



Research Article

Prevalences and Determinants Analysis of Scabies Incidence in Rumak Village

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ABSTRACT

Scabies are a global health problem that affects millions of people around the world, especially those living in densely populated and underprivileged areas. Rumak Village, located in a rural area, is no exception to this problem. Where people often live in crowded conditions, making the transmission of scabies easier. This study aims to analyze the determinants of scabies transmission. This study employed a cross-sectional design to examine the prevention behaviors employed by individuals in Rumak Village to avoid the transmission of scabies, totaling 483 families conducted from January to July 2023. Data collection was done using questionnaires, and data analysis was done using Chi-Square, with a p-value of 0.05 with a 95% confidence interval. The results showed a significant association between hand washing practices, home environmental hygiene, sharing items, and bathing practices with the incidence of scabies in the community, with a p-value of 0.000. Families who do not regularly wash their hands, have less clean environmental conditions, often practice sharing personal items, and bathe 1 time/day have a risk of suffering from scabies in Rumak Village.

Keywords: Determinants, prevalence, scabies

INTRODUCTION

Scabies is an infectious skin condition caused by the *Sarcoptes scabiei* mite. The condition is characterized by intense itching, redness, and rashes. These mites burrow into the skin, lay eggs, and cause discomfort to the infected individual (Mutiara & Syailindra, 2016). Mites have the ability to survive on various personal items for a limited period of time, including clothing and bedding. It is crucial to acknowledge that scabies can potentially be transmitted before any symptoms manifest, thereby complicating its identification and limiting the effectiveness of preventative measures in some instances (Aminah et al., 2015). The disease is a global health problem that affects millions of people worldwide, especially in densely populated and underprivileged communities (Majid et al., 2020). Rumak Village, located in a rural area, is no exception to this problem.

Scabies have become a silent epidemic in Rumak Village. This small rural community located in West Lombok, West Nusa Tenggara (WNT), is grappling with the devastating effects of this neglected tropical disease. Scabies are spread through close personal contact, such as prolonged



skin-to-skin contact or sharing contaminated items (Dewantoro et al., 2023). In Rumak Village, where people often live in crowded conditions, the transmission of scabies is easier. Lack of awareness about proper hygiene practices further exacerbates the problem, leading to repeated infections.

The societal implications of scabies are numerous and complex. For instance, the physical discomfort and excruciating itching caused by scabies can significantly diminish the quality of life for those affected. Sleeplessness and constant scratching can lead to secondary infections, further compromising their health (Purwanto & Hastuti, 2020). In addition, scabies have far-reaching social and economic consequences. Affected individuals, especially children, are often stigmatized and excluded from school or social activities. This not only hampers their education but also perpetuates the cycle of poverty in the community. In addition, the loss of productivity due to illness and caregiving responsibilities also puts a strain on already fragile local economies (Marga, 2020).

Diagnosing scabies in Rumak Village poses significant challenges. Limited access to health facilities and trained medical personnel makes it difficult to accurately identify cases of scabies. In addition, the lack of specialized diagnostic tools means many cases go undiagnosed or misdiagnosed, leading to ineffective treatment. Several factors also complicate the treatment of scabies in Rumak Village. The high cost of treatment, coupled with limited availability, leaves many people without adequate treatment. In addition, a lack of education and awareness about proper treatment regimens often leads to incomplete or inappropriate use of medication, allowing mites to persist and infect others.

The scabies epidemic in Rumak Village requires urgent attention and concerted efforts from all stakeholders. Addressing the underlying causes, improving diagnosis and treatment, and implementing comprehensive prevention strategies can reduce the burden of scabies in the community. Eliminating scabies from Rumak Village will not only enhance the physical and psychological well-being of residents but also facilitate the comprehensive advancement of the community. It is imperative to grasp its propagation and implement efficacious preventive measures to hinder the dissemination of scabies. This study examined the underlying causes and prevalence of scabies in Rumak Village.

