed persons depend on different government or non-governmental organizations for the disposal of menstrual waste; the majority do not seek outside assistance, while smaller percentages do so occasionally or regularly. In order to help people manage menstrual waste disposal and encourage sustainability in menstrual hygiene management, it may be

helpful to address obstacles to appropriate menstrual waste disposal and raise knowledge of the resources and support services that are available.

**4.4 ENVIRONMENTAL CONCERNS**

**4.4.1 CONCERNED ABOUT THE ENVIRONMENTAL IMPACT OF DISPOSAL PRODUCTS**

**TABLE 4.4.1**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	97	95.1	95.1	95.1
	No	5	4.9	4.9	100.0
	Total	102	100.0	100.0	

The data indicates a strong concern among the surveyed individuals regarding the environmental impact of disposable products. 95.1% of respondents, a majority, expressed they were concerned about how disposing of things will affect the environment. This indicates that the great majority of people are aware of the possible negative effects that product disposal—including those of feminine hygiene products—may have on the environment. They are probably concerned because they are aware of problems like pollution, trash buildup, and environmental damage brought on by inappropriate disposal methods. However, a small percentage of respondents 4.9% stated that they don't concerned about how disposal items affect the environment. This implies that there exists a minor segment of the population that might not accord priority to environmental concerns or who could not possess complete

awareness of the possible environmental ramifications linked to product disposal. Overall, the data highlights how widely acknowledged environmental concerns are concerning disposal products among those asked, with the great majority expressing strong concerns about the impact on the environment.

**4.4.2 HAVE CONSIDERED SWITCHING DUE TO ENVIRONMENTAL CONCERNS**

**TABLE 4.4.2**

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	88	86.3	86.3	86.3
No	14	13.7	13.7	100.0
Total	102	100.0	100.0	

The table indicates that a substantial proportion of the participants, or 86.3%, expressed consideration about transitioning to sustainable menstruation products as a result of environmental concerns. This implies that a significant number of people are aware of the negative environmental effects linked to traditional menstrual products and are actively considering switching to more environmentally friendly options. Their consideration is probably due to the increased public awareness of environmental problems such resource depletion, landfill accumulation, and plastic pollution that are frequently linked to the manufacturing and disposal of traditional menstruation products.

On the other hand, a smaller but significant percentage of respondents roughly 13.7% stated that they haven't given any thought to converting to environmentally friendly menstruation products because of worries about the environment. This implies that a portion of people might not give environmental factors top priority when making

purchases or could not be completely aware of the potential environmental advantages connected to sustainable menstruation products. Overall, the statistics highlight people's general awareness of the environmental risks associated with menstrual hygiene products as well as their strong interest in learning more about sustainable alternatives.

#### 4.4.3 DISPOSE OF PRODUCTS IN TRASH BIN, FLUSHED DOWN THE TOILET

**TABLE 4.4.3**

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	35	34.3	34.3	34.3
No	67	65.7	65.7	100.0
Total	102	100.0	100.0	

The information shows how the people who were polled disposed of menstrual hygiene items, with a distinction made between flushing the products down the toilet and throwing them in the garbage. About 34.3% of participants reported they throw away menstruation hygiene products in a trash bin. Using this procedure, used products are disposed of with regular household rubbish after being wrapped or placed in a waste container that is usually lined with a plastic bag.

On the other hand, 65.7% of the participants indicated that they do not flush menstrual hygiene products down the toilet. Menstrual materials can block sewage systems, cause pollution in the environment, and cause plumbing problems when flushed down the toilet. Overall, the data shows that the people who were polled adhered significantly to the recommended disposal methods; most of them chose to discard menstrual hygiene

products in a trash can as opposed to flushing them down the toilet. This conscientious disposal practice lowers the possibility of environmental damage, promotes sustainable waste management, and keeps plumbing systems operating and clean.

#### 4.4.4 AWARENESS OF THE ENVIRONMENTAL IMPACT OF IMPROPERLY DISPOSAL

**TABLE 4.4.4**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	96	94.1	94.1	94.1
No	6	5.9	5.9	100.0
Total	102	100.0	100.0	

The information shows that most respondents were well aware of the effects that incorrect disposal of menstruation products has on the environment. The environmental impact of menstruation products that are not disposed of correctly was mentioned by around 94.1% of respondents. This suggests that the great majority of people are aware of the possible negative effects on the environment—such as plastic pollution, clogged sewage systems, and contaminated waterways—that could result from disposing of menstruation products improperly.

On the other hand, 5.9% of respondents, or a small minority, stated that they were unaware of the harm that incorrect disposal of menstrual products causes to the environment. This implies that a portion of people might not be aware of the possible harm to the environment that incorrect disposal methods could create. Overall, the data emphasizes how widely acknowledged among the surveyed individuals is the negative environmental impact of improperly disposed of menstrual products, underscoring the

significance of encouraging responsible disposal practices and environmental stewardship in the management of menstrual hygiene.

**4.4.5 ANY DIFFERENCE IN YOUR ENVIRONMENTAL FOOTPRINT SINCE SWITCHING TO SUSTAINABLE PRODUCT**

**TABLE 4.4.5**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	79	77.5	77.5	77.5
	No	23	22.5	22.5	100.0
	Total	102	100.0	100.0	

The data indicates that, 77.5% of the respondents asked believe that switching to sustainable menstrual products has improved their environmental impact. According to this data, a sizable percentage of people think that using sustainable menstruation products has reduced their environmental effect. When compared to traditional disposable goods, switching to sustainable menstruation products such as menstrual cups, biodegradable sanitary pads, or reusable cloth pads is frequently linked to lower resource use, waste production, and carbon emissions. Conversely, a smaller proportion of respondents, approximately 22.5%, indicated that they have not observed any difference in their environmental footprint since switching to sustainable menstrual products. Overall, the data highlights a notable perception among the surveyed individuals that switching to sustainable menstrual products has made a difference in their environmental footprint for a majority of respondents. This underscores the potential environmental benefits associated with the adoption of sustainable menstrual products.

#### 4.4.6 SUSTAINABLE PRODUCTS CONTRIBUTE TO ENVIRONMENTAL CONSERVATION

**TABLE 4.4.6**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	95	93.1	93.1	93.1
No	7	6.9	6.9	100.0
Total	102	100.0	100.0	

The data provided illustrates a strong consensus on the positive impact of sustainable products in contributing to environmental conservation. With 93.1% of respondents affirming that sustainable products indeed play a role in environmental conservation, it's evident that there's a widespread belief in their efficacy. However, it's noteworthy that a small proportion, constituting 6.9% of respondents, expressed disagreement regarding the contribution of sustainable products to environmental conservation. While this dissenting opinion exists, it appears to be outweighed by the overwhelming support for the notion that sustainable products are instrumental in promoting environmental preservation. These findings underscore the importance of fostering the production and consumption of sustainable goods as a key strategy in mitigating environmental degradation and fostering a more sustainable future.

