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Original Research Article

Quality of Life and Associated Factors Among Menstrual Cup Users

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ABSTRACT

A cross-sectional study was carried out from July to August 2023 to investigate the quality of life among menstrual cup users and identify the factors that influence it. A purposive sample of 115 menstrual cup users completed self-administered questionnaires covering demographic characteristics and the World Health Organization Quality of Life Brief–Thai (WHOQOL-BREF-THAI). The data analysis included independent t-tests, one-way ANOVA, and multiple linear regression. The findings showed that the overall quality of life among menstrual cup users was categorized into 2.6% below average, 69.6% average, and 27.8% above average, with a mean score of 88.10 ± 13.26. Specifically, the physical domain averaged 25.25 ± 3.42, the psychological domain 19.72 ± 4.32, the social domain 10.76 ± 2.04, and the environment domain 26.06 ± 5.12.

The study revealed that postmenstrual dizziness (β = -0.230, p = 0.008), postmenstrual pelvic pain (β = -0.255, p = 0.003), and caffeinated soda consumption (β = -0.209, p = 0.015) negatively impacted the quality of life among menstrual cup users. On the other hand, exercise (β = 0.207, p = 0.016) and age (β = 0.209, p = 0.015) were positively associated with their quality of life. These results indicate that while menstrual cup usage generally supports a satisfactory quality of life, factors such as postmenstrual dizziness, pelvic pain, and dietary habits can significantly affect this outcome. Addressing these factors may enhance the quality of life for menstrual cup users, providing valuable insights for healthcare providers and users on mitigating negative influences and promoting overall well-being. This study highlights the importance of a comprehensive approach to menstrual health that considers both physical symptoms and lifestyle factors.

Introduction

Menstrual Hygiene Products are fundamental to effective Menstrual Hygiene Management (MHM), influencing the quality of life for those who menstruate. According to the World Health Organization (WHO), menstrual health extends beyond the absence of diseases to encompass positive menstrual experiences and overall well-being (Raney, 2024; "WHO Statement on Menstrual Health and Rights," 2022). The World Bank defines Menstrual Hygiene Management as the ability to access, use, and dispose of menstrual materials in a private and hygienic manner, ensuring dignity and comfort during menstruation ("Menstrual Hygiene Management Enables Women and Girls to Reach Their Full Potential," 2018).

Historically, menstrual hygiene has been a taboo subject in many cultures, often leading to inadequate education and poor management practices. In recent years, increased awareness and advocacy have brought significant improvements, yet challenges remain, particularly in low-income regions. Current statistics show that a large percentage of menstruating individuals still lack access to suitable menstrual products, which negatively impacts their health, education, and economic opportunities.

Menstrual Hygiene Products play a crucial role in Menstrual Hygiene Management, significantly impacting the quality of life for menstruating individuals (North & Oldham, 2011; Peter & Abhitha, 2021; Phillips-Howard et al., 2016; van Eijk et al., 2019). The growing popularity of menstrual cups (Parent et al., 2022) is attributed to their eco-friendliness, cost-effectiveness, and reduced environmental footprint (Mouhanna et al., 2023). During the COVID-19 pandemic, UNICEF raised concerns about a shortage of sanitary pads in many countries ("UNICEF Brief Mitigating the impacts of COVID-19 and menstrual health and hygiene," 2020). The suggested solution involves the use of menstrual cups, which not only last longer but also present a viable alternative (Peter & Abhitha, 2021).

Unlike disposable alternatives, menstrual cups offer long-term use, can be folded for insertion, and unfolded to form a seal, preventing leaks (Mouhanna et al., 2023; Peter & Abhitha, 2021). Both menstrual cups and menstrual discs present alternatives to disposable pads and tampons. Typically made from materials like medical-grade silicone, rubber, latex, or elastomer, these alternatives are associated with fewer side effects than traditional pads and pose a lower risk of toxic shock syndrome compared to tampons. However, additional research is warranted to comprehensively understand their impact on vaginal flora (Mouhanna et al., 2023; Phillips-Howard et al., 2016).

Moreover, the use of menstrual cups might have effects on the users' quality of life, impacting various domains such as physical comfort, psychological well-being, social interactions, and environmental consciousness. This study aims to explore these potential effects and identify the factors associated with the quality of life among menstrual cup users.