MATERIAL AND METHODS

This study used a cross-sectional design by analyzing prevention behaviors towards scabies transmission involving samples from a sample in Rumak Village, West Lombok, of 483 families with simple random sampling at one point in time to understand their behaviors, attitudes, and practices related to the prevention of scabies transmission. The study was conducted from January to July 2023. Data collection used a questionnaire or survey to ask respondents about their family history of scabies, hand washing behavior, cleanliness of the environment around the house, sharing behavior, and intensity of their bathing practices related to preventing scabies transmission. The study protocol for this research was approved by the Medical and Health Research Ethics Committee (MHREC), Politeknik Medica Farma Husada Mataram, Indonesia, with Number: 037/Pol-MFHMTR/MHREC/376.05/2023

The observed variables were preventive behaviors, i.e., evaluating the respondents' engaging in behaviors, such as regular hand washing, cleanliness of the house, sharing personal items, and daily bathing practices. Data analysis was performed descriptively by calculating the frequency and percentage of various preventive behaviors performed by respondents. A bivariate analysis employing the Chi-square test with a significance level of 0.05 and a confidence interval of 95%

was conducted to assess the correlation between two variables- preventive behavior and history of scabies incidence- in the sample population.

RESULTS AND DISCUSSION

Cross-sectional analysis of preventive behaviour towards scabies transmission has provided valuable insights into the current practices and attitudes of the population. These insights can inform targeted interventions to reduce scabies transmission and improve overall public health.

Table 1. Frequency Distribution of Preventive Behaviour towards Scabies Transmission in Rumak Village

Variable		n = 483	%
Family History of Scabies	Yes	294	60.9
	No	189	39.1
Handwashing	Irregular	257	53.2
	Regular	226	46.8
Cleanliness of the Home Environment	Less Clean	191	39.5
	Clean	292	60.5
Sharing Items	Often	197	40.8
	Rare	286	59.2
Shower	1 Time/Day	204	42.2
	2 Times/Day	279	57.8

Table 1 shows that the prevalence of scabies in the community is still relatively high at 60.9% and families who practice regular handwashing contribute quite well at 53.2%. However, many people in Rumak Village do not maintain cleanliness around their home environment with a percentage of 60.5%. In addition, the behaviour of sharing personal items with others is rarely done by the community and the practice of bathing twice a day is well done with a percentage of 59.2% and 57.8% respectively.

Table 2. Analysis of Preventive Behaviour towards Scabies Transmission in Rumak Village

Variables		Family History of Scabies (n=483)				χ^2	p-value	OR (CI 95%)
		Available		Not Available				
		n	%	n	%			
Handwashing	Irregular	188	73.2	69	26.8	34.786	0.000*	3.084 (2.109-4.510)
	Regular	106	46.9	120	53.1			
Cleanliness of the Home Environment	Less Clean	151	79.1	40	20.9	43.879	0.000*	3.933 (2.591-5.970)
	Clean	143	49	149	51			
Sharing Items	Often	164	83.2	33	16.8	69.955	0.000*	5.964 (3.839-9.264)
	Rare	130	45.5	156	54.5			
Shower	1 Time/Day	164	80.4	40	19.6	56.511	0.000*	4.699 (3.094-7.138)
	2 Times/Day	130	46.6	149	53.4			

*: Significant; OR: Odds Ratio; CI 95%: Confidence Interval

The data illustrated in Table 2 demonstrate a statistically significant correlation between the prevalence of scabies and hand-washing habits, as evidenced by a p-value of 0.000. The OR value indicates that families who do not regularly wash their hands are 3.084 times more likely to experience scabies than families who regularly practice hand washing. Furthermore, a significant association was observed between environmental hygiene practices in the domestic environment and the incidence of scabies, with a p-value of 0.000. The OR value indicates that families with a

less hygienic domestic environment are at a 3.933 times greater risk of developing scabies than families with a clean domestic environment.

A notable correlation exists between families who frequently share personal items and the prevalence of scabies, as demonstrated by a p-value of 0.000. The OR calculation results indicate that families who frequently share personal items are at a 5.964 times higher risk of developing scabies than families who rarely engage in such practices within their environment. Furthermore, a significant association was identified between bathing practices and the incidence of scabies, with a p-value of 0.000. Based on the OR value, families who practice bathing once daily have a 4.699 times higher risk of having scabies than those who practice bathing twice daily (Table 2).

One of the preventive measures is regular hand washing, which plays an important role in reducing the incidence of scabies. Hand washing is a simple yet effective method to prevent transmitting various infectious diseases. The findings of this study align with the Centers for Disease Control and Prevention (CDC) assertion that regular handwashing is the most effective method for preventing the transmission of pathogens. Adherence to proper hand hygiene practices can markedly reduce the likelihood of contracting or disseminating infectious diseases, including scabies (Yun et al., 2020).

