

## Incidence of Dermatitis in Urban Communities: A Study in Tallo Village, Makassar City

### Kejadian Dermatitis pada Masyarakat Urban: Studi di Kelurahan Tallo, Kota Makassar

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#### ABSTRACT

Dermatitis is a skin inflammation that is often considered trivial but has a high prevalence in Indonesia. In Makassar, 97,331 cases were recorded in 2012 and 2,030 cases (15.63%) in Rappokalling Health Centre in 2015. Personal hygiene and environmental sanitation factors contribute to this incidence. The study aimed to describe the incidence of dermatitis in Tallo Village, especially RT 01/RW 04. The study used a descriptive design; the population was all people in RT 01 RW. 04 Tallo Village, Tallo District, Makassar City, as many as 321 people and a sample of 178 respondents were selected by accidental sampling. Data were collected through questionnaires and observation and analyzed univariately. The results showed 95 respondents (53.4%) suffered from dermatitis. One hundred sixty-nine respondents (94.9%) had good personal hygiene behavior, but the cleanliness of towels (44.9%) and bed/bed linen (27%) was still low. All respondents used clean water that met the requirements but did not have proper waste disposal facilities. The conclusion of this riset are incomplete personal hygiene, poor environmental sanitation, and waste management contributed to the high number of dermatitis cases. Routine education on personal hygiene and the provision and supervision of proper waste disposal facilities by the government and health centers are recommended to prevent dermatitis in the community.

**Keywords:** Dermatitis, personal hygiene, environmental sanitation, garbage disposal

#### ABSTRAK

Dermatitis merupakan peradangan kulit yang sering dianggap sepele namun memiliki prevalensi tinggi di Indonesia. Di Makassar, tercatat 97.331 kasus pada tahun 2012 dan 2.030 kasus (15,63%) di Puskesmas Rappokalling pada 2015. Faktor personal hygiene dan sanitasi lingkungan berkontribusi terhadap kejadian ini. Penelitian bertujuan untuk menggambarkan kejadian dermatitis di Kelurahan Tallo, khususnya RT 01/RW 04. Penelitian menggunakan desain deskriptif, populasi adalah seluruh masyarakat di RT 01 RW. 04 Kelurahan Tallo, Kecamatan Tallo, Kota Makassar sebanyak 321 orang dan sampel 178 responden dipilih secara accidental sampling. Data dikumpulkan melalui kuesioner dan observasi, dianalisis secara univariat. Hasil menunjukkan 95 responden (53,4%) menderita dermatitis. Sebanyak 169 responden (94,9%) memiliki perilaku personal hygiene yang baik, namun kebersihan handuk (44,9%) dan tempat tidur/sprei (27%) masih rendah. Seluruh responden menggunakan air bersih yang memenuhi syarat, tetapi tidak memiliki sarana pembuangan sampah yang layak. Kesimpulannya riset ini adalah *Personal hygiene* yang tidak menyeluruh, buruknya sanitasi lingkungan dan pengelolaan sampah turut berkontribusi terhadap tingginya kasus dermatitis. Disarankan adanya edukasi rutin tentang personal hygiene serta penyediaan dan pengawasan fasilitas pembuangan sampah yang layak oleh pemerintah dan Puskesmas untuk mencegah dermatitis di masyarakat.

**Kata kunci:** Dermatitis, personal hygiene, sanitasi lingkungan, pembuangan sampah

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## INTRODUCTION

One of the health problems that remains a problem is dermatitis. Dermatitis is an inflammation of the skin characterized by itching; it can be in the form of thickening or reddish pustules, multiple clusters or scattered, sometimes scaly, watery, due to the surface of the skin exposed to materials or elements in the environment (exogenous factors) sometimes also influenced by factors of vulnerability of one's skin (endogenous factors).<sup>1</sup>

