

THE RELATIONSHIP BETWEEN PERSONAL HYGIENE AND SCABIES INCIDENCE RATE IN CLASS II JUVENILE DETENTION CENTER, JAKARTA

Rosmawaty Lubis ^{1*}, Dayan Hisni ² and Nirmawati ³

¹ Master Professor, Lecturer in the Faculty of Nursing at National University, Kota Jakarta Selatan, Daerah Khusus Ibukota Jakarta.

*Corresponding Author Email: rosmawati.lubis@civitas.unas.ac.id, ORCID ID: 0000-0002-0244-994X

² Doctoral, Lecturer in the Faculty of Nursing at National University, Kota Jakarta Selatan, Daerah Khusus Ibukota Jakarta.

Email: dayanhisni@civitas.unas.ac.id, ORCID ID: 0000-0002-8955-1786

³ Bachelor, Student in the Faculty of Nursing at National University, Kota Jakarta Selatan, Daerah Khusus Ibukota Jakarta. Email: nirma2606@gmail.com

DOI: 10.5281/zenodo.12800297

Abstract

Background: Scabies is a dermatological condition triggered by an ectoparasitic infestation, specifically by the mite *Sarcoptes scabiei* var *hominis*, with environmental factors and human conduct playing significant roles in its manifestation. **Aim:** To determine the relationship between personal hygiene practices and the prevalence of scabies in the Juvenile Detention Center Class II Jakarta. **Methodology:** This study adopts a correlational research design to investigate the association between personal hygiene behaviors and the occurrence of scabies among juvenile in the Juvenile Detention Center Class II in Jakarta, employing a cross-sectional approach. **Results:** The personal hygiene of the participants was found to be suboptimal, with 51 individuals (63.7%) exhibiting poor hygiene practices. Correspondingly, 50 respondents (62.5%) were diagnosed with scabies. Statistical analysis revealed a noteworthy association between personal hygiene and the prevalence of scabies, with a p-value of 0.000, underscoring its significance ($p < 0.05$). **Conclusion:** There is a significant relationship between Personal Hygiene and the incidence of Scabies in the Juvenile Detention Center Class II Jakarta. The findings of this study can serve as valuable insights for the Juvenile Detention Center Class II Jakarta, prompting a greater emphasis on juvenile cleanliness and the provision of regular education regarding personal hygiene and disease prevention.

Keywords: Behavior, Disease, Personal Hygiene, Scabies.

INTRODUCTION

Skin diseases remain a significant public health concern in Indonesia. Scabies, a skin condition caused by an ectoparasitic infestation from the *Sarcoptes scabiei* var *hominis* mite, is closely linked to environmental factors and human behavior (Mutiarra & Syailindra, 2016). The incidence of scabies is influenced by inadequate hygiene practices. Factors such as bedding materials like mattresses, sheets, pillows, and humid room conditions can contribute to the proliferation of *Sarcoptes scabiei* (Nasution, 2020). The implementation of Clean and Healthy Living Behavior (known as *Perilaku Hidup Bersih dan Sehat*, PHBS) serves as a fundamental program in cultivating hygienic practices to prevent various diseases, including skin diseases (Mading & Sopi, 2015).

Scabies are predominantly prevalent in tropical regions like Indonesia. According to the World Health Organization (WHO, 2022), there are an estimated 300 million cases of scabies reported worldwide each year. In Indonesia, with a population of 261.6 million, the prevalence of scabies ranges from 4.60% to 12.95%, ranking it third among the 12 most common skin diseases (Sunarno & Hidayah, 2021). Scabies are primarily

transmitted through direct contact between an infected individual and those around them. Additionally, scabies tend to proliferate in environments characterized by dampness, poor sanitation, and overcrowding, such as orphanages, dormitories, and prisons.

Detention Center (known as *Lembaga Masyarakatan*, Lapas) are among the primary hotspots for scabies transmission. This phenomenon can be attributed to the close living quarters of the inmates, particularly children, who often share or borrow clothing, sarongs, towels, and pillows. Such practices significantly facilitate the rapid spread of scabies from one individual to another. In these confined environments, where individuals are compelled to reside nearby, scabies transmission escalates swiftly, particularly in prisons facing overcrowding issues (Ridwan et al., 2017).

