

VoA
2025

Volume 21 Issue 1



UNIVERSITI
TEKNOLOGI
MARA

Voice of Academia

Academic Series of Universiti Teknologi MARA Kedah

eISSN: : 2682-7840

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e-ISSN: 2682-7840



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Universiti Teknologi MARA (UiTM) Kedah Branch,
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Universiti Teknologi MARA (UiTM) Malaysia,
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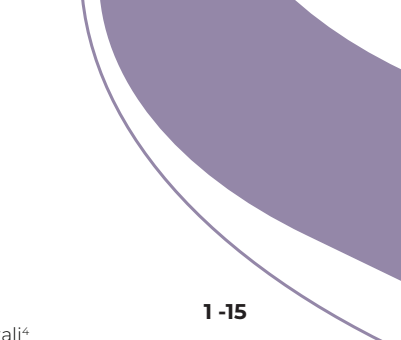


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ENHANCING MENSTRUAL HYGIENE MANAGEMENT: AN EVALUATION OF KNOWLEDGE, PRACTICES, AND UNIVERSITY SUPPORT AMONG FEMALE STUDENTS AT UiTM

**Noor Azli Affendy Lee^{1*}, Kay Dora Abd Ghani²,
Mohd Ikmal Fazlan Rozli @ Rosli³, Suria Sulaiman⁴ &
Intan Rabiatalainie Zaini⁵**

*^{1,2,3,4} Universiti Teknologi MARA (UiTM) Pulau Pinang Branch,
Permatang Pauh Campus, Pulau Pinang, Malaysia*

⁵Salient Information Sdn Bhd

ARTICLE INFO	ABSTRACT
<i>Article history:</i> Received Aug 2024 Accepted May 2025 Published July 2025 <i>Keywords:</i> Female hygiene, University support, Menstrual health, Hygiene product accessibility, Student well-being Corresponding Author: noor.azli@uitm.edu.my	This study investigates the knowledge, perceptions, and support systems related to female hygiene among students at Universiti Teknologi MARA (UiTM). Conducted through a survey of 173 female students, the research explores various aspects of menstrual hygiene management (MHM), including the availability of hygiene products, personal practices, and the impact of menstrual health on academic performance. The findings reveal a moderate level of self-assessed knowledge about female hygiene, with significant gaps in formal education on the subject. Access to hygiene products emerged as a challenge, with cost and availability cited as major barriers. The study also highlights the stigma surrounding menstruation, with students expressing strong support for initiatives aimed at breaking this stigma and promoting open discussions about menstrual health. The qualitative data suggest the need for universities to improve restroom facilities, provide free or affordable hygiene products, and implement educational programs to better support female students. The study underscores the importance of addressing these needs to create a more inclusive and supportive campus

environment that enhances the well-being and academic success of female students.

1. Introduction

Menstrual hygiene management (MHM) is increasingly recognized as a vital aspect of women's health, with significant implications for their physical, mental, and social well-being. The absence of adequate facilities and support systems for managing menstruation can lead to various health issues, including reproductive tract infections and other complications. Educational institutions play a crucial role in this regard as they are environments where young women spend a considerable amount of time. Therefore, ensuring that these institutions provide proper facilities and support for menstrual hygiene is essential for safeguarding the health and dignity of female students. For instance, studies have shown that poor menstrual hygiene management in schools and universities can result in absenteeism, decreased academic performance, and a general sense of discomfort and shame among female students (Shumie & Mengie, 2022). Transitioning to university life represents a significant shift for many young women, involving increased academic responsibilities, social pressures, and the need for greater self-management. Within this context, managing menstrual health can add to the challenges, particularly if the necessary support systems are lacking.

Research has demonstrated that menstruation-related issues such as dysmenorrhea (painful menstruation) and inadequate menstrual hygiene facilities can negatively impact students' academic performance, concentration, and participation in university life. The stigma surrounding menstruation further exacerbates these challenges, making it difficult for students to seek help or discuss their needs openly. Consequently, addressing menstrual health in universities is not only a matter of health but also one of ensuring equal educational opportunities for female students (Munro et al., 2021). To create a truly supportive campus environment, it is essential to first understand the specific hygiene needs of female students, along with the challenges they encounter in managing these needs. This includes assessing their knowledge of menstrual hygiene, the adequacy of existing facilities, and the effectiveness of support systems provided by the university. Studies have shown that when universities actively address these factors—by providing adequate sanitation facilities, ensuring the availability of menstrual products, and fostering an environment where students feel comfortable discussing their needs—female students report higher satisfaction levels and better academic outcomes. Moreover, addressing these needs helps reduce the stigma associated with menstruation, creating a more inclusive and supportive campus atmosphere (Hassan et al., 2023). This study focuses on evaluating the knowledge, perceptions, and support systems related to female hygiene among students at Universiti Teknologi MARA (UiTM). By exploring these aspects, the study aims to provide insights into how universities can better address the hygiene needs of female students, reduce stigma, and promote health and well-being.