#### 4.4.7 ANY CHALLENGES IN MAINTAINING SUSTAINABLE PRACTICES FROM AN ENVIRONMENTAL PERSPECTIVE

**TABLE 4.4.7**

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	52	51.0	51.0	51.0
No	50	49.0	49.0	100.0
Total	102	100.0	100.0	

The data indicates that, 51.0% of the individuals who participated in the poll have had difficulties in upholding environmentally sustainable behaviors. This implies that a considerable proportion of people encounter obstacles or difficulties when striving to follow ecologically sustainable practices in their day-to-day existence.

On the other hand, 49.0% of the participants stated that they had not faced any difficulties in upholding environmentally sustainable practices. This implies that there exists a considerable portion of the population that has little difficulties in integrating ecologically sustainable practices into their way of life. These people might have information, resources, or support networks at their disposal that help them effectively maintain sustainable practices and make decisions that are considerate of the environment. The evidence indicates that certain individuals may encounter difficulties in upholding sustainable practices from an environmental standpoint, whereas others may be able to overcome these obstacles with more ease. In addition to facilitating the wider adoption of environmentally friendly behaviors, addressing the obstacles to adopting and maintaining sustainable practices can support group efforts to reduce environmental impact and advance sustainability.



## **4.5 WASTE MANAGEMENT PRACTICES**

### **4.5.1 SUSTAINABLE MENSTRUAL PRODUCTS HAS A POSITIVE IMPACT ON REDUCING WASTE POLLUTION**

**TABLE 4.5.1**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	58	56.9	56.9	56.9
	Agree	36	35.3	35.3	92.2
	Neutral	4	3.9	3.9	96.1
	Disagree	3	2.9	2.9	99.0
	Strongly disagree	1	1.0	1.0	100.0
	Total	102	100.0	100.0	

The information sheds light on people's perceptions of how utilizing sustainable menstrual products can lower waste pollution. Largest percentage of responders, 92.2%, agreed or strongly agreed that using sustainable menstrual products reduces waste pollution. Of them, 35.3% agree and 56.9% strongly agree with this assertion.

A smaller percentage roughly 3.9% indicated they had neutral opinion about how sustainable menstruation products affect the reduction of waste pollution. This implies that some people might not have strong opinions or might not be aware of the connection between the reduction of waste pollution and sustainable menstruation products. Moreover, a very small proportion of respondents roughly 4.9% strongly

disagree or disagree with the assertion. This shows that there is a very little percentage of people who do not think that using menstruation products that are sustainable helps reduce waste pollution. Their disagreement can result from a lack of knowledge about the advantages these products have for the environment or from doubts about how well sustainable menstruation products can address more general environmental challenges.

Overall, the research shows that a significant portion of those surveyed strongly believe that adopting sustainable menstrual products can help reduce waste pollution. This emphasizes how crucial it is to raise awareness of and encourage the use of sustainable menstruation products as part of larger initiatives to address waste pollution and environmental sustainability.

**4.5.2 GOVERNMENT POLICIES AND INITIATIVES SHOULD PROMOTE THE USE OF SUSTAINABLE MENSTRUAL PRODUCTS?**

**TABLE 4.5.3**

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly agree	38	37.3	37.3	37.3
Agree	48	47.1	47.1	84.3
Neutral	11	10.8	10.8	95.1
Disagree	5	4.9	4.9	100.0
Total	102	100.0	100.0	

The information sheds light on what the people who were polled thought about government policies and activities that promote sustainable menstrual products. The majority of respondents 84.3% agree or strongly agree that government programs and

legislation should encourage the use of environmentally friendly menstruation products. 37.3% of respondents strongly agree, demonstrating a strong conviction in the value of government assistance in encouraging the use of sustainable menstruation products. 47.1% more respondents concur, indicating a broad understanding of the role that laws and regulations may play in encouraging and easing the switch to environmentally friendly menstruation products. Additionally, 10.8% of respondents expressed a neutral position.

Just 4.9% of respondents disagreed that government programs and policies ought to encourage the use of sustainable menstruation products. This minority may have different opinions about how the government should become involved in issues pertaining to menstrual hygiene and sustainability, they may place more value on free will or market-driven solutions than on government action. The data shows that a significant proportion of the surveyed population supports government promotion of sustainable menstrual products, demonstrating an understanding of the possible advantages of governmental action in furthering sustainability objectives and addressing environmental issues associated with the management of menstrual hygiene.

**4.5.3 ADEQUATELY INFORMED ABOUT THE PROPER DISPOSAL METHODS FOR MENSTRUAL PRODUCTS?**

**TABLE 4.5.4**

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly agree	21	20.6	20.6	20.6
Agree	51	50.0	50.0	70.6

Neutral	21	20.6	20.6	91.2
Disagree	9	8.8	8.8	100.0
Total	102	100.0	100.0	

The report provides insights into people's perspectives of their knowledge regarding appropriate menstrual product disposal techniques. 70.6% of the respondents strongly agree or agree that they feel sufficiently informed about how to dispose of menstruation products. This suggests that most people are comfortable with their knowledge and comprehension of how to dispose of menstruation products correctly. They probably feel that they have learned enough about the subject and are capable of properly disposing of menstruation products in compliance with advised standards. This favorable opinion points to a generally high degree of knowledge and assurance among respondents on how to dispose of menstrual waste. Furthermore, 26.0% percent of participants expressed a neutral opinion on their level of awareness regarding the appropriate disposal techniques for menstrual products. This implies that a considerable proportion of people are neither firmly in agreement nor disagreement with their level of knowledge regarding the subject.

However, 8.8% of those surveyed disputed that they feel sufficiently informed about how to properly dispose of menstrual products. This suggests that a little but significant proportion of people believe they don't have enough knowledge or direction about how to dispose of menstruation products correctly. Overall, the data indicates that people's perceptions of their level of knowledge about how to properly dispose of menstrual products vary.

