**Ambidextrous: Journal of Innovation, Efficiency and Technology in Organization**

https://journal.takaza.id/index.php/ambidextrous

Vol. 5, no. 2 , Agustus 2026 , pp. 125-137
E-ISSN: 3031-7002

E-mail:ambidex@takaza.id

# Clinical Features, Risk Factors, and Adhesive Tape Test Examination for Scabies at the Olak Kemang Community Health Center and Putri Ayu Community Health Center in Jambi City

**Liza Oktaviani[1], Fitriyanti[2], Fairuz Quzwain[3], Rini Chrisna[4], Hafizah[5]**
[12345] Program Studi Kedokteran Fakultas Kedokteran Dan Ilmu Kesehatan Universitas Jambi
Corresponding Author e-mail : lizaoktaviani.2525@gmail.com

**Article History:**
Received: 23-07-2026
Revised: 24-07-2026
Accepted: 12-08-2026

***Keywords:*** *Adhesive Tape Test, Clinical Characteristics, Risk Factors, Scabies, Skin Infestation*

***Abstract:*** *Scabies is a contagious skin disease that remains a public health problem, especially in areas with high population density and poor sanitation. This study aims to determine the demographic characteristics, clinical presentation, risk factors, and adhesive tape test results in scabies patients at the Olak Kemang Community Health Center and the Putri Ayu Community Health Center in Jambi City. The study used a descriptive observational design with a cross-sectional approach. The population was all scabies patients treated at both community health centers during the study period, while a sample of 43 respondents was determined using the Lemeshow formula with a purposive sampling technique. The research instruments included a questionnaire on demographic characteristics and risk factors, a clinical observation sheet, and an adhesive tape test. Data were analyzed using univariate analysis in the form of frequency distributions and percentages. The results showed that most patients were school-aged children, females, had no education up to elementary school or equivalent, and were unemployed. Lesions were most commonly found on the upper and lower extremities, with papules as the dominant lesion. Most respondents had poor personal hygiene, unhealthy basic sanitation, and low socioeconomic status, while positive adhesive tape test results were found in 7.0% of respondents. This study concluded that the characteristics of scabies patients at the study site were dominated by behavioral and environmental factors, while the adhesive tape test only identified a small proportion of cases, making it more appropriate to use as a supporting examination for clinical diagnosis.*

**How to Cite:** Liza Oktaviani, Fitriyanti, Fairuz Quzwain, Rini Chrisna, Hafizah. (2026). *Clinical Features, Risk Factors, and Adhesive Tape Test Examination for Scabies at the Olak Kemang Community Health Center and Putri Ayu Community Health Center in Jambi City*. .5(2). Pp.125-137 https://doi.org/10.61536/ambidextrous.v5i2.578

https://doi.org/10.61536/ambidextrous.v5i2.578

## Introduction

Scabies remains a public health problem in various countries because it is a neglected tropical disease that continues to show high incidence rates throughout the year and is included in the global burden of disease study. Caused by the mite Sarcoptes scabiei variety hominis, this disease is a contagious skin disease commonly found in tropical and subtropical climates, especially in densely populated areas with low socioeconomic conditions. According to the World Health Organization (WHO), the global prevalence of scabies reaches 100 to 200 million cases annually, with the largest proportion occurring in children. In Indonesia, the prevalence of scabies still ranges from 3.9% to 12.95%, while in South Sumatra Province there were 1,027 cases recorded. In Jambi City, according to data from the Jambi City Health Office in 2023, there were 2,518 cases of scabies, with the highest number of cases found at the Olak Kemang Community Health Center, the Tahtul Yaman Community Health Center, and the Putri Ayu Community Health Center. The high incidence rate indicates that scabies is still a health problem that requires attention in diagnosis and control efforts (Gunardi et al., 2023; WHO, 2019; Lilia & Novitry, 2022).