2. Literature Review

The recognition of menstrual hygiene as a crucial aspect of both public health and education is supported by global efforts to integrate menstrual hygiene management (MHM) into school programs. A study highlights the widespread acknowledgment that proper MHM is essential for the health, dignity, and educational success of women and girls, particularly in low- and middle-income countries where access to resources may be limited (Phillips-Howard et al., 2016).

Inadequate menstrual hygiene practices have been linked to serious health risks such as reproductive tract infections and urinary tract infections. These conditions are exacerbated in settings where there is limited access to clean water, proper sanitation, and hygienic menstrual products. A study in rural Gambia found that poor menstrual hygiene was associated with an increased risk of infections and depressive symptoms, underscoring the need for better MHM facilities (Nabwera et al., 2021). The lack of access to menstrual hygiene products and adequate facilities has been shown to directly impact school attendance and academic performance. In Uganda, a study found that 90.5% of schoolgirls did not meet adequate MHM criteria, which was linked to increased absenteeism and decreased classroom participation during menstruation. This demonstrates the critical need for accessible hygiene products and facilities in educational settings (Hennegan et al., 2016).

Universities are key in ensuring that female students have access to the necessary resources for managing their menstrual hygiene effectively. Research emphasizes the role of higher education institutions in providing not just products, but also education and safe spaces that allow students to manage menstruation with dignity. A study from Nepal highlights the need for universities to improve MHM facilities to support the health and academic success of female students (Ghimire, 2020). The WHO and other health organizations advocate for the implementation of comprehensive MHM programs in educational institutions as part of a broader strategy to improve health outcomes and promote gender equality. These programs are essential in providing girls and women with the tools and knowledge needed to manage their menstruation effectively. Joshi et al. (2015) outline how the integration of MHM into school curricula can lead to better health, educational, and psychosocial outcomes for female students. Despite the recognized importance of MHM, many educational institutions fail to provide adequate services, which can lead to significant discomfort and stigma among female students. Research in Ethiopia found that a lack of proper facilities and education on MHM contributes to poor hygiene practices and feelings of embarrassment, affecting students' participation in school activities (Shumie & Mengie, 2022).

Menstrual stigma is a significant global issue, with cultural norms often reinforcing the idea that menstruation is something to be hidden. This stigma can prevent women and girls from accessing the information and resources they need to manage their menstrual health effectively. A study from Pakistan highlights how stigma and misinformation about menstruation lead to unhealthy practices and increased psychosocial stress among women (Ali et al., 2020). The stigma surrounding menstruation often results in a lack of awareness and education on menstrual health, affecting not just women but the broader community. This lack of education can perpetuate myths and misconceptions, leading to poor menstrual hygiene practices. Research in South Africa found that inadequate knowledge about menstruation among girls was linked to cultural taboos, resulting in poor hygiene practices and school absenteeism (Chikulo, 2015). Breaking the stigma around menstruation through education and open dialogue is crucial for creating an inclusive and supportive environment in educational institutions. Programs that educate both students and the broader community about menstrual health can reduce stigma, improve hygiene practices, and enhance the overall well-being of female students. Santhanakrishnan and Athipathy (2018) suggest that health education interventions in schools can significantly improve menstrual hygiene practices and reduce stigma among adolescent girls.

3. Methodology

This study was conducted through a survey distributed among 173 female university students at a northern Universiti Teknologi MARA (UiTM) campus. The study aimed to assess various aspects related to female hygiene, including knowledge, availability of products, personal practices, health impacts, and attitudes towards female hygiene. The participants were female

undergraduate students, with 75.7% aged between 18 to 20 years, 18.5% aged 21 to 23 years, and 5.8% aged 24 and above.