**TABLE 4.5.4 NONSUSTAINABLE MENSTRUAL PRODUCTS ARE HIGH BURDEN IN WASTE MANAGEMENT**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	37	36.3	36.3	36.3
	Agree	48	47.1	47.1	83.3
	Neutral	13	12.7	12.7	96.1
	Disagree	4	3.9	3.9	100.0
Total		102	100.0	100.0	

The data provides insights into individuals' perceptions regarding the burden of non-sustainable menstrual products on waste management. The majority of respondents, at 83.3%, strongly agree or agree that there is a large waste management burden associated with non-sustainable menstrual products. This suggests that most people are aware of the substantial harm that non-sustainable menstruation products cause to waste management systems. They believe that typical disposable pads and tampons, among other non-sustainable items, are a major cause of waste generation and management issues. This knowledge highlights the significance of resolving these issues to lessen their impact on waste management and encourages a thorough understanding of the environmental consequences associated with the disposal of non-sustainable menstruation products.

Furthermore, 12.7% of participants indicated that they had neutral opinion about the impact of non-sustainable menstrual products on waste management. This implies that a lower percentage of people are unsure or ambivalent regarding the degree to which non-

sustainable menstruation products contribute to waste management, as seen by their lack of significant agreement or disagreement with the statement. 3.9% of respondents, on the other hand, disagreed that using non-sustainable menstruation products places a significant strain on waste management. This suggests that a tiny percentage of people do not believe that non-sustainable menstrual products are a major cause of waste management issues. The data emphasizes how widely respondents understood the impact non-sustainable menstruation products had on waste management.

**TABLE 4.5.5 USE OF SUSTAINABLE MENSTRUAL PRODUCTS WILL SAVE TIME FOR DISPOSING CONVENTIONAL MENSTRUAL PRODUCTS.**

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly agree	35	34.3	34.3	34.3
Agree	48	47.1	47.1	81.4
Neutral	15	14.7	14.7	96.1
Disagree	4	3.9	3.9	100.0
Total	102	100.0	100.0	

The information sheds light on people's opinions on how much time it saves to use sustainable menstruation products to discarding traditional ones. 81.4% of respondents, strongly agree or agree that using sustainable menstrual products saves the amount of time needed to dispose of conventional menstrual products. This suggests that most people think

sustainable menstrual products is more time-efficient than throwing away traditional items. When considering sustainable options such as reusable cloth pads or menstrual cups, they probably believe that they will take less time and effort to dispose of compared to disposable menstruation items, which they must continuously buy and discard.

Additionally, 14.7% of respondents indicated a neutral stance regarding whether the use of sustainable menstrual products saves time for disposing of conventional products. They can be unsure or conflicted about the possible time-saving benefits of sustainable menstruation products over traditional ones, which suggests that more research or education is necessary. Only 3.9% of participants disapproved of the claim that using sustainable menstruation products reduces the amount of time needed to dispose of conventional products. This shows that a small but significant percentage of people do not think that there is a time-saving benefit to using sustainable solutions compared to traditional items when it comes to disposal. Overall, the widespread belief among people—of which the majority either strongly agree or agree that using sustainable menstrual products is more time-efficient than discarding conventional menstrual products. Promoting the use of sustainable menstruation and encouraging more sustainable menstrual hygiene habits can be achieved by addressing any doubts or concerns and highlighting the useful advantages of these items.

**4.6 ACCESSIBILITY AND AFFORDABILITY****TABLE 4.6.1 SUSTAINABLE MENSTRUAL PRODUCTS READILY AVAILABLE IN YOUR LOCALITY?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	70	68.6	68.6	68.6
No	19	18.6	18.6	87.3
Unsure	13	12.7	12.7	100.0
Total	102	100.0	100.0	

The information sheds light on the accessibility of sustainable menstruation products in the areas where respondents stated they could easily get sustainable menstrual products in their area. This implies that a sizable fraction of respondents have access to a range of environmentally friendly menstrual hygiene management alternatives in their areas. A growing awareness towards eco-conscious consumerism and a growing understanding of the significance of sustainable practices in menstrual hygiene management are reflected in the availability of sustainable menstruation products in local communities. However, a significant proportion of participants, roughly 18.6%, stated that they could not easily get sustainable menstrual products in their area. This suggests that in certain places, options may not be as easily accessible as they are in other areas. Access to sustainable menstrual products may be restricted. In some places, the availability of sustainable menstruation products may be influenced by variables like market demand, geographic location, and economic inequality. Furthermore, some respondents said they were unsure if sustainable menstruation products were available in their area. Overall, the data indicates that different places have differing degrees of access to sustainable menstrual products; most respondents reported availability.



sizable minority reported barriers or ambiguity. Fair access to eco-friendly solutions for managing menstruation is achieved by raising awareness of sustainable menstrual products and their accessibility in all

**4.6.2 AFFORDABILITY OF SUSTAINABLE MENSTRUAL PRODUCTS**

**TABLE 4.6.2**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	67	65.7	65.7	65.7
	No	26	25.5	25.5	91.2
	Unsure	9	8.8	8.8	100.0
	Total	102	100.0	100.0	

The data provides insights people's opinions on how much more affordable sustainable menstruation products are compared to disposable ones. The majority of respondents, or 65.7%, indicated that they thought sustainable menstrual products were more affordable than disposable ones. This implies that a considerable proportion of people view sustainable menstrual products as affordable substitutes for disposable ones. They probably think that using sustainable menstrual products is a financially sensible option because the long-term advantages—like reusability and less environmental impact outweigh the initial cost. The surveyed population's increasing awareness of the financial benefits linked to sustainable menstrual products is reflected in their favorable opinion of affordability.

On the other hand, 25.5% of respondents gave a negative response, meaning that they believe disposable menstrual products are more expensive than sustainable ones. This indicates that a significant portion of the population believes that sustainable menstrual products are more expensive or less accessible financially than standard disposable ones. Furthermore, 8.8% of participants expressed doubt about the cost-effectiveness of eco-friendly menstrual products.

comparison to single-use ones. This implies that some people might be unclear about the relative cost-effectiveness of sustainable menstruation products and might need more details or explanation in order to make a well-informed decision.

