



Overview of the Level of Knowledge of Adolescent Girls About Personal Hygiene in Preventing Pathological Leukorrhea at Limboto 1 Public Middle School

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ABSTRACT

Adolescence is a phase that is prone to reproductive health problems, one of which is pathological leukorrhea which is closely related to personal hygiene behavior. The level of knowledge is a determining factor in the formation of these behaviors. This study aims to determine the level of knowledge of adolescent girls about personal hygiene in the prevention of pathological leukorrhea at SMP Negeri 1 Limboto. This study uses a non-experimental quantitative design with a descriptive method. The population amounted to 258 female students with a sample of 157 respondents who were selected using proportional random sampling techniques. The research instrument is in the form of a knowledge questionnaire consisting of 30 statement items with a Guttman scale. Data were analyzed using univariate analysis. The results showed that most of the young women had a good level of knowledge, namely 136 respondents (86.6%), followed by 20 respondents (12.7%) with sufficient knowledge, and 1 respondent (0.6%) with insufficient knowledge. In conclusion, the majority of adolescent girls already have good knowledge of personal hygiene in the prevention of pathological leukorrhea. Nevertheless, there are still a small percentage of young women with sufficient and insufficient knowledge. Therefore, it is recommended that schools and health workers improve structured and sustainable reproductive health education programs.

INTRODUCTION

Adolescence is a stage of transition to adulthood characterized by physical, physiological, and hormonal changes, including the maturation of the reproductive organs (Nursiah, 2022). Hormonal changes in adolescent girls can cause menstruation and vaginal discharge so reproductive health needs special attention (Hanapi et al., 2021).

In Indonesia, the large number of adolescents makes this group vulnerable to various reproductive health problems, such as sexually transmitted infections, menstrual disorders, and Leukorrhea Pathological (Fora, Riwu, & Sir, 2021). Globally, the World Health Organization estimates high cases of sexually transmitted infections and menstrual disorders in adolescents. In Indonesia, adolescent reproductive health problems are still quite high, including 11,133 STI cases in 2021 and Leukorrhea abnormal in 2024 to reach 75% . (Kemenkes, 2025)At the local level, data from the Gorontalo Provincial Health Office notes that Gorontalo Regency has STI cases in 2023 with 24 cases and high menstrual disorders (Dinkes, 2023). As well as research Moon (2024) found a high incidence of abnormal vaginal discharge in adolescent girls in Gorontalo. This condition shows that adolescent women's reproductive health problems still need serious attention.

One of the reproductive health problems that are commonly experienced by adolescent girls is Leukorrhea or vaginal discharge. Leukorrhea can be physiological (normal) or pathological characterized by discoloration, bad odor, itching, and pain due to infection (Sandriani et al., 2024). This condition can cause discomfort and decreased

confidence, but it also has the potential to cause more serious reproductive health problems if not treated properly (Ihsanpuro, F., N., 2025).

Leukorrhea pathological is closely related to behavior Personal Hygiene Young Women. Personal hygiene is an effort to take care of yourself to maintain the cleanliness and health of the body, including the cleanliness of the reproductive organs (Napitupulu et al., 2022). Improper practices such as infrequent underwear, cleaning the genital area in the wrong direction, and using damp underwear can significantly increase the risk of infection of the reproductive organs (Nuraini et al., 2025).

Various factors influence behavior Personal Hygiene, including culture, socioeconomic status, religion, level of knowledge, health status, and habits (Zuiatna et al., 2024). Among these factors, the level of knowledge is the most influential aspect. Young women with good knowledge are more likely to apply the practice Personal Hygiene so that it can prevent Leukorrhea Pathological (Dewi et al., 2024). Research Peronika (2022), It proves that young women with low knowledge are four times more likely to develop vaginal discharge than those with good knowledge.

Although the relationship between personal hygiene knowledge and the prevention of pathological leukorrhea has been extensively researched, most of the research was conducted in other cities or at the high school level, so the results are not necessarily representative of the condition of adolescent girls at the junior high school level, especially in Gorontalo Regency. Gorontalo Regency has the largest number of junior high schools in Gorontalo Province, thus illustrating the large population of young women who are potentially vulnerable to reproductive health problems. SMP Negeri 1 Limboto was chosen as the location of the study because it has a large number of female students and the results of the initial interviews show that there is still a lack of understanding of students about leukorrhea and correct personal hygiene practices. Therefore, this study aims to find out more about the level of knowledge of adolescent girls about personal hygiene in the prevention of pathological leukorrhea as the basis for the development of reproductive health education in schools.