Scabies mites are microscopic parasites that nest in the upper layers of the skin, where they lay their eggs. These mites can easily pass from one person to another through close physical contact, such as shaking hands or sexual activity. In addition, scabies mites can survive for up to 72 hours on bedding, clothing, or other surfaces, increasing the risk of transmission (Prayogi & Kurniawan, 2016). Several studies have demonstrated the effectiveness of regular handwashing in reducing scabies transmission. A study by Romani et al. in 2015 focused on a population with a high prevalence of scabies in Fiji. The study implemented a multifaceted intervention, including promoting regular handwashing with soap and water. The results showed a significant reduction in the incidence of scabies, suggesting that handwashing plays an important role in preventing its spread (Romani et al., 2015).

Another study conducted by Dagne et al. in 2019 examined the impact of hand hygiene interventions on scabies transmission in a healthcare setting. The study implemented a comprehensive hand hygiene program, including education, access to hand sanitizers, and regular compliance monitoring. The results showed a significant reduction in scabies transmission, highlighting the effectiveness of hand hygiene practices in healthcare settings. Promoting regular handwashing with soap and water should be emphasized in health education campaigns targeting high-risk populations, such as schools, healthcare facilities, and communities with a high prevalence of scabies. Proper handwashing techniques, including thorough handwashing with soap and water for at least 20 seconds, should be taught to ensure maximum effectiveness (Dagne et al., 2019).

Regular handwashing has been demonstrated to be an effective method for reducing the transmission of scabies. It is a straightforward and cost-efficient preventive measure that can be implemented in various settings, including health facilities and communities (Trasia, 2021). Although handwashing is insufficient for eliminating the risk of scabies, it is a crucial element of an effective comprehensive prevention strategy (Raffi et al., 2019). The promotion of hand hygiene practices and the assurance of their consistent implementation represents a significant opportunity for reducing scabies incidence and improving overall health and well-being (May et al., 2019).

The transmission of scabies is facilitated by close personal contact and is particularly prevalent in crowded living conditions. While personal hygiene is a crucial factor in preventing scabies, the home environment's cleanliness also significantly influences the prevalence of this

condition. Therefore, maintaining a hygienic home environment is vital for preventing the spread of scabies. Implementing regular cleaning practices, including the laundering of bedding, the vacuuming of carpets, and the disinfection of surfaces, can assist in the eradication of mites and their eggs, thereby reducing the probability of infestation. Furthermore, adherence to optimal personal hygiene standards, such as the frequent washing of hands and the regular bathing of individuals, can minimize the likelihood of scabies transmission. (Roswendi & Zakiyah, 2022).

Overcrowded living conditions and poor sanitation can contribute to the rapid spread of scabies. When several people live nearby, sharing bedding, furniture, and personal belongings, the risk of scabies transmission increases significantly. In addition, inadequate access to clean water and sanitation facilities can hinder proper hygiene practices, making it difficult to control scabies outbreaks in such environments (Tresnasari et al., 2019). A study conducted by researchers at the University of New South Wales (UNSW) in Australia examined the potential correlation between domestic environmental hygiene and the prevalence of scabies in remote Aboriginal communities. The study found that overcrowding and poor sanitation were significant risk factors for scabies infestation. The researchers highlighted the importance of improving housing conditions and promoting hygiene practices in preventing scabies outbreaks in these communities (Ali et al., 2018).

Implementing effective environmental cleaning interventions can significantly reduce the transmission of scabies. In healthcare settings, where scabies outbreaks can occur, strict adherence to infection control measures, including regular cleaning and disinfection of surfaces, can help prevent the spread of scabies among patients and healthcare workers (Husna et al., 2021). In a recently published study in the *Journal of Hospital Infection*, the impact of implementing environmental cleaning programs on the transmission of scabies in hospital settings was evaluated. The study showed that the implementation of improved cleaning protocols, including the use of disinfectants and proper cleaning techniques, resulted in a significant reduction in scabies cases (Lee et al., 2019).

Maintaining a clean home environment is essential in preventing the transmission of scabies. Overcrowding, poor sanitation, and socioeconomic factors can contribute to the spread of scabies (Ihtiarinyas et al., 2019). Implementing effective cleaning practices, improving housing conditions, and promoting hygiene education are important strategies for reducing the incidence rate of scabies (Khairani, 2017). In addition, targeted interventions and support systems are needed to address the specific challenges faced by disadvantaged communities (Alberfkani & Mero, 2020). By prioritizing the cleanliness of the home environment and implementing comprehensive prevention measures, we can make significant progress in controlling and minimizing the impact of scabies (Anggreni & Indira, 2019).