Scabies not only causes skin problems but also impacts the quality of life of sufferers. This disease is often found in communities living in groups, such as Islamic boarding schools, orphanages, prisons, and individuals who are unable to maintain good personal hygiene. The high incidence of scabies can disrupt concentration at school or work, reduce sleep quality, cause persistent itching and irritation, and lead to feelings of shame and social discrimination. This condition makes many sufferers uncomfortable interacting with the community, potentially delaying seeking treatment. If not treated properly, scabies can lead to complications in the form of secondary bacterial infections such as impetigo, cellulitis, folliculitis, boils, and lymphangitis, as well as aggravate other pre-existing skin conditions, such as eczema and psoriasis (Gunardi et al., 2023; Sara et al., 2018; Latipah & Uliyandari, 2022; Gumilang & Farakhin, 2019).

Research challenges lie in the diverse characteristics of scabies sufferers and the risk factors associated with scabies. Several studies report that scabies is most common in school-age children and young adults, while research in the Tahtul Yaman Community Health Center (UPTD) work area in Jambi City indicates that the majority of cases occur in the 41-50 age group. Gender distribution is also different, with several studies in Indonesia showing different characteristics than studies in Turkey and Iraq, which reported a predominance of cases in men. Furthermore, education level, type of employment, nutritional status, personal hygiene, environmental sanitation, socioeconomic status, chronic diseases, and immunosuppression have been reported to play a role in scabies incidence (Turan et al., 2020; Alberfkani & Mero, 2020; Syahrani, 2024; Hidayah, 2021; Arega, n.d.; Sunderkötter et al., 2021).

Another challenge is establishing a diagnosis of scabies, which remains challenging due to its highly variable clinical presentation, often mimicking other skin conditions, potentially leading to misdiagnosis. A definitive diagnosis of scabies is made by identifying the Sarcoptes scabiei mite, requiring additional tests capable of directly identifying the mite. One simple, non-invasive, and easy-to-perform method is the adhesive tape test, which has a sensitivity of 68.4%. However, this test has never been reported in Jambi City, and data on adhesive tape test results in scabies patients are unavailable, particularly at the Olak Kemang Community Health Center and the Putri Ayu Community Health Center, which are healthcare facilities with a high number of cases (Shoukat et al., 2023; Putri et al., 2020; Katsumata & Katsumata, 2006; Rifqoh et al., 2021; Walter et al., 2011).

Based on these conditions, this study aims to determine the clinical presentation, risk factors, and adhesive tape test results in scabies patients at the Olak Kemang Community Health Center and the Putri Ayu Community Health Center. This study is important to provide information on the clinical characteristics of patients, factors contributing to the occurrence of scabies, and an overview of the results of supporting examinations that can support accurate diagnoses in primary health care. The novelty of this study lies in the presentation of data on adhesive tape test results in scabies patients in Jambi City, which have not been previously reported. Therefore, it is hoped that it can serve as a basis for further research development and support the practice of scabies diagnosis in local health services (Rifqoh et al., 2021; Shoukat et al., 2023).


https://doi.org/10.61536/ambidextrous.v5i2.578

**Research methods**

This study is a descriptive observational study with a cross-sectional design. This study design was used to provide an overview of the clinical characteristics of scabies patients, risk factors associated with the occurrence of scabies, and the results of adhesive tape tests in scabies patients at the Olak Kemang Community Health Center and Putri Ayu Community Health Center. A descriptive approach was chosen because the study aimed to describe the phenomena found in the research subjects without intervening on the variables studied. The data used were primary data obtained through direct examination of patients, observation of clinical features, laboratory examinations using adhesive tape tests, and completion of questionnaires regarding demographic characteristics and risk factors for scabies according to the diagnosis and risk factor concepts described in previous studies (Gunardi et al., 2023; Sara et al., 2018).

The study population was all patients who came for treatment at the Olak Kemang Community Health Center and the Putri Ayu Community Health Center during the study period. The study sample consisted of patients diagnosed with scabies by a general practitioner and who met the established inclusion and exclusion criteria. The sampling technique used non-probability sampling with a purposive sampling method, namely all scabies patients who met the research requirements were included as respondents. Because the population of scabies sufferers during the study period was not known with certainty, the determination of the minimum sample size used the Lemeshow formula with a proportion of scabies incidence of 13% and a 10% error rate, resulting in a minimum requirement of 43 respondents. The sample was divided proportionally into 24 respondents at the Olak Kemang Community Health Center and 19 respondents at the Putri Ayu Community Health Center. The inclusion criteria included patients aged 5 to 50 years who had been diagnosed with scabies by a general practitioner and were willing to participate in the study. Exclusion criteria include patients who have other skin diseases, patients who cannot undergo examination due to certain medical conditions, and patients who have received therapy so that the clinical picture of scabies is no longer clear.

