

FACTORS ASSOCIATED WITH *PRURITUS VULVAE* DURING MENSTRUATION IN ADOLESCENT GIRLS AT SMPN 25 BENGKULU

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ABSTRACT

Pruritus vulvae is a disorder characterized by severe itching sensations of the external female genitalia. Approximately ten percent of women worldwide suffer from severe pruritus vulvae. Data from the Indonesian Ministry of Health indicate that approximately 5.2 million female adolescents in Indonesia frequently experience complaints after menstruation due to poor personal hygiene practices, particularly pruritus vulvae. To examine the association between knowledge, information sources, and teacher support and the incidence of pruritus vulvae during menstruation among female adolescents at SMPN 25 Bengkulu City. This study used a quantitative research design with a cross-sectional approach. The respondents were 30 female adolescents from SMPN 25 Bengkulu City who had already menstruated, determined by simple random sampling. The results of univariate analysis showed that more than half of the respondents experienced moderate *pruritus vulvae*, namely 15 adolescents (50%), 20 adolescents (66.7%) had adequate knowledge of vulva hygiene, 25 adolescents (83.3%) had parental support during menstruation, and 29 adolescents (96.7%) used underwear in the good category. Bivariate analysis results showed a relationship between knowledge of vulva hygiene and the occurrence of *pruritus vulvae* during menstruation with p-value is 0.002 ($p < 0.05$), no relationship between parental involvement during menstruation with p-value is 0.11 ($p > 0.05$), and a relationship between wearing underwear and the occurrence of *pruritus vulvae* with p-value is 0.018 ($p < 0.05$). There is association between knowledge of vulvar hygiene and wearing underwear with the occurrence of *pruritus vulvae* during menstruation, and no association between the role of parents and the occurrence of *pruritus vulvae*.

Keywords : *Pruritus vulvae, Vulva hygiene, Menstruation, adolescent*

INTRODUCTION

Adolescence is a period of development and maturation of the reproductive organs. One of the hallmarks of reproductive organ maturity is menstruation. Inappropriate vulva hygiene practices during menstruation will continue to be practiced by adolescent girls from generation to generation. Adolescents often neglect genital hygiene due to a lack of understanding about hygiene during menstruation. Inappropriate hygiene practices have a negative impact on reproductive health. One of the problems often experienced by adolescents during menstruation is pruritus vulvae. This problem arises due to poor hygiene practices, which cause the growth

of bacteria and fungi. Symptoms include severe itching and irritation in the area around the vulva (1).

A survey reported by the World Health Organization (2) in several countries found that adolescent girls aged 10-14 years old have problems with their reproductive organs, one of which is *pruritus vulvae*. This requires adolescent girls to be able to take good care of their reproductive organs. Genital hygiene, especially during menstruation, is often neglected by adolescents. This triggers the growth of fungi and bacteria in the genital area, causing itching and infection.

Data (3) shows that 5.2 million adolescent girls in Indonesia often experience discomfort during menstruation due to poor hygiene, namely the onset of *pruritus vulvae*, characterized by itching of the female genitals (3). Based on statistical data in Indonesia, out of 69.4 million adolescents in Indonesia, 63 million adolescents have very poor hygiene habits. This includes a lack of care for reproductive health during menstruation. Poor hygiene practices in the female genital area are caused by 30% due to poor or unhealthy environments and 70% due to the improper use of sanitary pads during menstruation (4). Based on data from the Bengkulu Provincial Statistics Agency (5), there are 86,570 female adolescents aged 10-14 years and 83,451 female adolescents aged 15-19 years.

Pruritus vulvae is caused by poor vulva care. There are many symptoms that arise during *pruritus vulvae*, such as itching in the genitals, vaginal discharge, burning sensation on the skin and cracking around the vulva, swelling and redness in the labia and vulva, and fluid-filled bumps on the vulva. Therefore, most adolescents scratch the vulva area when they feel itchy during menstruation. If the vaginal skin is scratched by sharp nails or other objects, even if the surface appears undamaged, secondary infections such as acute candidiasis and vaginosis can occur. *Pruritus vulvae* usually occurs at night while sleeping, when the person may scratch the area without realizing it, which can lead to ulcers, swelling, bleeding, or further infection due to prolonged scratching, causing local infiltration, thickening, and chromatic discoloration (6).