RESEARCH METHODS

This study is a non-experimental quantitative research using a descriptive method held at SMP Negeri 1 Limboto in the period from January 26 to February 02, 2026.

The research population comes from female students at three grade levels, namely grades VII, VIII, and IX which totals 258 female students. Samples were calculated using the slovin formula with a significance level of 5% and sampling was carried out through the proportional random sampling method with a proportional distribution for each grade level, resulting in 157 respondents as a research sample. The respondents selected were young women who had experienced menstruation.

This study uses research instruments that have been tested for validity and reliability at SMP Negeri 2 Limboto. The questionnaire used in this study is a knowledge questionnaire Personal Hygiene adapted from research Risky (2024) and modifications have been made to measure the knowledge of young women in prevention Leukorrhea pathological. The questionnaire consists of 30 statement items using the guttman scale with a scoring system Favorable (true = 1 false = 0) Unfavorable (true = 0 false = 1) which is further categorized into the level of knowledge good, sufficient, and lacking.

The data collection process begins after obtaining research ethics approval and informed consent from respondents. The researcher provides an explanation of the purpose and objectives of the research to the prospective respondents and obtains participation consent through informed consent that was shared previously. The distribution of the questionnaire was carried out directly and the filling was carried out by the respondents with the supervision of the researcher to ensure the completeness of the data collected. The data collected was then processed using SPSS software version 27.

RESEARCH RESULTS

Univariate Analysis

Respondent Characteristics

Table 1. Characteristics of Respondents by Age

No.	Age	Frequency (n)	Percentage (%)
1.	12 years	22	14,0
2.	13 years	61	38,9
3.	14 years	52	33,1
4.	15 years	22	14,0
Total		157	100

Source : Primary Data 2026

Based on the frequency distribution table above, it shows that of the 157 respondents studied, most of the respondents were 13 years old, which was 61 people (38.9%), while a small number of respondents were in the age group of 12 and 15 years, which was 22 people (14.0%).

Table 2. Characteristics of Respondents by Class

No.	Classes	Frequency (n)	Percentage (%)
1.	Class VII	51	32,5
2.	Class VIII	60	38,2
3.	Class IX	46	29,3
Total		157	100

Source : Primary Data 2026

Based on the frequency distribution table of respondents above, it shows that 7th grade respondents amounted to 51 people (32.5%), 8th grade 60 people (38.2%) and 9th grade 46 people (29.3%).

Table 3. Characteristics of Respondents Based on Information Sources

No.	Resources	Frequency (n)	Percentage (%)
1.	Print Media	10	6,4
2.	Electronic Media	56	35,7
3.	Teacher/School	21	13,4
4.	Family	44	28,0
5.	Friends	2	1,3
6.	None	24	15,3
Total		157	100

Source : Primary Data 2026

Based on the frequency distribution table above, it shows that most of the respondents in this study get information about personal hygiene through electronic media, namely 56 people (35.7%), while a small number of respondents get information through friends, namely 2 people (1.3%) and respondents who do not have a source of information as many as 24 people (15.3%).

Research Variables

Table 4. Distribution of Respondent Frequencies by Level of Knowledge

No.	nowledge Level	Classes						Total	
		VII		VIII		IX			
		n	%	n	%	n	%	n	%
1.	Good	47	92,2	48	80	41	89,1	136	86,6
2.	Enough	4	7,8	11	18,3	5	10,9	20	12,7
3.	Less	0	0	1	1,7	0	0	1	0,6
Total		51	100	60	100	46	100	157	100

Source : Primary Data 2026

Based on the distribution of the frequency of respondents based on the level of knowledge above, it shows that of the 157 respondents, most of them have a good level of knowledge as many as 136 respondents (86.6%), with the distribution in class VII as many as 47 respondents (92.2), class VIII as many as 48 respondents (80), and class IX as many as 41 respondents (89.1). Respondents with sufficient knowledge level were 20 respondents (12.7%), consisting of 4 respondents (7.8) class VII, 11 respondents (18.3) class VIII, and 5 respondents (10.9) class IX. Meanwhile, respondents with a less level of knowledge were only 1 respondent (0.6%) from class VIII.