**TABLE 4.6.3 SWITCHING TO MORE ENVIRONMENTALLY FRIENDLY MENSTRUAL PRODUCTS IF THEY WERE EASILY ACCESSIBLE AND AFFORDABLE**

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	87	85.3	85.3	85.3
No	10	9.8	9.8	95.1
Unsure	5	4.9	4.9	100.0
Total	102	100.0	100.0	

According to the data, there is a significant tendency among the surveyed persons to think about switching to more environmentally friendly menstrual products if they were reasonably affordable. A substantial majority of respondents answered in the yes, indicating that they would think about switching to more environmentally friendly menstrual products. This shows that, provided they are easily accessible and reasonably priced, the great majority of people are willing to switch to more environmentally friendly menstruation products. On the other hand, 9.8% of respondents gave a negative response, meaning that even if more economical and readily available environmentally friendly menstruation products were available, they would not think about making the transition. This implies that a limited group of people, independent of accessibility and affordability, may be less likely to give environmental factors a priority when selecting menstruation products.

4.9% of respondents said they were unsure if, under these circumstances, they would switch to more environmentally friendly menstruation products. This implies that some people can be hesitant or unsure about switching, possibly because of concerns about the effectiveness, comfort, or familiarity of sustainable menstrual products. Overall, the data show

significant portion of the surveyed population would be willing to consider making the switch to more environmentally friendly menstrual products if they were easily accessible and reasonably priced.

**TABLE 4.6.4 MODE OF ACCESS (ONLINE OR DIRECT)**

	Frequency	Percent	Valid Percent	Cumulative Percent
Online purchase	43	42.2	42.2	42.2
Direct purchase	59	57.8	57.8	100.0
Total	102	100.0	100.0	

The information shows the ways in which people access menstruation products, differentiating between direct and online sales. The majority of participants, or 57.8%, indicated that they obtained menstruation items through direct purchase methods. This suggests that a considerable proportion of people still like acquiring menstruation products through conventional channels, such as buying them straight from physical retailers, pharmacies, or grocery shops. Direct purchase techniques are quick and easy ways for people to get things without having to wait for shipping or delivery services, and they also offer convenience and immediacy. On the other hand, 42.2% of participants stated that they prefer to buy menstruation items online. This indicates that a considerable portion of the population favors the ease and availability provided by online shopping sites while purchasing menstruation goods. Online shopping appeals to those who value convenience and the freedom of doing their shopping from home since it offers a large selection of products, reasonable pricing, and easy delivery. Overall, the data shows that there is variation in the ways that people get menstrual goods; a considerable fraction of people choose to purchase products directly, while a large minority chooses to acquire products online.

#### **4.7. IMPACT ON HEALTH**

**TABLE 4.7.1 SUSTAINABLE MENSTRUAL PRODUCTS ARE BETTER FOR YOUR HEALTH COMPARED TO DISPOSABLE ONES**

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	71	69.6	69.6	72.5
No	6	5.9	5.9	78.4
Unsure	22	21.6	21.6	100.0
Total	102	100.0	100.0	

The information shows respondents' opinions about whether using sustainable menstrual products is healthier than disposable ones. The majority of respondents, or 69.6%, gave an affirmative response, suggesting that they think sustainable menstrual products are healthier than disposable ones. This indicates that the majority of respondents strongly believe sustainable solutions are healthier than typical throwaway products. People that use sustainable menstruation products believe that they are composed of safer materials, don't contain any potentially dangerous chemicals like some disposable items do, and are less likely to irritate or discomfort users, all of which improve overall health results.

On the other hand, 5.9% of respondents, gave a negative response, meaning they don't think sustainable menstrual products are healthier than disposable ones. 21.6% of respondents were unsure. This suggests that a significant portion of people are ignorant of the health consequences of switching from disposable to sustainable menstruation products. Overall, the data shows that respondents' opinions on the health benefits of sustainable menstrual products over disposable ones are not uniform. While most respondents expressed assurance about the health benefits of sustainable choices, a significant number expressed doubt or uncertainty. Resolving issues and offering lucid, fact-based information

advantages of sustainable menstrual products for health may enable people to make better decisions about their menstrual hygiene.

**TABLE 4.7.2 RATE THE OVERALL COMFORT LEVEL OF SUSTAINABLE MENSTRUAL PRODUCTS COMPARED TO CONVENTIONAL DISPOSABLE PRODUCTS**

	Frequency	Percent	Valid Percent	Cumulative Percent
0-2	14	13.7	13.7	13.7
2-3	24	23.5	23.5	37.3
3-4	30	29.4	29.4	66.7
4-5	34	33.3	33.3	100.0
Total	102	100.0	100.0	

The data represents respondents rating of the overall comfort level of sustainable menstrual products compared to conventional disposable products, using a scale from 0 to 5. 13.7% of the respondents reported a score of 0 to 2, indicating a low overall comfort level. This shows modest levels of comfort associated with sustainable choices, with only a small proportion of respondents believing that sustainable menstrual products are much less comfortable than conventional disposable products.

23.5% of respondents rated the overall comfort level between 2 and 3. This suggests that there is a modest amount of comfort associated with sustainable choices, as a significant portion of respondents believe that sustainable menstrual products are somewhat less comfortable than standard disposable products. 29.4% of the respondents assigned a rating of 3 to 4 to the overall comfort level. This indicates a moderate to high level of comfort associated with sustainable choices, since a greater proportion of respondents believe sustainable menstrual products to be as comfortable as or slightly more comfortable than conventional disposable products.

comfortable than conventional disposable products. 33.3% of the respondents provided a rating of 4 to 5 to the comfort level. This suggests that there is a high degree of comfort associated with sustainable choices, as a sizable number of respondents believe that sustainable menstrual products are noticeably more comfortable than traditional disposable products. Overall, it shows that respondents' opinions about how comfortable sustainable menstruation products are in comparison to disposable ones vary widely. Although some people think sustainable items are less pleasant than traditional ones, a sizable majority think they are just as comfortable or perhaps more so. Factors like the materials utilized, absorbent elements, and personal preferences for the comfort of menstruation products can all have an impact on these perceptions.

**TABLE 4.7.3 ANY IMPROVEMENT IN SKIN IRRITATION OR ALLERGIC REACTIONS TRANSITIONING TO SUSTAINABLE MENSTRUAL PRODUCTS, IF YOU ARE USED?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	45	44.1	44.1	44.1
No	19	18.6	18.6	62.7
Unsure	38	37.3	37.3	100.0
Total	102	100.0	100.0	

The information shows the respondent's experiences with any improvement in allergic reactions or skin irritation following the switch to sustainable menstrual products. 44.1% of the participants indicated that they had experienced reduced skin irritation or allergic responses as a result of switching to sustainable menstrual products. This implies that a significant proportion of people have reported improvements in their skin health as a result of making the move to sustainable options.

There could be advantages to using sustainable menstrual products since they may have had less irritation, less responses, or generally better skin health.

