

## The Association Between Menstrual Hygiene Practices and Pruritus vulvae Among Female Students at MTS Siti Khadijah Sindangwangi, Majalengka, Indonesia (2020)

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### ABSTRACT

Menstrual hygiene practices are essential to be implemented as part of efforts to prevent and control infections, prevent skin damage, enhance comfort, and maintain personal hygiene. This study aimed to determine the association between menstrual hygiene practices and the incidence of *Pruritus vulvae* among female students at MTs Siti Khadijah Sindangwangi, Majalengka, in 2020. This study employed a quantitative analytical design with a cross-sectional approach. The independent variable was menstrual hygiene practices, while the dependent variable was *Pruritus vulvae*. The study population consisted of 74 female students who had experienced menstruation at MTs Siti Khadijah Sindangwangi, Majalengka, in 2020, with a sample of 62 students selected using simple random sampling. Data were collected using a questionnaire and processed through editing, coding, data entry, and tabulation. Statistical analysis was performed using the Spearman rank correlation test. The results showed that 30 respondents (48.4%) had good menstrual hygiene practices, and 37 respondents (59.7%) experienced moderate *Pruritus vulvae*. The Spearman rank test revealed a significant result ( $p = 0.000 < \alpha = 0.05$ ), indicating that the alternative hypothesis was accepted. This finding demonstrates a significant association between menstrual hygiene practices and the incidence of *Pruritus vulvae* among female students.

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**KEYWORDS** Menstrual, hygiene practices; vulvar pruritus



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### INTRODUCTION

Personal hygiene practices during menstruation are critically important for women's reproductive health. Proper menstrual hygiene serves multiple purposes: preventing and controlling infections, reducing skin irritation and damage, providing comfort, and maintaining overall personal cleanliness. The consequences of poor menstrual hygiene are significant. Research indicates that women who do not practice proper menstrual hygiene regularly have a 1.66 times higher risk of developing reproductive tract infections compared to women who maintain adequate personal hygiene during menstruation. This elevated risk underscores the need for increased attention to menstrual hygiene practices, particularly among adolescent girls who are just beginning to experience menstruation (Betsu et al., 2024; Bhoda et al., 2024; Hennegan et al., 2019; Nurunnahar et al., 2025; Singh et al., 2022).

A survey conducted by the World Health Organization across several countries indicated that *Pruritus vulvae* is one of the reproductive health problems affecting adolescent girls aged 10–14 years. Meanwhile, data from 43,548,576 adolescent girls in Indonesia revealed poor personal hygiene behaviors (Saadah et al., 2024; Trimawartinah & Azzahra, 2025).

Menstruation is the periodic discharge of blood through the vagina. During menstruation, infections may affect the blood vessels of the uterus, particularly when the body perspires in

warm environments. Perspiration increases moisture levels, especially in sensitive and enclosed reproductive organs with skin folds. These conditions facilitate the proliferation of bacteria, disrupt the vaginal ecosystem, and may lead to infections as well as unpleasant odors (Adolfsson et al., 2017; Graziottin, 2024; Holdcroft et al., 2023; Kalia et al., 2020; Ojha et al., 2024).

The reproductive hormones follicle-stimulating hormone (FSH) and estrogen, as well as luteinizing hormone (LH) and progesterone, influence physiological changes in the female body known as menstruation (Al-Suhaimi et al., 2022; Aritonang et al., 2017; Greene et al., 2025). This process occurs monthly in women, typically from adolescence until menopause. The normal menstrual cycle averages 28 days; however, variations are common. In some women, the cycle may range from 21 to 30 days, with menstrual bleeding usually lasting around 5 days. Menstrual duration may vary from as short as 2 days to as long as 7 days, and in rare cases may extend up to 15 days. Bleeding that persists for more than 15 days may be considered abnormal and indicative of a pathological condition.

One of the common problems experienced by women during menstruation is irritation or itching in the vaginal opening and vulvar area (Lev-Sagie, 2015). One of the early signs of vaginitis is irritation in the vulvar region, which may occur at night during sleep, causing individuals to scratch the area unconsciously and potentially resulting in bruising and bleeding. Over time, Pruritus vulvae may interfere with a woman's social life and disrupt daily activities (Mashoudy et al., 2025). Adolescent girls often scratch the affected area due to itching, which may cause pain and discomfort. Scratch marks are frequently observed during clinical examinations. If fingernails or other sharp objects injure the vaginal skin, they may create entry points for pathogens and increase the risk of infection.

