



Analysis Of Skin Disorder Incidence Among Waste Pickers At The Terjun Landfill In 2024

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Abstract

Waste pickers are at a significantly high risk of developing skin disorders due to their poor working environment. This study aims to identify the factors influencing skin disorders among waste pickers at the Landfill in Terjun Subdistrict, Medan City, in 2024. This research is an analytical observational study with a cross-sectional design. The study was conducted at the Terjun Final Waste Disposal Site, Terjun Subdistrict, Medan

Marelan District, Medan City, from July to August 2024. The study population included all waste pickers around the Terjun Landfill. Based on sample calculations, a total of 82 waste pickers were included in the study, selected through simple random sampling. Data collection procedures involved direct observation and skin examinations. Data were analyzed using SPSS version 21. The data analysis consisted of three stages: univariate analysis using frequency distribution, bivariate analysis using the chi-square test, and multivariate analysis using multiple logistic regression with a 95% significance level ($p\text{-value} \leq 0.05$). The results showed that several factors were significantly associated with skin complaints, including working hours ($p=0.005$), duration of employment ($p=0.019$), personal hygiene ($p=0.001$), and the use of personal protective equipment (PPE) ($p=0.003$). The most dominant factor influencing the occurrence of skin disorders among waste pickers was personal hygiene ($p=0.001$; Exp.B=18.958). It is recommended that waste pickers at the Terjun Landfill maintain proper personal hygiene, such as thoroughly washing the body after work, changing work clothes daily, and cleaning them properly.

Keywords: Landfill, skin disorders, waste pickers

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Introduction

Skin diseases are common conditions experienced by populations living in tropical countries, including Indonesia. According to the World Health Organization (WHO), common skin complaints include itching, dry and peeling skin, loss of skin pigmentation, lumps, and ulcers (World Health Organization [WHO], 2021).

Skin diseases affect the outermost part of the body and often present with symptoms such as itching and redness. These conditions can be caused by exposure to chemicals, sunlight, viruses, weakened immune systems, microorganisms, fungi, and poor personal hygiene. One type of skin disease may be caused by pathogenic fungi that thrive and reproduce in waste materials (Srisantyorini & Cahyaningsih, 2017).

Diseases resulting from exposure to waste are especially prevalent among individuals whose occupations involve frequent contact with waste, such as those working at waste disposal sites. These diseases can be classified as occupational diseases (Mahyuni, 2012). Berinteraksi dan bergelut dengan sampah dijadikan sebagai sumber mata pencaharian bagi seorang pemulung.

Waste pickers are individuals whose work involves direct interaction with waste, making them more susceptible to various health problems. Although waste picking is an informal and independent occupation, the health issues arising from such activities are considered occupational diseases. Waste picking does not require specialized skills and is commonly undertaken by individuals from low-income or impoverished communities. Consequently, waste pickers often face difficulties accessing healthcare services for treatment or medical examinations (Pradnyandari et al., 2020). These individuals typically collect recyclable materials from final waste disposal sites, where they can find a large volume of reusable waste.

A Final Disposal Site is a designated location for the processing and safe return of waste to the environment in a manner that is safe for both humans and the ecosystem. However, many TPAs currently suffer from poor waste management practices, which can pose serious health risks. One of the common health problems experienced by waste pickers at landfills is skin disease. Skin disorders may be caused by bacteria, viruses, fungi, parasitic infestations, or allergic reactions.



Contributing factors to the transmission of skin diseases include low socioeconomic status, poor personal hygiene, inadequate sanitation, and health-compromising behaviors. Among these, poor personal hygiene is considered the most dominant risk factor.

Waste pickers are at risk of developing skin disorders, particularly due to inadequate personal hygiene. This issue arises from unsanitary working conditions and a lack of proper facilities, which leads many waste pickers to neglect personal cleanliness. Additionally, many waste pickers rarely use gloves while working, and those who do often wear gloves that are no longer suitable for use (Sholeha et al., 2021).

Medan City currently operates a single final disposal site, namely the Terjun Landfill. Due to its status as the only operational Landfill in the city, waste accumulation at the site has reached heights of up to 5 meters, resulting from over 28 years of continuous dumping. Terjun Landfill is the sole facility serving the entire Medan area and spans an area of approximately 13.7 hectares. As of 2024, the site receives an estimated 1,704.8 tons of waste daily (Syafii et al., 2024).

