

Correlation between Personal Hygiene and the Incidence of Pediculosis Capitis

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Abstract: *Pediculosis capitis (head lice) is a parasite that sucks blood and infests the human scalp. It often attacks children and spreads rapidly in crowded environments such as orphanages and boarding schools. The research aims to determine the relationship between personal hygiene and the incidence of pediculosis capitis. Method: quantitative research with a cross-sectional design. The population was 131 people, with a sample size of 85 respondents. The sampling technique uses purposive sampling. Data were analyzed univariately and bivariate using the chi-square test with a confidence level of 95%. Results: The results of the study showed that residents of the orphanage in Jelutung District, Jambi City (55.3%) experienced cases of pediculosis capitis, and 62.4% had poor personal hygiene. There was a relationship between personal hygiene ($p = 0.001$) and the incidence of pediculosis capitis at the orphanage. Conclusion: There is a relationship between personal hygiene and pediculosis capitis. It is hoped that the residents of the orphanage will maintain and improve good and correct personal hygiene, and then health officers should routinely provide health education regarding personal hygiene and pediculosis capitis in the orphanage.*

Keywords: *Personal Hygiene, Pediculosis Capitis, Orphanage*

INTRODUCTION

Pediculosis (lice infestation) affects hundreds of millions of people worldwide each year and is reported in all countries and at all socioeconomic levels. Pediculosis Capitis is classified as a fairly neglected disease; this disease is still a health problem in developing countries and continues to increase every year (Maryanti et al., 2018). Pediculosis capitis is a disorder caused by the infection of head lice, namely pediculosis humanus capitis, on the human scalp. The initial symptom felt is itching in the occiput and temporal areas, which can even spread to all parts of the head (Menaldi et al., 2017). This parasite most often attacks children and spreads rapidly in crowded environments such as orphanages and boarding schools. Head lice are easily transmitted from head to head or through items that are used together, such as combs, hats, headscarves, and hairbrushes (Maharani et al., 2019).

The factors that cause pediculosis capitis to spread quickly are poor personal hygiene, as seen in the cleanliness of hair, towels, and mattress pads. Individual characteristics such as age, gender, and hair length. Residential density—the size of the house that is not commensurate with the occupants—is more at risk of developing pediculosis capitis. Room humidity and damp room conditions make it easy for fungi, mites, and bacteria to breed (Anwar et al., 2022).

Personal hygiene is a treatment to maintain health and cleanliness in order to achieve physical and psychological safety. Hygiene is personal and depends on a person's values, abilities, and practices, which involve caring for the skin, feet, nails, oral and nasal cavities, teeth, hair, eyes, ears, and perineum-genital area (Patrisia et al., 2020). Poor personal hygiene is the main cause that makes it easier for infestations to enter the body, both hair and scalp, and other parts of the human body, caused by *Pediculus humanus* Var. *capitis*. Poor personal hygiene in the dormitory is shown by the exchanging of cleaning tools such as hairbrushes and towels and a lack of awareness. Lack of awareness about maintaining personal hygiene makes it susceptible to pediculosis infestation (Damayanti, 2018). Thus, it is necessary to carry out more in-depth studies regarding the relationship between personal hygiene and the incidence of pediculosis capitis.

THEORETICAL STUDY

Based on previous research, such as that conducted by Hardiyanti et al. (2019) at the Jabal An-Nur Al-Islami Islamic Boarding School, Teluk Betung Barat District, Bandar Lampung, it was stated that there was a relationship between personal hygiene and the incidence of pediculosis capitis with a $p\text{-value} < 0.005$. Furthermore, research conducted by Nadira et al. (2020) in Sukogidri Village, Jember, stated that there was a relationship between personal hygiene and residential density and the incidence of pediculosis capitis, with statistical test results of $p < 0.05$. Likewise, the results of Pringgayuda's research et al. (2021) in Lampung showed that there was a significant relationship between personal hygiene and the incidence of pediculosis capitis ($p\text{-value} = 0.000$).