On the other hand, 18.6% of participants reported that switching to sustainable menstruation products has not resulted in any reduction in skin irritation or allergic responses. This implies that a small percentage of people may not have any appreciable improvements in their skin health. Individuals' experiences may differ; some may continue to have allergic reactions or skin irritation even after utilizing sustainable choices. Furthermore, 37.3% of respondents indicated they were unsure if switching to sustainable menstruation products had improved allergic responses or skin irritation.

The data as a whole demonstrates the wide range of experiences that respondents had when it came to how switching to sustainable menstrual products affected allergic reactions or skin irritation.

**TABLE 4.7.4 SUSTAINABLE MENSTRUAL PRODUCTS CONTRIBUTE TO A HEALTHIER MENSTRUAL CYCLE OVERALL?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	62	60.8	60.8	60.8
No	12	11.8	11.8	72.5
Unsure	28	27.5	27.5	100.0
Total	102	100.0	100.0	

The information shows respondent's opinions on the question of whether using sustainable menstruation products generally results in a healthier menstrual cycle. The majority of respondents, 60.8%, gave a positive response, suggesting that they think sustainable menstruation products help promote a better menstrual cycle in general. This indicates that a significant portion of participants believe that switching to sustainable menstrual products leads to a healthier menstrual cycle.

number of participants strongly believe that utilizing sustainable choices has a good impact on different parts menstrual cycle.

On the other hand, 11.8% of respondents gave a negative response, meaning they don't think sustainable mens products generally lead to a healthy menstrual cycle. This implies that a small percentage of people either thi sustainable solutions have no appreciable health benefits or think that other factors have a bigger impact on menstru health. 27.5% of respondents were unsure. This suggests that a significant proportion of people are unaware connection between menstrual cycle health and sustainable menstruation products.

Overall, the data shows that respondents had a variety of opinions about how sustainable menstruation products might the health of the menstrual cycle. Although most people think that sustainable solutions are healthier, a sizable num doubtful or cynical. the possible advantages of sustainable menstrual products on menstrual cycle health is provide

#### 4.7.5 RECOMMEND SUSTAINABLE MENSTRUAL PRODUCTS TO OTHERS

**TABLE 4.7.5**

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	92	90.2	90.2	90.2
No	10	9.8	9.8	100.0
Total	102	100.0	100.0	

The information shows how likely respondents were to suggest eco-friendly menstrual products to others. 9 respondents, or a substantial majority, indicated they would suggest sustainable menstrual products to others. Thi



that most respondents strongly support sustainable choices, which is consistent with their positive experiences and awareness of the advantages of using sustainable menstrual products.

On the other hand, 9.8% of the respondents stated they would not suggest sustainable menstrual products to others. This suggests that a small percentage of people might be hesitant or uneasy about suggesting sustainable solutions to other people. For a variety of reasons, such as personal preferences, bad experiences, or uncertainties regarding the effectiveness or acceptability of sustainable solutions for others, they may not promote these products. Overall, the data shows that most respondents strongly support sustainable menstruation products, with just a small minority expressing hesitation to recommend these items to others. By addressing any fears or worries and emphasizing the advantages of sustainable choices, it is possible to promote the recommendation and wider use of sustainable menstrual products, thereby advancing sustainable menstrual hygiene practices and environmental conservation efforts.

## 4.8 HYPOTHESIS

### 4.8.1 Hypothesis 1: Assessing relationship between Awareness and Education

The researcher hypothesized that education is a significant in awareness and education. In order to test this hypothesis, the researcher conducted an independent T-test since age was coded as grouping variable. The results of the test have been computed below.

**Group Statistics**

	Education	N	Mean	Std. Deviation	Std. Error Mean
Awareness of sustainable products	Secondary education	3	1.33	.577	.333
	Under graduation	43	1.09	.294	.045

		t-test for Equality of Means						
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Awareness of sustainable products	Equal variances assumed	1.288	44	.204	.240	.187	-1.159	
	Equal variances not assumed	.715	2.073	.547	.240	.336	-1.159	

The group statistics revealed that individuals with secondary education had a mean awareness score of 1.33, with a standard deviation of 0.577, while those with undergraduate education had a slightly lower mean awareness score of 1.09 with a smaller standard deviation of 0.294. To test the hypothesis regarding the relationship between awareness and education, an independent T-test was conducted.

independent samples t-test was conducted. The results showed that when equal variances were assumed, the t-value was 1.288 with 44 degrees of freedom, yielding a p-value of 0.204. Similarly, when equal variances were not assumed, the t-value was 0.715 with adjusted degrees of freedom of 2.073, resulting in a p-value of 0.547.

These findings indicate that regardless of whether equal variances were assumed or not, the p-values obtained from the t-tests were not significant at the conventional alpha level of 0.05. Thus, there is insufficient evidence to reject the null hypothesis (H0), suggesting that there is no significant relationship between awareness of sustainable menstruation practices and education levels. In summary, the study did not find a significant association between education background and awareness levels regarding sustainable menstruation practices in Kerala. These results provide valuable insights for stakeholders and policymakers involved in promoting sustainable menstrual hygiene practices, indicating that educational interventions may need to target broader demographic factors beyond formal education levels to effectively improve awareness and adoption of sustainable menstruation practices.

**4.8.2 Hypothesis 2: Assessing relationship between Age and Usage patterns**

The researcher hypothesized that education is a significant in age and usage patterns. In order to test this hypothesis, the researcher conducted an independent T-test since age was coded as grouping variable. The results of the test have been computed below

Group Statistics					
	Age	N	Mean	Std. Deviation	Std. Error Mean
Usage of sustainable products	18 - 25	90	2.10	1.209	.127
	46 - 55	3	2.33	1.528	.882

		t-test for Equality of Means						
		t	df	Sig. (2-tailed)	Mean Differen ce	Std. Error Differen ce	95% Confidence Interval of the Difference	
							Lower	Upper
Usage of sustainable products	Equal variances assumed	-.327	91	.745	-.233	.714	-1.652	1.185
	Equal variances not assumed	-.262	2084	.817	-.233	.891	-3.922	3.456

The data was divided into two age groups: 18 to 25 years and 46 to 55 years. For those aged 18 to 25, the mean usage was 2.10 with a standard deviation of 1.209, while for the older age group of 46 to 55 years, the mean usage score was slightly higher at 2.33 with a standard deviation of 1.528.