Cultural considerations also play a significant role in the acceptance and use of menstrual products. In some cultures, traditional beliefs and taboos can hinder the adoption of menstrual cups or discs. Educational initiatives and community engagement are essential to address these cultural barriers and promote better menstrual hygiene practices.

Despite the advancements, several challenges persist, such as the affordability of menstrual products, access to clean water and sanitation facilities, and the need for comprehensive menstrual education. Looking forward, it is crucial to continue research and development in menstrual products to enhance their safety and efficacy. Policymakers and stakeholders must work together to ensure that all menstruating individuals have access to the resources they need for effective menstrual hygiene management.

Literature Review and Theoretical Framework

The literature review for this study encompasses a comprehensive examination of relevant research and publications on menstrual hygiene products, particularly focusing on menstrual cups. Previous studies have highlighted the advantages of menstrual cups over traditional menstrual products, citing their cost-effectiveness, environmental benefits, and long-term usability (Howard et al., 2011; Mouhanna et al., 2023; Parent et al., 2022; Singlor, 2021). Research has also delved into the physical and psychological impacts of menstrual cup use, revealing that they can significantly improve physical comfort and overall menstrual health (Phillips-Howard et al., 2016).

A review of literature also shows a growing body of evidence suggesting that menstrual cups can positively influence quality of life. Studies indicate that users of menstrual cups often report higher satisfaction due to the convenience and reduced need for frequent changes, which also contributes to better sleep quality (Vargas & Lopez-Duran, 2017). Additionally, the environmental impact of menstrual products is a significant consideration, with menstrual cups being promoted as a sustainable alternative that reduces waste and promotes eco-friendly practices (Chaisamritpol, 2019; Mouhanna et al., 2023).

The theoretical framework for this study is grounded in the health belief model (HBM) and the theory of planned behavior (TPB) (Etheridge et al., 2023; Kibler et al., 2018). The HBM posits that individuals' health behaviors are influenced by their perceptions of the severity and susceptibility to health issues, the benefits of taking preventive action, and the barriers to taking such action. Applying the HBM, this study examines how menstrual cup users perceive the benefits and challenges of using menstrual cups and how these perceptions influence their quality of life.

The TPB further supports the framework by exploring how attitudes towards menstrual cups, subjective norms, and perceived behavioral control influence the intention to use menstrual cups (Ganz et al., 2022; Sica et al., 2022). By integrating these theoretical perspectives, the study aims to provide a comprehensive understanding of the factors that influence the quality of life among menstrual cup users and to identify strategies for promoting positive health behaviors.

Through this literature review and theoretical framework, the study establishes a robust foundation for investigating the quality of life among menstrual cup users and identifying the key factors that influence it. This approach not only aligns with existing research but also contributes to the development of targeted interventions and educational programs to enhance menstrual health management.

Objective

To evaluate the quality of life of menstrual cup users and determine the key factors that affect it.

Research Methodology

The research was conducted as a cross-sectional study between July and August 2023, with approval from the Institutional Review Board of the Faculty of Medicine at Chulalongkorn University (COA No.0670/2023). The study complied with the ethical standards set forth in the 1964 Declaration of Helsinki and its later amendments.

Individuals aged 18 years and older, who had used a menstrual cup for at least one year and were proficient in reading and writing Thai, were deemed eligible for participation in the study. Exclusion criteria included individuals who were menopausal, pregnant, or had communication or visual impairments.

Data collection employed purposive sampling, with participants required to complete a screening test encompassing both inclusion and exclusion criteria. A total of 115 participants passed the screening and gave their consent through affirmative action. The questionnaire was administered online, exceeding the anticipated sample size of 100 by an additional 10%.

The data collection process was facilitated through a self-administered online platform, including (1) demographic characteristics (age, marriage status, religion, education, occupation, monthly income), (2) anthropometric data (weight, height, BMI, gynecological history, menstrual cup usage history), and (3) lifestyle information (alcohol consumption history, substance use history, physical activity history, sleep history). (4) The World Health Organization Quality of Life Brief – Thai version (WHOQOL-BREF-THAI) (Mahatnirunkul et al., 1998; Mahatnirunkul et al., 2002), a 26-item questionnaire, was utilized to assess the overall quality of life. This instrument evaluates four distinct domains: physical well-being, psychological well-being, social relationships, and environmental satisfaction. It demonstrates good reliability and internal consistency, with a Cronbach's alpha coefficient of 0.84, and a content validity index of 0.65.