The research instruments consisted of a questionnaire, a clinical observation sheet, and laboratory examinations using an adhesive tape test. The questionnaire was used to obtain data on demographic characteristics, personal hygiene, basic sanitation, comorbidities, and other risk factors related to scabies incidence. The demographic characteristics and risk factor questionnaires referred to instruments that had been used and tested for validity and reliability by Syahrani (2024), while the basic sanitation assessment referred to the Decree of the Minister of Health of the Republic of Indonesia Number 829/Menkes/SK/VII/1999. The adhesive tape test examination was carried out by attaching transparent adhesive tape to the lesion in the predilection area, then the preparation was examined under a microscope to identify the presence of Sarcoptes scabiei, as previously reported methods (Katsumata & Katsumata, 2006; Rifqoh et al., 2021). The obtained data then went through stages of editing, coding, entry, and cleaning before being analyzed using SPSS software. The analysis used was univariate analysis with frequency distributions and percentages to describe the characteristics of respondents, clinical presentations, risk factors, and the results of the adhesive tape test.

The study was conducted at the Olak Kemang Community Health Center and the Putri Ayu Community Health Center from January to September 2025. Prior to the study, the researchers obtained ethical approval from the Ethics Committee of the Faculty of Medicine and Health Sciences, University of Jambi, and research permits from both community health centers. All respondents who met the research criteria were given an explanation of the research objectives and procedures and then asked to sign an informed consent form as a form of agreement to participate. Data were then collected through interviews using a questionnaire, physical examinations to identify predilection locations and clinical features of scabies, lesion documentation, and adhesive tape test examinations. Specimen collection, preparation of slides, and reading of microscopic results were carried out by competent personnel at the Jambi Provincial Regional Health Laboratory. All collected data were then processed, analyzed descriptively, and presented in the form of frequency distributions and percentages to provide an overview of the demographic characteristics, clinical features, risk factors, and adhesive tape test results in scabies patients.


https://doi.org/10.61536/ambidextrous.v5i2.578

## Results and Discussion

**Table 1. Distribution of Respondents' Demographic Characteristics**

| Variables | Frequency | |
|---|---|---|
| | n=43 | % |
| **Age** | | |
| School Age Children (5-14 years) | 26 | 60.5 |
| Teenagers (15-19 years) | 1 | 2.3 |
| Young Adults (20-25 years) | 0 | 0 |
| Adults (25-59 years) | 16 | 37.2 |
| **Gender** | | |
| Man | 21 | 48.8 |
| Woman | 22 | 51.2 |
| **Last education** | | |
| No school | 15 | 34.9 |
| Elementary School/Equivalent | 17 | 39.5 |
| Junior High School/Equivalent | 3 | 7.0 |
| High School/Equivalent | 5 | 11.6 |
| College | 3 | 7.0 |
| **Work** | | |
| ASN | 1 | 2.3 |
| Non-ASN | 14 | 32.6 |
| Doesn't work | 28 | 65.1 |

Based on the data in table 1, there were 26 school children in the 5-14 age group (60.5%), 1 teenager in the 15-19 age group (2.3%), no cases of scabies were found among young adults in the 20-25 age group, and 16 adults in the 25-59 age group (37.2%). Based on the data above, the age categories with the highest cases of scabies were school-aged children and adults.

The distribution of scabies frequency based on gender was most commonly found in women, as many as 22 people (51.2%), while in men, as many as 21 people (48.8%) experienced scabies.

