JMU
Jurnal Medika Udayana
ISSN: 2597-8012 JURNAL MEDIKA UDAYANA, VOL. 14 NO.01, JANUARI, 2025
DOAJ DIRECTORY OF OPEN ACCESS JOURNALS
Accredited SINTA 3
Received: 2024-11-21 Revision: 2024-11-30 Accepted:01-12-2024

OVERVIEW OF PERSONAL HYGIENE KNOWLEDGE LEVEL WITH THE PREVALENCE OF VAGINAL DISCHARGE IN STUDENTS OF PREMEDICAL SCHOOL UDAYANA UNIVERSITY

Erica Luis Adiwati[1], Ketut Kwartantaya[2], I Gusti Nyoman Darmaputra[2], Prima Sanjiwani Saraswati Sudarsa[2]
Department of Dermatology and Venereology
[1]Bachelor of Medicine Study Program, Faculty of Medicine, Udayana University, Indonesia
[2]Department of Dermatology and Venereology, Faculty of Medicine, Udayana University, Indonesia
e-mail: ericaluis@student.unud.ac.id

ABSTRACT

Background : Personal hygiene is the practice of keeping oneself clean that can prevent people from various diseases brought on by poor sanitation. This is related to the occurrence of vaginal discharge, which is the white fluid that usually comes out of the vagina after women enter the puberty phase. A high level of personal hygiene knowledge does not always mean a good application of personal hygiene. This leads to a possibly high incidence of vaginal discharge among highly knowledgeable women.
Objective : This study was conducted to find out an overview of the level of personal hygiene knowledge of students of the Bachelor of Medicine Study Program, Faculty of Medicine, Udayana University with the prevalence of vaginal discharge.
Methods : Data for this study is collected through a cross-sectional descriptive method. The consecutive sampling technique was used to select the research sample which consisted of 124 students of the Bachelor of Medicine Study Program, Faculty of Medicine, Udayana University.
Results : Based on the research, 117 respondents (94.4%) had good knowledge, 7 respondents (5.6%) had sufficient knowledge, and none had a bad level of knowledge. The prevalence of vaginal discharge in this population reached 86.3%.
Conclusion : Overall, the overview of the level of personal hygiene knowledge of students of the Bachelor of Medicine Study Program, Faculty of Medicine, Udayana University with the incidents of vaginal discharge, is mostly in the good category.
Keywords: Personal Hygiene., Vaginal Discharge., Knowledge Level., Students

INTRODUCTION

Personal hygiene is the practice of keeping oneself clean that can prevent people from various diseases brought on by poor sanitation[1]. However, numerous diseases remain due to the absence of personal hygiene implementation as not everyone understands the significance[2],[3]. One of the most common diseases is vaginal discharge[4].

Vaginal discharge is the discharge of white fluid from the vagina that usually occurs in women who have entered the puberty phase[5]. According to World Health Organization (WHO), 33% of the diseases suffered by women in the world are related to reproductive health, one of which is vaginal discharge[6]. Based on research, as many as 75% of all women have experienced vaginal discharge at least once and 45% of them have recurrent conditions[7].

Indonesia is one of the countries with a tropical climate. This condition makes the body more humid and easy to sweat. It causes the development of mold more easily, an unpleasant smell, and causes about 90% of women to experience vaginal discharge potentially[8]. Unmarried women or adolescent women with an age range of 15-24 years of 31.8% also showed symptoms of vaginal discharge[9].

This disease is often ignored and considered a natural thing. Even though vaginal discharge can cause infertility and pregnancy outside the womb caused by blocked fallopian tubes[10],[11]. In addition, vaginal discharge is an early symptom of cervical cancer with an incidence of 100 per 100.000 population each year which can be fatal[12].

Some of the factors that trigger vaginal discharge include the use of tampons, changing partners in sexual intercourse, improper handwashing practices and the use of tight clothes and underwear that are not easily absorbed can also irritate[13],[14].

According to the research by Mokodongan, the majority of people who misbehave in the prevention of

vaginal discharge are teenagers. As many as 10% of adolescents often use feminine area cleaning products, 17.59% never dry the genitalia organs after urinating or defecating, 25.76% clean the genitalia organs from back to front, and 17% often use tights. This is a group of adolescents who have a high risk of pathological vaginal discharge[15].

