

Prevalence Rate and Knowledge about Scabies in Residents of Terang Titipan Orphanage in Manado North Sulawesi

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Abstract

Review Article

Scabies is a contagious skin disease caused by infection and sensitization by the mite *Sarcoptes scabiei* var *hominis* (*Sarcoptes* sp.). It often occurs in people who live in crowded places such as dormitories. Questionnaires related to knowledge were distributed to respondents and then the data obtained was analyzed. There were 29 people who were examined for scabies infection and 17 sufferers (58%) of various ages were found. The female gender suffers from scabies infection the most (10 people) compared to men (7 people). Next, a questionnaire was carried out with 15 questions related to knowledge (9 positive questions, 6 negative questions) and behavior for those who are able to read and provide answers. More than 50% of respondents' answers were correct for 12 questions related to knowledge. There were 3 questions answered incorrectly by 67% of respondents regarding the transmission of scabies in crowded places (number 8), scabies having nothing to do with environmental cleanliness (number 14) and scabies not being transmitted through sharing towels (number 9). Question number 8 is correct. This shows that respondents still have limited knowledge regarding scabies. Education and monitoring of health workers regarding scabies is still needed on a regular basis.

Keywords: Scabies; prevalence; knowledge.

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INTRODUCTION

Scabies is an infectious skin disease caused by *Sarcoptes scabiei*, which enters the skin, causing intense itching, especially at night. The highly contagious nature of scabies is primarily transmitted through skin-to-skin contact, posing the greatest risk in families and close skin-to-skin contact relationships. Scabies is a significant health threat in many tropical and developing countries. Rapid identification and treatment of affected individuals is critical, as misdiagnosis can lead to outbreaks, increased morbidity, and increased economic burden [1].

The global prevalence of scabies is estimated to infect 300 million people each year, causing major health problems in many developing countries [2, 6]. In 2017, Scabies and other ectoparasites were included as Neglected Tropical Diseases by WHO. Scabies shows a high prevalence in certain regions, including Africa, South America, Australia, and Southeast Asia. This increase in incidence is related to factors such as poverty, poor nutrition, homelessness, and inadequate hygiene [2].

Adult female mites dig burrows forming tunnels measuring 1 to 10 millimeters in the superficial layers of the epidermis, laying 2 to 3 eggs each day. Mites have a lifespan of 30 to 60 days, and the eggs hatch about 2 to 3 weeks later. It is important to note that not all available treatment options can effectively reach and remove eggs embedded in the skin [2, 7]. If an infestation occurs, papules may appear within 2 to 5 weeks. These papules show a tunnel or comma shape, their length varies from a few millimeters to 1 centimeter. Typically, infestations occur under the thin skin in areas such as the interdigital folds, areola, navel area, and penile shaft in men [2].

Clinical manifestations include winding white lines that indicate burrowing mite activity. Common locations for mites to nest include skin folds, armpits, navel, between the fingers, waistline, nipples, buttocks, the circular area around a woman's breasts, the inner surface of the wrist, and the shaft of the penis. Type IV hypersensitivity reactions may manifest as red papules in response to mites, their eggs, or their excretions. The

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itching associated with Scabies often leads to scratching, crust formation, and potential bacterial infection known as impetiginization [6, 4]. Definitely diagnosing scabies requires microscopic identification of *S. scabiei* mites.

The main approach to treating scabies involves the use of topical acaricides, with increased use of oral ivermectin in certain situations, particularly in cases of crusted abies. Currently, the most recommended treatment options are topical permethrin and oral ivermectin [9, 10].

This study aims to identify the prevalence of scabies and the respondents' knowledge regarding scabies in residents of an orphanage in the city of Manado. The research was conducted using a descriptive analytical method with a cross-sectional approach. Respondents were recruited using a total sampling system for those who met the criteria.

The results showed that the total number of respondents examined by doctors was 29 people, consisting of 17 women and 12 men. Respondents who were declared to have experienced scabies were 17 people (58.52%). Gender affected by scabies: 10 women (58.8%), compared to 7 men (41.2%). Previous research also found a prevalence of more than 50% of the respondents studied were affected by scabies [11, 12].

This knowledge-related questionnaire was obtained from Kasanah's research, which can be categorized as statements related to understanding, causes, clinical symptoms, transmission and prevention. The questionnaire consists of 15 questions, 9 positive statements and 6 negative statements. There were 12 respondents who answered the questionnaire, who lived permanently and were selected who were more than 10 years old so they were able to provide answers.

