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RESEARCH ARTICLE

Comparison of Knowledge, Attitudes, and Vaginal Hygiene Behaviours Related to Pathological Vaginal Discharge Between Female Students of the Faculty of Law and the Faculty of Economics

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Abstract: Vaginal discharge is one of the common reproductive health problems experienced by women. It refers to fluid released from the vagina other than menstrual blood. In Indonesia, approximately 75% of women have experienced vaginal discharge at least once in their lifetime. The prevalence of vaginal discharge symptoms among adolescent girls aged 15–24 years is around 31.8%. Generally, vaginal discharge is considered physiological; however, certain factors can cause it to become pathological. One of the factors associated with the occurrence of vaginal discharge is vaginal hygiene. This study aims to analyse the differences in the levels of knowledge, attitudes, and behaviours related to vaginal hygiene among female students of the Faculty of Law and the Faculty of Economics at Universitas Muhammadiyah Sumatera Utara (UMSU) in relation to the occurrence of vaginal discharge. This study used a cross-sectional research design with an accidental sampling technique. Data were collected using a questionnaire, and the Wilcoxon Matched Pairs Test was applied for data analysis. The results showed that the majority of respondents with good knowledge of vaginal hygiene were from the Faculty of Economics, totalling 57 respondents (71.3%), while respondents with poor knowledge were found in the Faculty of Law with only 1 respondent (1.3%). Respondents with the highest proportion of positive attitudes toward vaginal hygiene were from the Faculty of Law, with 73 respondents (91.3%). In terms of behaviour, good vaginal hygiene practices were most commonly found among students of the Faculty of Economics with 58 respondents (72.5%), while the lowest was found among students of the Faculty of Law with 7 respondents (8.8%). Statistical analysis showed differences in the levels of knowledge, attitudes, and behaviours regarding vaginal hygiene in relation to the occurrence of vaginal discharge among students of the Faculty of Economics and the Faculty of Law at UMSU.In conclusion, there are differences in the levels of knowledge, attitudes, and behaviours related to vaginal hygiene between students of the Faculty of Law and the Faculty of Economics concerning the occurrence of pathological vaginal discharge.

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Keywords: Knowledge, Attitude, Behaviour, Vaginal Hygiene, Vaginal Discharge.

INTRODUCTION

Vaginal discharge is one of the reproductive health problems commonly experienced by women. Vaginal discharge refers to fluid released from the vagina that contains dead cells from the vaginal walls.

This fluid naturally functions to maintain the cleanliness and moisture of the female reproductive organs.[1,] Based on its causes, vaginal discharge is classified into two types: physiological discharge and pathological discharge. Physiological vaginal discharge is generally clear in colour, has a thick texture, and is odourless. The colour and texture of the fluid may change according to hormonal changes in the body.[2]

Pathological vaginal discharge is usually accompanied by complaints such as itching, a burning sensation, and irritation in the vulva and vaginal areas, which are common symptoms of vulvovaginitis. This condition can cause discomfort for those affected. If not treated properly, pathological vaginal discharge can lead to more serious reproductive disorders in women, depending on the underlying cause. Pathological discharge that persists for a long period can result in various serious diseases, such as pelvic infections, infertility, and even become an early symptom of cervical cancer.[3]

The most common cause of pathological vaginal discharge is infection. Several types of infections frequently responsible for pathological discharge include Bacterial Vaginosis (BV), which occurs in approximately 22–50% of women, Vulvovaginal Candidiasis (VVC) at 17–39%, and Trichomoniasis (TV) at 4–35%.[4] In addition to infections or inflammation, pathological vaginal discharge can also be triggered by unhealthy behaviours. These behaviours include cleaning the vagina with unclean water, excessive use of vaginal cleansing products, improper methods of cleaning the genital area, prolonged stress, smoking and alcohol consumption, the use of powders, tissues, or scented soaps in the vaginal area, as well as sharing bathing equipment that may facilitate bacterial transmission.[5,6]

Besides behavioural factors, the occurrence of vaginal discharge can also be influenced by a low level of knowledge regarding pathological vaginal discharge and a lack of attention to reproductive organ hygiene. Knowledge is one of the important factors contributing to the occurrence of vaginal discharge.[7] A study conducted by Mudiyanselage et al. (2015) concluded that pathological vaginal discharge may occur due to low knowledge and poor behaviour in maintaining vaginal hygiene.[8] In addition, research by Abdelnaem (2019) showed that increased knowledge and good behaviour are highly effective in preventing vaginal discharge.[4]