One of the problems women experience during menstruation is irritation or itching around the vulva and vaginal opening. This area is very sensitive to touch, and often this itching causes teenage girls to scratch it, which can cause pain and further discomfort. Scratch marks are often visible when examined by a doctor. If the vaginal skin is scratched by sharp nails or other objects, even if the surface appears undamaged, this can cause secondary infections, such as acute candidiasis, bacterial vaginosis, and trichomoniasis. If this occurs, it will worsen the condition (7).

Women who are menstruating should use sanitary pads, whether traditional ones like cloth or modern ones with various advantages. There are sanitary pads made from herbs, which are comfortable to wear, and there are also sanitary pads designed with a length of 29 to 35 cm to be worn while sleeping or for those who have heavy menstrual flow. Sanitary pads must be changed at least twice a day to prevent vaginal infections or other disorders (8).

Research conducted by Indah (8) at Lamongan State High School on adolescent girls showed that 79 people (100%) had experienced *Pruritus vulvae* during menstruation. Of these, 15.2% always experienced *Pruritus vulvae* every day during menstruation and 84.8% experienced *Pruritus vulvae* not every day during menstruation. Meanwhile, research conducted by (9) at SMP Negeri 10 Bengkulu found that 40 female students (59.7%) experienced *Pruritus vulvae* during menstruation. Forty-three students (64.2%) had insufficient knowledge. Thirty-

one students (46.3%) had insufficient sources of information. Thirty-nine students (58.2%) had insufficient family support. The bivariate statistical test results for the incidence of Pruritus vulvae during menstruation obtained a p-value of 0.012.

After the researcher conducted a preliminary survey at SMP Negeri 25 Kota Bengkulu, it was found that 10 out of 15 adolescents experienced symptoms of pruritus vulvae, and 7 of the adolescents said that they experienced itching in the vulva because they rarely changed their sanitary pads. The reason the researcher was interested in conducting research at SMP Negeri 25 Kota Bengkulu was because there were still many adolescents who lacked knowledge about vulvar hygiene during menstruation. Based on the above description, the researcher was interested in researching “Factors Associated with the Occurrence of Pruritus vulvae During Menstruation in Adolescent Girls at SMP Negeri 25 Kota Bengkulu.”

METHODS

This study used a quantitative design with a cross-sectional design. The sample consisted of 30 female adolescent respondents who had menstruated at SMPN 25 Bengkulu City using simple random sampling techniques. The instrument used in this study was a questionnaire consisting of variables. The number of questions in this questionnaire was tested for validity and reliability. Both tests were conducted to ensure that the questionnaire was accurate and reliable. The questionnaire used a Likert scale in the form of a checklist. In this study, the independent variables were factors related to knowledge of vulva hygiene, the role of parents, and the use of underwear. The dependent variable was the occurrence of *pruritus vulvae*. The bivariate analysis used was the nonparametric statistical technique of Spearman's rank correlation test with a significance level of $\alpha = 0.05$.

Respondents were asked to provide their answers by checking (✓) the answer column provided. The questionnaire consisted of four statements, the first of which consisted of ten questions using a yes or no scale. The answers were divided into two categories: 1 for yes and 0 for no. The second statement consists of 16 questions with a rating of always, often, sometimes, never. The entries are divided into 4 categories, namely 4 for always answers, 3 for often answers, 2 for sometimes answers, 1 for never answers. The third statement consists of 5 questions using a yes/no rating. The answers are divided into 2 categories: 1 for yes and 0 for no. The fourth statement consists of 6 questions using a yes/no rating. The answers are divided into 2 categories: 1 for yes and 0 for no.

RESULTS AND DISCUSSIONS

Results

Univariate analysis is used to describe each variable studied in the research, namely by looking at the frequency distribution of independent and dependent variables presented descriptively.