Dermatitis causes discomfort and is very annoying. Dermatitis comes in several types, each of which has its own indications and symptoms.<sup>2</sup> There are various kinds of dermatitis, two of which are contact dermatitis and occupational dermatitis.<sup>3</sup>

Dermatitis is mostly found in children and young adults but can affect all age groups.<sup>4</sup> The severity of skin diseases caused by dermatitis depends on the patient's immune system, which is caused by the severity of a person's reaction, even if the cause is the same. However, if the patient has severe dermatitis, blisters will appear on the infected skin, which is very dangerous for the skin.<sup>5</sup>

The occurrence of dermatitis is common, where data shows that the incidence of dermatitis is very high, reaching a rate of 60% that affects the population of the world, which mainly occurs in areas that have heat and humidity. Factors that influence the high prevalence of dermatitis are hot and humid air that allows the growth of fungi, poor personal hygiene, and insufficient economic aspects.<sup>6,7</sup>

Indonesia has one of the highest prevalence rates of dermatitis in the world (67.8%), the lowest rate in West Sulawesi Province (2.57%), and the highest in South Kalimantan Province (11.3%). In

North Sumatra, the incidence was 2.63%.<sup>8</sup>

The prevalence of dermatitis in South Sulawesi is quite high at 53.2%, while the incidence of dermatitis in Makassar City for the last 6 years has fluctuated and is included in the top five highest diseases in Makassar City. In 2009, dermatitis cases were 35,853 (5.06%) cases; in 2012, there was an almost 3-fold increase to 97,331 (14.60%) cases.<sup>2</sup> Dermatitis cases at the Rappokalling Health Centre experienced an increasing trend. In 2011, there were 1270 (9.16%) cases; in 2012, there were 1772 cases (14.76%); and in 2015, there were 2030 cases (15.63%).<sup>3</sup>

Personal hygiene is one of the factors that can prevent the occurrence of dermatitis.<sup>9</sup> Hand washing habits are one of the things that are assessed regarding personal hygiene. Poor hand-washing habits can be one of the causes of dermatitis.<sup>10</sup> The factor that really plays a role in the onset of dermatitis is personal hygiene. Personal hygiene determines a person's health status consciously. How to maintain health includes maintaining skin cleanliness, hand, and nail washing habits, frequency of changing clothes, wearing towels that are not the same as other people, and frequency of changing bed linen.

Unclean hand-washing habits will cause residual chemicals to remain on the skin. Efforts to dry hands after washing can also play a role in preventing the worsening of skin conditions due to moist hands.<sup>10</sup> Washing hands with soap and running water that is done correctly can keep hands away from bacteria and clean, thus minimizing the occurrence of dermatitis.

As for other factors that can also cause dermatitis, namely environmental sanitation, where the unavailability of clean water is to the physical



quality requirements of water, it is reinforced by other studies which state that there is a significant relationship, namely the source of clean water with dermatitis, where it is obtained with a p-value = 0.001, clean water that is not available, which is far from the physical quality requirements of water, personal hygiene is also disturbed, where water becomes a medium to the skin so that bacteria become easy to breed so that dermatitis occurs.<sup>11</sup>

One of the benefits of maintaining skin hygiene is that it can protect the surface of the body, maintain body temperature, and remove certain impurities. Because the skin is a protective organ of the body, it is very important always to maintain its health in order to avoid dermatitis and various other diseases.<sup>12</sup> Sanitation is an effort to monitor several factors of the physical environment that affect humans, especially against things that affect and damage physical development, health, and survival.<sup>13</sup>

Hygiene is an important aspect that must always be maintained because it has a significant role in influencing a person's psychological state, both positively and negatively. In maintaining personal hygiene, some things that need to be considered include the cleanliness of the skin, hands, feet, nails, and other body parts. Poor personal hygiene will result in various physical and psychological impacts. The physical impact that a person often experiences is the occurrence of skin integrity disorders.<sup>14</sup>