*Pruritus vulvae* is a condition that causes physical discomfort, may be socially embarrassing, and often leads to psychological distress. Therefore, appropriate measures are necessary to alleviate the symptoms associated with this condition (Gilbert et al., 2015). Discontinuation of soap use is strongly recommended; however, many individuals oppose this advice because they believe that the vulva must be kept clean and that its natural secretions and odors are unhygienic.

Personal hygiene during menstruation is known as menstrual hygiene practice. Maintaining proper menstrual hygiene is essential, as unhygienic practices during menstruation may lead to infections of the reproductive organs. Such reproductive tract infections can result in long-term complications, including infertility.

To date, menstrual hygiene practices among adolescent girls remain inadequate. This condition is largely influenced by cultural beliefs that regard menstruation as a highly private matter, which is rarely discussed openly or taught in a transparent and comprehensive manner. Poor menstrual hygiene practices may increase the risk of reproductive tract infections and lead to inflammatory reproductive health conditions, including candidiasis, vaginitis, trichomoniasis, leukorrhea, pediculosis, and toxic shock syndrome (TSS).

The contribution of this study is both academic and practical. Academically, it adds to the literature on adolescent reproductive health in Indonesia, particularly in the under-studied region of West Java. Practically, the findings can be used by school health programs, public health authorities, and community organizations to design targeted interventions that improve menstrual hygiene practices and reduce the burden of *Pruritus vulvae* among adolescent girls.

The ultimate benefit of this research is to support the health and well-being of young women during a critical developmental period, helping them establish healthy practices that will protect their reproductive health throughout their lives.

## RESEARCH METHOD

This study employed a quantitative analytic research design with a cross-sectional approach. The independent variable was menstrual hygiene practices, while the dependent variable was *Pruritus vulvae*. The population consisted of 74 female students who had experienced menstruation at MTs Siti Khadijah Sindangwangi, Majalengka, in 2020. A total of 62 menstruating students were selected as the sample using simple random sampling. Data were collected using a questionnaire and processed through coding, data entry, tabulation, and analysis. Data analysis was conducted using nonparametric statistical methods, including the Spearman rank correlation test.

## RESULTS AND DISCUSSION

**Table 1 Frequency Distribution of Participants by Grade at MTs Siti Khadijah Sindangwangi, Majalengka, in 2020**

No	Class	Frequency	(%)
1	8A	10	16,1
2	8B	10	16,1
3	8C	12	19,4
4	8D	10	16,1
5	8E	11	17,7
6	8F	9	14,5
Total		62	100,0

Source: Primary Data, 2020

Table 1 shows the distribution of respondents by grade level, with the highest number of respondents being 12 students (19.4%) and the lowest number being 9 students (14.5%).

**Table 2 Frequency Distribution of Respondents by Age at MTs Siti Khadijah Sindangwangi, Sindangwangi, Majalengka, in 2020**

No	Age	Frequency	(%)
1	13 year	10	16,1
2	14 year	38	61,3
3	15 year	12	19,4
4	16 year	1	1,6
5	17 year	1	1,6
Total		62	100,0

Source: Primary Data, 2020

Table 2 shows the distribution of respondents by age, with the largest proportion consisting of 38 respondents (61.3%). The smallest age groups were 16 and 17 years, each represented by 1 respondent (1.6%).

Table 3 Distribution of Menstrual Hygiene Practices among Female Students at MTs Siti Khadijah Sindangwangi, Majalengka, in 2020

No	Menstrual Hygiene Practices	Frequency	(%)
1	Mild	3	4,8
2	Medium	29	46,8
3	Severe	30	48,4
	Total	62	100,0

Source: Primary Data, 2020

The majority of respondents demonstrated good menstrual hygiene practices, with 30 respondents (48.4%).

Table 4 Distribution of *Pruritus vulvae* among Female Students at MTs Siti Khadijah Sindangwangi, Majalengka, in 2020

No	<i>Pruritus vulvae</i>	Frequency	(%)
1	Mild	4	6,5
2	Medium	37	59,7
3	Severe	21	33,9
	Total	62	100,0

Source: Primary Data, 2020

Based on Table 4, the majority of participants experienced moderate *Pruritus vulvae*, with 37 respondents (59.7%).