The survey consisted of both quantitative and qualitative questions. Quantitative data was collected through multiple-choice questions and Likert scales, which measured the students' self-assessed knowledge of female hygiene, the availability and accessibility of hygiene products on campus, and the impact of menstrual health on their academic performance. Qualitative data was gathered through open-ended questions, where students provided personal insights on how they manage their hygiene during menstruation, suggestions for improving university support, and their thoughts on breaking the stigma surrounding menstruation.

The collected data was analyzed using statistical methods to identify key trends and patterns in the respondents' knowledge, perceptions, and experiences. The qualitative responses were thematically analyzed to uncover the recurring themes and provide a deeper understanding of the students' needs and suggestions.

4. Results

Quantitative data findings

When it comes to knowledge about female hygiene products, the survey revealed a moderate level of self-assessed awareness among the respondents. About 26.6% of the participants considered themselves very knowledgeable, while the majority, 54.3%, identified as somewhat knowledgeable. A smaller group, 16.8%, remained neutral, and a mere 2.3% felt somewhat unknowledgeable. Interestingly, despite this self-assessed knowledge, a significant number of students (46.2%) felt that female hygiene was inadequately covered in the university curriculum. This finding is noteworthy as it suggests a gap in formal education that could contribute to the prevalence of misconceptions about female hygiene, which 52.6% of respondents acknowledged exist to some extent among students.

Further emphasizing this educational gap, only 18.5% of the students reported having attended any workshops or seminars on female hygiene at their university, while a substantial 63% had not, and another 18.5% were unaware of such initiatives. Comfort levels in discussing female hygiene also varied depending on the gender of the peers. A majority, 78.6%, were comfortable or very comfortable discussing these topics with peers of the same gender, but this comfort significantly dropped when the conversation involved peers of a different gender, with only 17.4% feeling comfortable or very comfortable.

The importance of female hygiene education was overwhelmingly recognized, with 85% of respondents considering it very important, and 13.3% deeming it important. This consensus underlines the need for more robust educational initiatives on this topic within the university setting.

Access to female hygiene products on campus was identified as a challenge by many respondents. Only 5.2% of students found it very easy to access these products, with a larger proportion, 27.2%, finding it easy, and the majority, 41.6%, feeling neutral about it. On the other hand, 20.8% reported difficulty in accessing these products. This difficulty is further compounded by the fact that 60.7% of the students believed that the university did not provide adequate information on where to find these products. This lack of information likely contributes to the challenges faced by 40.5% of the respondents in accessing hygiene products, with 61.3% specifically citing a lack of variety, and 56.1% pointing to cost as a significant barrier.

Moreover, the survey revealed that 24.9% of respondents perceived cost as a definite barrier to accessing quality hygiene products, and 49.1% felt it was somewhat of a barrier. The impact of these challenges on the academic lives of the students is significant, with 11% of the respondents admitting to having missed classes or academic activities due to a lack of access to hygiene products.

University life appears to influence the hygiene practices of students, as evidenced by the 49.7% of respondents who reported changing their hygiene practices since joining the university. When choosing hygiene products, comfort was the most important factor for 94.8% of the students, followed by price (56.6%), brand (51.4%), availability (43.4%), and environmental impact (30.1%). Despite the emphasis on comfort, 44.5% of students reported having to improvise due to a lack of appropriate products, and 26.6% admitted to experiencing health issues due to inadequate hygiene practices.

Access to medical advice on female hygiene is another area of concern, with only 27.2% of students knowing where to seek such advice on campus, leaving a significant proportion unaware of available resources. Additionally, the menstrual cycle was reported to moderately or significantly affect academic performance by 59% of respondents, indicating that menstrual health is a crucial factor in the academic success of many female students. Mental health was also noted to be affected by challenges related to female hygiene, with 60.7% of respondents acknowledging this impact to varying degrees.

The survey highlighted the presence of stigma surrounding discussions of female hygiene, with 48% of respondents recognizing it to some extent. Despite this, there was strong support for breaking this stigma, with 78% of students considering it important or very important. Attitudes towards menstrual leave policies were also positive, with 67.1% of respondents supporting or strongly supporting the idea.

Opinions on whether female hygiene is a private or public health issue were divided. Half of the respondents (50.3%) viewed it as equally private and public, while others leaned towards it being more of a public issue (23.1%) or a private matter (14.4%). Cultural background was found to significantly influence attitudes toward female hygiene for 39.9% of students, reflecting the role of cultural norms in shaping personal beliefs and practices.