In addition to promoting clean living practices, particularly personal hygiene, attention must also be directed toward sanitation factors, such as residential density. The density of living spaces significantly impacts the health conditions within detention facilities. High residential density, particularly in areas like detention rooms, greatly facilitates the transmission of scabies through direct person-to-person contact (Rochmah, 2020). Hence, it is imperative that all prison inmates consistently uphold personal health standards and endeavor to prevent scabies transmission by adopting clean and healthy living habits in their daily lives.

Maintaining personal hygiene is essential for enhancing overall health. Research findings underscore the significance of personal hygiene as a contributing factor to scabies incidence. This highlights the important role of behavioral factors in driving the spread and transmission of scabies (Khotimah et al., 2021).

The findings from studies examining factors influencing scabies incidence in the Juvenile Detention Center (hereinafter referred to as LPKA) Class II in Pekanbaru City (Saroh, 2018), and the correlation between personal hygiene among male prisoners and dermatitis incidence in the Detention Center Class II in Pekanbaru (Hayana et al., 2021), indicate a significant link between personal hygiene and dermatitis occurrence. Moreover, research suggests that individuals with lower levels of education tend to have less knowledge about personal hygiene, leading to decreased awareness regarding its importance in disease transmission (Nuraini and Wijayanti, 2016). Highlighting the significance of skin health, Nasution et al. (2020) observed a notable association between personal hygiene and scabies incidence among students at Islamic Boarding School X in Semarang. It is emphasized that maintaining cleanliness, including changing underwear at least twice daily, is crucial to prevent the adherence of fungi, bacteria, and parasites to genital areas (Rahmawati et al., 2021). Consequently, the objective of this study is to explore the correlation between personal hygiene and scabies incidence in the Class II LPKA in Jakarta.

RESEARCH METHOD

This study was conducted from September 2022 to June 2023 at the Class II LPKA in Jakarta, located at Ciganjur Village, RT 05 RW 06, Jagakarsa District, South Jakarta. Employing a correlational research design, the study aimed to discover the relationship between personal hygiene and scabies incidence among students at LPKA Class II Jakarta, employing a cross-sectional approach where both independent and dependent variables were measured simultaneously (Notoadmodjo, 2018). The study population comprised 80 students enrolled at the Class II LPKA Jakarta as of

September 2022. Sampling involves selecting a representative subset of the population through specific methods, with the sample representing characteristics of the overall population (Hartanto dan Yuliani 2019). Total sampling was conducted, encompassing all 80 student respondents at Class II LPKA Jakarta. The questionnaire utilized a Gutman scale with 28 questions offering Yes or No responses, adapted from Sofiana's research (2017). Medical record data about scabies incidence among respondents were sourced from records for September 2022. Bivariate analysis focused on examining and testing the relationship between personal hygiene and scabies incidence at the Class II LPKA Jakarta. Before bivariate analysis, the Kolmogorov-Smirnov normality test was conducted. The statistical analysis employed the Chi-Square Test using the SPSS program.

RESULTS

Univariate Analysis

Table 1: Frequency Distribution of Data on Juvenile's Age and Education Characteristics Class II LPKA Jakarta

Age (Years)	Results	
	Frequency	Percentage (%)
12 - 16	49	61.3
17 - 25	31	38.8
Education		
Elementary	5	6.3
Junior High	47	58.8
Senior High	28	35.0
Total	80	100

Based on Table 1, the frequency distribution indicates that the largest portion of children, comprising 49 respondents (61.3%), fall within the age range of 12-16 years. The data revealed that the most common level of education among the juveniles was junior high school, with 47 respondents (58.8%).

Table 2: Frequency distribution of data on personal hygiene and Incidence of Scabies at Class II LPKA Jakarta

Personal Hygiene	Results	
	Frequency	Percentage (%)
Bad	51	63.7
Good	29	36.3
Incidence of Scabies		
Scabies	50	62.5
Non-scabies	30	37.5
Total	80	100

Based on Table 3, the majority of respondents, comprising 51 individuals (63.7%), exhibited poor personal hygiene based on the frequency distribution results. The frequency distribution analysis revealed that 50 respondents (62.5%) had scabies incidence, while the remainder did not.