Data analysis was carried out using SPSS version 29.0.1 for Windows. Descriptive statistics were applied to describe the participants' demographic background characteristics. Potential factors influencing Quality of Life were identified through a comprehensive literature review. Inferential statistics, such as independent t-tests and one-way ANOVA, were used to investigate these associations. Categorical variables were expressed as numbers and percentages, while continuous variables were summarized using mean and standard deviation. A p-value of less than 0.05 was considered statistically significant. Multiple linear regression was utilized to pinpoint and evaluate significant factors affecting the Quality of Life among menstrual cup users.

Results

From the 115 menstrual cup users, the average age was 32.06 ± 5.33 years, with significant quality of life differences observed between age groups ($p = 0.031$). Marital status showed 28.7% were married and 71.3% were single or divorced, without significant differences in quality of life ($p = 0.147$). Regarding religious affiliation, 78.3% were Buddhist and 21.7% identified with other religions, also without significant differences ($p = 0.513$).

Educational levels varied, with 7.0% having completed secondary or primary school, 68.7% holding a Bachelor's degree, and 24.3% having postgraduate degrees, showing significant differences in quality of life ($p = 0.012$). Occupation-wise, the participants were students, housewives, or others (24.3%), government officers (15.7%), corporate employees (42.6%), and business owners (17.4%), with significant differences in quality of life ($p = 0.009$). Monthly income ranged from 6,000 to 200,000 THB, averaging 34,545.05 ± 26,212.12, with significant differences in quality of life between income groups ($p = 0.038$).

BMI categories included underweight (9.6%), normal (42.6%), overweight (21.7%), and obese (26.1%), with significant differences in quality of life ($p = 0.013$). Coffee consumption, regardless of amount, did not show significant differences in quality of life ($p = 0.751$), nor did tea consumption ($p = 0.862$). However, caffeinated soda consumption showed significant

differences, with those drinking more than one cup per day (65.2%) compared to those drinking one cup or less (34.8%) (p = 0.015). Alcohol consumption did not result in significant quality of life differences (p = 0.156), and cigarette use was minimal and non-significant (p = 0.781).

Exercise habits showed significant differences in quality of life, with non-exercisers (43.5%) and exercisers (56.5%) (p = 0.010). Sleep duration also showed significant differences, with participants sleeping more than 6 hours (10.4%), 6-8 hours (86.1%), and less than 8 hours (3.5%) (p = 0.016).

Table 1: Participant Characteristics (n = 115)

Demographic Characteristics	n (%)	Overall Quality of Life		F/t	P
		mean	SD		
Age				3.580	0.031*
- **21 – 30**	41 (35.7)	83.78	11.56		
- **31 – 40**	67 (58.3)	90.64	43.43		
- **41 - 50**	7 (6.1)	89.14	16.32		
Married status				1.461	0.147
- **Married**	33 (28.7)	90.94	14.32		
- **Single/Divorced**	82 (71.3)	86.96	12.73		
Religious				0.656	0.513
- **Buddhist**	90 (78.3)	88.53	13.55		
- **Others**	25 (21.7)	86.56	12.31		
Education				4.597	0.012*
- **Secondary/Primary School**	8 (7.0)	75.00	17.12		
- **Bachelor's Degree or**	79 (68.7)	88.70	12.87		
Equivalent	28 (24.3)	90.18	11.50		
- **Postgraduate Degree**					
Occupation				4.086	0.009*
- **Student/Housewife/Others**	28 (24.3)	86.43	12.78		
- **Government officer**	18 (15.7)	92.67	12.06		
- **Corporate employee**	49 (42.6)	84.59	12.28		
- **Business owner**	20 (17.4)	94.95	14.40		
Monthly income (n = 112)				2.900	0.038
- **≤ 15,000**	27 (23.5)	83.48	15.27		
- **15,000 – 30,000**	41 (35.7)	87.63	12.03		
- **30,001 – 45,000**	15 (13.0)	88.00	8.83		
- **> 45,000**	29 (25.2)	93.69	14.06		
BMI				3.763	0.013*
- **Underweight (< 18.5)**	11 (9.6)	79.73	12.48		
- **Normal (18.5 – 22.9)**	49 (42.6)	92.27	12.50		
- **Overweight (23 – 24.9)**	25 (21.7)	86.40	15.05		
- **Obesity (≥ 25)**	30 (26.1)	85.80	11.31		
Coffee consumption (Daily)				-	0.751
- **> 1 Cup/Day**	54 (47.0)	89.69	11.85	0.318	
- **≤ 1 Cup/Day**	61 (53.0)	88.49	14.49		