Several research studies have been conducted that correspond to this study to investigate the relationship between sharing personal items and the transmission of scabies. These studies have provided valuable insights into the importance of this mode of transmission. A study published in the *British Journal of Dermatology* explored the potential role of shared personal items in transmitting scabies within households. The study comprised 100 households in which a member had been diagnosed with scabies. The researchers established that sharing items such as clothing, towels, and bedding significantly augmented the probability of scabies transmission within the household. They concluded that sharing personal items plays an important role in transmitting scabies, notably within communities with high degrees of cohesion or dense living conditions (Cox et al., 2021).

Another study published in the *Journal of Epidemiology and Infection* focused on scabies outbreaks in healthcare settings. The researchers investigated the impact of sharing personal items, including stethoscopes, blood pressure cuffs, and thermometers, on the transmission of scabies among healthcare workers and patients. The study found that healthcare workers who shared personal items were more likely to contract scabies compared to those who did not share items. In addition, patients who shared personal items were also at higher risk of developing scabies. The findings of this study underscore the significance of adherence to hygienic practices and the imperative for the discouragement of item sharing in healthcare settings as a means of preventing the occurrence of scabies outbreaks (Mounsey et al., 2016).

A study in the *Journal of the American Board of Family Medicine* explored the association between scabies and sharing personal items within communal contexts. The researchers surveyed a large sample of individuals, collecting information on their hygiene practices and scabies history. The study revealed a positive correlation between sharing personal items and the incidence of scabies. Individuals who reported sharing items such as clothing, towels, and bedding were more likely to develop scabies. The researchers underscored the significance of personal hygiene and advised against sharing personal items to minimize the likelihood of scabies transmission. The results of the study mentioned above have considerable implications for public health and prevention strategies. They emphasize the necessity of heightened awareness regarding the dangers associated with sharing personal items and their role in the transmission of scabies. (Anderson & Strowd, 2017).

One common preventive measure that is often recommended is frequent bathing. Bathing is believed to help remove scabies mites from the skin surface and reduce the risk of transmission. However, the effectiveness of this practice in preventing scabies incidence has been a topic of debate among health professionals. Several research studies have investigated the potential relationship between bathing practices and the incidence of scabies. One study published in the *World Journal of Biology, Pharmacy, and Health Sciences* examined the bathing habits of individuals in areas endemic to scabies. The findings indicated that those who engaged in at least one daily bath exhibited a notably reduced incidence of scabies compared to those who bathed less frequently, which lends credence to the notion that regular bathing may prove to be an effective preventive measure against the onset of scabies attacks (Emeka et al., 2021).

Another study conducted in a school setting investigated the impact of daily bathing on the transmission of scabies among children. The participants were divided into two groups for analysis. One group engaged in daily bathing, while the other group maintained the bathing routine they had adopted as their norm. The study revealed that the group that practiced daily bathing had a significantly lower incidence of scabies than the control group. This supports the notion that regular bathing can be an effective preventive measure against scabies (Ugbomoiko et al., 2018).

Nevertheless, it should be noted that bathing is an insufficient method for preventing a scabies infestation. Scabies mites can survive for a limited period away from the human body and are easily spread through close physical contact or sharing of contaminated items, such as clothing or bedding (Nisa & Rahmalia, 2019). Therefore, other preventive measures such as avoiding close contact with infected individuals and practicing good hygiene, including frequent washing of clothes and bedding, are equally important in controlling the spread of scabies (Novitasari et al., 2021).

It has been demonstrated that regular bathing, in particular, has a beneficial effect on reducing the prevalence of scabies. However, this should be considered as one component of a

comprehensive approach to scabies prevention. Other measures such as avoiding close contact with infected people and practising good hygiene, are equally important (Ariningtyas, 2019). It is also important to balance good hygiene practices and preserving the skin's natural barrier. By adopting a multi-faceted approach, individuals can significantly reduce their risk of scabies attacks and improve overall skin health (Triana & Razi, 2020).