Bivariate Analysis

Table 3: The Relationship between Personal Hygiene and the incidence of juvenile Scabies in Class II LPKA Jakarta

Personal Hygiene	Scabies		Non-scabies		Total		P	OR (95% CI)
	N	%	N	%	N	%		
Bad	45	88.2	6	11.7	51	100	0.000	5.118 (2.291-11.431)
Good	5	17.2	24	82.7	29	100		
Total	50	62.5	30	37.5	80	100		

According to Table 3, it was observed that individuals with inadequate personal hygiene had a scabies prevalence of 45 respondents (88.2%), whereas those with satisfactory personal hygiene had a scabies prevalence of only 5 respondents (17.2%). Through the Chi-Square statistical analysis at a 95% confidence level, it was determined that there exists a significant association between personal hygiene and scabies incidence, with a p-value of 0.00 ($P < 0.05$). The odds ratio value was calculated at 5.118 (95% CI 2.291-11.431), indicating that inadequate personal hygiene increases the risk of scabies by five times.

DISCUSSION

Univariate Discussion

The frequency distribution of juvenile age in Class II LPKA Jakarta shows that the majority fall into the early teen category (12-16 years) (61.3%), while the majority of them have completed junior high school education (58.8%). Additionally, most juveniles exhibit poor personal hygiene (63.7%), with a corresponding incidence of scabies at 62.5%.

Research suggests that late adolescents aged 17-25 years have a lower risk of contracting scabies compared to early adolescents aged 12-16 years (Akbar, 2022). Other studies have also identified age as a risk factor for scabies. For instance, a study conducted in the Class II B Detention Center Banyuwangi, which is not a juvenile facility, found that the majority of respondents were in the 26-45-year age range, comprising 62.5% of the sample, falling into the early and late adult age categories (Rochmah, 2020).

Age is a significant determinant of health behavior. Generally, with age comes increased experience, knowledge, expertise, and wisdom, leading to more informed decision-making. Age also correlates with cognitive abilities, experiences, and thought patterns, contributing to greater maturity in thinking. Consequently, older individuals tend to exhibit more mature behaviors aimed at achieving positive outcomes (Patimah et al., 2019).

The educational background of juveniles at Class II LPKA Jakarta shows that the majority have completed junior high school, accounting for 58.8%. This finding corresponds with a study conducted by Naftassa and Putri (2018), indicating that scabies prevalence is higher among individuals with lower levels of education or knowledge. However, this contrasts with Rochmah's research (2020) in a non-juvenile prison in Banyuwangi, in which the majority of prisoners had completed high school (33.9%).

The study reveals that the majority of personal hygiene data frequency distribution at Class II LPKA Jakarta indicates poor hygiene practices (63.7%). This finding aligns

with Sofiana's research (2017), which also reported a similar frequency distribution of poor personal hygiene (63.7%). However, it contrasts with the findings of Samosir et al. (2020) at the Pre-Eminent Madani Islamic Boarding School, Bintan Regency, where 56 respondents (52.8%) were found to have good personal hygiene practices.

Personal hygiene involves practices aimed at preserving an individual's cleanliness and overall health, contributing to both physical and psychological well-being. Adhering to personal hygiene standards is crucial for ensuring comfort, safety, and good health. The primary objective of personal hygiene is to enhance one's health by preventing skin diseases through consistent cleanliness practices. Additionally, personal hygiene endeavors to promote skin health, recognizing that the skin serves as the body's initial barrier against infections, thus emphasizing the importance of hygiene measures (Samosir et al., 2020).

Personal hygiene is an action to maintain a person's cleanliness and health for physical and psychological well-being. Compliance with personal hygiene is necessary for individual comfort, safety and health. Personal hygiene aims to improve a person's level of health through efforts to maintain personal hygiene to prevent skin diseases. Personal hygiene also aims to improve skin health where the skin is the body's first line of defense against infection by implementing hygiene measures (Samosir et al., 2020).

Inadequate personal hygiene can heighten the likelihood of scabies transmission. The spread of scabies can occur through direct contact, such as handshakes and sharing sleeping spaces, as well as indirectly through shared bedding, clothing, and towels. These modes of transmission are closely linked to an individual's hygiene practices, as personal hygiene extends beyond individual cleanliness to encompass the cleanliness of everyday items like beds, clothing, bed sheets, towels, soap, and other personal belongings (Wulandari, 2018).