To ascertain whether there was a significant difference in usage patterns between these age groups, an independent t-test was conducted. The results of the t-test indicated that there was no significant difference in the mean usage between the two age groups, irrespective of whether equal variances were assumed or not. The obtained p-values were 0.745 and 0.817 for equal variances assumed and not assumed, respectively, indicating that there was insufficient evidence to reject the null hypothesis.

Therefore, based on our findings, we fail to reject the null hypothesis (H0), suggesting that there is no significant relationship between age and usage patterns of sustainable menstrual products in Kerala. This implies that age does not appear to influence the utilization of sustainable menstrual products among individuals in the specified age ranges. These findings provide valuable insights into the dynamics of sustainable menstruation practices across different age groups, which can inform strategies for promoting environmentally friendly menstrual hygiene practices regardless of age.

**4.8.3 Hypothesis 3: To assess the correlation between awareness and usage patterns**

Correlations			
		Awareness of sustainable products	Usage of sustainable products
Awareness of sustainable products	Pearson Correlation	1	.153
	Sig. (2-tailed)		.124
	N	102	102
Usage of sustainable products	Pearson Correlation	.153	1
	Sig. (2-tailed)	.124	
	N	102	102

The correlation analysis revealed a Pearson correlation coefficient of 0.153 between awareness of sustainable products and usage of sustainable products. This coefficient suggests a positive, albeit weak, association between awareness and usage, indicating that as awareness of sustainable menstrual products increases, there tends to be a slight increase in their usage among individuals in the study. However, it's important to note that the correlation was not statistically significant, as indicated by the p-value of 0.124, suggesting that this observed relationship may have occurred by chance. The sample size for both awareness and usage variables was 102 participants each. These findings imply that while there may be a trend for higher awareness to be associated with increased usage of sustainable menstrual products, other factors beyond awareness likely influence individuals' choices and behaviors regarding menstrual hygiene practices.

**CHAPTER 5**

**FINDING,**

**RECOMMENDATIONS,**

**IMPLICATION FOR**

**PROFESSIONAL**

**SOCIAL WORK**

**PRACTICE**

## **5.1 INTRODUCTION**

This chapter explains the main findings, suggestions and implication of professional social work practice put forward by the researcher. Here explains major findings of the study related with specific as well as general objective of the study and also further recommendation for the study.

## **5.2 FINDINGS**

### **5.2.1 MAJOR FINDINGS RELATED TO SOCIO DEMOGRAPHIC**

#### **DETAILS**

- 88.2% of respondents are between the ages of 18 and 25, with lesser numbers in the other age groups, indicating some diversity.
- Over 94% of respondents are between the ages of 18 and 25, are relatively young.
- Of the respondent's 48.0% are postgraduates, 42.2% hold undergraduate degrees, and a negligible proportion have finished elementary or secondary education.
- The majority of individuals are single, with 18.6% being married and 81.4% being single.
- 20.6% of the respondents are employed, 17.6% are jobless, and 61.8% are involved in business-related activities.
- A lower fraction of respondents in higher income categories make up 48% of those with an annual income between 10,000 and 25,000 units.
- A movement from lower to medium income is indicated by the mean income of 1.94 and the median income of 2.00.

- The most typical income range is between 10,000 and 25,000 units, and a standard income range represents fairly variable income levels.

## **5.2.2 MAJOR FINDINGS RELATED TO THE KEY VARIABLES**

### **AWARENESS REGARDING SUSTAINABLE MENSTRUAL PRACTICES**

- 82.4% of the respondents regularly demonstrated a high level of community awareness regarding sustainable products and 14.7% were only sometimes aware, suggesting some variation in the knowledge of environmentally responsible choices.
- Menstrual cups were the most well-known product, followed by period underwear and reusable cotton pads.
- Healthcare providers and educational institutions make a minor but noticeable contribution to raising awareness and primary information source on sustainability is social media.
- According to the level of education people were aware, but the test clearly shows that there is no relation between sustainable menstruation awareness and educational levels.
- Of the population, 48.0% are aware of sustainable menstrual products; the remaining need promotion and education.

### **USAGE PATTERNS AND DISPOSAL METHODS OF MENSTRUAL PRODUCTS**

- 42.2% of respondents always use sustainable menstrual products, there is clear commitment to environmentally friendly solutions.



- 4.5% of respondents never utilize sustainable items, indicating a sizeable percentage that depends on conventional solutions.
- The distribution of customer preferences in menstrual hygiene products is not uniform, with 51.0% primarily utilizing sustainable goods and 49.0% choosing non-sustainable options.
- 61.8% of respondents always consider comfort, cost, and environmental considerations into account, 28.4% occasionally and 5.9% rarely do.
- 53.9% of respondents, demonstrating their independence, they never sought help from the government or NGOs to dispose of menstrual waste, 18.6% occasionally and 13.7% rarely seek assistance. The varying percentages of respondents rely on outside help to dispose of menstrual waste, underscoring the need to remove barriers and increase public knowledge of available alternatives.

### **ENVIRONMENTAL CONCERNS**

- The majority of respondents (95.1%) expressed concern about how disposable products affect the environment, demonstrating a broad understanding of the issue.
- A large portion of people (86.3%) consider switching to sustainable menstrual products due to environmental concerns and a small percentage (13.7%) haven't considered.
- 34.3% dispose menstrual hygiene products in trash bin, supporting responsible waste disposal and 65.7% avoid flushing products down the toilet, which reduces pollution and clogs the sewage system.

- 94.1% of people are aware of how incorrect disposal affects the environment, demonstrating a high level of awareness and a minority, 5.9%, are unaware of the harm that incorrect disposal might bring.
- 93.1% of respondents believe sustainable products contribute to environmental conservation; 6.9% are skeptical.
- 49.0% successfully incorporate sustainability, whereas 51.0% struggle with eco-friendly measures.

### **WASTE MANAGEMENT PRACTICES**

- 92.2% of respondents believe sustainable products reduce waste pollution.
- 88.3% agreed that increased awareness and education regarding sustainable menstrual practices can contribute to waste reduction efforts.
- Majority of respondents who believe that improper menstrual product disposal harms the environment, highlighting widespread awareness of environmental consequences.
- There is widespread support for government action, as evidenced by the most of respondents agree programs should encourage sustainable menstruation products.
- There is broad awareness of the environmental impact of non-sustainable menstrual products, as evidenced by the large majority (83.3%) who acknowledge that they place a significant burden on waste management.
- The majority of respondents (81.4%) believe sustainable menstruation products save time when compared to conventional disposal products.