Table 5 Analysis of the Relationship between Menstrual Hygiene Practices and the Incidence of *Pruritus vulvae* among Female Students at MTs Siti Khadijah Sindangwangi, Majalengka, in 2020

Menstrual Hygiene Practices	<i>Pruritus vulvae</i>							
	Severe		Medium		Mild		Total	
	<i>F</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Good	1	1,6	16	25,8	13	21,0	30	48,4
Adequate	3	4,8	18	29,0	8	12,9	29	46,8
Poor	-	-	3	4,8	-	-	3	4,8
Total	4	6,5	37	59,7	21	33,9	62	100,0

Spearman's rank correlation test ( $\alpha = 0.05$ ,  $p = 0.000$ ).

Source: Primary Data, 2020

Based on Table 5, of the 62 respondents, the majority demonstrated good menstrual hygiene practices, accounting for 30 respondents (48.4%), and most experienced moderate *Pruritus vulvae*, with 37 respondents (59.7%). The results of the Spearman's rank correlation test showed a significant value of  $p = 0.000 < 0.05$ ; therefore, the null hypothesis ( $H_0$ ) was rejected and the alternative hypothesis ( $H_a$ ) was accepted. This indicates a significant relationship between menstrual hygiene practices and the occurrence of *Pruritus vulvae* among female students at MTs Siti Khadijah Sindangwangi, Majalengka, in 2020.

### **Menstrual Hygiene Practices**

Of the 62 respondents, the majority demonstrated good menstrual hygiene routines, as shown in the results presented, with 30 respondents (48.4%) categorized as practicing good menstrual hygiene.

According to the researcher, the majority of eighth-grade female students at MTs Siti Khadijah Sindangwangi, Majalengka, demonstrated good menstrual hygiene practices. This was evidenced by the questionnaire results, which showed that during menstruation, students changed their sanitary pads 4–5 times per day and cleaned their genital area with running water from front to back, rather than the opposite direction. This finding aligns with Patricia's theory, which emphasizes the importance of proper menstrual hygiene practices to prevent infections in the female reproductive area. Failure to maintain these practices can lead to reproductive tract infections and, in severe cases, may contribute to infertility. Menstrual hygiene practices must be carefully observed, as proper hygiene helps prevent health problems such as itching in the sensitive vaginal area. The practice of menstrual hygiene means maintaining the cleanliness of the genital organs. Such practices include keeping the genital area clean, using clean water when washing the vagina, maintaining the hygiene of underwear, and changing sanitary pads four to five times a day during menstruation.

Based on the results presented in Table 5.2, the majority of respondents in eighth grade at MTs Siti Khadijah Sindangwangi, Majalengka, in 2020 were 14 years old, with a frequency of 38 students (61.3%).

According to Kumalasari and Andhoyantoro, 14-year-olds are categorized as middle adolescents. At this stage, adolescents often experience confusion in decision-making and exhibit unstable behaviors. Therefore, adolescents at this stage should be provided with knowledge about proper menstrual hygiene practices, so they understand how to maintain correct menstrual hygiene behavior.

### ***Pruritus vulvae***

Most respondents experienced moderate *Pruritus vulvae*, with 37 students (59.7%), as reported by the researcher among eighth-grade students at MTs Siti Khadijah Sindangwangi, Majalengka, in 2020. The questionnaire indicated that most respondents experienced vaginal discharge and itching in the genital area during menstruation.

According to Dwikarya, several measures can be taken to prevent *Pruritus vulvae*. These include avoiding habits that may cause irritation or allergies, such as changing the brand or type of sanitary pad if skin irritation or allergic reactions occur, wearing cotton underwear, ensuring that underwear is not too tight and can absorb sweat, refraining from scratching the itchy area, and using a cloth dipped in water for compresses.

Wearing underwear that is too tight should generally be avoided, as it can cause irritation and increase moisture in the genital area. Women experiencing *Pruritus vulvae* often neglect proper menstrual hygiene practices. Therefore, it is crucial to identify the use of irritating soaps and caustic cleansers, as well as feminine care products such as perfumed sprays and deodorants, and to evaluate proper vaginal washing techniques. Personal habits in caring for the vulva are of significant importance.