Demographic Characteristics	n (%)	Overall Quality of Life		F/t	P
		mean	SD		
Tea consumption (Daily)				-	0.862
- **> 1 Cup/Day**	51 (44.3)	87.86	13.22	0.174	
- **≤ 1 Cup/Day**	64 (55.7)	88.30	13.40		
Caffeinated soda consumption (Daily)				2.477	0.015*
- **> 1 Cup/Day**	75 (65.2)	90.29	12.71		
- **≤ 1 Cup/Day**	40 (34.8)	84.00	13.46		
Alcohol consumption				-	0.156
- **No**	84 (73.0)	87.04	13.28	1.428	
- **Yes**	31 (27.0)	91.00	12.99		
Cigarette use				0.279	0.781
- **No**	113	88.15	13.22		
- **Yes**	(98.3)	85.50	21.92		
	2 (1.7)				
Exercise				-	0.010*
- **No**	50 (43.5)	84.50	12.10	2.620	
- **Yes**	65 (56.5)	90.88	13.54		
Hours slept per night				4.325	0.016*
- **> 6 hours**	12 (10.4)	73.50	15.05		
- **6 – 8 hours**	99 (86.1)	89.53	12.17		
- **< 8 hours**	4 (3.5)	78.75	23.27		

Using the WHOQOL-BREF-THAI, the quality of life by domain among 115 menstrual cup users was assessed. The overall quality of life was categorized into below average (2.6%), average (69.6%), and above average (27.8%), with a mean score of 88.10 ± 13.26. In the physical domain, no participants scored below average; 60.0% were average, and 40.0% were above average, with a mean score of 25.25 ± 3.42.

For the psychological domain, 13.0% of participants were below average, 63.5% were average, and 23.5% were above average, resulting in a mean score of 19.72 ± 4.32. In the social relationship domain, 7.0% of participants were below average, 59.1% were average, and 33.9% were above average, with a mean score of 10.76 ± 2.04. Lastly, in the environmental domain, 6.1% of participants were below average, 72.2% were average, and 21.7% were above average, with a mean score of 26.06 ± 5.12.

Table 2: Quality of Life by Domain in menstrual cup users (n = 115)

Quality of Life by Domian		n (%)	mean ± SD
Overall quality of life			**88.10 ± 13.26**
-	Below average (26 – 60)	**3 (2.6)**	
-	Average (61 – 95)	**80 (69.6)**	
-	Above average (96 – 130)	**32 (27.8)**	
Physical domain			**25.25 ± 3.42**
-	Below average (7 - 16)	**0 (0.0)**	
-	Average (17 - 26)	**69 (60.0)**	
-	Above average (27 - 35)	**46 (40.0)**	

Quality of Life by Domian		n (%)	mean ± SD
Psychological domain			**19.72 ± 4.32**
-	Below average (6 - 14)	**15 (13.0)**	
-	Average (15 - 22)	**73 (63.5)**	
-	Above average (23 - 33)	**27 (23.5)**	
Social relationship domain			**10.76 ± 2.04**
-	Below average (3 - 7)	**8 (7.0)**	
-	Average (8 - 11)	**68 (59.1)**	
-	Above average (12 - 15)	**39 (33.9)**	
Environmental domain			**26.06 ± 5.12**
-	Below average (8 - 18)	**7 (6.1)**	
-	Average (19 - 29)	**83 (72.2)**	
-	Above average (30 - 40)	**25 (21.7)**	

Using linear regression analysis, the study identified several significant prediction factors for quality of life among 115 menstrual cup users. Negative factors impacting quality of life included postmenstrual dizziness, which had a coefficient (B) of -6.779 (β = -0.230, t = -2.700, p = 0.008, 95% CI: -11.758 to -1.800), postmenstrual pelvic pain with a coefficient of -9.057 (β = -0.255, t = -3.008, p = 0.003, 95% CI: -15.028 to -3.085), and caffeinated soda consumption with a coefficient of -5.898 (β = -0.209, t = -2.478, p = 0.015, 95% CI: -10.619 to -1.177). On the other hand, positive factors influencing quality of life included exercise, with a coefficient of 5.586 (β = 0.207, t = 2.452, p = 0.016, 95% CI: 1.069 to 10.103), and age, with a coefficient of 4.818 (β = 0.209, t = 2.485, p = 0.015, 95% CI: 0.974 to 8.662). The adjusted R-squared value for the model was 0.253, indicating that these factors collectively explain 25.3% of the variance in quality of life among the participants.