Table 5. Distribution of Respondent Frequency by Level of Knowledge per Indicator

No.	Indicator	Knowledge Level						Total	
		Good		Enough		Less		n	%
		n	%	n	%	n	%		
1.	Personal Hygiene Genitalia Organ Hygiene	135	85,9	19	12,1	3	1,91	157	100
2.	Use of Bandages	122	77,7	33	21,0	2	1,3	157	100
3.	Proper use of underwear	112	71,3	32	20,4	13	8,3	157	100

Source : Primary Data 2026

Based on the distribution of respondent frequency based on the level of knowledge per indicator above, it shows that in the indicator of personal hygiene of genetic organ hygiene, respondents with good knowledge were 135 respondents (85.9%). In the indicator of the use of sanitary pads, respondents with good knowledge were 122 respondents (77.7%). Meanwhile, in the indicator of proper use of underwear, respondents with good knowledge were 112 respondents (71.3%). However, the indicator of proper use of underwear has the highest percentage of less knowledge, which is as many as 13 respondents (8.2%) compared to other indicators.

DISCUSSION

The results of the study on 157 adolescent girls at SMP Negeri 1 Limboto showed that most of the respondents had a good level of knowledge about personal hygiene in the prevention of pathological leukorrhea, namely 136 respondents (86.6%), followed by sufficient knowledge as many as 20 respondents (12.7%), and lack knowledge as much as 1 respondent (0.6%).

Of the 136 respondents with the good knowledge category, the majority were able to correctly answer statements about basic hygiene during menstruation, prevention of abnormal vaginal discharge, and signs of pathological leukorrhea. A total of 135 respondents answered correctly statements about the importance of washing hands before touching the genitalia, the use of soft sanitary pads that do not contain allergens, and the importance of maintaining the cleanliness of the feminine area in general.

Based on the characteristics of the group respondents with a good level of knowledge, the largest group was 13 years old as many as 49 respondents (36%), 14 years old as many as 48 respondents (35.3%) followed by 15 years old as many as 20 respondents (14.7) and 12 years old as many as 19 respondents (14%). In terms of grade level, the well-informed group was spread across 47 respondents in grade 7 (34.6%), grade 8 as many as 48 respondents (35.3%), and grade 9 as many as 41 respondents (30.1%).

This even distribution indicates that good knowledge of Personal Hygiene Not only do teenagers have a higher grade level, but it has been formed since the beginning of adolescence. This condition is in accordance with the opinion Susilawati (2022) which states that the older a person gets, the more his grasp and mindset develop so that it is easier to receive and process health information.

The majority of respondents in this group obtained information through electronic media as many as 49 respondents (36%), followed by family as many as 41 respondents (30.1%), teachers or schools as many as 19 respondents (13.4%), and friends as many as 2 respondents (1.5%). There were also 17 respondents (12.5%) who did not have sources of information but still reached the good category, which can be attributed to knowledge formed through daily experience and observation (Susilawati 2022).

This high proportion of good knowledge can be explained through the theory of knowledge put forward by Notoatmodjo in Ista & Herawan (2025), which states that knowledge is the result of a person's sensing of an object through the senses of sight and hearing which are then processed in the brain so as to form understanding. Good knowledge in respondents reflects that they are not only at the level of tofu (know), but have reached a level of understanding (comprehension), which is able to interpret and relate the reproductive health information obtained to their real condition (Muyassaroh & Fatmayanti 2021).

From a cognitive perspective, this is in accordance with Jean Piaget's developmental theory which states that individuals in adolescence have entered a stage Formal operations (from the age of 12 years and above), where the ability to think abstractly and reflectively has developed so that adolescents are able to understand the cause-and-effect relationship between practices Personal Hygiene that is not appropriate with the risk of occurrence Leukorrhea Pathological ((2024).

From a health behavioral perspective, these findings can be analyzed through theory Health Belief Model (HBM) which explains that a person is encouraged to prevent diseases if they have a perception of self-vulnerability (perceived susceptibility), perception of disease severity (perceived severity), confidence in the benefits of preventive measures (perceived benefits), as well as the drive to act (cues to action) (Irwan 2017). Well-informed young women tend to have all four of these perceptions, including the awareness that Leukorrhea Untreated

pathologies can lead to urinary tract infections, infertility, and even uterine cancer (Zougira & Shintya 2024).