One of the key elements in preventing infections that can result in vaginal discharge is by maintaining good personal hygiene[16]. Therefore, health workers must provide guidance with accurate and comprehensive information to increase public awareness, especially among women, of the importance of maintaining the cleanliness of the female organs[17].This study aims to find an overview of the level of personal hygiene knowledge in female students and the incidence of vaginal discharge as well as to find the relationship between the two.

MATERIALS AND METHODS

This study is an observational analytical study with a cross-sectional analytical study. This research was carried out on female students of the Bachelor of Medicine Study Program, Faculty of Medicine, Udayana University Class of 2022 and 2023. The target population in this study is all students of the Bachelor of Medicine Study Program, Udayana University, while the accessible population is all students of the Bachelor of Medicine Study Program, Udayana University Class of 2022 and 2023. This research has obtained ethical clearance stated by Udayana University with letter number 0701/UN14.2.2.VII.14/LT/2024. Researcher collected data by visiting classes of 2022 and 2023 to get the sample population. The inclusion criteria used in this study are students whose gender is female and actively enrolled at the institution. The exclusion criteria used are students who are not willing or refuse to participate and/or female students who are incomplete in filling the research data. Accessible population that have met the inclusion and exclusion criteria will be the research sample. In this study, 124 respondents contribute to the total number of research samples.

The dependent variable in this study is the incidence of vaginal discharge while the independent variable is the level of personal hygiene knowledge. The level of personal hygiene knowledge is determined using a knowledge level of personal hygiene questionnaire. The incidence of vaginal discharge was measured using a questionnaire according to the answers from the respondents.

The analysis carried out in this study was in the form of univariate and bivariate analysis. The analysis was carried out using Microsoft Excel and Statistical Package for the Social Science (SPSS) version 29.0. Univariate analysis was carried out to see the incidents of vaginal discharge and the level of personal hygiene knowledge in students. The statistical test carried out for bivariate analysis is the Eta test. The results of the Eta test with a value of $\eta 2 = 0$ indicate no relationship, $\eta 2 \leq 0.01$ indicates a small effect relationship, $0.01 < \eta 2 < 0.06$ indicates a medium effect relationship, $0.06 < \eta 2 < 0.14$ indicates a large effect relationship, and $\eta 2 > 0.14$ indicates a very large effect relationship.

RESULT

This research was conducted on female students of the Bachelor of Medicine Study Program, Faculty of Medicine, Udayana University from the end of April to May 2024. The research was conducted using a questionnaire filled out by respondents. Female students who are willing to become respondents fill out a google form. This research succeeded in obtaining as many as 124 respondents. The results of this study will be presented in the form of tables and narratives.

The majority of respondents in this study were 19-year-old female students, with as many as 58 respondents (46.8%), followed by 18-year-old female students with a total of 45 respondents (36.3%). 20-year-old female students ranked third with 20 respondents (16.1%). Meanwhile, the last 1 respondent, who is a minority is 21 years old. It is known that from a total of 124 female respondents, the average age of respondents from the Bachelor of Medicine Study Program, Faculty of Medicine, Udayana University Class of 2022 and 2023 is 19.5 years. This age distribution data can be seen in Table 1.

Table 1. Age Distribution of Respondents

Variable	Frequency (n=124)	Percentage (%)
Age (years)		
18	45	36.3
19	58	46.8
20	20	16.1
21	1	0.8
Median	19,5	
Mean ± SD	18.81 ± 0.72	

Information about personal hygiene, both through health workers, mass media, and the environment, was also asked in the questionnaire. Female students who received personal hygiene information had a larger percentage, namely 114 respondents (91.9%). On the contrary, as many as 10 respondents (8.1%) have never been exposed to information related to personal hygiene.

Sources of information about personal hygiene can be obtained through several ways such as mass media (magazines, radio, or television), health workers, and the environment (friends, neighbors, or family). Respondents

were able to obtain information from more than one source, including 96 respondents who obtained information from the mass media, 51 respondents from health workers, and as many as 73 respondents who obtained information from the surrounding environment. This distribution can be seen in Table 2.

Table 2. Distribution of Exposure Information on Personal Hygiene

Variable	Frequency (n=124)	Percentage (%)
Personal Hygiene Information		
Yes	114	91.9
No	10	8.1
Resources *		
Mass Media	96	77.4
Health Workers	51	41.1
Environment	73	58.8

*Respondents can receive information from more than one source

The distribution of the incidence of vaginal discharge in female students of the Bachelor of Medicine Study Program, Faculty of Medicine, Udayana University Class of 2022 and 2023 is presented in Table 3. Based on the data from the questionnaire results, it can be seen that the percentage of vaginal discharge in female students is still high, namely 107 respondents (86.3%). This is quite a contrast when compared to the group that did not experience vaginal discharge, as many as 17 respondents (13.7%).

