

THE RELATIONSHIP OF THE LEVEL OF PERSONAL HYGIENE KNOWLEDGE WITH THE INCIDENCE OF PITYRIASIS VERSICOLOR IN GRADUATE MEDICAL STUDENTS OF THE FACULTY OF MEDICINE, UDAYANA UNIVERSITY, CLASS OF 2022 Agnes Susanti Kewatiting¹, I Gusti Nyoman Darmaputra², I Gusti Ayu Agung Elis Indira², Ketut Kwartantaya Winaya²

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ABSTRACT

Personal hygiene of the skin is the most important mechanism for minimizing the transmission of infections, one of which is fungal infections. The disease that most often occurs due to fungal infections is Pityriasis versicolor. This disease is caused by several factors, one of which is poor personal hygiene. This study aims to determine the relationship between the level of personal hygiene knowledge and the level of knowledge of Pityriasis versicolor with the incidence of Pityriasis versicolor in students of the Undergraduate Medical Study Program, Faculty of Medicine, Udayana University, class of 2022. This research is an observational analytical study with a cross-sectional approach. The method used is probability sampling with a simple random sampling technique. The total research sample was 170 people, of which 15 people (8,8%) had a history of Pityriasis versicolor. A total of 157 people (92,4%) had good knowledge about personal hygiene and 152 people (89,4%) had good knowledge about Pityriasis versicolor. The results of Fisher's exact test related to the relationship between the level of knowledge of personal hygiene and the level of knowledge of Pityriasis versicolor with the incidence of Pityriasis versicolor. This shows that there is no significant relationship between the level of knowledge of personal hygiene and the level of knowledge of Pityriasis versicolor and the incidence of Pityriasis versicolor in students of the Undergraduate Medical Study Program, Faculty of Medicine, Udayana University class of 2022.

Keywords: Knowledge, Personal hygiene, Pityriasis versicolor

INTRODUCTION

Personal hygiene of the skin is the most important mechanism to minimize the transmission of infection. One type of skin infection is a fungal infection and the most common is Pityriasis versicolor, also known as tinea versicolor. Pityriasis versicolor is a fungal infection caused by chronic superficial mycosis that attacks keratin tissue, especially the stratum corneum layer of the epidermis.¹ Several factors that can cause Pityriasis versicolor include intrinsic and extrinsic factors. Intrinsic factors are sweat, genetics, sebaceous glands, poor nutrition, drug use, and immunological factors. Extrinsic factors include temperature, skin moisture, and personal hygiene that are not properly considered.²

The incidence of Pityriasis versicolor reaches 30-40% of the world's population and is often found in countries with tropical climates. Indonesia is a country with a tropical climate, making it possible for infectious diseases caused by fungi to occur.³ Climate, environmental, and

http://ojs.unud.ac.id/index.php/eum doi:10.24843.MU.2024.V13.i08.P06 personal hygiene factors that are still lacking in society make this disease quite high in society.⁴ Although data is not currently available, the incidence of Pityriasis versicolor in Indonesia is very high. One of the studies regarding the prevalence and characteristics of Pityriasis versicolor in the Skin and Venereology Clinic of Sanglah General Hospital in 2017 found that there were 36 cases of Pityriasis versicolor (1,13%) with the age group most affected by this disease being 11 to 20 years old, totaling 14 people.⁵ This age range shows that those who are more frequently exposed to Pityriasis versicolor are children to young adults, meaning that students also fall into that age range. This is because in general individuals of this age have a lot of excessive activity and poor personal hygiene behavior.⁶

Medical students have the opportunity and ability to study the field of health sciences. This is used to educate the public as a form of frontline responsibility in the health sector. One of the frequently encountered health problems is Pityriasis versicolor, which can attack various age groups, so prevention efforts are very important.⁵ In preventing this THE RELATIONSHIP OF THE LEVEL OF PERSONAL HYGIENE KNOWLEDGE WITH THE INCIDENCE OF PITYRIASIS VERSICOLOR... Agnes Susanti Kewatiting1, I Gusti Nyoman Darmaputra2, I Gusti Ayu Agung Elis Indira2, Ketut Kwartantaya Winaya2

disease, a good level of knowledge regarding personal hygiene and Pityriasis versicolor is required.

