

Original Research Article

THE CORRELATION OF KNOWLEDGEMENT RATING AND PERSONAL HYGIENE WITH PEDICULOSIS CAPITIS AMONG SEVENTH, EIGHTH, AND NINTH GRADE OF FEMALE STUDENTS AT YUSUF ABDUSSATAR ISLAMIC BOARDING SCHOOL

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ABSTRACT

Introduction. *Pediculosis capitis among the children in school can affect learning performance. These children also suffer from sleep disturbances at night due to itching, social stigma, embarrassment and low self-esteem. Pediculosis capitis is especially prevalent in boarding schools with knowledge and personal hygiene being the main risk factors for pediculosis capitis. This research was conducted to determine the correlation of knowledge rate and personal hygiene with pediculosis capitis in seventh, eighth, and ninth grade of female students at Yusuf Abdussatar Islamic Boarding School.* **Method.** *This research used an observational analytic quantitative method with a cross sectional study design. The sampling technique used stratified random sampling. The research was conducted at Yusuf Abdussatar Islamic Boarding School on October 15, 2022. The research sample was 188 respondents.* **Result and Analysis.** *The data obtained were analyzed with the Chi-Square correlation test. The limit of significance value is p-value <0.05. Bivariate analysis results based on the level of knowledge obtained a p-value of 0.650 (p-value > 0.05) and based on personal hygiene p-value of 0.295 (p-value > 0.05).* **Discussion.** *There was no significant relationship between the knowledge rate and personal hygiene with pediculosis capitis in seventh, eighth, and ninth grade of female students at Yusuf Abdussatar Islamic Boarding School.*

Keywords: Knowledge Rate, Pediculosis Capitis, Personal Hygiene

INTRODUCTION

Pediculosis capitis is a scalp disease caused by mites or lice of the species *Pediculus humanus varidity capitis*. *Pediculus humanus varidity capitis* has a dorso ventral flattened body with a suction prick type mouth that is useful for sucking human blood, the body is segmented, has 3 pairs of legs and is brownish yellow or grayish white. This mite does not have

wings and therefore cannot fly and the transmission of infection must be through objects or hair that stick together (Sari and Suwandi, 2017). The symptom of pediculosis capitis is itching. The scalp symptoms will become worse when scratched and can cause secondary infections. Pediculosis capitis among the children in school can affect learning performance (Fu *et al.*, 2022). These children also suffer from sleep

disturbances at night due to itching, social stigma, embarrassment and low self-esteem. From a psychological perspective, pediculosis capitis causes children to feel embarrassed because they are isolated from their friends who are feared to transmit the disease (Sari and Suwandi, 2017). Pediculosis capitis is found mainly in developing countries. The percentage of pediculosis capitis abroad in developed countries such as Belgium is 8.9%, in developing countries such as India is 16.59%, Alexandria Egypt is 58.9% and Argentina is 81.9%. In Indonesia, the prevalence of pediculosis capitis has increased from 51.92% to 85.7% (Mitriani, Rizona and Ridwan, 2017). In Indonesia, the prevalence rate is most commonly found in Islamic boarding schools or other dormitory-based schools because in these places several risk factors for pediculosis capitis are found (Ghiffari *et al.*, 2020).

Risk factors for pediculosis capitis are age, gender, using combs or shared hair accessories, shared sleeping habits, crowded environment, socioeconomics, hair length, hair shape, knowledge level and personal hygiene (Dehghanzadeh *et al.*, 2015). Pediculosis capitis sufferers have an age range of 11-14 years with the most sufferers in females at 3.2%, while in males only 0.5%. Low socioeconomic status tends to have a low level of environmental sanitation and the inability to buy medicine, which is a risk factor for pediculosis capitis. Pediculosis capitis spreads quickly in crowded environments, such as schools, dormitories, and houses inhabited by many people (Boutellis, Abi-Rached and Raoult, 2014). In addition, poor personal hygiene, such as rarely washing hair and using personal belongings together with other people, is one of the risk factors for pediculosis

capitis infection. Other things that become risk factors for pediculosis capitis infection such as the knowledge rate because knowledge will lead to actions, such as preventive measures in the transmission of pediculosis capitis (Rangkuti and Nurcahyati, 2020).