Based on a preliminary survey conducted at the Terjun Landfill in Medan City, it was found that the personal hygiene practices among waste pickers remain poor, and many do not use personal protective equipment (PPE). The survey revealed that 15 out of 20 waste pickers reported experiencing skin disorders, with common symptoms including itching and redness. Furthermore, 13 out of 20 waste pickers were identified as having poor personal hygiene, and 17 out of 20 did not use PPE while working.

Skin disorders not only pose health problems but also contribute to decreased work productivity, discomfort during work, and suboptimal time management. Waste pickers experiencing skin complaints demonstrate impaired physical health, which inevitably affects their work performance and overall productivity (Daningrum et al., 2022). This study aims to identify the factors associated with the occurrence of skin disorders among waste pickers at the Terjun Landfill, Medan City, in 2024.



Methods

This study is an analytical observational research employing a cross-sectional design. The research was conducted at the Terjun Landfill, located in Terjun Subdistrict, Medan Marelan District, Medan City. The site was selected as the study location because many waste pickers in Medan City collect waste in and around this area. The study was carried out from July to August 2024. The study population included all waste pickers operating around the Terjun Landfill. Based on sample size calculation using the Lemeshow formula, the total sample comprised 82 waste pickers, selected through simple random sampling. Data collection was conducted through direct observation combined with skin examinations of the waste pickers. The skin examinations were performed by a certified dermatologist in Medan City.

The dependent variable in this study was the incidence of skin disorders, measured on an ordinal (categorical) scale. The independent variables included age, duration of work per day, length of employment, personal hygiene, and use of personal protective equipment (PPE), all of which were also measured on ordinal (categorical) scales. Data analysis was performed using SPSS software version 21. The analysis consisted of three steps: (1) univariate analysis using frequency distribution, (2) bivariate analysis using the chi-square test to assess the relationship between each independent variable and the dependent variable, with a significance level of $p\text{-value} < 0.05$ used as a threshold for further analysis in the multivariate model, and (3) multivariate analysis using multiple logistic regression to identify the dominant factors influencing the occurrence of skin disorders among waste pickers at Terjun Landfill, with a 95% confidence level ($p\text{-value} \leq 0.05$).

The principal investigator obtained ethical clearance from the Health Research Ethics Committee of Universitas Sumatera Utara (Approval No:). In addition, permission was granted by the university's academic administration and relevant authorities prior to data collection. Informed consent was obtained from all respondents before the distribution of questionnaires.



Results

Characteristics of Waste Pickers at the Terjun Landfill

The characteristics of waste pickers at the Terjun Landfill include age, gender, working hours, and duration of employment. The frequency distribution of these characteristics is presented in the following table:

Table 1. Frequency Distribution of Waste Picker Characteristics at the Terjun Landfill, Medan City

Waste Picker Characteristics	n	%
Age		
≥ 37 years	37	45.1
< 37 years	45	54.9
Gender		
Male	49	59.8
Female	33	40.2
Working Hours (per day)		
≥ 7 hours	61	74.4
< 7 hours	21	25.6
Duration of Employment		
≥ 9 years	46	56.1
< 9 years	36	43.9

Based on Table 1, the frequency distribution of the characteristics of waste pickers at the Terjun Landfill in Medan City shows that 37 individuals (45.1%) were aged ≥ 37 years, while 45 individuals (54.8%) were aged < 37 years. The majority of waste pickers were male, totaling 49 individuals (59.8%), while females accounted for 33 individuals (40.2%). A total of 61 waste pickers (74.4%) worked ≥ 7 hours per day, whereas 21 individuals (25.6%) worked < 7 hours per day. Regarding duration of employment, 46 waste pickers (56.1%) had been working for ≥ 9 years, while 36 individuals (43.9%) had worked for < 9 years.

Incidence of Skin Disorders Among Waste Pickers at the Terjun Landfill

The frequency distribution of skin disorder incidence among waste pickers at the Terjun Landfill is presented in the following table:



Table 2. Frequency Distribution of Skin Disorder Incidence Among Waste Pickers at the Terjun Landfill, Medan City

Skin Disorder Incidence Among Waste Pickers	n	%
Experienced	71	86.6
Not Experienced	11	13.4
Total	82	100.0

Based on Table 2, the frequency distribution of skin disorder incidence among waste pickers at the Terjun Landfill in Medan City shows that 71 individuals (86.6%) experienced skin disorders, while 11 individuals (13.4%) did not experience any skin disorders.