Based on this, this research was conducted to find out the relationship between the level of knowledge of personal hygiene and Pityriais versicolor with the incidence of Pityriais versicolor in students of the Undergraduate Medical Study Program, Faculty of Medicine, Udayana University class of 2022.

1. HEADING

Knowledge is information that someone knows about something from what they read, see, or hear. Several levels of knowledge differentiate knowledge itself. One of them is the level of knowledge in the cognitive field which includes the ability to restate the concepts or principles studied. The level of knowledge of each individual is certainly different. These differences are influenced by several factors, namely factors from within the individual himself such as age and gender, as well as factors from the external environment, namely education, work, experience, sources of information, willingness, environment, and social culture. A person's level of knowledge can be measured either directly or indirectly through questions given such as conducting interviews or using questionnaires.⁷ Based on the Guttman scale, the level of knowledge is divided into two categories, namely the poor category with a percentage < 50% of the maximum value, and the good category with a percentage $\geq 50\%$ of the maximum value.⁸

Hygiene is a behavior carried out to keep the body clean. According to the World Health Organization (WHO), hygiene refers to a condition and behavior to prevent the spread of disease and maintain a person's body health. The goal is to maintain personal is to prevent exposure to a certain disease. Hygiene is divided into two, namely community hygiene and personal hygiene. Personal hygiene is defined as a principle of maintaining cleanliness and caring for one's own body by carrying out activities such as taking a clean bath regularly, washing hands properly and correctly, washing hair using shampoo, brushing teeth, cutting long nails, and wearing clean clothes.⁹

Pityriasis versicolor is a superficial mycosis fungal infection that occurs on the surface layer of human skin. The cause of superficial fungal infections on the skin is Malassezia furfur or Pityrosporum orbiculare. This fungus is part of the microbiota which is generally present on almost all surfaces of human skin.¹⁰



Figure 1. Pityriasis versicolor lesions on the skin¹¹ Clinical symptoms of Pityriasis versicolor generally include spots on the skin, scaly/fine scales, and itching. This infection is chronic, mild, and not accompanied by inflammation. The part of the body where Pityriasis versicolor is often found in the face, especially the body. The lesions of Pityriasis versicolor are in the form of macules or scaly superficial papules that have various sizes.¹² These lesions can be hypopigmented and hyperpigmented and the shape of these lesions is irregular, namely follicular and even larger, nummular irregular, and both forms.¹³ This infection can attack anyone, is acute or even prolonged, usually without inflammation, and does not show symptoms so sufferers do not know that they have the disease.¹⁴ To diagnose Pityriasis versicolor, various examinations can be carried out starting from history taking, physical examination, microscopic examination, and mycological examination using 10-20% potassium hydroxide (KOH) in the lesion area and then staining with methylene blue. The characteristic characteristic found in Pityriasis versicolor is the appearance of spaghetti and meatballs.¹⁵ Another additional examination is a culture examination to confirm a more specific diagnosis.¹⁶

Treatment of Pityriasis versicolor fungal infection is divided into two, namely topical and systemic. Topically, it can be in the form of creams, lotions, and shampoos whose use can be adjusted to the same or different periods. Bifonazole, miconazole, and clotrimazole are topical antifungal drugs that are effective in treating Pityriasis versicolor. Therapy for superficial and systemic mycoses usually uses a spectrum antifungal, namely ketoconazole.² This treatment therapy aims to reduce the spread of Pityriasis versicolor infection on the surface of infected human skin and to make Malassezia a normal colony that is not detrimental and provides benefits to the body. This treatment therapy is not intended to destroy Malassezia.¹⁷

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MATERIALS AND METHODS

This research is observational analytical research that examines the relationship between variables using a cross-sectional approach. The method used is probability sampling with a simple random sampling technique. The test used to find the relationship between variables is Fisher's exact test.