RESEARCH METHODS

This research is a quantitative study with an analytical observational design using a cross-sectional approach. The research was conducted at the Jelutung District Orphanage, Jambi City, in 2022. The population was 131 people, with a sample size of 85 respondents. Sampling was purposive sampling. The research instrument is a questionnaire developed through interviews with respondents. Next, data analysis was carried out in the form of univariate and bivariate analysis using the chi-square test, with a confidence level of 95% ($\alpha = 0.05$) using the SPSS software application.

RESULT

Research data analysis was carried out using univariate analysis and bivariate analysis. The results of the univariate analysis can be seen in Table 1 below.

Table 1. Frequency Distribution of Respondents

Variable	Frequency	%
Education		
Elementary school	5	5,9
Junior high school	46	54,1
Senior high school	34	40,0
Long Hair		
Short	15	17,6
Currently	28	32,9
Long	42	49,4
Hair Shape		
Straight	55	64,7
Curly	6	7,1
Curls/Waves	24	28,2
Hair Type		
Thick	50	58,8
Thin	35	41,2
Pediculosis Capitis		
Yes	47	55,3
No	38	44,7
Personal Hygiene		
Not Good	53	62,4
Good	32	37,6

Based on Table 1, it is known that of the 85 respondents, the majority had junior high school education, namely 46 people (54.1%). From the results of the univariate analysis in the table, it is also known that there are 42 (49.4%) respondents who like long hair. As for hair type, 55 people (64.7%) had straight hair, while 50 people (58.8%) had thick hair. In Table 1, it is also known that out of 85 respondents who experienced pediculosis capitis, there were 47 (55.3%). From the results of the analysis, it is also known that there were 53 respondents who had poor personal hygiene (62.4%).

A bivariate analysis was carried out to determine the relationship between personal hygiene and the incidence of pediculosis hygiene. The results of this analysis can be seen in Table 2 below.

Table 2. Correlation between Personal Hygiene and the Incidence of Pediculosis Capitis

Personal Hygiene	Pediculosis Capitis		Yes		Total		P – Value	PR (95% CI)
	No							
	n	%	n	%	N	%		
Not Good	40	75,5	13	24,5	53	100	0,001	3,450 (1,761-6,759)
Good	7	21,9	25	78,1	32	100		

From table 2 above, it is known that the incidence of pediculosis capitis occurs more often in residents of orphanages in Jelutung District who have poor personal hygiene (75.5%) compared to 21.9% with good personal hygiene. The statistical test results obtained a p-value of 0.000 (p-value <0.005), so it can be concluded that there is a significant relationship between personal hygiene and the incidence of pediculosis capitis in the Jelutung District Orphanage, Jambi City. The PR value is 3.450, which means that respondents with poor personal hygiene are at 3.450 times the risk of developing pediculosis capitis compared to residents with good personal hygiene.

DISCUSSION

The research results showed that of the 85 respondents, 47 (55.3%) experienced pediculosis capitis. The results of this study show that residents of the orphanage in Jelutung District, Jambi City, experienced more cases of pediculosis capitis than those who did not experience cases of pediculosis capitis. In line with research by Sungkar et al. (2019) in Islamic boarding schools in Bogor Regency, 88.4% of 121 students were infected with pediculosis capitis. Meanwhile, research conducted by Pringgayuda et al. (2021) found that 54 (67.5%) female students tested positive for pediculosis capitis out of 80 female students. Supported by research by Maryanti et al. (2018) at the Al-Muslimun Bandar Seikijang Riau Islamic Boarding School, it was found that 165 (93%) female students tested positive for Pediculosis Capitis out of 178 female students.

Pediculosis capitis is a disorder caused by the infection of head lice, namely *Pediculosis humanus capitis*, on the human scalp. Lice are obligate ectoparasites that spend their entire life cycle on the host's body, namely on the human scalp (Anwar et al., 2022). Pruritic itching is the most common symptom of head lice infestation and is caused by an allergic reaction to lice bites. It takes 4-6 weeks for itching to appear the first time someone is infected with head lice. Other symptoms that may be felt include a tickling feeling or the sensation of something moving in the hair, as well as difficulty sleeping because the mites are active at night (Bharti

et al., 2017). The results of the examination showed that the sufferers of pediculosis capitis at the Jelutung District Orphanage were still in the mild category. Lack of education from related parties regarding the incidence of pediculosis capitis and the habit of exchanging goods, which causes the transmission of pediculosis capitis to increase.