In Indonesia, around 75% of women have experienced vaginal discharge at least once in their lifetime. Among adolescent girls aged 15–24 years, the prevalence of vaginal discharge reaches approximately

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31.8%.[8] The Ministry of Health of the Republic of Indonesia states that vaginal discharge is most commonly experienced by adolescent girls during their productive age. In fact, the incidence of vaginal discharge in Indonesia is relatively higher compared to several other countries.[9] Globally, more than 50% of women have experienced vaginal discharge. Although vaginal discharge does not always require treatment, many women still do not fully understand its causes. The most common type is pathological vaginal discharge, accounting for approximately 54%.[10]

Based on research conducted by Ilmiawati (2018), the knowledge of adolescent girls regarding vaginal personal hygiene related to vaginal discharge is still relatively low.[5.] The results of the study showed that most respondents had a poor level of knowledge, with 23 respondents (46%), and none of the respondents had a good level of knowledge.[11]

Adolescents represent a population group that requires special attention in terms of reproductive health. This is because adolescence is a transitional period toward the maturity of reproductive organs. However, discussions about reproductive health are still often considered taboo, causing adolescent girls and female university students to experience difficulties in obtaining accurate and high-quality information.[12] This condition is supported by various studies, including research conducted by the Department of Microbiology at the Institute of Medical Sciences and Research, Jalna, India. The study reported that among 175 women examined, the majority of vaginal discharge cases occurred in the age group of 25–35 years (36.57%) and 15–25 years (34.28%).[13]

The knowledge possessed by female university students greatly influences their mindset and awareness in maintaining reproductive health. With adequate knowledge, female students are expected to adopt healthy lifestyles so that the occurrence of vaginal discharge can be prevented. In general, university students are divided into two academic fields: Natural Sciences and Social Sciences. Female students from Natural Science majors generally receive biological education regarding reproductive health during high school, while those from Social Science majors tend to receive more limited exposure to such material.[14,15]

These differences in educational background may influence the level of knowledge, attitudes, and behaviours in maintaining reproductive health. In Social Science majors, the number of female students is generally higher than male students, especially in the faculties of economics and law. Based on research conducted by a student from the Faculty of Economics at Universitas Muhammadiyah Sumatera Utara (UMSU), it was found that approximately 53% of students in the Faculty of Economics are female. Therefore, the researcher is interested in examining the differences in knowledge, attitudes, and vaginal hygiene behaviours related to the incidence of pathological vaginal discharge among female students in Social Science majors, particularly in the Faculty of Law (FH) and the Faculty of Economics (FE).

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METHOD

Vaginal discharge is one of the reproductive health problems commonly experienced by women. Vaginal discharge refers to fluid released from the vagina that contains dead cells from the vaginal walls. This fluid naturally functions to maintain the cleanliness and moisture of the female reproductive organs. Based on its causes, vaginal discharge is classified into two types: physiological discharge and pathological discharge. Physiological vaginal discharge is generally clear in colour, has a thick texture, and is odourless. The colour and texture of the fluid may change according to hormonal changes in the body.

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The most common cause of pathological vaginal discharge is infection. Several types of infections frequently responsible for pathological discharge include Bacterial Vaginosis (BV), which occurs in approximately 22–50% of women, Vulvovaginal Candidiasis (VVC) at 17–39%, and Trichomoniasis (TV) at 4–35%. In addition to infections or inflammation, pathological vaginal discharge can also be triggered by unhealthy behaviours. These behaviours include cleaning the vagina with unclean water, excessive use of vaginal cleansing products, improper methods of cleaning the genital area, prolonged stress, smoking and alcohol consumption, the use of powders, tissues, or scented soaps in the vaginal area, as well as sharing bathing equipment that may facilitate bacterial transmission.[11,16]

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compared to several other countries. Globally, more than 50% of women have experienced vaginal discharge. Although vaginal discharge does not always require treatment, many women still do not fully understand its causes. The most common type is pathological vaginal discharge, accounting for approximately 54% of cases.[8]

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These differences in educational background may influence the level of knowledge, attitudes, and behaviours in maintaining reproductive health. In Social Science majors, the number of female students is generally higher than male students, especially in the faculties of economics and law. Based on research conducted by a student from the Faculty of Economics at Universitas Muhammadiyah Sumatera Utara (UMSU), it was found that approximately 53% of students in the Faculty of Economics are female. Therefore, the researcher is interested in examining the differences in knowledge, attitudes, and vaginal hygiene behaviours related to the incidence of pathological vaginal discharge among female students in Social Science majors, particularly in the Faculty of Law (FH) and the Faculty of Economics (FE).