The inclusion criteria for this study were active students of the Bachelor of Medicine Study Program, Faculty of Medicine, Udayana University class of 2022, age range 18-21 years, male and female, who were willing to be respondents and answer all the questions in the questionnaire. The exclusion criteria for this research are active students of the Bachelor of Medicine Study Program, Faculty of Medicine, Udayana University class of 2022 who are willing to be respondents and meet the inclusion criteria but do not complete the questionnaire completely. The questionnaire used contained questions about personal hygiene and knowledge of Pityriasis versicolor. The questionnaire used has been validated. The research results obtained will be processed and presented in the form of a distribution table based on predetermined variables and an analysis will be carried out regarding the relationship between the level of personal hygiene knowledge and the incidence of Pityriasis versicolor in students of the Bachelor of Medicine Study Program, Faculty of Medicine, Udayana University class of 2022. This research has received ethical suitability statement number: 535/UN14.2.2.VII.14/LT/2023. RESULTS

This research was conducted at the Undergraduate Medical Study Program, Faculty of Medicine, Udayana University, in March-May 2023 with a total of 170 respondents. The research results will be presented in two parts, namely general data and special data. General data consists of respondent characteristics and the frequency of respondent answers. Meanwhile, the specific data is regarding the relationship between the level of knowledge of personal hygiene and the level of knowledge of Pityriasis versicolor with the incidence of Pityriasis versicolor in students class of 2022, Undergraduate Medical Study Program, Faculty of Medicine, Udayana University.

Table 1.Age characteristics of students class of 2022 undergraduate medical study program, faculty of medicine, udayana university

Age	Frequency	Percentage (%)	
18	78	45,9%	
19	76	44,7%	
20	15	8,8%	
21	1	0,6%	

Based on Table 1. there are 170 students from the Class of 2022 Undergraduate Medical Study Program,

http://ojs.unud.ac.id/index.php/eum doi:10.24843.MU.2024.V13.i08.P06 Faculty of Medicine, Udayana University as respondents in this research. A total of 78 people (45,9%) were 18 years old, 76 people (44,7%) were 19 years old, 15 people (8,8%) were 20 years old, and 1 person (0,6%) was 21 years old. **Table 2.**Gender characteristics of class of 2022 undergraduate study program students, faculty of medicine, udayana university

Gender	Frequency	Percentage (%)
Male	62	36,5%
Female	108	63,5%

Based on Table 2. there are 170 students from the Class of 2022 Undergraduate Medical Study Program, Faculty of Medicine, Udayana University as respondents in this research. A total of 62 people (36,5%) were male, and 108 people (63,5%) were female.

Table 3. Characteristics of pityriasis versicolor incidents inclass of 2022 undergraduate medical study programstudents, faculty of medicine, udayana university

The incidence of pityriasis versicolor	Frequency	Percentage (%)
Present	15	8,8%
Absent	155	91,2%

Based on Table 3. there are 170 students from the Class of 2022 Undergraduate Medical Study Program, Faculty of Medicine, Udayana University as respondents in this research. A total of 15 people (8,8%) had a history of Pityriasis versicolor, and 155 people (91,2%) had no history of Pityriasis versicolor.

Table 4. Frequency distribution of students' knowledge of personal hygiene

Personal hygiene knowledge level	Frequency	Percentage (%)
Not good	13	7,6%
Good	157	92,4%

Based on Table 4. the level of knowledge of students class of 2022, Undergraduate Medical Study Program, Faculty of Medicine, Udayana University regarding Personal Hygiene shows that 13 people (7,6%) have a poor level of knowledge, and 157 people (92,4%) have a good level of knowledge.

Table 5. Frequency distribution of students' knowledge of pityriasis versicolor

Pityriasis versicolor knowledge level	Frequency	Percentage (%)
Not good	18	10,6 %
Good	152	89,4 %

Table 6.Distribution of pityriasis versicolor incidents based on age among students class of 2022 undergraduate medical study program, faculty of medicine, udayana university

	Occurrence of pityriasis versicolor			
Age	Present		Absent	ţ
	Ν	%	Ν	%
18 years	7	9 %	71	91 %
19 years	6	7,9 %	70	92,1 %
20 years	1	6,7 %	14	93,3 %
21 years	1	100 %	0	0 %

Based on Table 6. the incidence of Pityriasis versicolor occurs more frequently at the ages of 18 and 19 years, namely 18 years old as many as 7 people (9%) and 19 years old as many as 6 people (7,9%).