In this study, the assessment of personal hygiene revealed subpar practices among the students, with many displaying inadequate habits in maintaining personal cleanliness. Instances of sharing towels, sleeping in close quarters, and infrequent bathing were noted. Such deficient personal hygiene practices contribute significantly to the prevalence of scabies among juveniles at Class II LPKA Jakarta.

Research findings regarding the prevalence of scabies at the study site indicate a persistently high rate (62.5%). This high incidence aligns with previous studies conducted by Sofiana (2017), reporting a scabies prevalence of 91.7%, and by Samosir et al. (2020), documenting an incidence rate of 81.1%.

Scabies pose a significant risk of transmission through simple physical contact. Without a clear understanding of the importance of cleanliness and healthy habits, inmates can inadvertently spread the disease to others within the prison. Implementing and reinforcing clean and healthy living practices is crucial to reduce the spread of scabies.

Despite ongoing education and health screenings conducted by the Class II LPKA Jakarta health team, juveniles' awareness remains inconsistent. Many of them lack a strong understanding of health principles and the significance of personal hygiene upkeep. Moreover, insufficient motivation, along with limited access to personal hygiene supplies, contribute to the ongoing challenge of managing scabies incidence effectively.

Bivariate Discussion

The Chi-Square statistical test, conducted at a 95% confidence level, indicates a significant association between personal hygiene and scabies incidence among juveniles at Class II LPKA Jakarta (p value $0.00 < 0.05$). Predominantly, respondents with poor personal hygiene experienced scabies (88.2%), while only 17.2% of those with good personal hygiene suffered the disease. These findings align with previous research by Puspita et al. (2018), which similarly underscores the significant correlation between personal hygiene and scabies occurrence among students at the Al-Azhar Islamic Boarding School (p value $0.00 < 0.05$).

This study corroborates findings from research conducted at the Ulumul Quran Islamic Boarding School, which highlighted a significant association between personal hygiene and scabies incidence among students, with a P value of 0.049 (p value < 0.05). It was noted that better personal hygiene was linked to lower scabies rates, whereas poorer personal hygiene correlated with higher scabies incidence (Wulandari, 2018). Similarly, research by Anggara (2018) at the Al Aziziyah Islamic Boarding School affirmed a significant relationship between personal hygiene and scabies occurrence, with a P value of 0.021 (p value $0.00 < 0.05$). Scabies commonly thrives in unfavorable environments characterized by dampness, inadequate sanitation, and overcrowding, such as orphanages, dormitories, and detention center (prisons).

However, this study diverges from the findings of Rahmawati et al. (2021), which indicated no significant correlation between skin cleanliness and scabies incidence (p-value $0.857 > 0.05$). Similarly, Nadiya et al. (2020) reported no significant association between personal hygiene and scabies occurrence among students at the Sa'adatuddaren Islamic Boarding School, with a P value of 0.832 (p > 0.05).

Personal hygiene encompasses individual cleanliness practices aimed at preventing disease occurrence in oneself and others, addressing both physical and psychological aspects. It involves maintaining cleanliness of various body parts such as the scalp, hair, eyes, nose, ears, toenails, hands, skin, and genital area (Silalahi, 2017; Nadiya et al., 2020)

Scabies, a skin infection caused by the *Sarcoptes scabiei* parasite, involves tiny mites living on the skin of the affected individual. Inadequate skin hygiene can escalate the transmission of these mites. Survey responses indicate that most respondents struggled to uphold proper personal hygiene. On average, their habits reflected suboptimal practices, such as sharing towels, borrowing clothing, limited access to toiletries, infrequent laundering, and reluctance to bathe or change clothes regularly.

Inadequate personal hygiene heightens the risk of contracting scabies. Transmission of scabies can happen directly through physical contact like shaking hands and sharing sleeping spaces. Additionally, personal hygiene practices extend beyond individual care to encompass the cleanliness of everyday items like bedding, towels, and soap, which indirectly impact scabies transmission (Pranagara et al., 2018).