These results are in line with Latifah et al., (2025) which found that well-informed adolescents tended to carry out more appropriate genital organ hygiene practices so that the risk of Leukorrhea pathological, as well as Puspawarna et al., (2024) which shows that knowledge is an important predisposing factor in shaping adolescent reproductive health behaviors.

A total of 20 respondents (12.7%) were in the category of sufficient knowledge. This group already has a basic understanding of personal hygiene, but has not been able to reach more analytical aspects. Analysis of questionnaire answers showed that 16 respondents answered incorrectly on statements about the classification of types of vaginal discharge and factors that cause abnormal vaginal discharge, 14 respondents answered incorrectly about the risks of wearing tight underwear, 13 respondents about the importance of changing damp underwear, and 12 respondents about the safety of feminine cleaning fluids and the causes of fungal infections in the genitalia.

In terms of grade level, the knowledge group is quite spread in grade 7 as many as 4 respondents (20%), grade 8 as many as 11 respondents (55%), and grade 9 as many as 5 respondents (25%). The factors that affect this condition can be seen from the respondents' sources of information, where as many as 7 respondents (35%) in this group have no source of information at all. Susilawati (2022) asserts that individuals who are not exposed to reproductive health information in a structured manner will tend to have limited knowledge and do not develop beyond a basic level of understanding.

Knowledge groups require special attention in the form of more targeted further education, clarification of inappropriate information, and assistance by health workers or teachers. This is in line with the crucial points in adolescent hygiene practices as explained Saputri et al., (2024), that prevention Leukorrhea Pathological includes how to properly clean the vagina, change sanitary pads regularly, as well as avoid the use of tight underwear.

As many as 1 respondent (0.6%) was in the category of lack of knowledge, although the number is very small, this condition remains an important concern because Leukorrhea Pathologies that are not properly prevented can develop into serious complications such as urinary tract infections, inflammation of the reproductive organs, and infertility (Zougira & Shintya 2024).

These respondents have obtained information through electronic media, but in the application and understanding of this information has not been done properly. This is reinforced by Hanipah & Nirmalasari (2020) who show that the level of knowledge of adolescent girls about vulva hygiene still varies even though most have obtained information, which indicates a difference in the ability to understand and process the information received. Research Pane et al., (2024), affirm that young women with less knowledge of Personal Hygiene The reproductive organs have a higher risk of developing Leukorrhea pathological due to improper hygiene practices.

Reviewed by indicator, the highest mastery was found in the cleanliness of the genital organs (85.9%), followed by the use of sanitary napkins (77.7%), followed by the use of proper underwear (71.3%). This pattern reflects that the more specific and technical an aspect is Personal Hygiene, the lower the level of mastery. The hygiene of the genital organs is easier to understand because it is practical and directly related to daily routines (Lestari & Rachma, 2025); (Sustainable et al., 2024). The proper use of sanitary napkins and underwear is still not fully mastered, considering that these two aspects require a more technical understanding of the frequency of replacement, material selection, and the risks posed (Hendriyenni 2024); (Sapphire et al., 2024).

The dominance of the good knowledge category indicates that the existing reproductive health education program has been running quite effectively, but more targeted interventions are still needed, especially in the aspect of using sanitary napkins and underwear so that all adolescent girls can apply personal hygiene practices consistently as an effort to prevent pathological leukorrhea.

CONCLUSION

Based on the results of research and discussion on "Overview of the Level of Knowledge of Adolescent Girls About Personal Hygiene in the Prevention of Pathological Leukorrhea at SMP Negeri 1 Limboto" which has been carried out on 157 respondents, it can be concluded that the level of knowledge of adolescent girls about personal hygiene in the prevention of leukorrhea Pathological was mostly in the good category, namely 136 respondents (86.6%), followed by the fair category as many as 20 respondents (12.7%), and the poor category as many as 1 respondent (0.6%). Reviewed by indicator, the highest mastery was found in the indicators of personal hygiene and hygiene of the genital organs (85.9%), followed by the use of sanitary napkins (77.7%), and the use of proper underwear (71.3%).

ADVICE

This research is expected to be an input for health agencies and schools in improving adolescent reproductive health education through counseling, learning, and UKS programs, as well as increasing the knowledge and awareness of adolescent girls about the importance of personal hygiene of reproductive organs. In addition, this study is also expected to be a reference for future researchers to develop research with an analytical design and add other variables related to adolescent reproductive health knowledge.

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