Tallo sub-district is included in the area with a fairly high prevalence of dermatitis and has been consistent in recent years. Dermatitis data for the last 3 months (April, May, and June) in 2022 in the Rappokaling Health Centre working area were 138 patients.<sup>15</sup>

Compared to other sub-districts in Makassar, Tallo has a number of characteristics that make its people more susceptible to skin diseases; this is because Tallo Sub-district experiences water scarcity, thus making its people use available water sources such as dug wells and rainwater.<sup>16</sup> In addition, population density, settlement density, low awareness, and hygiene behavior, and the socioeconomic status of the people who are in the lower middle class working in various sectors, especially the informal sector, laborers, and fishermen with a population density of 147,831 people/km<sup>2</sup> with a densely populated area.<sup>3, 17</sup>

The researcher considers that these conditions make the Tallo Sub-district a representative location to study more deeply the incidence of dermatitis in urban communities.

## MATERIALS AND METHODS

The type of research used is descriptive research that aims to describe the incidence of dermatitis in Tallo Village, Tallo District, Makassar City. The population included in this study were all people in RT 01 RW. 04 Tallo Village, Tallo District, Makassar City, which amounted to 321 people. The sample is part of the community in RT 01 RW 04 who are at least  $\geq 17$  years old and willing to be respondents. The sampling technique used an accidental sampling of 178 people, determining the sample size using the Slovin formula. Data collection was carried out by giving questionnaires and making direct observations. Data collection was carried out on 6-28 September 2022. Data analysis using univariate analysis accompanied by narratives and tables.



## RESULTS

The results of data tabulation can be seen in the characteristics of respondents and the number of samples, as many as 178 people. This can be seen in the following table.

**Table 1. Distribution of Respondent Characteristics in Tallo Village, Tallo Subdistrict, Makassar City**

Characteristics of Respondents	n	%
<b>Gender</b>		
Male	88	49,4
Female	90	50,6
<b>Age (Years)</b>		
17-25	33	18,5
26-35	47	26,4
36-45	50	28,1
46-55	48	27,0
<b>Education</b>		
Not in school	10	5,6
Primary school	37	20,8
Junior high school	58	32,6
High school	66	37,1
D3	5	2,8
S1	2	1,1
<b>Occupation</b>		
Not Employed	52	29,2
Not Working	50	28,1
Self-employed	5	2,8
Fisherman	41	23,0
Others	30	16,9
<b>Total</b>	<b>178</b>	<b>100,0</b>

Source: Primary Data, 2025

Table 1 shows that of the 178 respondents, the majority were female (50.6%), with the highest age distribution in the 36-45 years (28.1%) and 46-55 years (27.0%) groups, which include productive age and are vulnerable to environmental exposure. The education level of respondents was dominated by high school (37.1%) and junior high school (32.6%) graduates. In comparison, the level of higher education was very low (1.1%), which may affect knowledge about skin hygiene and health. In terms

of occupation, most were unemployed (29.2%) and underemployed (28.1%), and 23% worked as fishermen who have a high risk of exposure to water and irritants. This profile shows a vulnerability to dermatitis that is reinforced by age, type of work, and low education level.

**Table 2. Distribution of Respondents Based on Variables in Tallo Village, Tallo Sub-district, Makassar City**

Variable	<i>Personal hygiene</i>	
	n	%
<b>Hand, foot, and nail washing</b>		
Good	167	93,8
Not good	11	6,2
<b>Skin cleanliness</b>		
Good	178	100,0
Not good	0	0
<b>Cleanliness of clothing</b>		
Good	159	89,3
Not good	19	10,7
<b>Towel Cleanliness</b>		
Good	80	44,9
Not good	98	55,1
<b>Cleanliness of bed &amp; bed linen</b>		
Good	48	27,0
Not good	130	73,0
<b>Total</b>	<b>178</b>	<b>100,0</b>