In Pramadena *et al.*'s research (2021), some students with poor knowledge still do not have a thorough understanding of the lifecycle of head lice, how it is transmitted, the complications it causes, how to reduce the risk of contracting it, and the worst thing is that they still do this which can cause indirect transmission of this disease. The lack of knowledge can be caused by the lack of health counseling on pediculosis capitis. Even though they have good knowledge about the prevention and treatment of pediculosis capitis, but do not apply personal hygiene, they will still have a risk of contracting the disease (Anggraini, Anum and Masri, 2018).

Pediculosis capitis can be found in overpopulated areas with poor health, sanitation, and environmental hygiene. Pediculosis capitis can spread rapidly in children living in overpopulated areas such as orphanages and boarding schools (Hayati and Puspitasari, 2021). Yusuf Abdussatar Islamic Boarding School is one of the Islamic boarding schools located in Kediri Village, West Lombok. This Islamic Boarding School has 367 female students. In terms of facilities, this Islamic Boarding School has 8 bathrooms and 18 rooms with one room filled with 20-25 female students. In the previous research of Fitri, Natalia and Putri (2019) indicated that there is no correlation between the knowledge rate and personal hygiene with the occurrence of pediculosis capitis outbreaks. Meanwhile, Pramadena *et. al* (2021) stated that in one of the boarding

schools, there is a correlation between knowledge rate and the incidence of pediculosis capitis and there is a significant relationship between personal hygiene and the incidence of pediculosis capitis.

METHOD AND ANALYSIS

This research used quantitative research methods of observational analytic type with cross sectional research design. The research was conducted at Yusuf Abdussatar Islamic Boarding School in Kediri Village, West Lombok. The population in this research were female students of Yusuf Abdussatar Islamic Boarding School. The sampling technique used was stratified random sampling. The sample obtained using the Isaac and

Michael formula was 188 respondents. This research was conducted using a research instrument in the form of a questionnaire totaling 23 question items. The collected data were processed and analyzed using both univariate and bivariate analysis with computer software, i.e. Statistical Package for the Social Sciences (SPSS) version 24.

RESULTS

Based on the 188 respondents, there were 63 respondents from seventh grade (33.5%), 63 respondents from eighth grade (33.5%) and 62 respondents from ninth grade (33%). The details have been presented in accordance with the table below:

Table 1. Frequency Characterization of Respondents Based on its Grade

Grades	Frequency	Percentage (%)
VII	63	33.5%
VIII	63	33.5%
IX	62	33%
Total	188	100%

Table 2. Univariate Analysis Data Based on Knowledge Rating, Personal Hygiene and Pediculosis Capitis

No.	Variable	Total (n)	Percentage (%)
1	Knowledge Rating		
	Good	53	28.2%
	Moderate	113	60.1%
	Less Good	22	11.7%
2	Personal Hygiene		
	Good	179	95.2%
	Less Good	9	4.8%
3	Pediculosis Capitis Incidence		
	Suffer	139	73.9%
	Unsuffer	49	26.1%

Based on the data obtained from 188 respondents, it is known that the knowledge rate obtained from respondents who have a good level of knowledge is around 53 respondents (28.2%), then those with a moderate level of knowledge are 113 respondents (60.1%), while those with a low level of knowledge are 22 respondents (11.7%). It can be concluded that more female students have a moderate level of their knowledge. Meanwhile, according to personal hygiene characteristics, 179 respondents (95.2%)

had good personal hygiene and 9 respondents (4.8%) had bad personal hygiene. It can be concluded that more female students have good personal hygiene regarding the prevention and treatment of a disease. Based on the data obtained, respondents who contracted pediculosis capitis were 139 respondents (73.9%), while respondents who did not suffer from pediculosis capitis were 49 respondents (26.1%). It can be concluded that there are many female students who have suffered from pediculosis capitis.

Table 3. The Results of Bivariate Analysis of Correlation between Knowledge Rating and Personal Hygiene with Pediculosis Capitis among Female Students of Seventh, Eighth, and Ninth Grade at Yusuf Abdussatar Islamic Boarding School

Variable	Pediculosis Capitis		Total	P-Value	C1 95%
	Suffer (%)	Un suffer (%)			
Knowledge Rating					
Good	38 (27.3%)	15 (30.6%)	53	0.650	2.07%-2.25%
Moderate	83 (59.7%)	30 (61.2%)	113		
Less Good	18 (12.9%)	4 (8.2%)	22		
Personal Hygiene					
Good	131 (94.2%)	48 (98.0%)	179	0.295	1.92%-1.98%
Less Good	8 (5.8%)	1 (2.0%)	9		