The survey also indicated that the university's efforts in educating students about female hygiene were perceived as inadequate by many. Only 3.5% of respondents rated the university's education on this topic as very good, while 49.1% were neutral, and 27.8% rated it poorly or very poorly. Furthermore, there was strong support for universities playing a role in advocating for affordable hygiene products, with 87.9% of respondents agreeing that universities should be involved in this advocacy.

Qualitative data findings

Personal hygiene management during menstruation

When asked how they personally manage their hygiene during menstruation, students provided a wide range of responses that centered around several key themes:

1. **Frequent Changing of Sanitary Products:** A dominant theme in the responses was the regular changing of sanitary pads. Many students mentioned changing their pads every 2 to 4 hours, with some indicating even more frequent changes during heavy flow days. This

reflects a strong awareness among students of the importance of maintaining hygiene through regular changing.

2. **Enhanced Personal Hygiene Practices:** Another common theme was the emphasis on cleanliness, with many respondents mentioning frequent showers and the use of soap to ensure cleanliness during menstruation. Some students also highlighted the need to wash clothes that encounter menstrual blood immediately, demonstrating a commitment to maintaining a high standard of personal hygiene.
3. **Use of Menstrual Cups:** A few respondents mentioned using menstrual cups, indicating a preference for sustainable hygiene products. However, one challenge noted was the lack of water availability on campus, which complicates the use of menstrual cups.
4. **Monitoring and Preparation:** Several students indicated that they track their menstrual cycles regularly and carry extra sanitary products with them. This preparation helps them manage their hygiene more effectively, especially in cases of unexpected menstrual flow.

Suggested improvements for the university's approach to female hygiene

Students provided various suggestions for how universities could improve their approach to female hygiene, with responses highlighting several recurring themes:

1. **Awareness and Education Campaigns:** A significant number of respondents suggested that universities should hold awareness campaigns, seminars, or workshops on female hygiene. They emphasized the importance of educating both male and female students to break the stigma surrounding menstruation and to promote a better understanding of female hygiene.
2. **Provision of Free or Affordable Hygiene Products:** Many students expressed a desire for universities to provide free sanitary products, such as pads, in female restrooms. Some also suggested the installation of vending machines with affordable hygiene products across campus, particularly in places like hostels and academic buildings.
3. **Improved Restroom Facilities:** Several respondents highlighted the need for cleaner restrooms with adequate disposal facilities for sanitary products. They also suggested that restrooms be equipped with essential hygiene products like soap, tissues, and bins that are regularly emptied.
4. **Social Media Engagement:** Some students recommended using social media platforms to raise awareness about female hygiene and to disseminate information on related topics. This approach was seen as a way to reach a wider audience and engage students in ongoing discussions about female hygiene.

Supporting students during their menstrual cycle

The responses to how universities can better support students during their menstrual cycle revealed a few important themes:

1. **Menstrual Leave and Flexible Attendance Policies:** A recurring theme was the suggestion that universities implement menstrual leave policies, allowing students to take time off

during severe menstrual pain without penalty. Respondents argued that such policies would recognize the physical challenges that some students face during menstruation.

2. **Provision of Menstrual Products:** Many students reiterated the need for free and easily accessible menstrual products in restrooms. They also suggested that universities could offer products like heating pads or pain relievers to help manage menstrual discomfort.
3. **Understanding and Accommodation:** Students expressed a desire for greater understanding from university staff, particularly lecturers, regarding the challenges of attending classes while experiencing menstrual pain. Some suggested that lecturers should be more flexible with attendance and deadlines during these times.
4. **Educational Programs:** Similar to the suggestions for general improvements, students emphasized the importance of educational programs that raise awareness about menstrual health and hygiene. These programs could help reduce stigma and provide valuable information on managing menstruation effectively.

Desired initiatives for female hygiene

When asked about specific initiatives they wished their university would implement, students' responses highlighted the following themes:

1. **Comprehensive Hygiene Support Programs:** Many students expressed a desire for a comprehensive program that includes free menstrual products, educational workshops, and supportive policies such as menstrual leave. They emphasized the importance of making hygiene products accessible across campus.
2. **Breaking the Stigma:** A significant number of respondents called for initiatives that normalize discussions about female hygiene. They suggested that universities create platforms or clubs where female students can openly discuss menstrual health and hygiene, thereby breaking the stigma associated with these topics.
3. **Improved Facilities and Services:** Students also highlighted the need for improved restroom facilities, including the regular maintenance of sanitary bins and the availability of hygiene products. Some suggested the introduction of vending machines in every restroom, stocked with a variety of hygiene products.
4. **Health and Wellness Support:** Several students suggested that universities provide additional support for female students, such as access to healthcare services that offer menstrual-related advice, pain relief, and emotional support during menstruation.