The distribution of scabies frequency based on the last education category is in the category of no school as many as 15 people (34.9%), elementary school/equivalent as many as 17 people (39.5%), junior high school/equivalent as many as 3 people (7.0%), high school/equivalent as many as 5 people (11.6%) and college as many as 3 people (7.0%). In the last education category based on the data above shows the highest cases in the category of no school and elementary school/equivalent.

The frequency distribution by occupational category was 1 ASN (2.3%), 14 Non-ASN (32.6%), and 28 unemployed (65.1%). Because scabies is often experienced by school-age children, 65.1% of those with scabies were unemployed.

**Table 2. Distribution of Characteristics of Children's Nutritional Status**

| **Variables** | **Frequency** | |
|---|---|---|
| | **n=27** | **%** |
| **Child Nutritional Status** | | |
| Children aged 5-18 years | | |
| Malnutrition (<70%) | 1 | 3.7 |
| Malnutrition (70 - 90%) | 8 | 29.6 |
| Good nutrition (90 - 110%) | 13 | 48.1 |
| *Overweight*(110 - 120%) | 3 | 11.1 |
| Obesity (≥120%) | 2 | 7.4 |

Based on table 2 above, there is 1 child who is malnourished (3.7%), 8 children who are undernourished (29.6%), 13 children who are well-nourished (48.1%), 3 children who are overweight (11.1%) and 2 children who are obese (7.4%).


https://doi.org/10.61536/ambidextrous.v5i2.578

**Table 3. Frequency Distribution of Respondents' Clinical Picture Characteristics**

| Variables | Frequency | |
|---|---|---|
| | n =43 | % |
| **Predilection** | | |
| Head and neck | 4 | 9.3 |
| Body | 11 | 25.6 |
| Superior and inferior extremities | 42 | 97.7 |
| Genital | 2 | 4.7 |
| Fold area | 7 | 16.3 |
| **Lesion** | | |
| Primary | 34 | 79.1 |
| Primary and Secondary | 9 | 20.9 |

Based on table 3 in the predilection category, 9.3% of scabies lesions were found on the head and neck, 25.6% on the trunk, 97.7% on the superior and inferior extremities, 4.7% on the genitals and 16.3% in the folds.

**Figure 1. Head and Neck Predilection**

**Figure 2. Body Predilection**


https://doi.org/10.61536/ambidextrous.v5i2.578

**Figure 3. Predilection for Superior & Inferior Extremities**

**Figure 4. Genital Predilection and Crease Areas**

Lesions are divided into two parts: primary lesions and secondary lesions. Based on Table 3, the most common lesions were primary lesions, with 34 cases (79.1%) and secondary lesions, with 9 cases (20.9%).

**Table 4. Scabies Lesions**

| Variables | Frequency | |
|---|---|---|
| | n=67 | % |
| Papules | 26 | 60.5 |
| Pustules | 10 | 23.3 |
| Vesicle | 0 | 0 |
| Bula | 0 | 0 |
| Urticaria | 4 | 9.3 |
| Macula | 12 | 27.9 |
| Nodul | 1 | 2.3 |
| Squama | 3 | 7.0 |
| Crusta | 7 | 16.3 |
| Excoriation | 1 | 2.3 |
| Erosion | 3 | 7.0 |
| Abscess | 0 | 0 |

Based on table 4, papules (60.5%), pustules (23.3%), urticaria (9.3%), macules (27.9%), nodules (2.3%), scales (7.0%), crusts (16.3%), excoriations (2.3%), erosions (7.0%) were found in the lesions and no vesicles, bullae or abscesses were found.


https://doi.org/10.61536/ambidextrous.v5i2.578

**Table 5. Frequency Distribution of Risk Factor Characteristics**

| Variables | Frequency | |
|---|---|---|
| | n=43 | % |
| **Internal** | | |
| Accompanied by comorbid diseases | 0 | 0 |
| Not accompanied by comorbid diseases | 43 | 100 |
| **External** | | |
| **Personal Hygiene** | | |
| Good | 15 | 34.9 |
| Bad | 28 | 65.1 |
| **Basic Sanitation** | | |
| Healthy | 10 | 23.3 |
| Not healthy | 33 | 76.6 |
| **Socio-Economic** | | |
| Tall | 20 | 46.5 |
| Low | 23 | 53.5 |

Based on table 5, the frequency distribution of risk factors in the internal category shows that there were no respondents with comorbid diseases.