Table 7. Distribution of pityriasis versicolor incidents based on gender in students class of 2022 undergraduate medical study program, faculty of medicine, udayana university

	Occurrence of pityriasis versicolor			
Gender	Present		Absent	
	Ν	%	n	%
Male	7	11,3 %	55	88,7 %
Female	8	7,4 %	100	92,6 %

Based on Table 7. the incidence of Pityriasis versicolor occurs more frequently in women than in men, namely 8 people (7,4%) in women and 7 people (11,3%) in men.

Specific data related to the relationship between the level of personal hygiene knowledge and the level of Pityriasis versicolor with the incidence of Pityriasis versicolor in students class of 2022, Undergraduate Medical Study Program, Faculty of Medicine, Udayana University as follows: **Table 8.** Relationship between personal hygiene knowledgelevel and occurrence of pityriasis versicolor

	Occurr pityriasis	ence of versicolor	Fisher's test	
Knowledge level	Present	Absent	1 Way	2 Way
Not good	2	11		
	(15,4%)	(84,6%)	0,321	0,321
Good	13	144	0,321	0,321
	(8,3%)	(91,7%)		

Based on Table 8. shows that the significance value of the Fisher test is 0,321 for one direction and two directions. This means p > 0,05 so the results are not significant.

Table 9. Relationship between level of knowledge ofpityriasis versicolor and incidence of pityriasis versicolor

Knowledge	Occurrence of pityriasis versicolor		Fisher's test	
level	Present	Absent	1 Way	2 Way
Not good	2 (11,1%)	16 (88,9%)		
Good	13 (12,7%)	139 (87,3%)	0,490	0,662

Based on Table 9. shows that the significance value of the Fisher test is 0,490 for one direction and 0,662 for two directions. This means p > 0,05 so the results are not significant.

DISCUSSION

Research on the relationship between the level of personal hygiene knowledge and the incidence of Pityriasis versicolor among students class of 2022, Undergraduate Medical Study Program, Faculty of Medicine, Udayana University, showed the results of 170 students who filled out the research questionnaire, there were 15 people had a history of Pityriasis versicolor and 155 people who did not. history of Pityriasis versicolor. Data from subjects who had a history of Pityriasis versicolor was found to occur more frequently in subjects aged 18 - 19 years.

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This is in line with research by Tumilaar et al., regarding the relationship between personal hygiene and the incidence of Pitvriasis versicolor in male students, which showed that two people aged 18 years and 19 years tested positive for Pityriasis versicolor.⁶ These results are in line with research conducted by Isa et al., regarding the disease profile of Pityriasis versicolor in the skin and genital clinic at one of the hospitals in Manado City. The results of the research showed that there were 36 cases of Pityriasis versicolor and of the number of cases, the most common were in the age range 15 years - to 24 years and 25 years - 44 years.¹⁸ Likewise, the research conducted by Chandra et al., regarding the characteristics and prevalence of Pityriasis versicolor in one of the hospitals in Denpasar City, namely the results of the research showed that 14 cases out of 36 cases of Pityriasis versicolor were in the age range of 11 years - 20 years.⁵

This is different from the results of Natalia et al.'s research, namely that the highest frequency of Pityriasis versicolor occurs at the age of 12 years.¹⁹ The age differences explained previously were because this research was limited to young adults, in this case only students. There are various theories stating that Pityriasis versicolor can attack all ages. However, this disease is more common in children and young adults, because in general individuals in this age group are often more exposed to factors that influence Pityriasis versicolor such as increased excessive activity and poor personal hygiene.¹²

The results of the study showed that more subjects had a history of Pityriasis versicolor than women. The results of this study are in line with research by Natalia et al., namely that more women have a history of Pityriasis versicolor than men.¹⁹ This is not in line with research conducted by Chandra et al., regarding the characteristics and prevalence of Pityriasis versicolor in one of the hospitals in Denpasar City, namely that the highest incidence of Pityriasis versicolor was found in males, totaling 22 people (61,1 %) compared to women (38,9%).⁵ The gender predisposition to Pityriasis versicolor remains unclear. In research conducted by Ebrahimzadeh, it was stated that women had a higher incidence but there was no significant difference in the incidence of Pityriasis versicolor between genders.²⁰