5. Discussion

The findings from the survey conducted at UiTM highlight several key areas where the university can improve its support for female students in managing their hygiene needs, particularly during menstruation. The data reveals a moderate level of knowledge among students about female hygiene products, with many students acknowledging gaps in the university's curriculum regarding menstrual health education. This lack of formal education on female hygiene suggests a need for more comprehensive and targeted educational initiatives that can provide students with the necessary knowledge and skills to manage their menstrual health effectively. Studies have shown that while some students possess a basic understanding of menstrual hygiene products,

there are significant educational gaps, particularly in the formal curriculum. For example, a study in India revealed that although most students were aware of sanitary napkins, there was limited knowledge about other menstrual products, and the overall awareness about menstrual hygiene was inadequate due to gaps in the educational curriculum (Srinivasan et al., 2019). Another study on menstrual hygiene management among college students in Ethiopia found that while there is some level of awareness, significant gaps remain in both knowledge and facilities, which universities must address to better support their female students (Shumie & Mengie, 2022). The need for comprehensive menstrual health education is well-documented in various studies. For instance, a study conducted in Nepal emphasized the importance of including menstrual hygiene education in the formal curriculum to empower students with the knowledge and skills needed to manage their menstrual health effectively. The study found that targeted educational programs could significantly improve students' understanding and practices regarding menstrual hygiene (Ghimire, 2020).

Access to hygiene products on campus emerged as a significant challenge for many students, with issues such as cost, availability, and lack of information on where to find these products being major barriers. The impact of these challenges on students' academic lives is evident, with some students reporting that they have missed classes or academic activities due to difficulties in accessing hygiene products. This finding underscores the importance of ensuring that hygiene products are readily available and affordable for all students. This was also echoed in a study in the United States which highlighted that a substantial number of students reported difficulties in accessing menstrual products due to cost and availability, which impacted their ability to attend classes regularly (Kuhlmann et al., 2020). The correlation between access to menstrual hygiene products and academic performance is well-established. For example, a systematic review of menstrual experiences among university students found that inadequate access to hygiene products led to increased absenteeism and impaired academic performance, highlighting the critical need for accessible menstrual hygiene resources on campus (Munro et al., 2021). A study from Nigeria demonstrated that the availability of basic sanitation facilities and menstrual products significantly influenced women's ability to manage their menstruation with dignity, reducing the likelihood of missing school due to menstrual issues (Hennegan et al., 2018).

The survey also sheds light on the personal hygiene practices of students during menstruation, with many students emphasizing the importance of regular changing of sanitary products and maintaining cleanliness through frequent showers. Personal hygiene practices during menstruation are crucial for preventing infections and promoting well-being. A study in Ethiopia found that students with better knowledge and access to menstrual hygiene products were more likely to practice good menstrual hygiene, which includes changing sanitary products regularly and maintaining cleanliness through proper washing practices (Hussein et al., 2022). However, the findings of this study also indicate that some students face difficulties in accessing appropriate facilities, such as clean restrooms and water, which are essential for maintaining hygiene during menstruation. The lack of appropriate facilities, such as clean restrooms and access to water, is a significant barrier to effective menstrual hygiene management. Research in Nepal found that inadequate Water, Sanitation, and Hygiene (WASH) facilities on campus were a major challenge for students, limiting their ability to manage menstruation effectively and contributing to discomfort and absenteeism (Wilbur et al., 2021).

The attitudes and beliefs surrounding female hygiene revealed in the survey reflect the ongoing stigma associated with menstruation. The stigma associated with menstruation is pervasive and can have detrimental effects on students' well-being and participation in academic life. A study from Pakistan highlighted that cultural taboos and stigma around menstruation contribute to the lack of open discussions and the spread of misinformation, leading to shame and social isolation

among menstruating students (Proff et al., 2023). Despite the challenges, there is growing support for initiatives that aim to break the stigma associated with menstruation, including menstrual leave policies and educational programs. Similarly, a study in India found that students overwhelmingly supported initiatives that would promote open discussions about menstruation and provide the necessary resources and support, such as menstrual leave policies, to help students manage their menstrual health without stigma (Anusha et al., 2020). These initiatives could play a crucial role in normalizing discussions about menstruation and promoting a more supportive campus culture.