The frequency distribution of risk factors in the personal hygiene category found 15 people (34.9%) with good personal hygiene levels and 28 people (65.1%) with poor personal hygiene levels. Furthermore, the basic sanitation category found 10 people (23.3%) had healthy basic sanitation and 33 people (76.6%) had unhealthy basic sanitation. In addition, in the socioeconomic category, the results showed that 20 people (46.5%) had incomes above the minimum wage or were in the high socioeconomic group and 23 people (53.5%) had incomes below the minimum wage or were classified as low socioeconomic.

**Table 6. Frequency Distribution of Examination Result Characteristics*Adhesive Tape Test***

| Variables | Frequency | |
|---|---|---|
| | n=43 | % |
| Positive | 3 | 7.0 |
| Negative | 40 | 93.0 |

Based on table 6, the frequency distribution of the adhesive tape test results found that 3 people (7.0%) were positive with the discovery of scabies mites and 38 respondents (93.0%) were negative.

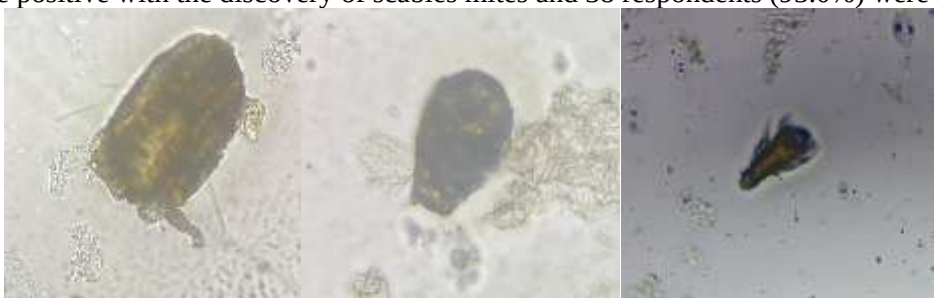

**Figure 4.1.**Sarcoptes scabiei

## Discussion

### Demographic Characteristics

This study used primary data by conducting direct examinations of patients diagnosed with scabies by general practitioners. The questionnaire used was tested for validity and reliability by Windy


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Syaharani (2024) and based on the Decree of the Minister of Health of the Republic of Indonesia No. 829/Menkes/SK/VII/1999. The adhesive tape test was conducted by competent personnel at the Jambi Provincial Health Laboratory.

The characteristics tested in this study were demographic characteristics, clinical presentation, risk factors, and adhesive tape test examination in scabies patients. The sample used was 43 people based on the Lameshow formula. Demographic characteristics consisted of age, gender, last education, occupation, and nutritional status of the child. In this study, scabies cases were mostly experienced by school-aged children (26 people) (60.5%) and adults (16 people) (37.2%). This is in line with research conducted by Arisandi et al. (2018) which stated that there is a relationship between scabies and age, where adolescents aged <15 years have a 7.750 times greater risk of developing scabies compared to those aged >15 years. This could be caused by close contact that occurs more often in children (Arisandi et al., 2018; Rama, 1967). Based on the theory presented by Notoatmodjo (2010), a person's comprehension and mindset are influenced by age, so with increasing age, their knowledge also increases (Notoatmodjo, 2010). According to the WHO, children aged 5–14 years are classified as school-age children (WHO, 2024). Typically, at this time, children are undergoing elementary to junior high school education, which involves a lot of direct interaction with the environment (Hidayah, 2021). In adults, there is often a delay in diagnosis, most likely due to difficulties in confirming scabies. Children are referred significantly more often with suspected scabies than other age groups (Mikola et al., 2025).