1. *Pruritus vulvae* during menstruation

Table 1
Frequency distribution of *Pruritus vulvae* during menstruation

Variables	Frequency (n)	Percentage (%)
<i>Pruritus vulvae</i> classification		
Light	12	40
Moderate	15	50
Heavy	3	10
Total	30	100.0

Table 1

shows that most respondents experienced moderate *pruritus vulvae* (50%)

2. Knowledge about Vulva Hygiene during Menstruation

Table 2
Frequency distribution of Knowledge about Vulva Hygiene during Menstruation

Variables	Frequency (n)	Percentage (%)
Knowledge about Vulva Hygiene during Menstruation		
good	2	6.7
enough	20	66.7
lacking	8	10
Total	30	100.0

Table 2 shows that most respondents have sufficient knowledge about vulva hygiene (66.7%).

3. Parental involvement during Menstruation

Table 3
Frequency distribution of Parental involvement during Menstruation

Variables	Frequency (n)	Percentage (%)
Parental involvement during Menstruation		
None	5	16.7
There is a role	25	83.3
Total	30	100.0

Table 3 Shows that there is parental involvement during menstruation (83.3%)

4. Wearing Underwear During Menstruation

Table 4

Frequency distribution of Wearing Underwear During Menstruation

Variables	Frequency (n)	Percentage (%)
Wearing Underwear During Menstruation		
bad	1	3.3
good	29	96.7
Total	30	100.0

Table 4
shows
that

almost all respondents wore underwear in the good category during menstruation (96.7%).

1. Association between knowledge about vulva hygiene during menstruation and the incidence of *pruritus vulvae*

The results of the bivariate analysis between knowledge about vulva hygiene during menstruation and the incidence of *pruritus vulvae* are as shown in Table 5.

Table 5

Association between knowledge about vulva hygiene during menstruation and the incidence of *pruritus vulvae*

Knowledge about vulva hygiene	<i>Pruritus Vulvae</i>						Total		<i>P Value</i>
	Light		Moderate		Heavy				
	n	%	n	%	n	%	n	%	
Good	0	0	2	6.7	0	0	2	6.7	0.002
Enough	5	16.7	13	43.3	2	6.7	20	66.7	
Lacking	7	23.3	0	0	1	3.3	8	26.7	
Total	12	40	15	50.0	3	10	30	100	

Sperman Rank's $\alpha = 0.05$

Sperman Rank's $\alpha = 0.05$

Table 5 above shows that most respondents had sufficient knowledge, namely 20 adolescents (66.7%), and most respondents experienced moderate *pruritus vulvae*, namely 15 adolescents (50.0%). The results of the Spearman rank's statistical test obtained p-value is 0.002, where $p < 0.05$, so it can be concluded that there is association between knowledge about vulva hygiene and the incidence of *pruritus vulvae* in adolescent girls at SMPN 25 Bengkulu City.

2. Association between parental involvement during menstruation and the occurrence of *Pruritus vulvae*

The results of the bivariate analysis between parental involvement during menstruation and the occurrence of *Pruritus vulvae* are as shown in Table 6.

Table 6
Association between parental involvement during menstruation and the occurrence of
Pruritus vulvae

Knowledge about vulva hygiene	<i>Pruritus Vulvae</i>						Total	<i>P Value</i>	
	Light		Moderate		Heavy				
	n	%	n	%	n	%	n	%	
There's a role	10	33.3	14	46.7	1	3.3	25	83.3	0.110
None	2	6.7	1	3.3	2	6.7	5	16.7	
Total	12	40.0	15	50.0	3	10	30	100	

Sperman Rank's $\alpha = 0.05$

Sperman Rank's $\alpha = 0.05$

Table 6 shows that most respondents had parental involvement during menstruation, with 25 adolescents (83.3%) reporting this, and most respondents, namely 15 adolescents, experienced moderate *pruritus vulvae* (50%). The results of the Spearman's rank correlation test yielded a p-value of 0.11, where $p > 0.05$. Therefore, it can be concluded that there is no association between parental involvement during menstruation and the occurrence of *pruritus vulvae* among female adolescents at SMPN 25 Kota Bengkulu.