Table 3: The Prediction Factors of Overall Quality of Life among menstrual cup users (n = 115)

Prediction factors	B	β	t.	*p-value*	95% CI of B
					Lower - Upper
Postmenstrual dizziness	-6.779	-0.230	-2.700	0.008**	-11.758 - -1.800
Exercise	5.586	0.207	2.452	0.016*	1.069 – 10.103
Postmenstrual pelvic pain	-9.057	-0.255	-3.008	0.003**	-15.028 - -3.085
Age	4.818	0.209	2.485	0.015*	0.974 – 8.662
Caffeinated soda consumption	-5.898	-0.209	-2.478	0.015*	-10.619 - -1.177

*p < 0.05, **p < 0.001, adjusted R^2 = 0.253

Discussion

The present study aimed to investigate the quality of life among menstrual cup users and identify the factors that influence it. The findings indicate that the overall quality of life among menstrual cup users is generally satisfactory, with a majority of users (69.6%) reporting an average quality of life, 27.8% reporting above average, and only 2.6% reporting below average. These results are consistent with previous studies that suggest menstrual cups can provide a viable alternative to traditional menstrual products, potentially enhancing users' quality of life

due to their cost-effectiveness, eco-friendliness, and long-term use benefits (Mouhanna et al., 2023; Parent et al., 2022).

The domain-specific analysis revealed that the physical, psychological, social, and environmental aspects of quality of life varied among users. The physical domain had a high average score, suggesting that menstrual cup users generally experience good physical well-being. This may be attributed to the comfort and convenience of menstrual cups, which can reduce the physical discomfort associated with menstruation (Mouhanna et al., 2023).

In the psychological domain, while the majority reported average scores, a notable percentage (13.0%) reported below average quality of life. This finding highlights the need for further investigation into the psychological impacts of menstrual cup usage. Psychological well-being can be influenced by various factors, including individual comfort with the product and any difficulties in its use (Phillips-Howard et al., 2016).

The social relationship domain showed a balanced distribution between average and above average scores, indicating that menstrual cup users generally maintain satisfactory social interactions. The environmental domain scored the highest, reflecting the positive impact of using eco-friendly menstrual products on users' environmental consciousness and satisfaction.

Regression analysis identified significant factors influencing the quality of life among menstrual cup users. Postmenstrual dizziness, postmenstrual pelvic pain, and caffeinated soda consumption negatively impacted quality of life. These findings are crucial as they highlight specific areas where interventions can be targeted to improve the quality of life for menstrual cup users. For instance, addressing postmenstrual symptoms through medical or lifestyle interventions could mitigate their negative effects on quality of life (Raney, 2024).

Conversely, exercise and age were positively associated with quality of life. Regular exercise is known to improve overall well-being and alleviate menstrual symptoms, which could explain its positive association (Peter & Abhitha, 2021). The positive association with age might reflect greater experience and comfort with menstrual management over time, suggesting that younger users might benefit from additional support and education on menstrual cup use (Ramsay et al., 2023).

Another noteworthy aspect is the potential for menstrual cup users to experience better quality of sleep. Menstrual cups provide longer-lasting protection compared to pads and tampons, often requiring fewer changes throughout the night. This can lead to uninterrupted sleep, which is crucial for overall health and well-being (Vargas & Lopez-Duran, 2017). Improved sleep quality can reduce fatigue and enhance cognitive function, mood, and overall physical health, thereby positively influencing the quality of life (Nyer et al., 2013). Encouraging users to adopt menstrual cups may thus not only provide practical benefits but also contribute to better sleep hygiene and overall life satisfaction.

The study has several limitations, including its cross-sectional design, which limits the ability to establish causality. The purposive sampling method may also limit the generalizability of the findings. Future research should consider longitudinal studies and more diverse sampling methods to validate these findings.

In conclusion, the study underscores the potential of menstrual cups to enhance quality of life among users, while also identifying specific factors that can negatively impact it. Addressing these factors through targeted interventions can further improve the well-being of menstrual cup users. This research contributes to the growing body of evidence supporting the benefits of menstrual cups and highlights the need for a comprehensive approach to menstrual

health that includes physical, psychological, and lifestyle considerations. Additionally, promoting menstrual cups may improve sleep quality among users, further enhancing their overall quality of life.