The next category is gender. In this study, women experienced scabies more often than men. A total of 22 (51.2%) of scabies patients were women and 21 (48.8%) were men. This is in line with research conducted by Sunarno et al. in the Pejawaran Community Health Center (Puskesmas) work area in 2021, which stated that scabies was more common in women than in men (Hidayah, 2021). There is no strong evidence to show that scabies is significantly more common in women or men. In men, the increased prevalence of scabies may be caused by environmental exposure such as military barracks, prisons, and certain types of work. Meanwhile, women who spend more time caring for the house and have prolonged direct contact with children are at higher risk of exposure to scabies. Lack of protection and knowledge in scabies prevention can be risk factors for transmission to family members (Mitchell et al., 2024).

In terms of the highest level of education, the highest number of cases was found in 15 people who did not attend school (34.9%), followed by 17 people who attended elementary school/equivalent (39.5%). This study aligns with that of Priccilia et al. (2024), where scabies cases frequently occurred at the elementary to junior high school levels (Priccilia et al., nd). This study used the highest level of education, which, when compared to previous studies, had the same significance. The highest level of education among respondents was not attending school and elementary school/equivalent, which was mostly attended by school-age children and adolescents. According to Pradono and Sulistyowati (2013), education level, healthy lifestyle behaviors, and knowledge about environmental health can determine changes in health status. Low levels of education affect a person's knowledge of clean and healthy lifestyles, making them susceptible to diseases, including scabies. Age affects maturity and behavior. As adults grow older, the level of education attained increases. Knowledge will increase along with the education obtained, so it is expected that knowledge about scabies can increase and usually patients with higher education have the initiative to find out more information (Hidayah, 2021; Putranti et al., 2024).

Based on Table 4.1, the most cases of scabies were among non-civil servants (14 individuals) (32.6%), and those without work (28 individuals) (65.1%). The unemployed group was predominantly comprised of students. This is in line with research by Fitri et al. (2024) conducted at the Kalumata Community Health Center, which found that scabies was often experienced by students (Fitri et al., 2024). Students spend most of their time outside the home and interact with their friends (Gabriel & Suling, 2016). This can also be caused by poor personal hygiene, as age influences a person's behavior (Fayujana et al., 2022).

Nutritional status assessment in this study used the CDC 2000 for ages 5–18 years by measuring weight/height expressed as a percentage (%). The study found that 12 respondents (48%) were well-nourished, 8 respondents (32%) were malnourished, 2 respondents (8%) were overweight, 2 respondents (8%) were obese, and 1 person (4%) was malnourished. This is in line with research conducted by Salsabila et al. (2022) that most respondents with scabies came from the well-nourished category. It was


https://doi.org/10.61536/ambidextrous.v5i2.578

stated that 31.6% of scabies sufferers were well-nourished, 22.1% were malnourished, 15.8% were at risk of being overweight, and 11.6% were obese (Bella Salsabila et al., 2022). To date, no research has directly examined the impact of nutritional status on scabies, such as the research conducted by Nowowiejska et al. at the Department of Dermatology and Venereology, Medical University of Bialystok (Oktarina, 2021). Malnutrition is also often associated with a risk factor for scabies, but no research has been able to prove this. Research conducted by Sehgal et al. in Uttar Pradesh showed no statistically significant association between scabies and nutritional status (Dwizella et al., 2025). Scabies can be caused by many contributing factors, with environmental factors and poor personal hygiene being the most important causes in the development of scabies (Oktarina, 2021).

**Clinical Picture Characteristics**

Scabies can be predilection for more than one site. Based on Table 4.3, scabies lesions are most commonly found on the upper and lower extremities (97.7%) and the trunk (25.6%). This is consistent with research by Zulkarnain and Listiawan, which showed that the areas most commonly affected by scabies are between the fingers, the abdomen or waist, the buttocks, and the wrists (Zulkarnain & Listiawan, n.d.). This study also aligns with research by Putri et al. (2020), which found that scabies most commonly occurs between the fingers, wrists, elbows, and gluteal areas (Putri et al., 2020). According to Arlian and Morgan (2017), it is not yet known exactly why infestations occur more frequently in certain areas of the body. The wrist area is thought to be related to direct contact with an infected person. However, based on their distribution patterns, mites are thought to prefer these areas due to the lipid composition and specific factors of the skin there (Arlian & Morgan, 2017). According to Sunderkötter et al. (2007), scabies mites prefer areas with relatively high temperatures and a thin stratum corneum. Commonly infested areas include the interspaces of the fingers and toes, the armpits, the areola, the navel, the penis, and the perianal region. Primary lesions are comma-shaped and often appear as tunnels ranging from a few millimeters to about 1 cm in length (Sunderkötter et al., 2007).