Based on the results of Bivariate analysis on 188 respondents, the knowledge level is low owned by respondents who contracted pediculosis capitis as many as 18 respondents, while 4 other respondents did not suffer from pediculosis capitis. Respondents who had a moderate level of knowledge and affected by pediculosis capitis were 83 respondents, while 30 other respondents did not have pediculosis capitis. Respondents who had a good level of knowledge were 38 respondents and experienced pediculosis capitis while 15 respondents did not

experience pediculosis capitis. Based on the results of the analysis using the Chi Square test, the p-value is 0.650 (p-value > 0.05), which means that there is no significant correlation between the knowledge rate and Pediculosis capitis in seventh, eighth, ninth grade female students at Yusuf Abdussatar Islamic Boarding School.

Based on the results of Bivariate analysis conducted from 188 respondents, 131 respondents who had good personal hygiene suffered pediculosis capitis while 48 respondents did not experience

Pediculosis capitis. Respondents who had poor personal hygiene as many as 8 respondents suffered from pediculosis capitis while 1 respondent did not suffer from pediculosis capitis. Based on the results of the analysis with the Chi Square test, the p-value is 0.295 (p-value > 0.05) which means that there is no significant correlation between personal hygiene and pediculosis capitis.

DISCUSSIONS

This research aims to determine the correlation between the knowledge rate and personal hygiene with pediculosis capitis in seventh, eighth, and ninth grade of female students at Yusuf Abdussatar Islamic Boarding School. This type of research is observational analytic with the research design used is cross sectional study. The total sample used in this research was 188 respondents who were divided into 3 grades, namely seventh, eighth, ninth grade. In this research, the sampling technique used was stratified random sampling technique.

Based on the gender characteristics of respondents from a total sample of 188 female, researchers did not use male respondents. According to research conducted by Khaimaseh (2018), pediculosis capitis is more common in female children than male. This is because the female child has longer hair and is more easily infected with this disease because it is more difficult to clean it. Based on the grade characteristics of the 188 respondents, researchers conducted research in seventh, eighth, and ninth grades. The age of students is between 13 up to 15 years old and is included as early adolescence, which is explained by Herlina (2013). Pediculosis capitis generally

affects children aged 3-15 years. The incidence is caused by various factors, one of which is age because there is still a lack of self-awareness to maintain cleanliness and a low level of knowledge about the infection of pediculosis capitis (Sari and Suwandi, 2017).

The results of univariate analysis of the knowledge level of 188 respondents who have different levels of knowledge, there are 22 respondents who have a lack of knowledge, 113 respondents have a moderate level of knowledge, and 53 respondents have a good level of knowledge. In the research conducted by the researcher, the results indicated that more respondents had a moderate level of knowledge. In research conducted by Rangkuti and Nurcahyati (2020) there were 55 respondents who had a lack of knowledge, while research conducted by Fitri, Natalia and Putri (2019) indicated that there were 120 respondents who had a good knowledge rate. Knowledge is the result of knowing and this occurs after people perceive a certain object. Sense-making occurs through the five human senses, such as sight, hearing, smell, taste, and touch. Most human knowledge is obtained through the eyes and ears (Notoatmojo, 2012). Knowledge is everything that is known by someone based on their experience. In addition to experience, a person also knows because they are told by others. Someone who has sufficient or good knowledge and is able to apply their knowledge in daily life well, it will assist in intervening and treating pediculosis capitis (Rangkuti and Nurcahyati, 2020). Preventive measures for pediculosis capitis transmission can be carried out properly and correctly if you have a sufficient level of knowledge about it because a person's behavior can be

influenced by knowledge (Mitriani, Rizona and Ridwan, 2017).

The results of univariate analysis of personal hygiene from 188 respondents were 179 respondents had good personal hygiene and 9 respondents had poor personal hygiene. In research conducted by researchers, the results show that more respondents have good personal hygiene. In research conducted by Fitri, Natalia and Putri (2019) there were 120 respondents who had good personal hygiene, while in research conducted by Rangkuti & Nurcahyati (2020) there were 55 respondents more had poor personal hygiene. Personal hygiene is personal hygiene and health with the aim of preventing and minimizing the occurrence of disease. Personal hygiene is also commonly referred to as an effort or action of oneself in maintaining cleanliness for all daily activities. This action is aimed to maintain one's own health (Tiarana, MM and Supriyatna, 2019). Pediculosis capitis in Islamic boarding schools is mostly caused by personal hygiene factors from the female students themselves that are not good, such as rarely washing their hair, rarely drying and washing bedding, borrowing personal items from each other, and the habit of sleeping together using the same bedding. From the research that has been done, it indicates that most of male or female students have implemented personal hygiene well.