Based on the research results, it is also known that there is a relationship between personal hygiene and the incidence of pediculosis capitis in the orphanage in Jelutung District, Jambi City, where the p-value obtained was $0.000 < 0.05$. In line with research by Pringgayuda et al. (2021) in Islamic boarding schools, which shows that there is a relationship between personal hygiene and the incidence of pediculosis capitis (p-value = 0.000) (10), Also supported by the research results of Azhar et al. (2020), it was found that there is a relationship between personal hygiene and the incidence of pediculosis capitis (p-value = 0.000). Likewise, the results of research conducted by Setiyani et al. (2021) show that there is a relationship between personal hygiene and the incidence of pediculosis capitis in Islamic boarding schools (p-value = 0.033). Apart from that, research conducted by Nurcahyati and Rangkuti (2020) shows that there is an influence between personal hygiene and the incidence of pediculosis capitis (p-value = 0.028) in Islamic boarding schools. However, the results differ from the research of Anggraini et al. (2018); there is no relationship between personal hygiene and the incidence of pediculosis capitis, with a value of $p = 0.548$.

Personal hygiene is a very important behavior for maintaining body health. Most of the respondents who experienced pediculosis capitis were due to a lack of attention to personal hygiene factors, making it easier for infections to enter the skin, hair, and other parts of the body. One of the best ways to prevent pediculosis capitis is to maintain good personal hygiene. This can be done either directly or indirectly, especially for those who have pediculosis capitis, to prevent the spread of the disease to other people. Many orphanage residents have long hair, so they are more at risk of developing pediculosis capitis because of the difficulty in caring for it, using shared combs and not their own. The cleanliness of the towels is evident from the fact that many nursing home residents do not dry the towels after use. The cleanliness of mattresses can be seen from the fact that many nursing home residents do not change mattresses once a week. Exchanging items such as headscarves, mukenas, and combs. Nursing home residents also like to watch on their cellphones together, making it easier to spread pediculosis capitis due to direct contact between residents' hair. Apart from that, residents of the orphanage do not dry towels after use. From the research results, it was found that there are still a number of female students who do not understand how important it is to maintain personal hygiene. To overcome this, guidance and supervision efforts are needed from dormitory guards to remind and provide information to female students about the importance

of maintaining personal hygiene, such as avoiding borrowing personal items such as clothes, combs, and towels and drying their hair first before wearing a headscarf.

CONCLUSIONS AND RECOMMENDATIONS

The incidence of Pediculosis capitis in the Jelutung District Orphanage, Jambi City, was found to be 55.3%, and more than half of the residents of the Jelutung District Orphanage had poor personal hygiene, namely 62.4%) and 37.6%, with good personal hygiene. There is a relationship between personal hygiene and the incidence of pediculosis capitis in the orphanage in Jelutung District, Jambi City, in 2022 (p-value = 0.000). It is recommended to all residents of the orphanage to improve personal hygiene, and if infected with pediculosis capitis, immediately undergo treatment. It is hoped that health officers, in this case from the Jambi City Health Service, will regularly provide health education to the residents of the orphanage, especially regarding pediculosis capitis and personal hygiene.