Based on Table 4.3, primary lesions dominated in 34 people (79.1%), with the most common types of lesions being papules (60.5%), pustules (23.3%), and macules (27.9%). Research conducted by Putri et al. (2020) noted that 86% of respondents experienced papules, 21% experienced vesicles, and 14% experienced excoriations, where papules and vesicles were primary lesions while excoriations were secondary lesions (Putri et al., 2020). These results are also supported by research by Zulkarnain and Listiawan, who reported that the most common lesions found were papules, excoriations, and erosions (Zulkarnain & Listiawan, n.d.). As a result of the products produced by the mites, cellular immunity is activated through a delayed-type hypersensitivity reaction that causes vesicles and papulovesicles. This reaction causes typical severe pruritus, especially at night. The itching at night is not caused by the movement of mites because the stratum corneum lacks sensory receptors. To date, there is no evidence that warmer bedding increases the activity of mites. Instead, the warmth of the bed is thought to reduce the itching sensation (Sunderkötter et al., 2007).

**Characteristics of Risk Factors**

The characteristics of risk factors in this study were divided into internal and external factors. This study did not find any comorbidities. Research conducted by Bergamin et al. (2024) explains that a weakened immune system makes a person more susceptible to scabies. Several conditions that can increase this vulnerability include viral infections such as HIV/AIDS, hepatitis B, and hepatitis C. In addition, bacterial infections such as syphilis, tuberculosis, and pneumonia, as well as chronic diseases, autoimmune diseases, neurological conditions, and other comorbidities can also increase the risk of scabies (Bergamin et al., 2024). In this study, scabies patients did not have comorbidities. In immunocompromised patients, mites can develop uncontrollably. Intensive use of topical corticosteroids can also cause immunosuppression. Post-scabies pruritus can persist for several weeks to several months due to the ongoing immune response. This exaggerated response can lead to post-scabies treatment dermatitis, which, if left untreated, can become chronic and only improve after several years (Sunderkötter et al., 2007). The interaction between the host and the parasite in scabies is very complex, involving various interrelated factors, so the contribution of each factor is not fully understood.


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Although Sarcoptes scabiei infestation can elicit a strong humoral immune response, the antibodies produced do not appear to provide protection against re-infestation. Although serum IgG and IgE levels are elevated, B lymphocytes are not found in the inflammatory skin infiltrate. This condition is suspected to be one of the reasons why the local immune response is unable to provide effective protection against scabies (Sharaf, 2024).

Based on Table 4.4, the results obtained were mostly related to poor personal hygiene, unhealthy basic sanitation, and low socioeconomic status. This is in line with research conducted by Fitri et al. (2024) which showed a relationship between personal hygiene and basic sanitation with the incidence of scabies. Individuals with poor personal hygiene and unhealthy basic sanitation have a 7.051 times higher risk of developing scabies compared to individuals with good personal hygiene and healthy basic sanitation. In addition, individuals with low socioeconomic status have a 6.681 times higher risk of developing scabies. Efforts that can be made to maintain and improve health include maintaining good personal hygiene and basic sanitation. Respondents with poor personal hygiene and unhealthy basic sanitation are more likely to experience scabies than respondents with good personal hygiene and basic sanitation. Scabies can occur due to poor personal hygiene. On the other hand, respondents with low socioeconomic status also have a higher risk of developing scabies (Fitri et al., 2024).