Personal Hygiene Among Waste Pickers at the Terjun Landfill

The frequency distribution of personal hygiene among waste pickers at the Terjun Landfill is presented in the following table:

Table 3. Frequency Distribution of Personal Hygiene Among Waste Pickers at the Terjun Landfill, Medan City

Personal Hygiene Among Waste Pickers	n	%
Poor	69	84.1
Good	13	15.9
Total	82	100.0

Based on Table 3, the frequency distribution of personal hygiene among waste pickers at the Terjun Landfill in Medan City shows that 69 individuals (84.1%) had poor personal hygiene, while only 13 individuals (15.9%) demonstrated good personal hygiene.

Use of Personal Protective Equipment (PPE) Among Waste Pickers at the Terjun Landfill

The frequency distribution of PPE usage among waste pickers at the Terjun Landfill is presented in the following table:



Table 4. Frequency Distribution of PPE Usage Among Waste Pickers at the Terjun Landfill, Medan City

PPE Usage Among Waste Pickers	n	%
Not Used	26	31.7
Used	56	68.3
Total	82	100.0

Based on Table 4, the frequency distribution of PPE usage among waste pickers at the Terjun Landfill in Medan City shows that 26 individuals (31.7%) did not use personal protective equipment (PPE), while 56 individuals (68.3%) reported using PPE.

Factors Associated with the Incidence of Skin Disorders Among Waste Pickers at the Terjun Landfill, Medan City

The results of the analysis of factors associated with the incidence of skin disorders among waste pickers at the Terjun Landfill in Medan City are presented as follows:

Table 5. Analysis of Factors Associated with the Incidence of Skin Disorders Among Waste Pickers at the Terjun Landfill, Medan City, 2024

Variables	Skin Disorder Incidence				Total		Pvalue	PR Value (95% CI)
	Experienced		Not Experienced		N	%		
	n	%	n	%				
Age								
≥ 37 years	30	81.1	7	18.9	37	100.0	0.210	0.890 (0.743-1.066)
< 37 years	41	91.1	4	8.9	45	100.0		
Gender								
Male	41	83.7	8	16.3	49	100.0	0.512	0.920 (0.781-1.085)
Female	30	90.9	3	9.1	33	100.0		
Working Hours								
≥ 7 hours	57	93.4	4	6.6	61	100.0	0.005	1.402 (1.028-1.910)
< 7 hours	14	66.7	7	33.3	21	100.0		
Duration of Employment								
≥ 9 years	36	78.3	10	21.7	46	100.0	0.019	0.850 (0.685-0.947)
< 9 years	35	97.2	1	2.8	36	100.0		
Personal hygiene								
Poor	65	94.2	4	5.8	69	100.0	0.001	2.041 (1.131-3.682)
Good	6	46.2	7	53.8	13	100.0		
PPE usage								
Not Used	18	69.2	8	30.8	26	100.0	0.003	0.731 (0.562-0.952)
Used	53	94.6	3	5.4	56	100.0		



Based on the results in Table 5, it was found that 81.1% of waste pickers aged ≥ 37 years experienced skin disorders, while 36.8% of those aged < 37 years experienced the same condition. The statistical analysis yielded a p-value of 0.890 (greater than $\alpha = 0.05$), indicating that there is no significant association between age and the incidence of skin disorders among waste pickers at the Terjun Landfill. The analysis also showed a Prevalence Ratio (PR) of 0.890 (95% CI: 0.743–1.066), meaning that waste pickers aged ≥ 37 years have a 0.890 times lower risk of experiencing skin disorders compared to those aged < 37 years.

Among male waste pickers, 83.7% experienced skin disorders, while 90.9% of female waste pickers were affected. The statistical test resulted in a p-value of 0.920 (greater than $\alpha = 0.05$), indicating that there is no significant relationship between gender and the incidence of skin disorders among waste pickers at the Terjun Landfill. The Prevalence Ratio (PR) was found to be 0.920 (95% CI: 0.781–1.085), suggesting that female waste pickers had a 0.920 times lower risk of experiencing skin disorders compared to male waste pickers.

Furthermore, 93.4% of waste pickers who worked more than 7 hours per day experienced skin disorders, in contrast to 66.7% of those who worked less than 7 hours per day. The p-value obtained was 0.005 (less than $\alpha = 0.05$), indicating a significant association between working hours and the incidence of skin disorders among waste pickers at the Terjun Landfill. The Prevalence Ratio (PR) was calculated at 1.402 (95% CI: 1.028–1.910), which implies that those who worked more than 7 hours per day had a 1.402 times higher risk of developing skin disorders than those who worked fewer hours.