Source: Primary Data, 2025

**Table 3. Distribution of Respondents Based on Environmental Sanitation in Tallo Urban Village, Tallo Sub-district, Makassar City**

Variable	<b>Environmental Sanitation</b>	
	n	%
<b>Clean water facilities</b>		
Qualified	178	100,0
Not eligible	0	0
<b>Waste disposal facilities</b>		
Qualified	0	0
Not eligible	178	100,0
<b>Total</b>	<b>178</b>	<b>100,0</b>

Source: Primary Data, 2025

Table 2 Based on data from 178 respondents, there are 167 people (93.8%) who have good hand,



foot, and nail washing habits. Then, all 178 respondents (100%) have good skin hygiene maintenance. A total of 159 people (89.3%) of respondents who maintain good clothing hygiene. And only 80 people (44.9%) respondents who maintain good towel hygiene. And there are 48 people (27%) respondents who maintain good bed and bed linen hygiene.

Based on table 3 shows that out of 178 respondents, the highest environmental sanitation is in the category of clean water sources by fulfilling as many requirements as possible 178 people (100.0%), and the highest environmental sanitation in the category of waste disposal facilities by not meeting the requirements of 178 people (100.0%).

**Table 4. Distribution of Respondents Based on the Incidence of Dermatitis in Tallo Village, Tallo Subdistrict, Makassar City**

Dermatitis	n	%
Suffer	95	53,4
Not Suffering	83	46,6
<b>Total</b>	<b>178</b>	<b>100,0</b>

Source: Primary Data, 2025

Based on table 4 shows that out of 178 as many respondents who experienced dermatitis, 95 people (53.4%) did not bear the suffering of 83 people (46.6%).

## DISCUSSION

This study discusses the description of the incidence of dermatitis in the community of Tallo Village, Tallo District, Makassar City. After analysis and observation of 178 samples using the descriptive observational approach, the results of the analysis are as follows:

Based on the research findings regarding personal hygiene variables, it was found that most respondents had good hand, foot, and nail washing

habits. As many as 167 people (93.8%), all 178 respondents (100%) maintained good skin hygiene, and as many as 159 people (89.3%) respondents maintained good clothing hygiene (89.3%). However, there are two important aspects, namely towel hygiene, where only 80 people (44.9%) of respondents maintain good towel hygiene, and only 48 people (27%) of respondents maintain good bed and bed linen hygiene. This is a gap that can increase the risk of skin disease infections such as dermatitis, scabies, or fungal infections. In some direct observations made by researchers, some respondents have the habit of not washing their hands before eating or washing their hands after defecating; on average, they only wash their hands with water. The correct hand-washing behavior should be implemented in every community activity to maintain personal hygiene.<sup>18</sup>

In addition, there are some respondents who pay less attention to nail hygiene. So if t, they scratch their body, dirt is deposited on long nails, although in other studies, there is no relationship between hand and nail hygiene and the incidence of dermatitis. However, education regarding personal hygiene aspects remains an important thing to improve.<sup>19</sup>

This finding is in line with other studies, which show that most people still have poor personal hygiene, as many as 133 people (89.3%).<sup>20</sup> This occurs due to a lack of awareness and attention to personal hygiene, such as not bathing immediately after returning from work, because people tend to choose to rest immediately after work. Some people have the habit of bathing less than 2 times a day and using toiletries simultaneously.<sup>21</sup>

In addition, cleanliness of clothing has a significant relationship with the incidence of



dermatitis in the Poris Gaga Health Centre Working Area in 2021, with a  $p\text{-value} = 0.038$ . This means that the cleaner the clothes used, it can prevent us from avoiding the possibility of skin diseases and vice versa. This can happen when a person has physical contact with a dirty environment, then the bacteria that cause dermatitis will settle and multiply on clothes. this is the reason it is important to always keep clothes clean, such as changing clothes after activities or sweating.<sup>22</sup>