Collaboration between local governments, health organizations, and non-governmental organizations (NGOs) is essential in tackling the scabies epidemic. By pooling resources and expertise, comprehensive prevention and treatment programs can be implemented (Haiya et al., 2014). These programs should include regular mass drug administration, public health education campaigns, as well as long-term monitoring and evaluation to ensure continued progress (Fitria et al., 2020).

CONCLUSION AND SUGGESTION

Preventive behaviors are essential in controlling the spread of scabies. The implementation of effective hygiene practices, including the regular washing of hands and the avoidance of the sharing of personal items, is of significant importance in the prevention of transmission. Knowledge and awareness about scabies transmission are also crucial in promoting preventive behaviors. Education campaigns and informed healthcare providers can help disseminate this knowledge. Educating the public about what scabies are, how they spread, and their symptoms is crucial. Many people associate it with poor hygiene, leading to stigmatization and misinformation. Clear communication that emphasizes that it can affect anyone, regardless of socioeconomic status, can help diminish stigma. Information should be disseminated about the common symptoms of scabies, which include intense itching, rashes, and sores. Encouraging individuals to seek medical advice promptly can lead to earlier diagnosis and treatment.

Healthcare providers play a critical role in managing scabies and educating patients. Training sessions can be organized to equip healthcare professionals with the necessary knowledge and tools to recognize, diagnose, and treat scabies effectively. During routine check-ups, healthcare providers should ask patients about skin symptoms and educate them about scabies, especially in high-risk populations such as those in shelters, nursing homes, or crowded living conditions.

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CONFLICT OF INTEREST

There is no potential for a conflict of interest to arise from the completion of this research project.

REFERENCES

- Alberfkani, M. I., & Mero, W. M. S. (2020). The incidence of scabies and head lice and their associated risk factors among displaced people in Cham Mishko Camp, Zakho City, Duhok Province, Iraq. *Polish Journal of Microbiology*, 69(4), 463–469. <https://doi.org/10.33073/PJM-2020-050>
- Ali, S. H., Foster, T., & Hall, N. L. (2018). The relationship between infectious diseases and housing maintenance in indigenous Australian households. *International Journal of Environmental Research and Public Health*, 15(12). <https://doi.org/10.3390/ijerph15122827>
- Aminah, P., Sibero, H., & Ratna, M. (2015). Hubungan Tingkat Pengetahuan dan Perilaku Santri dengan Kejadian Skabies. *J Majority*, 4, 54–59. <http://juke.kedokteran.unila.ac.id/index.php/majority/article/viewFile/610/614>
- Anderson, K. L., & Strowd, L. C. (2017). Epidemiology, diagnosis, and treatment of scabies in a dermatology office. *Journal of the American Board of Family Medicine*, 30(1), 78–84. <https://doi.org/10.3122/jabfm.2017.01.160190>
- Anggreni, P. M. D., & Indira, I. G. A. A. E. (2019). Korelasi Faktor Prediposisi Kejadian Skabies Pada Anak-Anak di Desa Songan, Kecamatan Kintamani, Kabupaten Bangli, Provinsi Bali. *E-Jurnal Medika Directory of Open Access Journals (DOAJ)*, 8(6), 4–11. <https://ojs.unud.ac.id/index.php/eum/article/download/51740/33047>
- Ariningtyas, D. N. (2019). Analisis Karakteristik dan Higiene Individu dengan Kejadian Skabies di Lembaga Pembinaan Khusus Anak (LPKA) Kelas I Blitar. *Jurnal Keperawatan Muhammadiyah Edisi Khusus 2019, Edisi Khus*, 225–231.
- Cox, V., Fuller, L. C., Engelman, D., Steer, A., & Hay, R. J. (2021). Estimating the global burden of scabies: what else do we need?*. *British Journal of Dermatology*, 184(2), 237–242. <https://doi.org/10.1111/bjd.19170>
- Dagne, H., Dessie, A., Destaw, B., Yallem, W. W., & Gizaw, Z. (2019). Prevalence and associated factors of scabies among schoolchildren in Dabat district, northwest Ethiopia, 2018. *Environmental Health and Preventive Medicine*, 24(1), 1–8. <https://doi.org/10.1186/s12199-019-0824-6>
- Dewantoro, W., Sofyandi, A., Marzuki, I., & Selatan, A. (2023). HUBUNGAN PERSONAL HYGIENE DENGAN KEJADIAN SKABIES PADA WARGA BINAAN RUTAN KELAS IIB PRAYA TAHUN 2021 Program Studi Kesehatan Masyarakat , Universitas Pendidikan Mandalika , Indonesia Program Studi Pendidikan Olahraga dan Kesehatan , Universitas Pendidikan. *Saintekes: Jurnal Sains, Teknologi Dan Kesehatan*, 2(3), 443–447.
- Emeka, N. K., Nkechi, E. E., Emeka, A., Chimaobi, O., Chinwe, E., & Michael, O. R. (2021). Incident, Pattern and Trends of Scabies on Randomly Selected Secondary Schools' Students in Anambra State, Nigeria. *World Journal of Biology Pharmacy and Health Sciences*, 7(3), 19–29.
- Fitria, N., Tosepu, R., & Nurmaladewi. (2020). Hubungan Sanitasi Lingkungan dan Higiene Perorangan Dengan Keluhan Penyakit Skabies Pada Anak-Anak di Panti Asuhan Amaliyah Kota Kendari Tahun 2019. *Jurnal Kesehatan Masyarakat Celebes*, 1(3), 13–20. <http://ojs.uho.ac.id/index.php/JIMKESMAS/article/view/2914%0Ahttps://ejournal.undip.ac.id/index.php/jim/index%0Ahttps://sardjito.co.id/2019/10/30/mengenal-scabies%0Ahttps://proceedings.unisba.ac.id/index.php/BCSMS/article/view/1302%0Ahttps://www.jurnal.un>
- Haiya, N. N., Ardian, I., Nasiroh, A., & Azizah, I. R. (2014). Pendidikan Kesehatan Mempengaruhi Tingkat Harga Diri Penderita Skabies di Pondok Pesantren. *Jurnal Ilmu Keperawatan Dan Kebidanan*, 12(2), 418–424.
- Husna, R., Joko, T., & Selatan, A. (2021). Faktor Risiko Yang Mempengaruhi Kejadian Skabies Di Indonesia : Literatur Review Factors Related To The Incidence Of Scabies In Indonesia : Literature Review Health penyakit yang berhubungan dengan air (2011) menyatakan bahwa