RESULT

This study was a descriptive study with a cross-sectional approach conducted from October to November 2023 at the

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Faculty of Law and the Faculty of Economics, Universitas Muhammadiyah Sumatera Utara, Medan. The study received approval from the Health Research Ethics Committee (KEPK) of the Faculty of Medicine, Universitas Muhammadiyah Sumatera Utara. This research aimed to determine differences in the level of knowledge, attitudes, and vaginal hygiene behaviour related to the occurrence of vaginal discharge among female students in the Faculty of Law and the Faculty of Economics.

The respondents in this study consisted of 160 female students selected using the accidental sampling technique according to the inclusion and exclusion criteria. The data used were primary data collected through a Google Form questionnaire consisting of four sections: screening for vaginal discharge, knowledge (12 questions), attitude (11 questions), and behaviour (11 questions). Before the study was conducted, the questionnaire had undergone validity and reliability testing and was declared valid and consistent. Before completing the questionnaire, respondents were informed about the study and asked to fill out a consent form if they agreed to participate as respondents.

Demographic Characteristics of the Respondents

Table 1 Distribution of Vaginal Discharge Screening Results Among Respondents from the Faculty of Economics

Demographic Characteristics	Faculty of Law		Faculty of Economics	
Year of Enrollment	n	%	n	%
2020	70	87,5	72	90,0
2021	8	10	3	3,8
2022	2	2,5	5	6,3
Age (years)				
19	4	5	4	5,0
20	40	50	46	57,5
21	35	43,8	30	37,5
22	1	1,3	0	0
Total	**80**	**100**	**80**	**100**

Of the 160 respondents, all were female. In the Faculty of Law, the largest cohort group was the 2020 cohort with 70 respondents (87.5%), while the most common age group was 20 years old with 40 respondents (50%). In the Faculty of Economics, the largest cohort group also came from the 2020 cohort with 72 respondents (90%), and the most common age group was 20 years old with 46 respondents (57.5%).

Distribution of Vaginal Discharge Screening Responses among Faculty of Economics Respondents

Of the 80 respondents from the Faculty of Economics who were included as samples, 79 respondents (98.7%) experienced vaginal discharge. The most common colour of discharge was clear, reported by 41 respondents (51.2%). A total of 52 respondents (65%) did not experience itching or burning sensations, while 28 respondents (35%) reported itching or burning. Additionally, 44 respondents (55%) experienced discharge with a fishy odour. Furthermore, 52 respondents (65%) had never experienced pain during urination. Among the 79 respondents who experienced vaginal discharge, 53 respondents (66.3%) were indicated to have pathological vaginal discharge.

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Distribution of Vaginal Discharge Screening Responses among Faculty of Law Respondents

Of the 80 respondents from the Faculty of Law included in the sample, all respondents (100%) experienced vaginal discharge. The most common type of discharge was thick white discharge reported by 43 respondents (53.8%). A total of 42 respondents (52.5%) experienced discharge accompanied by itching or burning sensations, while 38 respondents (47.5%) did not experience these symptoms. Additionally, 44 respondents (55%) experienced discharge with a fishy odour. Furthermore, 74 respondents (92.5%) had never experienced pain during urination. Among the respondents who experienced vaginal discharge, 51 respondents (63.7%) were indicated to have pathological vaginal discharge.

Frequency Distribution of Vaginal Discharge Screening

Table 2: Frequency Distribution of Pathological Vaginal Discharge

Faculty	Category				Total
	+		-		
	n	%	n	%	
Economics	53	66,3	27	33,8	80
Law	51	63,7	29	36,3	80

The highest number of pathological vaginal discharge cases was found in the Faculty of Economics with 53 respondents (63.7%), while the highest number of negative cases was found in the Faculty of Law with 29 respondents (36.3%).

Respondents' Knowledge of Vaginal Hygiene

Distribution of Knowledge Responses among Faculty of Economics Respondents

The distribution of respondents' answers regarding knowledge of vaginal hygiene showed that, among the 80 respondents included in the sample, most respondents correctly answered the 12 questionnaire items.

Distribution of Knowledge Responses among Faculty of Law Respondents

The distribution of respondents' answers regarding knowledge of vaginal hygiene indicated that, among the 80 respondents included in the sample, most respondents correctly answered the 12 questionnaire items.