Based on the results presented, the majority of respondents in eighth grade at MTs Siti Khadijah Sindangwangi, Majalengka, in 2020 were 14 years old, with a frequency of 38 students (61.3%).

According to Kumalasari and Andhoyantoro, at the age of 14, respondents are classified as middle adolescents. During this stage, knowledge levels increase with age, which influences how individuals think and learn more about conditions such as *Pruritus vulvae*, enabling them to adopt preventive behaviors.

Notoatmodjo states that an individual's cognitive capacity is influenced by age. As age increases, cognitive ability and thinking patterns improve, allowing for better acquisition and understanding of knowledge. This concept is relevant to the relationship between menstrual hygiene practices and the incidence of *Pruritus vulvae* among female students at MTs Siti Khadijah Sindangwangi, Majalengka, in 2020.

Of the 62 respondents, the majority demonstrated good menstrual hygiene practices, with 30 students (48.4%), and most experienced moderate *Pruritus vulvae*, with 37 students (59.7%), as presented in Table 5.

Based on the statistical analysis of the relationship between menstrual hygiene practices and the incidence of *Pruritus vulvae* among female students at MTs Siti Khadijah Sindangwangi, Majalengka, in 2020 using Spearman's rank correlation test, the results showed a p-value of 0.000, which is less than  $\alpha = 0.05$ . Therefore, the null hypothesis ( $H_0$ ) was rejected, and the alternative hypothesis ( $H_a$ ) was accepted, indicating a significant relationship between menstrual hygiene practices and the occurrence of *Pruritus vulvae* among the students.

According to the researcher, eighth-grade students at MTs Siti Khadijah Sindangwangi, Majalengka, in 2020 have a fairly good understanding of the importance of menstrual hygiene practices and awareness of *Pruritus vulvae*. However, the institution should continue to provide information on proper menstrual hygiene practices, as some students still fall into the "poor" category. Inadequate menstrual hygiene can lead to issues such as vaginal discharge and itching during menstruation. Therefore, students should maintain proper genital hygiene and increase their knowledge of menstrual hygiene practices to prevent the occurrence of *Pruritus vulvae*.

One of the factors closely associated with *Pruritus vulvae* is menstrual hygiene practices, as adolescents who experience this condition often do not maintain proper hygiene. To raise awareness among adolescent girls about appropriate menstrual hygiene behaviors, it is necessary to provide education and proper health training. Adolescent girls may consider their menstrual hygiene practices to be normal and may not be aware of the negative effects of incorrect practices.

These findings are consistent with a study conducted by Shobihat and Abd. Rosyid in 2017, which found a significant relationship between personal hygiene during menstruation and the incidence of *Pruritus vulvae* among female students at the Hurun'inn Darul 'Ulum

dormitory in Jombang, with a significance value of 0.000 ( $p < \alpha$ ) (Shobihat, 2017). This finding is also in line with the results of a study by Ismi Sulaikha in 2018 (Sulaikha, 2018).

This aligns with the theory that menstrual hygiene practices are one of the key factors closely associated with the occurrence of *Pruritus vulvae*, as adolescents who experience *Pruritus vulvae* are often those with poor menstrual hygiene practices.

## CONCLUSION

This study examined the association between menstrual hygiene practices and the incidence of *pruritus vulvae* among 62 female students at MTs Siti Khadijah Sindangwangi, Majalengka, in 2020. The findings revealed that the majority of respondents (48.4%) demonstrated good menstrual hygiene practices, characterized by changing sanitary pads 4-5 times daily and cleaning the genital area with running water from front to back. Despite these generally good practices, *pruritus vulvae* was highly prevalent, with the majority of respondents (59.7%) experiencing moderate symptoms and only 6.5% reporting no symptoms. The Spearman rank correlation test confirmed a statistically significant association between menstrual hygiene practices and *pruritus vulvae* incidence ( $p = 0.000$ ), indicating that poorer hygiene practices are associated with more severe vulvar itching. This finding aligns with previous research in other Indonesian settings and reinforces the importance of proper menstrual hygiene for reproductive health. Future research should investigate additional contributing factors to *pruritus vulvae* beyond hygiene practices, such as sanitary product types, underlying dermatological conditions, dietary factors, and stress levels, to develop more comprehensive prevention strategies and educational interventions for adolescent females.

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