Based on the Guttman scale, knowledge levels are grouped into two, namely the poor category < 50% of the maximum value and the good category $\ge 50\%$ of the maximum value.⁸ The level of knowledge about personal hygiene in this study was divided into two categories, namely poor and good. The measurement result or category is not good if the response score is < 50% of the maximum value, namely 10, and the good category if the response score is $\ge 50\%$ of the maximum value, namely 10. In this study, the frequency distribution of the level of personal hygiene knowledge in the poor category was 13 people (7,6%) and 157 people (92,4%) with a good level of knowledge. When a test was carried out to find the relationship between the variable level of personal hygiene

http://ojs.unud.ac.id/index.php/eum doi:10.24843.MU.2024.V13.i08.P06 knowledge and the incidence of Pityriasis Versicolor, it was found that 2 research subjects (15,4%) with a poor level of knowledge had a history of Pityriasis versicolor while the other 11 subjects (84,6%) had no history. Pityriasis versicolor disease. It was also found that 13 (8,3%) research subjects with a good level of knowledge had a history of Pityriasis versicolor while the other 144 (91,7%) subjects did not have a history of Pityriasis versicolor. Based on the results of Fisher's exact test regarding the relationship between the level of personal hygiene knowledge and the incidence of Pityriasis versicolor, the p-value was > 0.05. This shows that there is no significant relationship between the level of personal hygiene knowledge and the incidence of Pityriasis versicolor in students of the class of 2022. These results are by research by Natalia et al., which shows that there is no significant relationship between knowledge of Pityriasis versicolor and personal hygiene with the incidence of Pityriasis Versicolor.¹⁹

The level of knowledge regarding Pityriasis versicolor is also categorized into two, namely poor and good. The measurement result or category is not good if the response score is < 50% of the maximum value, namely 17, and the good category if the response score is $\geq 50\%$ of the maximum value, namely 17. In this study, the frequency distribution of the level of knowledge of Pityriasis versicolor in the poor category was 18 people (10,6%) and 152 people (89,4%) with a good level of knowledge. When a test was carried out to find the relationship between the variable level of knowledge of Pityriasis versicolor and the incidence of Pityriasis Versicolor, it was found that 2 research subjects (11,1%) with a poor level of knowledge had a history of Pityriasis versicolor while the other 16 subjects (88,9%) had no history. Pityriasis versicolor disease. It was also found that 13 (12,7%) research subjects with a good level of knowledge had a history of Pityriasis versicolor while the other 139 (87,3%) subjects did not have a history of Pityriasis versicolor. Based on the results of Fisher's exact test analysis regarding the relationship between the level of knowledge of Pityriasis versicolor and the incidence of Pityriasis Versicolor, it shows that the pvalue is > 0.05, so it can be concluded that there is no significant relationship between the level of knowledge of Pityriasis versicolor and the incidence of Pityriasis versicolor in students class of 2022, Undergraduate Study Program Medicine, Faculty of Medicine, Udayana University. These results are by research by Natalia et al., which showed that there was no significant relationship between knowledge of Pityriasis versicolor and personal hygiene with the incidence of Pityriasis Versicolor.¹⁹

Based on the results of research on students of the class of 2022 of the Undergraduate Medical Study Program, Faculty of Medicine, Udayana University, which has been described previously, it was found that the level of personal hygiene knowledge and the level of knowledge of Pityriasis versicolor were included in the good category and no significant relationship was found between the level of knowledge of personal hygiene and level of knowledge of Pityriasis versicolor with the incidence of Pityriasis Versicolor. This can be caused by many factors, including the level of knowledge. Factors that influence knowledge can be factors from within the individual himself (internal) and factors from the external environment (external).⁷

CONCLUSIONS AND SUGGESTIONS

Based on the results of the data analysis and discussions that have been carried out, it can be concluded that there is no significant relationship between the level of knowledge of personal hygiene and the level of knowledge of Pityriasis versicolor and the incidence of Pityriasis versicolor in students of the Bachelor of Medicine Study Program, Faculty of Medicine, Udayana University class of 2022.

Further research can be developed by carrying out a physical examination using potassium hydroxide (KOH) or a Wood's lamp to diagnose Pityriasis Versicolor.

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