Table 3. Distribution of Vaginal Discharge Incidence

Incidence of Vaginal Discharge	Frequency (n=124)	Percentage (%)
Yes	107	86.3
No	17	13.7
Total	**124**	**100**

The level of knowledge of respondents was measured using a questionnaire containing 15 questions about personal hygiene. This score grouping follows Arikunto's criteria. Knowledge scores are divided into three categories, namely poor if the score is ≤ 55%, sufficient if the score is between 56-74%, and good if the score is ≥ 75%. This study found that as many as 117 (94.4%) students of the Bachelor of Medicine Study Program, Faculty of Medicine, Udayana University Class of 2022 and 2023 had good knowledge, followed by 7 respondents (5.6%) who were at a sufficient knowledge level. The distribution of this level of knowledge can be seen in Table 4.

Table 4. Category Distribution of Respondents' Knowledge Levels

Level of Knowledge	Frequency (n=124)	Percentage (%)
Good	117	94.4%
Enough	7	5.6%
Poor	0	0%
Total	**124**	**100%**

A total of 107 respondents who had experienced vaginal discharge showed a level of knowledge of 90.7%. Meanwhile, 17 respondents who had never experienced vaginal discharge had a knowledge level of 88.2%. The Eta test score obtained was 0.0888. This figure is included in the range of $0.06 < \eta 2 < 0.14$ so that it can be considered to have a large effect relationship. The distribution of this data can be seen in Table 5.

Table 5. Distribution of Personal Hygiene Knowledge Levels based on Incidence of Vaginal Discharge

Experience of Vaginal Discharge	Frequency (n=124)	Mean Knowledge Level ± SD (%)	η2
Yes	107	90.71 ± 7.73	0.088

doi:10.24843.MU.2025.V14.i1.P04

No	17	
Total	**124**	**90.37 ± 7.99**

DISCUSSION

This research was conducted on 124 respondents. In this study, the respondents are students of the Bachelor of Medicine Study Program, Faculty of Medicine, Udayana University Class of 2022 and 2023. The purpose of this study is to find out an overview of the level of personal hygiene knowledge of female students of the Bachelor of Medicine Study Program, Faculty of Medicine, Udayana University Class of 2023 regarding the incidence of vaginal discharge. Research by Kenzi et al. shows that the level of personal hygiene knowledge is directly proportional to the decrease in the incidence of vaginal discharge[18]. An overview of this level of knowledge can provide information regarding the precautions that female students frequently take to avoid vaginal discharge.

In this study, based on the category of personal hygiene knowledge level in female students of the Bachelor of Medicine Study Program, Faculty of Medicine, Udayana University Class of 2022 and 2023, it was found that most of the female students (94.4%) had a good level of knowledge and a small number of the remaining (5.6%) had a sufficient level of knowledge. In this study, the level of knowledge in female students who have never experienced vaginal discharge is lower (88%) than female students who have experienced vaginal discharge (90%).

The results of the Eta squared test obtained a value of 0.088 which means that there is a large effect relationship between the level of knowledge and the incidence of vaginal discharge[19]. Based on this test, the level of knowledge of students was found to increase if they had experienced vaginal discharge. In this study, the average increase in personal hygiene knowledge in someone who has experienced vaginal discharge is around 2%.

This increase is likely due to exposure to information obtained by female students who experience vaginal discharge. Female students who have experienced pathological vaginal discharge generally get information from health workers. Meanwhile, female students with physiological vaginal discharge obtained more information from the mass media. The study in this population did not find any individuals with poor level of personal hygiene knowledge. It can be caused due to the study's demographic selection, namely premedical students who aspire to become medical professionals and have better exposure to knowledge related to personal hygiene.

Previous research by Kamilah et al. shows that the better the knowledge, the less likely a person will be to experience vaginal discharge and vice versa[20]. Another study by Susila and Kastar showed that the level of poor knowledge was related to the incidence of abnormal vaginal discharge in junior high school students[21]. At the high school level, Wahyuni et al.'s research demonstrated that the level of knowledge in high school students was on average at a moderate to good level and most of the vaginal discharge experienced was physiological vaginal discharge. The analysis conducted on the data showed that there was no relationship between behavior and knowledge about personal hygiene to the incidence of vaginal discharge[22]. The study is in line with this study which found no significant difference in the level of knowledge between people who experience vaginal discharge and those who do not experience vaginal discharge.