Statement number 8, that scabies is easily transmitted in densely populated environments, was stated as false by 8 (66%) respondents. Several negative statements, such as lice that cause scabies, cannot live in damp places and poor room ventilation makes it easier for lice to reproduce, which was answered correctly by 58% of respondents, while statement number 15, clothing that is not properly dried is not a place for lice to develop, was answered correctly by 9 (75%) respondent. This shows that several aspects of knowledge, namely causes and prevention, still need to be improved. Knowledge is a factor that influences the incidence of scabies. Research by Yudhaningtyas at the Magetan Islamic Boarding School and Nurhidayat at the Amin Islamic Boarding School, reported a significant relationship between knowledge and the incidence of scabies [13, 14]. However, research from Ridwan at the Kendari Islamic Boarding School reported the opposite, namely that knowledge was not

related to the prevalence of scabies [15]. Kendari is one of the provinces in Indonesia which is far from the island of Java. Regional factors could be the cause of differences in research results, so Ridwan's research provides space for more detailed exploration.

CONCLUSION

The prevalence of scabies is found still high and respondent knowledge plays an important role in the incidence of this disease. Education regarding scabies still needs to be provided to the population, especially those living in crowded places such as orphanages.

REFERENCES

1. Swe, P. M., Christian, L. D., Lu, H. C., Sriprakash, K. S., & Fischer, K. (2017). Complement inhibition by *Sarcoptes scabiei* protects *Streptococcus pyogenes*-An in vitro study to unravel the molecular mechanisms behind the poorly understood predilection of *S. pyogenes* to infect mite-induced skin lesions. *PLoS neglected tropical diseases*, 11(3), e0005437.
2. Micali, G., Lacarrubba, F., Verzi, A. E., Chosidow, O., & Schwartz, R. A. (2016). Scabies: advances in noninvasive diagnosis. *PLoS neglected tropical diseases*, 10(6), e0004691.
3. Kandi, V. (2017). Laboratory diagnosis of scabies using a simple saline mount: a clinical microbiologist's report. *Cureus*, 9(3), e1102.
4. Stamm, L. V., & Strowd, L. C. (2017). Ignoring the "Itch": the global health problem of scabies. *The American journal of tropical medicine and hygiene*, 97(6), 1647-1649.
5. Vasanwala, F. F., Ong, C. Y., Aw, C. W. D., & How, C. H. (2019). Management of scabies. *Singapore medical journal*, 60(6), 281-285.
6. Anderson, K. L., & Strowd, L. C. (2017). Epidemiology, diagnosis, and treatment of scabies in a dermatology office. *The Journal of the American Board of Family Medicine*, 30(1), 78-84.
7. Dressler, C., Rosumeck, S., Sunderkötter, C., Werner, R. N., & Nast, A. (2016). The Treatment of Scabies. *Dtsch Arztebl Int*, 113(45), 757-762.
8. Mahé, A., Faye, O., N'Diaye, H. T., Ly, F., Konare, H., Keita, S., ... & Hay, R. (2005). Definition of an algorithm for the management of common skin diseases at primary health care level in sub-Saharan Africa. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 99(1), 39-47.
9. Walker, G. J., & Johnstone, P. W. (2000). Interventions for treating scabies. *Cochrane Database Syst Rev*, (2), CD000320.
10. Roos, T. C., Roos, S., Merk, H. F., & Bickers, D. R. (2001). Pharmacotherapy of ectoparasitic infections. *Drugs*, 61, 1067-1088.
11. Hilma, U. D., & Ghazali, L. (2014). *Faktor-Faktor yang Mempengaruhi Kejadian Skabies di Pondok Pesantren Mlangi Nogotirto Gamping Sleman*

- Yogyakarta, JKKI, 6(3), September-Desember 2014.
12. Husna, R., Joko, T., & Nurjazuli, N. (2021). Faktor Risiko Yang Mempengaruhi Kejadian Skabies Di Indonesia: Literatur Review. *Jurnal Kesehatan Lingkungan*, 11(1), 29-39.
 13. Yudhaningtyas, H. (2018). Analisis faktor yang mempengaruhi terjadinya skabies pada santriwati di pondok pesantren Salaffiyah Miftahul Nurul Huda Kecamatan Panekan Kabupaten Magetan, Skripsi STIKES Bhakti Husada Mulia Madiun.
 14. Nurhidayat, N., Firdaus, F. A., Nurapandi, A., & Kusumawaty, J. (2022). Analisis faktor-faktor yang mempengaruhi terjadinya skabies pada santri di Pondok Pesantren Miftahul Amin. *Healthcare Nursing Journal*, 4(2), 265-272.
 15. Ridwan, A. R., Sahrudin, S., & Ibrahim, K. (2017). *Hubungan pengetahuan, personal hygiene, dan kepadatan hunian dengan gejala penyakit skabies pada santri di Pondok Pesantren Darul Muklisin Kota Kendari 2017* (Doctoral dissertation, Haluoleo University).