6. Conclusion

The study provides important insights into the state of female hygiene management on campus, highlighting both areas of strength and significant gaps that warrant further exploration. As the issue of menstrual hygiene is deeply connected to both educational and health outcomes, there are several key areas where future research could build upon the findings of this study to provide a more comprehensive understanding and contribute to more effective interventions.

One of the primary gaps identified in this study is the lack of formal education on menstrual hygiene within the university curriculum. While the survey revealed that students possess a moderate level of self-assessed knowledge about female hygiene, it also highlighted significant educational gaps that contribute to ongoing misconceptions and inadequate practices. Future research could delve deeper into these educational gaps, exploring the specific types of content that could be integrated into the university curriculum to improve students' understanding of menstrual hygiene. This could involve evaluating the effectiveness of different educational interventions, such as workshops, seminars, or even mandatory courses, in enhancing students' knowledge and changing their practices. By focusing on how education can be more effectively delivered, future studies could help universities develop more targeted and impactful educational strategies.

Another important area for future research is the long-term impact of menstrual health challenges on academic performance. The current study provides a snapshot of how these challenges affect students' academic lives, with some reporting missed classes and difficulties concentrating. However, a more comprehensive understanding could be gained through longitudinal studies that track the academic outcomes of students over time. Such studies could examine how ongoing issues with menstrual hygiene management influence grades, retention rates, and participation in extracurricular activities. This long-term perspective would provide valuable data on the cumulative impact of these challenges, offering a stronger foundation for advocating for policy changes and support systems within educational institutions.

Cultural and social factors also play a significant role in shaping students' attitudes and practices regarding menstrual hygiene. The study briefly touched on the influence of cultural background, but future research could explore these factors in greater depth. Investigating how different cultural norms and social contexts affect students' access to resources, willingness to discuss menstruation, and overall hygiene practices would be valuable. Comparative studies between different cultural or regional groups within Malaysia, or even across different countries, could offer insights into how cultural sensitivity can be incorporated into educational and support programs. This approach would ensure that interventions are not only effective but also respectful and responsive to the diverse needs of the student population.

Another critical area that warrants further investigation is the impact of menstrual stigma on mental health. While the study acknowledged the presence of stigma and its potential effects, it did not fully explore how this stigma might contribute to mental health issues such as anxiety, low self-esteem, and social isolation. Future research could focus on these psychological impacts,

providing a more nuanced understanding of how menstrual stigma affects students' mental well-being. This knowledge could then inform the development of more targeted mental health support services, helping to create a campus environment that is not only physically but also emotionally supportive.

Finally, the effectiveness of university support systems in addressing menstrual hygiene needs remains an area ripe for further exploration. The current study identified challenges related to access to hygiene products and adequate restroom facilities, but it did not comprehensively evaluate the existing support systems. Future research could assess the effectiveness of these systems in meeting students' needs, perhaps through case studies of successful programs at other institutions or through pilot programs that test new approaches at UiTM. This could include evaluating the impact of initiatives such as free distribution of menstrual products, the installation of more comprehensive restroom facilities, and the implementation of policies like menstrual leave. Such evaluations would provide concrete data on what works and what doesn't, guiding future efforts to improve university support systems.

In conclusion, while this study has provided valuable insights into the state of female hygiene management at UiTM, it also highlights several areas where further research is needed. By focusing on educational interventions, the long-term academic impact of menstrual health challenges, cultural and social influences, the mental health effects of menstrual stigma, and the effectiveness of university support systems, future research can build on the findings of this study to develop more comprehensive and effective solutions. These efforts will be crucial in ensuring that universities provide a supportive and inclusive environment that promotes the health, well-being, and academic success of all students.

Acknowledgments

The authors are very thankful to all the associated personnel in any reference that contributed in/for the purpose of this research. The researchers are also thankful to Universiti Teknologi MARA Cawangan Pulau Pinang for providing the opportunity to conduct this research.

Funding Details

This research was made possible by a project grant to Universiti Teknologi MARA, under the project titled "Sanitary Pad Vending Machine UiTM Cawangan Pulau Pinang" with the research code 100-TNCPI/PRI 16/6/2 (051/2023).

Authors Contributions

All authors have contributed to this publication through information and data findings, writing and editing.

Conflict of Interest

There is no conflict of interest associated with this publication.

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