The results of univariate analysis who suffered and did not suffer from pediculosis capitis in 188 respondents, there were 139 respondents who suffered from pediculosis capitis, and 49 respondents did not suffer from pediculosis capitis, so it can be concluded that more respondents were infected with pediculosis capitis than those who were not infected.

The research of Wijayati (2007) indicated the results of 50 respondents examined, all of whom suffered from pediculosis capitis infection at the Darul Ulum Jombang Boarding School. There are many factors that support the development of this disease, such as knowledge level, personal hygiene, density of residence, and individual characteristics. Transmission occurs directly from person to person or through tools such as the use of shared combs, pillows and hats also contribute to the spreading of pediculosis capitis. Pediculosis capitis is a blood-sucking mite that can cause secondary bacterial infections, the mite can also interfere with learning activities at school (Gulgun *et al.*, 2013).

Based on the data obtained from the research results and processed using the SPSS 24 program, the results of the Bivariate analysis of the correlation between the knowledge level and pediculosis capitis showed a p-value of 0.650 ($p\text{-value} > 0.05$) which means that there is no significant relationship between the knowledge level and pediculosis capitis in seventh, eighth, ninth grade female students at Yusuf Abdussatar Islamic Boarding School. The results of this research are not in accordance with research conducted by Pramadena et al (2021) at one of the Islamic Boarding Schools with a p-value obtained of 0.014, which means that there is a correlation between knowledge level and the incidence of pediculosis capitis ($p\text{-value} < 0.05$), but the results of the research are in accordance with research conducted by Fitri et al (2019) which indicates that there is no correlation between knowledge level and the incidence of pediculosis capitis in female students at the Islamic Boarding School Unknown. The results of the

research with a p value > 0.05 , therefore statistically there is no correlation between knowledge level and personal hygiene with the incidence of pediculosis capitis. According to Fitri et al (2019) there is no correlation between knowledge level and the incidence of pediculosis capitis because in the Islamic Boarding School, students with higher or lower education levels are in the same location so they still mingle together, hence the knowledge gained is also the same. Therefore, even though one of them has higher knowledge, if they continue to live with someone who has pediculosis capitis, they will most probably still be infected with pediculosis capitis. Another factor is that students who have knowledge are reluctant to apply their knowledge to their personal lives because they are used to the existing environment. Inadequate facilities and amenities are also a factor in the reluctance of students to apply their knowledge.

Based on the data obtained from the research results and processed using the SPSS 24 program, the results of Bivariate analysis of the correlation between personal hygiene and pediculosis capitis indicated a p -value of 0.295 (p -value > 0.05) which means that there is no significant relationship between personal hygiene and pediculosis capitis. Based on previous research conducted by Pramadena et al (2021) there is a significant relationship between personal hygiene and the incidence of pediculosis capitis with a p -value of 0.017, and in research conducted by Setiyani et al (2021) there is a relationship between personal hygiene and the incidence of pediculosis capitis at Rohmatul Qur'an, Mejobo District, Kudus with a p -value of 0.033, so this research is not in accordance with the research conducted by the researcher. This research

is in accordance with the research studied by Fitri et al (2019) that there is no correlation between personal hygiene and the incidence of pediculosis capitis with a p value > 0.05 , this is because the number of pediculosis capitis incidents is too much so that personal hygiene does not really affect its incidence, it causes the incidence of pediculosis capitis in the Islamic boarding school to remain quite high. The habit of sleeping in the same bed is also the most effective medium in spreading this disease. Islamic boarding schools are places with dense residential density. Dense occupancy is one of the rapid media for disease transmission. Female students who live in dormitories must share facilities and spend time together with other residents. Sharing facilities, such as beds, can accelerate the transmission of this disease.

CONCLUSION

Based on the results of research on the correlation between knowledge rating and personal hygiene with pediculosis capitis in seventh, eighth, and ninth grade of female students at Yusuf Abdussatar Islamic Boarding School, it can be concluded that there are several results of the analysis as described below:

1. There is no significant relationship between knowledge level and pediculosis capitis among seventh, eighth, and ninth grade of female students at Yusuf Abdussatar Islamic Boarding School and,
2. There is no significant relationship between personal hygiene and pediculosis capitis among seventh, eighth, and ninth grade of female students at

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