Frequency Distribution of Respondents' Knowledge of Vaginal Hygiene

Table 3 Frequency Distribution of Vaginal Hygiene Knowledge

Faculty	Category					
	Good		Fair		Poor	
	n	%	n	%	n	%
Economics	57	71,3	23	28,7	-	-
Law	45	53,8	36	45	1	1,3

The faculty with the highest level of good vaginal hygiene knowledge was the Faculty of Economics with 57 respondents (71.3%). Meanwhile, poor knowledge of vaginal hygiene was found in the Faculty of Law with 1 respondent (1.3%).

Respondents' Attitudes toward Vaginal Hygiene

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Distribution of Attitude Responses among Faculty of Economics Respondents

The frequency distribution of the attitude variable indicated that, among the 80 respondents included in the sample, most respondents predominantly showed a strongly agree attitude toward the statements provided.

Distribution of Attitude Responses among Faculty of Law Respondents

The frequency distribution of the attitude variable showed that, among the 80 respondents included in the sample, most respondents predominantly expressed a strongly agree attitude.

Frequency Distribution of Respondents' Attitudes toward Vaginal Hygiene

Table 4 Frequency Distribution of Vaginal Hygiene Attitudes

Faculty	Category					
	Good		Fair		Poor	
	n	%	n	%	n	%
Economics	61	76,3	19	23,8	-	-
Law	73	91,3	7	8,8	-	-

The faculty with the highest level of good vaginal hygiene attitude was the Faculty of Law with 73 respondents (91.3%). Meanwhile, a fairly good attitude toward vaginal hygiene was most commonly found in the Faculty of Economics with 19 respondents (23.8%).

Respondents' Behaviour toward Vaginal Hygiene

Distribution of Behaviour Responses among Faculty of Economics Respondents

The distribution of respondents' answers regarding vaginal hygiene behaviour showed that, among the 80 respondents included in the sample, most respondents consistently demonstrated positive behaviours. These behaviours included washing hands before touching the genital area, drying the genital area after urination or defecation, using soft and highly absorbent sanitary pads during menstruation, regularly trimming pubic hair, wearing non-tight underwear, not frequently using pantyliners, and changing sanitary pads two to three times during menstruation.

Distribution of Behaviour Responses among Faculty of Law Respondents

The distribution of respondents' answers regarding vaginal hygiene behaviour showed that, among the 80 respondents included in the sample, most respondents consistently demonstrated similar positive behaviours. These included washing hands before touching the genital area, drying the genital area after urination or defecation, using soft and absorbent sanitary pads during menstruation, regularly trimming pubic hair, wearing non-tight underwear, not frequently using pantyliners, and changing sanitary pads two to three times during menstruation.

Frequency Distribution of Respondents' Vaginal Hygiene Behaviour

Table 5 Frequency Distribution of Vaginal Hygiene Attitudes

Faculty	Category					
	Good		Fair		Poor	
	n	%	n	%	n	%

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Economics	58	72,5	21	26,3	1	1,3
Law	16	20	57	71,3	1	8,8

The faculty with the highest level of good vaginal hygiene behaviour was the Faculty of Economics with 58 respondents (72.5%). Meanwhile, a fairly good level of vaginal hygiene behaviour was most commonly found in the Faculty of Law with 57 respondents (71.3%).

DISCUSSION

The results of this study showed that the faculty with the highest proportion of good vaginal hygiene knowledge was the Faculty of Economics, with 57 respondents (71.3%). Meanwhile, poor knowledge was found in the Faculty of Law, with 1 respondent (1.3%). The faculty with the highest proportion of good vaginal hygiene attitudes was the Faculty of Law, with 73 respondents (91.3%), and no poor attitudes were found in either faculty. Meanwhile, the highest proportion of good vaginal hygiene behaviour was found in the Faculty of Economics, with 58 respondents (72.5%), while the highest proportion of poor behaviour was found in the Faculty of Law, with 7 respondents (8.8%).

The faculty with the highest number of respondents who had experienced pathological vaginal discharge was the Faculty of Economics, with 53 respondents (63.7%). In contrast, respondents who did not experience pathological vaginal discharge were mostly found in the Faculty of Law, with 29 respondents (36.3%).

The results of this study indicate that there are differences in the levels of knowledge, attitudes, and vaginal hygiene behaviours related to the occurrence of pathological vaginal discharge among female students of the Faculty of Law and the Faculty of Economics. These differences may be influenced by several factors, including age, education, and environment.