Waste pickers with a work duration of ≥ 9 years experienced skin disorders at a rate of 78.3%, while those with a work duration of < 9 years experienced them at a rate of 97.2%. Statistical analysis yielded a p-value of 0.019 (less than $\alpha = 0.05$), indicating a significant association between work duration and the incidence of skin disorders among waste pickers at the Terjun Landfill. The Prevalence Ratio (PR) was 0.850 (95% CI: 0.685–0.947), suggesting that waste pickers with ≥ 9 years of work experience had a 0.850 times lower risk of developing skin disorders compared to those with < 9 years of experience.



Among waste pickers with poor personal hygiene, 94.2% experienced skin disorders, compared to 46.2% of those with good personal hygiene. The statistical analysis showed a p-value of 0.001 (less than $\alpha = 0.05$), indicating a significant relationship between personal hygiene and the incidence of skin disorders among waste pickers at the Terjun Landfill. The Prevalence Ratio (PR) was 2.041 (95% CI: 1.131–3.682), indicating that waste pickers with poor personal hygiene had a 2.041 times higher risk of experiencing skin disorders compared to those with good hygiene practices.

Waste pickers who did not use personal protective equipment (PPE) experienced skin disorders at a rate of 69.2%, while those who used PPE experienced them at a rate of 94.6%. The p-value was 0.003 (less than $\alpha = 0.05$), demonstrating a significant association between PPE usage and the occurrence of skin disorders among waste pickers at the Terjun Landfill. The Prevalence Ratio (PR) was 0.731 (95% CI: 0.562–0.952), indicating that those who used PPE had a 0.731 times lower risk of developing skin disorders compared to those who did not use PPE.

Factors Influencing the Incidence of Skin Disorders Among Waste Pickers at the Terjun Landfill

The multivariate analysis aims to identify the factors influencing the incidence of skin disorders among waste pickers at the Terjun Landfill in Medan City. This analysis determines which independent variables have the most substantial effect on the occurrence of skin disorders by employing a multiple logistic regression predictive model. Prior to conducting the multivariate analysis, variable selection was based on the results of the bivariate analysis, in which only variables with a p-value ≤ 0.05 were considered eligible for inclusion in the multivariate model. The independent variables included in the final multivariate logistic regression model are presented in the table below :



Table 6. Independent Variables Included in the Multivariate Analysis Model to Predict the Incidence of Skin Disorders Among Waste Pickers at the Terjun Landfill, Medan City, 2024

Independent Variables	<i>Pvalue</i>
Working hours	0.005
Duration of employment	0.019
Personal hygiene	0.001
PPE usage	0.003

Based on Table 6, the variables eligible for inclusion in the multivariate model selection to predict factors influencing the incidence of skin disorders among waste pickers at the Terjun Landfill include working hours, length of employment, personal hygiene, and the use of personal protective equipment (PPE). Subsequently, a variable selection test was conducted using the enter method to identify the variables that significantly predict the incidence of skin disorders among waste pickers at the Terjun Landfill in Medan City. The results are presented in Table 7 as follows:

Table 7. Variable Selection Influencing the Incidence of Skin Disorders Among Waste Pickers at the Terjun Landfill, 2024

Model	Variables	β	Exp B	Confidence Interval (95% CI) for ExpB		Pvalue
				Lower	Upper	
I	Constant	-1.771	0.170			0.482
	Working hours	0.985	2.677	0.478	14.982	0.262
	Duration of employment	-1.766	0.171	0.018	1.657	0.127
	Personal hygiene	1.801	6.056	1.045	35.094	0.045
	PPE usage	-1.065	0.345	0.064	1.846	0.213
II	Constant	-0.769	0.463			0.741
	Duration of employment	-1.795	0.166	0.017	1.603	0.121
	Personal hygiene	2.219	9.195	1.837	46.018	0.007
	PPE usage	-1.172	0.310	0.060	1.606	0.163
III	Constant	-3.073	0.046			0.092
	Duration of employment	-1.791	0.167	0.018	1.535	0.114
	Personal hygiene	2.635	13.938	2.998	64.797	0.001
IV	Constant	-5.730	0.003			0.001
	Personal hygiene	2.942	18.958	4.289	83.792	0.001

Based on the results presented in Table 7, the final analysis indicates that the only variable significantly associated with the incidence of skin disorders among waste pickers at the Terjun



Landfill ($p < 0.05$) is personal hygiene. The analysis showed that the Exp(B) (odds ratio) for the personal hygiene variable is 18.958, meaning that waste pickers with poor personal hygiene are approximately 18 times more likely to experience skin disorders compared to those with good personal hygiene. This suggests that good personal hygiene is predominantly associated with a lower incidence of skin disorders among waste pickers.