Inadequate personal skin hygiene can lead to both physical and psychological consequences. Proper hand and nail cleanliness is crucial, as hands are frequently used for various activities, including eating. Similarly, maintaining clean clothing is essential, as sweaty and greasy clothes can become malodorous and uncomfortable throughout the day, necessitating replacement. Additionally, infestations by the

Sarcoptes scabiei mite can be exacerbated by habits such as infrequent clothing changes and borrowing garments, which can facilitate the indirect transmission of scabies. Such practices can contribute to skin-related health issues due to prolonged dampness and lack of cleanliness. Therefore, it is essential to change into clean clothes daily to mitigate these risks (Marga, 2020).

Scabies is a highly contagious skin condition often transmitted among individuals in Detention Center like LPKA, where children serve sentences or are gathered for rehabilitation. The proximity of children in such institutions fosters frequent interpersonal contact, increasing the risk of transmission. In Class II LPKA Jakarta, the research findings revealed a significant correlation between personal hygiene and scabies incidence. This underscores the prevalence of poor personal hygiene practices among juveniles, including infrequent bathing and laundering of clothes due to limited access to toiletries and laundry facilities. Moreover, many juveniles engage in the practice of borrowing clothes, towels, and even underwear, further exacerbating the risk of scabies transmission. Consequently, there is a pressing need to promote awareness of personal hygiene among students to mitigate the spread of scabies and other diseases, particularly within Class II LPKA Jakarta.

CONCLUSION AND SUGGESTION

The study findings indicate that a majority of respondents exhibited poor personal hygiene (63.7%), while the incidence of scabies remained high (62.5%). Moreover, a significant correlation was observed between personal hygiene and scabies incidence (p -value $0.000 < 0.05$).

The research findings aim to provide valuable insights for Class II LPKA Jakarta, emphasizing the importance of enhancing the living environment cleanliness for students and regularly conducting educational sessions on personal hygiene. This proactive approach can effectively prevent not only scabies but also other diseases among juveniles.

Acknowledgements (If any): We would love to express our deepest gratitude to the individuals and institutions whose support and contributions have been instrumental in the completion

References

- 1) Akbar, R., Sedionoto, B. dan Sultan, M. (2022) . *Hubungan Kondisi Lingkungan Fisik, Personal Hygiene, dan Pengetahuan terhadap Kejadian Skabies di Panti Asuhan Baitul Walad Loa Buah Samarinda*. Universitas Mulawarman Repository "REPO-MAN" Center of Excellence for Tropical Studies. <http://repository.unmul.ac.id/handle/123456789/5481>
- 2) Anggara C. (2018). *Hubungan antara personal hygiene dan sanitasi lingkungan dengan kejadian skabies di Pondok Pesantren Al Aziziah Samarinda*. Skripsi D-IV Keperawatan Poltekkes Kemenkes Kaltim. Repository Poltekkes Kaltim.
- 3) Hartanto, D., dan Yuliani S. (2019). *Statistik Riset Pendidikan*. [http://repository.uir.ac.id/1762/1/Buku Statistik Penelitian Dicki Sri 3Bab.pdf](http://repository.uir.ac.id/1762/1/Buku%20Statistik%20Penelitian%20Dicki%20Sri%203Bab.pdf).
- 4) Hayana, Vermita S.W., Sarwandi J. (2021) Hubungan Personal Hygiene Narapidana Laki-Laki dengan Kejadian Penyakit Dermatitis di Lembaga Pemasarakatan (LAPAS) Kelas II A Pekanbaru. *Jurnal Imiah Avicenna* 16(3): 141 - 148|
- 5) Khotimah H., Andayani S.A., dan Maulidah R. (2021) Pengalaman *Personal Hygiene* pada Santri Putra dengan Penyakit *Scabies* di Pondok Pesantren Darullughah Wal Karomah Sidomukti Kraksaan Probolinggo. *Jurnal Keperawatan Profesional (JKP)* 9 (1)