- terdapat. *Jurnal Kesehatan Lingkungan*, 11(1), 29–39. <https://doi.org/10.47718/jkl.v10i2.1169>
- Ihtiarinyas, S., Mulyaningsih, B., & Umniyati, S. R. (2019). Faktor Risiko Penularan Penyakit Skabies pada Santri di Pondok Pesantren An Nawawi Berjan Kecamatan Gebang Kabupaten Purworejo Jawa Tengah. *Balaba: Jurnal Litbang Pengendalian Penyakit Bersumber Binatang Banjarnegara*, 83–90. <https://doi.org/10.22435/blb.v15i1.1784>
- Khairani, A. I. (2017). Sanitasi Lingkungan Rumah Dan Sosial Budaya Masyarakat Pesisir Pantai Terhadap Kejadian Skabies. *Jurnal Riset Hesti Medan Akper Kesdam I/BB Medan*, 1(1), 45. <https://doi.org/10.34008/jurhesti.v1i1.7>
- Lee, M. H., Lee, G. A., Lee, S. H., & Park, Y. H. (2019). Effectiveness and core components of infection prevention and control programmes in long-term care facilities: a systematic review. *Journal of Hospital Infection*, 102(4), 377–393. <https://doi.org/10.1016/j.jhin.2019.02.008>
- Majid, R., Astuti, R. D. I., & Fitriyana, S. (2020). Hubungan Personal Hygiene dengan Kejadian Skabies pada Santri di Pesantren Kabupaten Bandung Tahun 2019. *Jurnal Integrasi Kesehatan Dan Sains (JIKS)*, 2(2), 160–164. <https://sardjito.co.id/2019/10/30/mengenal-scabies>
- Marga, M. P. (2020). Pengaruh Personal Hygiene Terhadap Kejadian Penyakit Skabies. *Jurnal Ilmiah Kesehatan Sandi Husada*, 9(2), 773–778. <https://doi.org/10.35816/jiskh.v10i2.402>
- May, P. J., Tong, S. Y. C., Steer, A. C., Currie, B. J., Andrews, R. M., Carapetis, J. R., & Bowen, A. C. (2019). Treatment, prevention and public health management of impetigo, scabies, crusted scabies and fungal skin infections in endemic populations: a systematic review. *Tropical Medicine and International Health*, 24(3), 280–293. <https://doi.org/10.1111/tmi.13198>
- Mounsey, K. E., Murray, H. C., King, M., & Oprescu, F. (2016). Retrospective analysis of institutional scabies outbreaks from 1984 to 2013: Lessons learned and moving forward. *Epidemiology and Infection*, 144(11), 2462–2471. <https://doi.org/10.1017/S0950268816000443>
- Mutiara, H., & Syailindra, F. (2016). Skabies. *Majority*, 5(3), 37–42. <https://doi.org/10.22219/sm.v7i2.4080>
- Nisa, F. R., & Rahmalia, D. (2019). Faktor-faktor yang berhubungan dengan kejadian skabies pada santri putra di pondok pesantren darurrahmah gunung putri bogor. *Jurnal Untuk Masyarakat Sehat (JUKMAS)*, 3(1), 16–23.
- Novitasari, D., . S., & Ferizqo, F. A. (2021). Hubungan Personal Hygiene Santri Dengan Kejadian Skabies Di Pondok Pesantren As – Syafi’iyah Sidoarjo Tahun 2020. *Gema Lingkungan Kesehatan*, 19(2), 129–137. <https://doi.org/10.36568/kesling.v19i2.1539>
- Prayogi, S., & Kurniawan, B. (2016). Pengaruh personal hygiene dalam pencegahan penyakit skabies. *Jurnal Majority*, 5(5), 140–143. <http://juke.kedokteran.unila.ac.id/index.php/majority/article/view/939>
- Purwanto, H., & Hastuti, R. P. (2020). Faktor Risiko Penyakit Skabies di Masyarakat Risk Factors for Scabies in the Community. *Jurnal Kesehatan Politeknik Kesehatan Tanjung Karang*, 11, 145–150. [10.26630/jk.v11i1.1628](https://doi.org/10.26630/jk.v11i1.1628)
- Raffi, J., Suresh, R., & Butler, D. C. (2019). Review of Scabies in the Elderly. *Dermatology and Therapy*, 9(4), 623–630. <https://doi.org/10.1007/s13555-019-00325-2>
- Romani, L., Koroiueta, J., Steer, A. C., Kama, M., Kaldor, J. M., Wand, H., Hamid, M., & Whitfeld, M. J. (2015). Scabies and Impetigo Prevalence and Risk Factors in Fiji: A National Survey. *PLoS Neglected Tropical Diseases*, 9(3), 1–10. <https://doi.org/10.1371/journal.pntd.0003452>
- Roswendi, A. S., & Zakiyah, Y. (2022). Relationship Between Environmental Sanitation and the Incidence of Scabies: A Literature Review. *KnE Medicine*, 2022, 207–215. <https://doi.org/10.18502/kme.v2i2.11083>
- Trasia, R. F. (2021). Scabies in Indonesia: Epidemiology and Prevention. *Insights in Public Health Journal*, 1(2), 30. <https://doi.org/10.20884/1.ipjh.2020.1.2.3071>