The sources of information that affect the level of knowledge of female students about personal hygiene vary from mass media sources, health workers, and the environment. Most sources of information come from the mass media, indicating the effectiveness of personal hygiene campaigns carried out online[23]. However, this method has not yet reached the target population, so a more thorough socialization method is still needed. One of the recommended methods is the counseling method with lectures. In Linar et al.'s study, socialization increased the well-informed population by 45.7%[24].

This study has several weaknesses that can be improved in the future. Some of them are sampling techniques that are not carried out randomly so that there is a selection bias in this study[25]. In addition, the limitation of the research sample that was only taken from medical students of Udayana University caused this research data to be invalid for the general population[26]. The data produced from this study is prevalence data so it cannot describe the risk factors of vaginal discharge experienced by female students. Incidence data is better at describing this because it can show the number of vaginal discharge events in respondents in a certain period only[27]. This can better illustrate the influence of knowledge on the decrease in the incidence of vaginal discharge.

CONCLUSIONS AND SUGGESTIONS

This study concludes that the level of personal hygiene knowledge of female students of the Bachelor of Medicine Study Program, Faculty of Medicine, Udayana University shows a very good picture overall with no one having a poor knowledge. The prevalence of vaginal discharge in the sample was quite high to reach 86.3%. Based on the results of the Eta squared test, the level of personal hygiene knowledge has a strong effect relationship with the incidents of vaginal discharge. The level of personal hygiene knowledge in this population was found to be higher on average by 2% in female students who had experienced vaginal discharge than those who had not.

The results of this study show that there are several things that can be improved to develop this research further. One of them is by dividing the research subject group to clarify the occurrence of vaginal discharge that occurs, namely into a group that has just experienced vaginal discharge, once vaginal discharge, repeated vaginal discharge, and has never experienced vaginal discharge. Then the type of vaginal discharge, both physiological and

recommends improving the quality of information provided through mass media to increase the effectiveness of information delivery to the public.