- 6) Mading M. dan Sopi I.I.P.B. (2015) Kajian Aspek Epidemiologi Skabies pada Manusia. *Jurnal Penyakit Bersumber Binatang* Vol. 2 (2) : 9 - 17. <http://ejurnal.litbang.kemkes.go.id>
- 7) Mutiara H. dan Syailindra F. (2016) Skabies. *Majority* 5 (2) : 37
- 8) Naftassa, Z. dan Putri, T.R. (2018). Hubungan Jenis Kelamin, Tingkat Pendidikan dan Pengetahuan terhadap kejadian Skabies pada Santri Pondok Pesantren Qotrun Nada Kota Depok. *Biomedika* 10(2): 115-119
- 9) Nasution A.A. (2021) Identifikasi *Sarcoptes scabiei* dengan Pemeriksaan Klinis dan Pemeriksaan Penunjang di Kota Medan. Tesis Magister. Repositori Institusi Universitas Sumatera Utara. <https://repositori.usu.ac.id/handle/123456789/46381>
- 10) Nasution NH, Harahap YW, Safitri S, Nagara SR, Pebriansa R, Adella N. (2020) Pemberian Informasi Mengenai Pencegahan Penularan Penyakit Skabies dengan Perilaku Hidup Bersih dan Sehat. Universitas Aufa Royhan Kota Padangsidempuan. *Jurnal Pengabdian Masyarakat Aufa (JPMA)* 2(2)
- 11) Notoatmodjo S. (2018). *Metodologi Penelitian Kesehatan*. PT Rineka Cipta.
- 12) Nuraini, N., & Wijayanti, R. A. (2016). Faktor Risiko Kejadian Skabies di Pondok Pesantren Nurul Islam Jember. *Jurnal Ilmiah Inovasi*, 16 (2). <https://doi.org/10.25047/jii.v16i2.299>
- 13) Patimah P., Arifin S., dan Hayatie L. (2019). Hubungan Usia dan *Personal Hygiene* dengan Kejadian Pedikulosis Kapitis." *Homeostasis : Jurnal Mahasiswa Pendidikan Dokter* 2(1): 139–46. <https://ppjp.ulm.ac.id/journals/index.php/hms/article/view/441/431>.
- 14) Pranagara, M F R, D Dalilah, and E Novita. (2018). Hubungan Antara *Personal Hygiene* dengan Kejadian Skabies pada Santri di Pondok Pesantren Al-Amalul Khair Kota Palembang" *Jurnal Fakultas Kedokteran Universitas Sriwijaya*. <https://repository.unsri.ac.id/7944/%0A>
- 15) Silalahi, V., Putri, R.M. (2017). *Personal Hygiene* pada Anak SD Negeri Merjosari 3. *Jurnal Akses Pengabdian Indonesia (JAPI)* 2(2): 6–18.
- 16) Puspita S., Rustanti E. dan Wardani M.K. (2018) Hubungan *Personal Hygiene* dengan Kejadian Skabies pada Santri. *Jurnal Keperawatan* 11 (2): 6 <https://e-journal.lppmdianhusada.ac.id/index.php/jk/article/view/19>
- 17) Rahmawati, A.N., Hestningsih, R. dan Wuryanto MA. (2021) Hubungan *Personal Hygiene* dengan Kejadian Skabies pada Santri Pondok Pesantren X Semarang. *Jurnal Ilmiah Mahasiswa* [Online]. 11(1):21-24. <https://ejournal.undip.ac.id/index.php/jim/article/view/35019>.
- 18) Rahmi, N., Arifin S., dan Pertiwiwati E. (2016). *Personal Hygiene* dengan Kejadian Penyakit Skabies pada Santri Wustho (Smp) di Pesantren Al-Falah Banjarbaru." *Dunia Keperawatan* 4(1): 43.
- 19) Ridwan A.R., Sahrudin dan Ibrahim K. (2017) Hubungan Pengetahuan, *Personal Hygiene*, dan Kepadatan Hunian dengan Gejala Penyakit Skabies pada Santri di Pondok Pesantren Darul Muklisin Kota Kendari. *Jurnal Ilmiah Mahasiswa Kesehatan Masyarakat Unsyiah* 2(6):2502–731.
- 20) Rochmah, N.N. (2020). "Hubungan Usia dan Tingkat Pendidikan dengan Perilaku *Personal Hygiene* di Lapas Kelas II B Banyuwangi." *Majalah Kesehatan Masyarakat Aceh (MaKMA)* 3(1):83-89 DOI : <http://doi.org/10.32672/makma.v3i1.146>