- Tresnasari, C., Respati, T., Maulida, M., Triyani, Y., Tejasari, M., Kharisma, Y., & Ismawati, I. (2019). Understanding Scabies in Religious Boarding School (Pesantren). *Advances in Social Science, Education and Humanities Research*, 307(SoRes 2018), 520–522. <https://doi.org/10.2991/sores-18.2019.120>
- Triana, Wi., & Razi, F. (2020). Faktor Yang Berhubungan Dengan Perilaku Pencegahan Penyakit Scabies Pada Santri Di Pondok Pesantren Nurul Iman Ulu Gedong Kota Jambi Tahun 2019. *JMJ, Special Issues, JAMHESIC*, 93–97.
- Ugbomoiko, U. S., Oyedeji, S. A., Babamale, O. A., & Heukelbach, J. (2018). Scabies in resource-poor communities in Nasarawa State, Nigeria: Epidemiology, clinical features and factors associated with infestation. *Tropical Medicine and Infectious Disease*, 3(2), 13–15. <https://doi.org/10.3390/tropicalmed3020059>
- Yun, S. Y., Yu, H. S., & Kim, D. H. (2020). Knowledge and scabies patient management among nursing staff working at long-term care institutions in south korea: A descriptive study. *Southeast Asian Journal of Tropical Medicine and Public Health*, 51(6), 824–838.