To minimize the entry of microorganisms into the body, it is important to maintain good personal hygiene to prevent the transmission of diseases, especially scabies (Karakteristik et al., 2019). According to Naik et al. (2020), scabies is more common in children with poor personal hygiene compared to children with good personal hygiene (Savita et al., 2021). Skin hygiene is important because the skin is the body's natural barrier against pathogens and chemicals. Maintaining skin hygiene by removing dead skin cells, microbes, and dirt from the skin's surface is key to preventing scabies (Savita et al., 2021). Scabies is also often found in unhealthy environments, such as improper waste disposal, lack of clean water facilities, inadequate toilets, and wastewater disposal that contaminates clean water sources (Roswendi & Zakiyah, 2022). Many factors can cause skin diseases, including lifestyle and environmental factors. Healthy skin can be maintained if a person lives in a clean environment, while a dirty environment can be a source of transmission of various skin diseases (Bora'a et al., 2023). In this study, more patients had a lower socioeconomic status. According to Suparmi and Supriatna (2015), individuals with higher economic status generally have the ability to provide better health facilities, obtain higher education, and optimally meet basic needs. Conversely, low economic status can affect living conditions, limited facilities supporting healthy living, and the ability to meet family health needs. These conditions cause low socioeconomic status to affect a person's health condition because limited funds mean that families can only meet daily needs without having funds to finance health care (Suparmi & Supriatna, 2015).

**Adhesive Tape Test Inspection**

Based on Table 4.6, the results of the study found that 3 people (7.0%) tested positive for scabies mites, while 40 respondents (93.0%) tested negative. This is explained by Walter et al. (2011) that the adhesive tape test began to be used by Katsumata and Katsumata because Sarcoptes scabiei mites are found on the surface of the skin's epidermis. Repeated scratching causes some of the stratum corneum to be removed, allowing the mites to be removed along with the skin layer. The adhesive tape test has a relatively low sensitivity, but remains useful, especially in areas with limited resources, because the texture of the epidermis plays an important role in the success of the examination. Therefore, this method is expected to provide better results in patients with skin atrophy (Walter et al., 2011).

Although the adhesive tape test has high specificity, it requires precision in determining the location of the mites to avoid false negatives. The adhesive tape test has high specificity because it allows direct visualization of the presence of mites, which is definitive evidence of a scabies infestation (Shoukat et al., 2023). Research conducted by Putri et al. (2020) obtained entirely negative test results. Several possible causes for these results include repeated scratching, which removes the mites from the skin layer before sampling. Furthermore, the relatively small number of eggs that develop into adult female mites reduces the likelihood of finding mites on microscopic examination (Putri et al., 2020).

The relatively small number of positive scabies cases found in this study. This is likely due to the diagnosis being based on clinical examination, which missed cases with mild symptoms, the sampling being done in the morning, when scabies symptoms are generally more pronounced at night,


https://doi.org/10.61536/ambidextrous.v5i2.578

and the accuracy of the sampling location, which also affected the successful identification of scabies lesions.

## Conclusion

This study shows that the characteristics of scabies patients at the Olak Kemang Community Health Center and Putri Ayu Community Health Center in Jambi City are dominated by school-age children, women, respondents with no education up to elementary school/equivalent, and unemployed groups, most of whom are students. In the child group, the nutritional status is mostly in the good nutrition category. Clinical features show a predilection for lesions most often found on the upper and lower extremities with primary lesions in the form of papules as the most common manifestation. From the risk factor aspect, most patients have poor personal hygiene, unhealthy basic sanitation, and low socioeconomic status, while no comorbid diseases were found in all respondents. The results of the adhesive tape test showed that only a small number of patients were positive for Sarcoptes scabiei mites, while most gave negative results despite being clinically diagnosed as scabies.

This study has limitations due to its cross-sectional descriptive design, which cannot explain causal relationships between variables. The relatively small sample size, the study location limited to two community health centers, and the use of an adhesive tape test with relatively low sensitivity also potentially influenced the number of positive cases found. Furthermore, the timing and location of specimen collection can influence the success of mite identification. Future studies are recommended to use a larger sample size, involve multiple health facilities, implement an analytical design, and combine the adhesive tape test with other diagnostic methods such as dermoscopy or skin scrapings to improve diagnostic accuracy. Practically, the results of this study can serve as a basis for community health centers to strengthen education on personal hygiene, improve environmental sanitation, early detection, and utilize supporting examinations as a complement to clinical diagnosis in scabies control efforts in primary health care.

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