### **ACCESSIBILITY AND AFFORDABILITY**

- The 68.6% of respondents who indicated they could readily obtain sustainable menstrual products in their location and about 18.6% face difficulties in accessing sustainable solutions, indicating localized barriers.
- 85.3% of respondents are willing to convert to eco-friendly menstrual products if reasonably affordable, indicating a significant propensity towards environmental consciousness.
- 34.3% believe the cost of sustainable items is reasonable when compared to disposable ones, indicating that affordability is seen favorably.
- 22.5% of respondents strongly believe that sustainable products are financially viable, indicating that they are much more economical.

### **IMPACT ON HEALTH**

- The majority (69.6%) believe that sustainable menstrual products are healthier due to safer materials.
- 49% report improved health after using sustainable products indicating perceived positive effect.
- 44.1% reported that using sustainable products reduced their allergic reactions or skin irritation.
- 60.8% respondents indicated that sustainable menstrual products promote a better menstrual cycle.
- 27.5% of respondents are unclear about the relationship between sustainable products and menstrual cycle health.
- Comfort, health benefits, and environmental considerations are few of the reasons for recommending sustainable products.

### 5.3 RECOMMENDATIONS

- Affordability and accessibility are important variables affecting the general acceptance of sustainable menstruation products. Accessibility may be hampered by these products' limited availability in many areas. Accessibility can be improved by initiatives to strengthen distribution channels, form partnerships with nearby merchants, and expand online availability.
- In order to ensure that sustainable menstruation products are not only environmentally friendly but also inclusive and practical for varied communities, it is important to address both accessibility and affordability. This leads to a more equitable and sustainable approach to menstrual hygiene.
- Overcoming these challenges such as lack of awareness, cultural stigma, norms and traditional practices requires a multifaceted approach, including education, community engagement, and initiatives to make sustainable products more affordable and widely accessible, ensuring that geographical, socio-economic, and cultural factors do not impede individuals from making environmentally conscious choices in menstrual hygiene.
- Encourage ongoing research on the environmental impact and safety of menstrual products to provide evidence-based information that can guide informed decision-making for individuals and policymakers.
- Foster collaborations with healthcare professionals to validate the safety and efficacy of sustainable menstrual products. This can help build trust among potential users concerned about the health implications of such products. And also, government should take more responsibilities regarding the serious impact of sanitary waste disposal and promotion

## 5.4 IMPLICATIONS FOR PROFESSIONAL SOCIAL WORK PRACTICE

Professional social workers can play a crucial role in the promotion of sustainable menstrual products, contributing to environmental conservation and protection while fostering positive environmental impacts

- **Educational advocacy:** Social workers can take part in educational advocacy, bringing attention to the harm that traditional menstruation products do to the environment and advocating for more environmentally friendly options. This entails sharing knowledge in public spaces such as schools, hospitals, and communities.
- **Community outreach:** Through community outreach programs, social workers can facilitate discussions on menstrual health, eco-friendly options, and the importance of sustainable practices. This can empower individuals to make informed choices for both personal well-being and environmental conservation.
- **Menstrual health and social work practice integration:** The incorporation of menstruation health into social work practice guarantees that practitioners possess the necessary tools to tackle the distinct obstacles that clients could encounter, such as the financial and ecological implications of menstrual product selections.
- **Support and counseling services:** Social workers can address any worries or stigmas related to these decisions by offering counseling and support services to people making the switch to sustainable menstruation products.
- **Addressing socio economic barriers:** In order to ensure that cost does not prevent people from a variety of economic backgrounds from using

sustainable menstruation products, social workers can support laws and programs that remove socioeconomic barriers to accessing these products.

Professional social workers can play a significant role in promoting sustainable menstrual products, fostering environmental conservation, and creating positive environmental impacts within the communities they serve by utilizing their skills in community engagement, advocacy, and education.

## 5.5 CONCLUSION

In conclusion, the research on the concept of sustainable menstruation in Kerala has provided valuable insights into the usage patterns, disposal methods, and environmental impacts associated with menstrual products. The first objective, focusing on evaluating the usage patterns and disposal methods, revealed that a significant majority of respondents (82.8%) in Kerala are aware of sustainable menstrual products. However, despite this awareness, the study found that the actual adoption of sustainable alternatives remains on par with non-sustainable options, indicating a gap between awareness and practice.

The second objective was to find out how much knowledge Kerala women currently had about sustainable menstrual practices. The results show that although social media is a vital tool for spreading knowledge about sustainable products, the public is still not sufficiently aware of them. This emphasizes the necessity of focused education initiatives and awareness campaigns to close the gap and encourage the adoption of sustainable menstruation practices. The third objective focused on evaluating the benefits of adopting sustainable alternatives in terms of environmental impacts. This highlights how crucial it is to address both the awareness-raising and the practical components of sustainable menstruation, such as appropriate disposal techniques. The fourth goal looked into the possibility of reducing waste by using sustainable menstrual practices. The study found that there is little governmental assistance for disposing of menstrual waste properly, despite worries about environmental damage brought on by inappropriate disposal. This shows that, in the context of sustainable menstruation, better infrastructure and legislative measures are required to support and enable appropriate waste management. Also, the study highlights the importance of addressing

both accessibility and affordability to ensure an equitable and sustainable approach to menstrual hygiene.

In summary, the major findings of the research highlight the complex interplay of awareness, adoption, and environmental considerations in the realm of sustainable menstruation in Kerala. Among the suggestions are the creation of focused awareness campaigns, instructional programs, and enhanced waste management infrastructure. To effectively promote sustainable products, a complete strategy that tackles systemic issues as well as personal decisions is needed. Ultimately, promoting a sustainable menstrual culture in Kerala requires more environmental knowledge and group effort.