REFERENCES

- Anggraini A, Anum Q, Masri M. (2018). Hubungan Tingkat Pengetahuan dan Personal Hygiene terhadap Kejadian Pedikulosis Kapitis pada Anak Asuh di Panti Asuhan Liga Dakwah Sumatera Barat. *Jurnal Kesehatan Andalas*, 7(1), 131-136. <https://doi.org/10.25077/jka.v7i1.791>
- Anwar, C., Riswanda, J., & Ghiffari, A. (2022). Determinan Pediculosis Capitis (M. Nasrudin (ed.); 1st ed.). PT Nasya Expanding Management.
- Azhar SLY, Hasibuan SM, Lubis RAS, Batubara HJS. Hubungan Kebersihan Diri dan Jenis Kelamin dengan Kejadian Pedikulosis Kapitis pada Murid SD. *Jurnal Pandu Husada*, 1(4), 192-197. <https://doi.org/10.30596/jph.v1i4.5256>
- Bharti SN, Umekar MJ, Duragkar NJ. (2017). Review Article Bimonthly Published Scientific Journal A Review on Pediculus Humanus Capitis : Based on Life Cycle , Resistance , Safety Considerations and Treatment. *International Journal of Indigenous Herbs and Drugs*, 2(2), 27–36.
- Hardiyanti NI, Kurniawan B, Mutiara H. (2019). Hubungan Personal Hygiene terhadap Kejadian Pediculosis Capitis pada Santriwati di Pesantren Jabal An-Nur Al-Islami Kecamatan Teluk Betung Barat Bandar Lampung. *Jurnal Kesehatan dan Agromedicine*, 6(1), 38–45.
- Maharani A, Pandaleke HEJ, Niode NJ. (2020). Hubungan Kebersihan Kepala dengan Pedikulosis Kapitis pada Komunitas Dinding di Pasar Bersehati Manado. *e-CliniC*, 8(1), 163–71. <https://doi.org/10.35790/eci.v8i1.28311>
- Maryanti, Esy; Lesmana, S. D; Novira M. (2018). Hubungan Faktor Risiko dengan Infestasi Pediculus Humanus capitis pada Anak Panti Asuhan di Kota Pekanbaru. *Jurnal Kesehatan Melayu*, 1(2), 73–80. <https://doi.org/10.26891/jkm.v1i2.2018.73-80>

- Menaldi SLS, Bramono K, Indriatmi W. (2017). Ilmu Penyakit Kulit Dan Kelamin. Edisi ketujuh. Balai penerbit FK UI. Jakarta: Balai penerbit FK UI
- Nadira WA, Sulistyaningsih E, Rachmawati DA. (2020). Hubungan antara Personal hygiene dan Kepadatan Hunian dengan Kejadian Pedikulosis. *Journal of Agromedicine and Medical Sciences*. 2020;6(3):161–7.
- Nurchayati FE, Rangkuti AF. Analisis (2020). Tingkat Pengetahuan dan Personal Hygiene Dengan Kejadian Pediculosis Capitis di Pesantren Binaul Ummah Kabupaten Bantul. *Dunia Keperawatan: Jurnal Keperawatan dan Kesehatan*, 8(3), 479-489. <https://doi.org/10.20527/dk.v8i3.8088>
- Patrisia, Ineke; Juhdeliena; Kartika, Lia; Pakpahan, Martina; Siregar, Deborah; Biantoro; Hutapea, Adventina; Khusniyah, Zulfa; Sihombing, Riama; Mukhoirotin; Togatorop, Lina; Sitanggang Y. (2020). Asuhan Keperawatan pada Kebutuhan Dasar. Yayasan Kita Menulis.
- Pringgayuda F, Putri GA, Yulianto A. (2021). Personal Hygiene Yang Buruk Meningkatkan Kejadian Pediculosis Capitis Pada Santri Santriwati Di Pondok Pesantren. *Jurnal Keperawatan Muhammadiyah*, 6(1), 54–59. <https://doi.org/10.30651/jkm.v6i1.7235>
- Setiyani E, Mulyowati T, Binugraheni R. (2021). Hubungan Personal Higiene Dengan Kejadian Pediculosis Capitis Pada Santriwati Di Pondok Pesantren Rohmatul Qur 'an Mejobo Kudus. *Jurnal Labora Medika*, 5:35–38. <https://doi.org/10.26714/jlabmed.5.2.2021.34-38>
- Sungkar, Saleha; Dwinastiti, Yasmine; Haswinzky, Rose; Irmawati, Fabby; Wardhana, Aji; Sudarmono, Pratiwi; Buntaran S. (2019). Effectiveness of wet combing compared with 1% permethrin lotion for the treatment of pediculosis capitis. *International Journal of Applied Pharmaceutics*, 11(6), 108–110. <https://doi.org/10.22159/ijap.2019.v11s6.33570>