As individuals grow older, their level of knowledge generally increases. This occurs because individuals become more capable of receiving information and are more mature in thinking and decision-making. In addition to age, environmental factors may also influence the study results.[17] The environment referred to includes both family and social environments. Information about vaginal hygiene is often obtained from parents, siblings, or close relatives. The social environment also plays an important role in providing information to female students.[18]

Education also plays an important role in improving an individual's knowledge. The higher the level of education, the higher the level of knowledge a person tends to possess. In addition, experience is another factor that can increase knowledge.[19] In this study, the respondents were categorised as late adolescents with an age range of approximately 19–21 years. At this stage, adolescents tend to have a higher level of curiosity about various topics. Their way of thinking also begins to develop toward a more mature stage in making decisions.[20,21]

In this study, 100 respondents (62.5%) were categorised as having good knowledge, 59 respondents (36.8%) had

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fairly good knowledge, and only 1 respondent (0.7%) had poor knowledge. Other studies conducted in Sri Lanka and India showed that most respondents living in rural areas had poor knowledge regarding reproductive health. This may be influenced by environmental factors, limited access to information, and lower levels of education, which restrict the knowledge obtained.[22]

Research conducted by Hanipah and Novita showed that 49 respondents (72.41%) had a good level of knowledge. In addition, several respondents were found to experience pathological vaginal discharge. This condition may be influenced by individual experience, which can increase understanding of reproductive health problems.[23]

The researchers assume that the better a woman's knowledge about vaginal discharge, the better the actions taken to prevent its occurrence. Good knowledge can be influenced by various factors such as education, experience, socio-cultural conditions, age, and environment.

Based on the results of this study, the attitudes of respondents from the Faculty of Law and the Faculty of Economics showed that 134 respondents (83.7%) were categorised as having good attitudes, while 26 respondents (16.3%) were categorised as having fairly good attitudes. Attitude is a response that is still considered a closed reaction toward a stimulus or object, whether in the form of knowledge or information. The information received will be processed and responded to, and then respondents will apply behaviour based on the knowledge they possess.[24,25]

The results of this study are consistent with the study conducted by Kavalina Hutama (2017), which showed that 101 respondents (80.8%) had good attitudes. This condition may be influenced by good levels of knowledge, which produce positive attitudes. However, attitudes do not always directly translate into appropriate behaviour. Good knowledge can lead to positive attitudes and eventually form better behaviour, especially when supported by a conducive environment.[26]

Based on the results of this study, the level of vaginal hygiene behaviour among female students of the Faculty of Economics and the Faculty of Law showed that 74 respondents (46.2%) were categorised as having good behaviour, 78 respondents (48.7%) were categorised as having fairly good behaviour, and only 8 respondents (5.1%) were categorised as having poor behaviour.

The results of this study are not consistent with the study conducted by Tranggono (2017), which showed that vaginal hygiene behaviour in preventing vaginal discharge was still relatively poor at 70%. However, the findings of this study are consistent with the study conducted by Rakhmilla, which reported that vaginal hygiene behaviour was in the good category at 55.8%.[27]

Behaviour is an activity or action influenced by the attention and observation of each individual. New behaviour is usually formed through a process that begins with knowledge, which then shapes attitudes and eventually leads to actions. The formation of behaviour can be

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influenced by three main factors: predisposing factors, enabling factors, and reinforcing factors.[24,28,29]

The differences in levels of knowledge, attitudes, and behaviours between female students of the Faculty of Economics and the Faculty of Law indicate that some respondents already possess good knowledge. However, in several aspects, this knowledge has not been fully applied in daily practice. This may be influenced by individual motivation to apply the knowledge they possess, interest in seeking information, and the limited dissemination of information regarding vaginal hygiene in non-health-related environments.

CONCLUSION

Based on the results of the study conducted among female students of the Faculty of Law and the Faculty of Economics at Universitas Muhammadiyah Sumatera Utara regarding the differences in knowledge, attitudes, and vaginal hygiene behavior related to the occurrence of pathological vaginal discharge, it can be concluded that there are differences in the levels of knowledge, attitudes, and vaginal hygiene behaviors between female students of the Faculty of Law and the Faculty of Economics in relation to the occurrence of pathological vaginal discharge.

The highest proportion of good vaginal hygiene knowledge was found among students of the Faculty of Economics, with 57 respondents (71.3%), while poor knowledge was found in the Faculty of Law with 1 respondent (1.3%). The highest proportion of good vaginal hygiene attitudes was found in the Faculty of Law, with 73 respondents (91.3%), and no poor attitudes were identified in either faculty. Meanwhile, the highest proportion of good vaginal hygiene behaviour was found in the Faculty of Economics, with 58 respondents (72.5%), whereas poor vaginal hygiene behaviour was most commonly found in the Faculty of Law with 7 respondents (8.8%).

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