3. Association between Wearing Underwear During Menstruation and the occurrence of *Pruritus vulvae*

The results of the bivariate analysis between wearing underwear during menstruation and the occurrence of *Pruritus vulvae* are as shown in Table 7.

Table 7
Association between wearing underwear during menstruation and the occurrence of
Pruritus vulvae

<i>Pruritus Vulvae</i>							Total	<i>P Value</i>
	Light		Moderate		Heavy			
	n	%	n	%	n	%	n	%
Good	12	40.0	15	50	2	6.7	29	96.7
Bad	0	0	0	0	1	3.3	1	3.3
Total	12	40.0	15	50.0	3	10	30	100

Sperman Rank's $\alpha = 0.05$

Table 7 above shows that almost all respondents had good underwear use during menstruation, namely 29 adolescents (96.7%), and most respondents experienced moderate *pruritus vulvae*, namely 15 adolescents (50.0%). The results of the Spearman

Rank's statistical test obtained a p-value of 0.018, where $p < 0.05$, which means that there is a relationship between underwear use and the occurrence of *Pruritus vulvae* in female adolescents at SMPN 25 Bengkulu City.

Discussion

1. The Association between knowledge about vulva hygiene during menstruation and the incidence of *pruritus vulvae*

In this study, it was found that 2 adolescents (6.7%) had good knowledge, 20 adolescents (66.7%) had adequate knowledge, and 8 adolescents (26.7%) had poor knowledge. Statistical tests showed a significant relationship between knowledge about vulva hygiene and the incidence of *pruritus vulvae*. Someone who has good and high knowledge will be able to think more critically in understanding everything. Someone who is knowledgeable does not guarantee that they will have a positive attitude and behavior. This is because a person's attitude and behavior are not only determined by knowledge, but also influenced by thoughts, beliefs, and emotions, which play an important role (10). Previous research (11) found that adolescents had good knowledge (39.75%), most adolescents had sufficient knowledge (50%), and respondents had poor knowledge (11.25%).

Results research shows that there is a significant relationship between knowledge and vulva hygiene behavior during menstruation. This study is in line with research conducted by (12) entitled "The relationship between personal hygiene during menstruation and the incidence of *pruritus vulvae* in female students at Hurun In Darul Ulum Jombang," which found that there is a relationship between personal hygiene behavior and the incidence of *pruritus vulvae* with a significance value of 0.000 ($p < 0.05$). This is also in agreement with the study conducted by (7) entitled "The relationship between knowledge and behavior about vulva hygiene and the incidence of *pruritus vulvae* during menstruation in female students at SMA Negeri 1 Kartasura," which found that there is a relationship between knowledge and vulva hygiene behavior and the incidence of *pruritus vulvae* during menstruation with a significance value of 0.007. The impact of a lack of knowledge about vulva hygiene includes skin integrity disorders around the vulva, vaginal discharge, and itching. Therefore, during menstruation, adolescents must maintain extra hygiene of their reproductive organs, especially the vagina. It is advisable for adolescents to increase their knowledge about vulva hygiene to avoid *pruritus vulvae*.

2. The Association between parental involvement and the occurrence of *pruritus vulvae*

This study found that 25 adolescents (83.3%) had parental involvement during menstruation. Parents were absent during menstruation in 5 adolescents (16.7%). Statistical test results showed no significant relationship between the role of parents and the incidence of *pruritus vulvae*. Women's reproductive health, especially among adolescents, particularly in maintaining and caring for their reproductive organs, is influenced by parental knowledge, parental education level, and the role of parents, especially mothers, in providing reproductive health education so that adolescent girls in particular can understand and care for their reproductive organs, including the female genital area, and maintain their health during menstruation.

Research explains that family education has been recognized as an important component of school health programs (13). One strategy to achieve this goal is to include topics on normal physiological aspects, one of which is the menstrual cycle for adolescent female students, in health education provided by parents. This study shows that at least half of girls seek advice from their parents when experiencing reproductive health problems, especially menstruation.