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## APPENDIX

### DATA COLLECTION QUESTIONNAIRE

#### A. Demographic Information:

1. Age:
2. Gender:
3. Educational Qualification:
4. Marital status:
5. Occupation:
6. Monthly Household Income:

#### B. Awareness regarding sustainable menstrual practices:

1. Are you aware of sustainable menstrual products such as menstrual cups, reusable cloth pads, or period underwear?

- a) Always
- b) Sometimes
- c) Rarely
- d) Never

2. If you are aware, which sustainable menstrual products have you used?

- a) Menstrual cup
- b) Reusable cloth pads
- c) Period underwear
- d) Others:

3. Where did you first learn about sustainable menstrual products?

- a) Social media
- b) Friends or family
- c) Healthcare providers
- d) Educational institutions
- e) Other

4. Do you stay updated about sustainable menstrual practices?

- a) Always
- b) Sometimes
- c) Rarely
- d) Never

5. How do you stay updated about sustainable menstrual practices?

- a) Social media
  - b) Online communities
  - c) Educational workshop
  - d) Other
6. Do you typically clean and maintain reusable menstrual products during your starting and ending of menstruation?
- e) Always
  - f) Sometimes
  - g) Rarely
  - h) Never
7. Do you believe there is enough awareness about sustainable menstrual practices in Kerala?
- a) Always
  - b) Sometimes
  - c) Rarely
  - d) Never
8. How familiar are you with sustainable menstrual products?
- a) Always
  - b) Sometimes
  - c) Rarely
  - d) Never
9. Do you participate in any educational programs or campaigns related to sustainable menstruation for ongoing awareness?
- a) Always
  - b) Sometimes
  - c) Rarely
  - d) Never

**C. Usage patterns and disposal methods of menstrual products:**

1. Do you use sustainable menstrual products?
- a) Always
  - b) Sometimes
  - c) Rarely
  - d) Never
2. How often do you use menstrual products during your period?
- a) Always
  - b) Sometimes
  - c) Rarely
  - d) Never

3. Which type of menstrual products do you primarily use?
  - a) Sustainable
  - b) Non-sustainable
4. The factors comfort, cost, environmental concerns will influence your choice of sustainable menstrual products
  - a) Always
  - b) Sometimes
  - c) Rarely
  - d) Never
5. Do you follow recommended disposal guidelines for sustainable menstrual products
  - a) Always
  - b) Sometimes
  - c) Rarely
  - d) Never
6. Have you encountered any obstacles or limitations in disposing of sustainable menstrual products properly?
  - a) Always
  - b) Sometimes
  - c) Rarely
  - d) Never
7. Do you take any help from government or other agencies for menstrual waste disposal?
  - a) Always
  - b) Sometimes
  - c) Rarely
  - d) Never

**D. Environmental Concerns:**

1. How concerned are you about the environmental impact of disposable menstrual products?
  - a) Not concerned
  - b) Somewhat concerned
  - c) Very concerned
  - d) Unsure
2. Have you ever considered switching to sustainable menstrual products due to environmental concerns?
  - a) Not concerned
  - b) Somewhat concerned
  - c) Very concerned
  - d) Unsure
3. Do you dispose of used menstrual products in trash bin, flushed down the toilet?
  - a) Yes

- b) No
- 4. Are you aware of the environmental impact of improperly disposed menstrual products?
  - a) Yes
  - b) No
- 5. Have you noticed any difference in your environmental footprint since switching to sustainable menstrual products?
  - a) Yes
  - b) No
- 6. Do sustainable menstrual products contribute to environmental conservation?
  - a) Yes
  - b) No
- 7. Do you think promoting sustainable menstrual practices can contribute to broader environmental awareness and action?
  - a) Yes
  - b) No
- 8. Have you encountered any challenges in maintaining sustainable menstrual practices from an environmental perspective?
  - a) Yes
  - b) No
- 9. Do you perceive the long-term environmental impact of sustainable menstrual practices positively?
  - a) Yes
  - b) No
- 10. Do you feel more environmentally conscious or empowered as a result of using sustainable menstrual products?

**E. Waste management practices**

- 1. Do you believe that using sustainable menstrual products has a positive impact on reducing waste pollution?
  - a) Strongly agree
  - b) Agree
  - c) Neutral
  - d) Disagree
  - e) Strongly disagree
- 2. Increased awareness and education about sustainable menstrual practices can contribute to waste reduction efforts?
  - a) Strongly agree
  - b) Agree
  - c) Neutral
  - d) Disagree
  - e) Strongly disagree
- 3. How do you dispose of used menstrual products?



- a) Trash bin
  - b) Flushed down the toilet
  - c) Composted
  - d) Other
4. The improper disposal of menstrual products will negatively contribute to the environmental impact?
- a) Strongly agree
  - b) Agree
  - c) Neutral
  - d) Disagree
  - e) Strongly disagree
5. Government policies and initiatives should promote the use of sustainable menstrual products?
- a) Strongly agree
  - b) Agree
  - c) Neutral
  - d) Disagree
  - e) Strongly disagree
6. You have feel adequately informed about the proper disposal methods for menstrual products?
- a) Strongly agree
  - b) Agree
  - c) Neutral
  - d) Disagree
  - e) Strongly disagree
7. Non sustainable menstrual products are high burden in waste management
- a) Strongly agree
  - b) Agree
  - c) Neutral
  - d) Disagree
  - e) Strongly disagree
8. Use of sustainable menstrual products will save time for disposing conventional menstrual products.
- a) Strongly agree
  - b) Agree
  - c) Neutral
  - d) Disagree
  - e) Strongly disagree

**F. Accessibility and Affordability:**

1. Are sustainable menstrual products readily available in your locality?

- a) Yes
  - b) No
  - c) Unsure
2. Do you find sustainable menstrual products affordable compared to disposable ones?
    - a) Yes
    - b) No
    - c) Unsure
  3. Would you consider switching to more environmentally friendly menstrual products if they were easily accessible and affordable?
    - a) Yes
    - b) No
    - c) Unsure
  4. How do you typically access or purchase your menstrual products?
    - a) Online purchase
    - b) Direct purchase
  5. How would you rate the affordability of sustainable products compared to conventional disposable products?
    - a) 0-2
    - b) 2-3
    - c) 3-4
    - d) 4-5
  6. What are the main barriers preventing you from accessing sustainable menstrual products?
  7. Have you encountered any challenges in accessing sustainable menstrual products due to your geographical location or socio economic or cultural status?

**G. Impact on Health:**

1. Do you believe sustainable menstrual products are better for your health compared to disposable ones?
  - a) Yes
  - b) No
  - c) Unsure
2. Have you experienced any health benefits since switching to sustainable menstrual products?
  - a) Yes
  - b) No
  - c) Unsure
3. How would you rate the overall comfort level of sustainable menstrual products compared to conventional disposable products
  - a) 0-2
  - b) 2-3

- c) 3-4
  - d) 4-5
4. Have you noticed any improvement in skin irritation or allergic reactions since transitioning to conventional menstrual products?
- a) Yes
  - b) No
  - c) Unsure
5. Do you feel that sustainable menstrual products contribute to a healthier menstrual cycle overall?
- a) Yes
  - b) No
  - c) Unsure
6. Would you recommend sustainable menstrual products to others?
- a) Yes
  - b) No
  - c) Unsure