According to the research findings, some respondents have a habit of exchanging towels with other family members. In addition, they have a habit of not drying towels under the sun after use, so the towels become quite moist, and this is a potential breeding ground for germs and bacteria. In another parallel study, it was shown that towel hygiene has a relationship with skin disease complaints.<sup>23</sup>

One of the factors that determine personal hygiene is the cleanliness of bed and bed linen. According to the findings in this study, only about 48 people (27%) of respondents maintained good bed and bed linen hygiene. At the same time, every community has a habit of spending a long time when in the room to rest. However, in other studies, bed hygiene is not associated with the incidence of dermatitis.<sup>22</sup> However, the study showed that bed hygiene and bed linen had a relationship with dermatitis complaints ( $p = 0.009$ ).<sup>7</sup> Bed hygiene and bed linen replacement should be done at least once a week. This is to keep the condition of the bed and bed linen clean and comfortable to use when resting.

Clean water facilities are one of the elements that affect the personal hygiene of the community in a residential area. Based on observations made in RT 01 RW. 04 Tallo Village, Tallo Subdistrict,

Makassar City, all residents have difficulty getting access to clean water for each of their homes, so each household takes clean water sourced from the mosque well located in the RT 01 RW 04 area, which is used for bathing, washing, toilet (MCK) purposes. However, the source of water for cooking and drinking usually uses gallons of water purchased from the local water depot. This is in line with research in Tallo, which shows that Tallo is one of the sub-districts in Makassar City that experiences clean water scarcity, so the Tallo community utilizes available water sources, such as dug wells and rainwater.<sup>24</sup> Water quality is very important for public health, ecosystem welfare, and sustainable development.<sup>25</sup> After assessing and mapping the community's water quality, it was found that Tallo Sub-district is one of the sub-districts in Makassar City with inadequate water quality.

Dermatitis is one of the skin diseases that is often considered trivial; at the Rappokalling Health Centre, 15.63% of cases recorded were dermatitis, which shows a high prevalence rate. In addition to personal hygiene and allergies, environmental sanitation also plays an important role in the incidence of dermatitis. One aspect of environmental sanitation that needs to be considered is waste disposal facilities. Data obtained during the study showed that the entire community did not have waste disposal facilities that met the requirements (100%). Garbage that is not disposed of in its place or allowed to accumulate can be a source of germs and allergens that trigger skin inflammation, especially in sensitive individuals. Thus, improving a clean and regular household waste management system needs to be a serious concern in efforts to prevent dermatitis in the community.<sup>3</sup>



## CONCLUSION AND SUGGESTIONS

In conclusion, the majority of people in Tallo Village have good personal hygiene, such as washing hands, feet, and nails (93.8%), keeping skin clean (100%), and clothing clean (89.3%). However, aspects of personal hygiene that are still low can be seen in the cleanliness of towels only (44.9%) are good, and the cleanliness of bedding and bed linen only (27%) are good. Furthermore, environmental sanitation in the area shows inequality, where all respondents (100%) use clean water sources that meet the requirements, but no one has an eligible waste disposal facility (100% do not meet the requirements). Dermatitis patients were 53.4%.

Collaborative efforts between Puskesmas Rappokalling, the village government, and community leaders are needed to improve residents' awareness and personal hygiene practices through routine education programs such as door-to-door counseling, posyandu, and PKK activities. In particular, education should emphasize the importance of keeping towels, bedding, and bed linen clean and avoiding the use of personal items interchangeably. Local governments are expected to immediately provide adequate waste disposal facilities, such as segregated bins and regular waste collection, and conduct regular supervision of household waste management. In addition, it is necessary to develop RW-based environmental hygiene awareness campaigns, as well as train environmental health cadres who can assist residents in implementing clean and healthy living behaviors sustainably.

## CONFLICT OF INTEREST

The authors declare that there are no conflicts of

interest that could affect the results or interpretation of this study.

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