Discussion

Age

In this study, age was categorized into two groups: ≥ 37 years and < 37 years, based on the average age of the waste pickers. The majority of participants were under 37 years old. The results of the analysis showed that age was not significantly associated with the incidence of skin disorders among waste pickers at the Terjun Landfill.

Skin disorders can affect individuals across all age groups. However, as individuals age, the skin undergoes degenerative changes. Older adults tend to have dry and thin skin, which is less tolerant to soaps and solvents. Dry skin facilitates the penetration of chemicals, making the skin more susceptible to infections and disorders.

Age is an inherent characteristic of an individual that contributes to the risk of developing various diseases, including skin disorders. As a person ages, the immune function of the skin and the integrity of the stratum corneum which acts as a protective barrier against external harmful agents tend to decline (Dalimunthe, 2016).

Sex

Sex refers to biological differences related to reproductive organs, chromosomes, and hormones, which are generally classified into two categories: male and female. The majority of waste pickers at the Terjun Landfill were male. The analysis of the relationship between sex and the incidence of skin disorders among waste pickers at the Terjun Landfill revealed that sex was not significantly associated with the occurrence of skin disorders.

Both male and female waste pickers are typically exposed to similar risk factors at the landfill site. These findings are consistent with the study by Prasetya et al. (2022), which reported



that sex was not associated with the incidence of contact dermatitis among waste pickers at the Tanjung Beringin Landfill (p-value = 0.658), as both male and female waste pickers had similar exposure patterns and working durations.

Working Duration

Working duration in this study refers to the number of hours spent by waste pickers working per day. It was categorized into two groups: less than 7 hours and more than 7 hours. The majority of waste pickers reported working more than 7 hours per day. The analysis of the relationship between working duration and the incidence of skin disorders among waste pickers at the Terjun Landfill revealed a significant association; however, working duration did not appear to be a direct influencing factor on the occurrence of skin disorders.

This finding is consistent with the study by Hidayanti et al. (2022), which reported an association between working hours and complaints of skin disorders, yet no significant influence on the incidence of these disorders. Understanding working hours is important to assess the extent of exposure to occupational risk factors that may impact individual health.

According to the Indonesian Ministry of Manpower Regulation No.102/MEN/VI/2004, overtime work is defined as working more than 7 hours per day and 40 hours per week for a 5-day work week. However, this regulation applies only to formal sector workers and does not extend to informal sectors or certain types of work. Most respondents in this study worked more than 7 hours daily, engaging in waste collection and further cleaning the items to enhance their resale value. Prolonged exposure to the working environment may increase the risk of skin disorders among waste pickers. Working for more than 8 hours has been shown to reduce productivity, lead to fatigue, and increase health risks (Azizah & Nuncandra, 2019).

Duration of Employment

Duration of employment refers to the duration or period of time a worker has been employed at a particular location. In this study, it was categorized into two groups: ≥ 9 years and < 9 years, based on the average duration of employment among the waste pickers. Most waste pickers at the Terjun Landfill had been working for ≥ 9 years. The findings indicate that skin



disorders were reported more frequently among waste pickers with over 9 years of employment. Although bivariate analysis showed an association between duration of employment and the occurrence of skin disorders, multivariate analysis revealed that duration of employment did not significantly influence the occurrence of skin disorders among waste pickers at the Terjun Landfill.

This finding is consistent with the study by Hidayanti et al. (2022), which found a relationship between duration of employment and complaints of skin disorders, although the duration of employment did not significantly affect the occurrence of such complaints. The longer a person works in a particular environment, the greater the likelihood of exposure to various occupational risk factors, including physical and chemical agents, which may contribute to adverse health outcomes.

New workers, having been exposed for a shorter period and less frequent contact, may be less affected by skin disorders, while workers with longer employment durations are more likely to experience such disorders due to prolonged exposure of the skin to harmful substances (Wibisono et al., 2018).