REFERENCES

1. Hariani A, Sadya M. The Relationship Between Female Midwifery Students' Knowledge About Personal Hygiene And The Incidence Of Vaginal Discharge. Benih J Midwifery. 2023;2(01):1–6.
2. Hasanah M, Rifai M. Hubungan Personal Hygiene Dan Penggunaan Apd Dengan Keluhan Dermatitis Kontak Pada Pembatik Warna Sintetis Di Giriloyo Kabupaten Bantul. Hearty. 2021;9(1):9.
3. Mariana, Novita E, Pariyana, Haryani AM, Trikurnia R. Analysis Of Personal Hygiene, Household Sanitation Status Of Lungs Tuberculosis Nutrition. Maj Kedokt Sriwij [Internet]. 2020;52(1):275–82. Available from: https://ejournal.unsri.ac.id/index.php/mks/article/view/11431/0
4. Sim M, Logan S, Goh LH. Vaginal discharge: evaluation and management in primary care. Singapore Med J. 2020;61(6):297.
5. Navalia, Nuryani, Idu CJ. Hubungan Perilaku Personal Hygiene dengan Kejadian Keputihan pada Remaja Putri Kelas VIII SMPN 1 Mauk. Med Nutr J Ilmu Kesehat. 2024;8(1):1–10.
6. Qariati NI, Asrinawaty A. Hubungan Pengetahuan, Dan Perilaku Vulva Hygiene Dengan Kejadian Keputihan Pada Santriwati Baru Ponpes Darul Hijrah Banjarbaru. An-Nadaa J Kesehat Masy. 2018;5(1).
7. Rakhmilla LE, Fah LI, Sofiatin Y, Widjadjakusuma A, Rosyada NA. Knowledge, Attitude, and Practice about Vaginal Discharge on School-Age Girls in Jatinangor Senior High School. Open Access Libr J. 2016;3(11):1–9.
8. Suminar ER, Sari VM, Magasida D, Agustiani AR. Factors Associated with the Occurrence of Vaginal Discharge in Female Students. Placentum J Ilm Kesehat Dan Apl. 2022;10(3):2022.
9. Azizah N. Karakteristik remaja putri dengan kejadian keputihan di smk muhammadiyah kudus. J Ilmu Keperawatan dan Kebidanan. 2015;6(1).
10. Diana, Hindriyawati W, Ekawati D. Descriptive Study of Knowledge About Leucorrhoea and Personal Hygiene Attitudes of Young Girls at Muhammadiyah 5 Junior High School Yogyakarta. JETISH J Educ Technol Inf Soc Sci Heal. 2023;
11. Saadah N, Putri FS, Sumaningsih R, Khasanah U. The Relationship Between Personal Hygiene Behavior and the Incidence of Vaginal Discharge. Int J Adv Heal Sci Technol. 2024;4(3):197–201.
12. Anjan A, Susanti D. Hubungan sumber informasi gan perilaku personal hygiene pada remaja putri t menstruasi. J Cent Res Publ Midwifery Nurs. 9;3(1):38–44.
13. Sevil S, Kevser O, Aleattin U, Dilek A, Tijen N. An evaluation of the relationship between genital hygiene practices, genital infection. Gynecol Obs. 2013;3(6):1–5.
14. Citrawati NK, Nay HC, Lestari RTR. Hubungan Tingkat Pengetahuan tentang Keputihan dengan Perilaku Pencegahan Keputihan pada Remaja Putri di SMA Dharma Praja Denpasar: The Correlation between Level of Knowledge about Leucorrhoea and Prevention Of Leucorrhoea Behavior on Teenage Girls at SMA Dharma Praja Denpasar. Bali Med J. 2019;6(1):71–9.
15. Abrori, Hernawan AD, Ermulyadi. Faktor yang berhubungan dengan kejadian keputihan patologis siswi SMAN 1 Simpang Hilir Kabupaten Kayong Utara. Unnes J Public Heal. 2017;6(1):24–34.
16. Nurudeen AS, Toyin A. Knowledge of personal hygiene among undergraduates. J Heal Educ. 2020;5(2):66–71.
17. Dutta S. Knowledge & Practice about Personal Hygiene among Primary School Students in Rural Chattogram , Bangladesh. Dinkum J Med Innov. 2024;(February).
18. Kenzi S, Anastasya S. Understanding the Relationship Between Knowledge, Vaginal Hygiene Practices, and Vaginal Discharge in Adolescents. Int J Heal Med Sci. 2024;2(2):53–62.
19. Adams MA, Conway TL. Eta squared. In: Encyclopedia of quality of life and well-being research. Springer; 2021. p. 1–2.
20. Kamilah AH, Nur D, Sari P, Septimar ZM. Pengaruh Perilaku Personal Hygiene Habits Terhadap Kejadian Flour Albus Pada Remaja Putri. Gudang J Ilmu Kesehat [Internet]. 2024;2:218–22. Available from: https://doi.org/10.59435/gjik.v2i2.834
21. Susila I, Kastar A. Knowledge Of Princess Adoles About Personal Hygiene When Does The Princess Junior High School Students Know. Str J Ilm Kesehat. 2020;9(2):936–43.
22. Wahyuni RS, Wisudawan, Dahliah, Hapsari P, Arifin AF. Hubungan Pengetahuan Sikap dan Perilaku Vaginal hygiene terhadap Kejadian Fluor albus pada Siswi SMAN 17 Makassar. Fakumi Med J J Mhs Kedokt. 2023;3(4):290–9.
23. Makmun I, Amilia R, Utami S. Relationship of Information Media and The Role of Parents on Genital Hygiene of Students. Midwifery Nurs Res. 2022;4(1):1–5.
24. Hernita, Linar C, Azhar HF. Efektivitas Pendidikan Kesehatan Terhadap Peningkatan Pengetahuan Remaja Putri Tentang Flour Albus. Darussalam Indones J Nurs Midwifery. 2023;5(1):91–100.
25. Smith LH. Selection mechanisms and their

consequences: understanding and addressing selection bias. Curr Epidemiol Reports. 2020;7:179–89.

26. Almanasreh E, Moles R, Chen TF. Evaluation of methods used for estimating content validity. Res Soc Adm Pharm. 2019;15(2):214–21.

27. Spronk I, Korevaar JC, Poos R, Davids R, Hilderink H, Schellevis FG, et al. Calculating incidence rates and prevalence proportions: not as simple as it seems. BMC Public Health. 2019;19:1–9.