Conclusion

The study aimed to investigate the quality of life among menstrual cup users and identify the factors influencing it. The findings revealed that the overall quality of life among menstrual cup users is generally satisfactory, with the majority of users reporting average or above average quality of life. This aligns with the study's objective to evaluate how menstrual cups, as a viable alternative to traditional menstrual products, can enhance users' quality of life due to their cost-effectiveness, eco-friendliness, and long-term use benefits.

The domain-specific analysis highlighted variations in physical, psychological, social, and environmental well-being. Notably, physical well-being was high among users, likely due to the comfort and convenience of menstrual cups. However, the psychological domain showed that a significant portion of users reported below average quality of life, indicating the need for further investigation into the psychological impacts of menstrual cup usage.

Key factors negatively impacting quality of life included postmenstrual dizziness, postmenstrual pelvic pain, and caffeinated soda consumption. In contrast, regular exercise and age were positively associated with quality of life, emphasizing the benefits of physical activity and accumulated experience in menstrual management. Additionally, the study suggests that menstrual cup users might experience better sleep quality due to longer-lasting protection, leading to fewer nighttime interruptions and improved overall well-being.

The limitations of this study include its cross-sectional design and purposive sampling method, which may affect the generalizability and causality of the findings. Future research should explore longitudinal designs and diverse sampling to further validate these results.

In summary, this research underscores the potential of menstrual cups to enhance the quality of life among users, while identifying areas that could negatively impact it. By addressing these factors through targeted interventions, the well-being of menstrual cup users can be further improved. This study contributes to the evidence supporting the benefits of menstrual cups and highlights the importance of a comprehensive approach to menstrual health that includes physical, psychological, and lifestyle considerations. Promoting menstrual cups may also lead to improved sleep quality, further enhancing overall life satisfaction and quality of life.

Recommendations

Based on the findings of this study, several recommendations and new insights can enhance the quality of life among menstrual cup users and contribute to the broader body of knowledge on menstrual health management.

Firstly, targeted interventions for symptom management are crucial. Educational and medical interventions should be developed to manage postmenstrual dizziness and pelvic pain, as these symptoms significantly negatively impact quality of life. Healthcare providers should offer specific guidance and treatment options for these conditions. Additionally, promoting regular exercise among menstrual cup users can enhance their quality of life. Community health programs and awareness campaigns can highlight the benefits of physical activity in alleviating menstrual symptoms and improving overall well-being.

Secondly, providing education on healthy lifestyle choices is essential. Information on the negative impact of caffeinated soda consumption on quality of life should be disseminated, encouraging healthier dietary choices. Nutritional counseling and public health messages can help users make informed decisions that improve their menstrual health and overall quality of life. Recognizing the psychological challenges faced by some menstrual cup users is also vital. Mental health support services and counseling should be made accessible to address issues related to comfort and usability of menstrual cups, thereby improving psychological well-being.

Another key insight is the potential for menstrual cups to improve sleep quality. Menstrual cups offer longer-lasting protection and reduce nighttime disruptions, which can contribute to better overall health and quality of life. This benefit should be highlighted to promote menstrual cups as a beneficial option for menstrual hygiene management. Comprehensive menstrual health education programs are also recommended. These programs should cover the benefits and proper use of menstrual cups, address common concerns, and provide practical tips for maximizing comfort and efficacy. Such programs can be integrated into school curriculums, community health workshops, and online platforms.

Further research is encouraged to validate the findings of this study and explore the long-term impacts of menstrual cup use on quality of life. Longitudinal studies and more diverse sampling methods should be employed to gain deeper insights. Research should also investigate the cultural and socio-economic factors influencing menstrual cup adoption and usage. Finally, advocating for policies that increase access to menstrual cups, especially in low-income and underserved communities, is essential. Subsidies, free distribution programs, and educational campaigns can help overcome barriers to access and promote menstrual health equity.

By implementing these recommendations, healthcare providers, policymakers, and community organizations can enhance the quality of life for menstrual cup users and contribute to the broader understanding of menstrual health management. This study adds valuable insights to the growing body of knowledge, emphasizing the importance of a holistic approach to menstrual health that considers physical, psychological, and lifestyle factors.

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