Personal Hygiene

Personal hygiene refers to the practices and routines individuals perform to care for their bodies, including the skin, nails, hands, and overall physical cleanliness. It plays a crucial role in promoting health, maintaining cleanliness, and preventing disease.

In this study, personal hygiene was categorized into two levels: *poor* and *good*. Good personal hygiene includes regular bathing at least twice daily, washing hands before and after work using soap, trimming fingernails, and changing work clothes every day. The majority of waste pickers at the Terjun Landfill were found to have poor personal hygiene practices.

The analysis revealed a significant association between personal hygiene and the occurrence of skin disorders among waste pickers at the Terjun Landfill. Furthermore, personal hygiene was identified as a significant predictor and the most dominant factor influencing the incidence of skin disorders in this population.



The researchers assume that the skin problems experienced by waste pickers may stem from poor hygiene practices, such as not washing hands and bathing immediately upon returning home. Washing hands with plain water alone is insufficient to remove dirt compared to using soap. Pathogenic microorganisms can persist on unclean hands that are greasy or soiled. In addition, work clothes were not always laundered daily. Complaints of itching were commonly reported during perspiration, as damp and unwashed clothing can provide a breeding ground for disease-causing microbes.

These findings are consistent with the study conducted by Daningrum et al. (2022), which also found a significant relationship between personal hygiene and skin disorder complaints. Waste pickers with poor personal hygiene reported significantly more skin-related complaints.

Promoting healthy living must begin with individual awareness of self-care. Although personal hygiene education is part of formal education, it is also emphasized in religious teachings, where cleanliness is considered a part of faith. Personal cleanliness is closely tied to the religious obligation to purify oneself before performing acts of worship (Malik et al., 2020).

Use of Personal Protective Equipment (PPE)

The use of Personal Protective Equipment (PPE) is mandatory in workplaces involving waste disposal or destruction, as stated by the Ministry of Manpower and Transmigration of the Republic of Indonesia (2010). PPE use serves as a preventive measure to reduce the risk of skin disorders among waste pickers.

In this study, PPE use was categorized into two groups: *not using* and *using*, where PPE use was defined as wearing protective equipment while working. The majority of waste pickers at the Terjun Landfill reported using PPE during their work. The analysis showed a statistically significant association between PPE use and the incidence of skin disorders among waste pickers at the Terjun Landfill; however, PPE use was not found to be a significant predictor of skin disorders in the multivariate analysis.

These findings are consistent with the study conducted by Salmariantity et al. (2021), which also reported an association between PPE use and the incidence of contact dermatitis,



although PPE use did not significantly influence the occurrence of the condition. According to Salmarianty et al. (2021), waste collection workers often exhibit poor PPE compliance due to discomfort and inconvenience perceived when using protective gear.

Field observations conducted during this study revealed that although most waste pickers used PPE, they lacked awareness regarding its protective function. Many respondents did not wear complete PPE, as they were unaware of its benefits. Some waste pickers believed they had developed physical resistance from prolonged exposure to waste, and thus felt no urgency to protect themselves. Moreover, their perception of protection was limited to shielding against weather conditions rather than direct contact with waste.

It was also observed that some waste pickers used damaged or inappropriate PPE, such as worn out gloves, under the assumption that these could still be cleaned and reused. In some cases, the gloves used were second-hand and not suitable for adequate protection. Additionally, layered clothing commonly worn to protect the body often led to excessive sweating and moisture buildup, which could further contribute to the development of skin disorders.

Conclusion and Recommendation

The results of this study indicate that the incidence of skin disorders among waste pickers at the Terjun Landfill in Medan City is influenced by several factors. The factors significantly associated with skin complaints include working hours ($p\text{-value} = 0.005$), duration of employment ($p\text{-value} = 0.019$), personal hygiene ($p\text{-value} = 0.001$), and the use of personal protective equipment (PPE) ($p\text{-value} = 0.003$). Among these, personal hygiene was identified as the most dominant factor influencing the incidence of skin disorders ($p\text{-value} = 0.001$; $\text{Exp.B} = 18.958$).

Based on these findings, it is recommended that the Environmental Agency of Medan City strengthen health promotion activities targeting waste pickers, particularly regarding the importance of maintaining personal hygiene and consistent PPE use to prevent skin disorders during their work activities. Furthermore, waste pickers at the Terjun landfill are advised to maintain proper personal hygiene practices, such as thoroughly cleaning the entire body after work, changing work clothes daily, and washing them properly to minimize the risk of skin-related health issues.



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