This study is in line with research conducted by (14) which found no relationship between the role of parents in reproductive health education and menstrual hygiene behavior with a significance value ($p = 0.324$ or $p > 0.05$), so H_0 was rejected and H_a was accepted. The results of this study are thought to be related to the role of parents, specifically their role before adolescent girls begin menstruating. The condition of adolescent girls during and after experiencing pruritus vulvae is not yet clearly known. Parents have played a role in providing knowledge and preparing for the needs of adolescent girls during menstruation, but there is no clear information on how parents accompany adolescent girls who experience *pruritus vulvae*.

3 Association between wearing underwear and the occurrence of *pruritus vulvae*.

This study found that 29 adolescents (96.7%) used appropriate underwear during menstruation, while 1 adolescent (3.3%) used inappropriate underwear during menstruation. Statistical tests showed a significant relationship between underwear use and the occurrence of *pruritus vulvae*. The effect of underwear type on the incidence of *pruritus vulvae* in female students during menstruation Based on the results obtained, there is an effect of underwear type on the incidence of *pruritus vulvae* during menstruation. When choosing underwear, especially panties, there are many things that should be considered. In addition to how the underwear looks on the body, another thing to consider is whether the underwear poses a health risk or not. In this study, it was found that some respondents wore unhealthy underwear, However, 59.1% did not experience *pruritus vulvae*, and 16.0% of respondents wore healthy underwear but experienced *pruritus vulvae*. This shows that *pruritus vulvae* is multifactorial and can also be influenced by other factors such as vulva hygiene practices. Previous research by (15) showed the effect of underwear type on the incidence of *pruritus vulvae*. Based on the Chi-square test, a p-value of 0.047 was obtained, which means that $p < \alpha$ (0.05), indicating that underwear type has an effect on the incidence of *pruritus vulvae*.

The results of a previous study conducted by (16) showed that the incidence of *pruritus vulvae* during menstruation among fourth-semester midwifery students at UNUSA was entirely (100%) due to personal hygiene practices, partly (73.08%) due to the length of time between changing sanitary pads, partly (53.84%) due to the use of tight underwear during menstruation, almost half (28.84%) from the use of vaginal cleansing soap during menstruation, a small portion (15.38%) from the use of perfumed sanitary pads, and a small portion (7.07%) from the use of non-cotton underwear materials. The conclusion shows that of the six factors identified, the length of time between changing sanitary pads, which was the largest factor (73.08%), was the biggest factor in the occurrence of *pruritus vulvae* during menstruation among fourth-semester midwifery students at UNUSA. This study is in line with research conducted by (15) which shows the effect of underwear type on the

incidence of *pruritus vulvae*. Based on statistical tests, a p-value of 0.047 ($p < 0.05$) was obtained, indicating that underwear type has an effect on the incidence of *pruritus vulvae*.

CONCLUSIONS

Based on the results of research conducted on factors related to the incidence of *pruritus vulvae* during menstruation in adolescent girls at SMPN 25 in Bengkulu City, the following conclusions can be drawn. First, there is a relationship between knowledge about vulva hygiene and the occurrence of *pruritus vulvae* during menstruation with a p-value of 0.002 (< 0.05). Second, there is no relationship between the role of parents during menstruation and the occurrence of *pruritus vulvae* with a p-value of 0.11 (> 0.05). Third, there is a relationship between the use of underwear and the occurrence of *pruritus vulvae* during menstruation with a p-value of 0.018 (< 0.05).

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CONFLICT OF INTEREST AND FUNDING DISCLOSURE

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AUTHOR CONTRIBUTIONS

HW (Haifa Wahyu): data curation, investigation, validation, project administration: LFL (Liza Fitri Lina): concept, methodology, formal analysis, supervision, writing review & editing; WW (Weti Weti): visualization, resources, writing original draft; MBA, WA & WSU (Muhammad Bagus Andrianto, Wulan Angraini, Widya Sri Utami): writing original draft, writing review & editing.

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