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Analysis of Factors Associated with Contact Dermatitis in PT. Cosmas Indonesia

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A B S T R A C T

Introduction: Contact dermatitis is a skin disorder that is quite common, especially due to exposure to certain materials or substances due to work. PT. Cosmas Indonesia is a cosmetics manufacturing company that processes and produces various cosmetics. In the process of making these cosmetics, this company very often uses various chemicals, both in the form of strong bases and various organic solvents. Of course, this company is very susceptible to skin disorders in its workers. This study aimed to analyze the factors associated with contact dermatitis in PT. Cosmas Indonesia. **Methods:** Cross-sectional analytic observational study. A total of 50 research subjects participated in this study. Observation risk factor and sociodemographic data were carried out in this study. Data analysis was carried out using SPSS using univariate and bivariate. **Results:** The incidence of contact dermatitis occurs in workers with a longer working period than in workers who do not experience contact dermatitis. Personal hygiene that is not good is also a problem factor risks associated with contact dermatitis. **Conclusion:** The length of time exposure to chemical compounds and personal hygiene becomes an important factor role in the incidence of contact dermatitis in the study of PT. Cosmas Indonesia.

1. Introduction

Contact dermatitis is an inflammatory condition of the skin caused by the presence of certain materials or substances that stick to the skin. There are two types of contact dermatitis, namely irritant contact dermatitis and allergic contact dermatitis, where irritant contact dermatitis is caused by non-immunological mechanisms and allergic contact dermatitis is caused by a specific immunological response. Dermatitis is characterized by polymorphic skin inflammation in the form of itching, erythema, edema, papules, vesicles, and scales.[1-4]

Contact dermatitis is a skin disorder that is quite common, especially due to exposure to certain materials or substances due to work. Several studies show that the prevalence of contact dermatitis is around 90% of all skin disorders in Indonesian society. chemicals, heat, and mechanical factors such as friction, pressure, and trauma. Irritant contact dermatitis is caused by absolute irritants such as acids, bases, strong bases, heavy metals, and organic solvents.[5-9]

PT. Cosmas Indonesia is a cosmetics manufacturing company that processes and produces various cosmetics. In the process of making these cosmetics, this company very often uses various chemicals, both in the form of strong bases and various organic solvents. Of course, this company is very susceptible to skin disorders in its workers. This study aimed to analyze the factors associated with contact dermatitis in PT. Cosmas Indonesia.

2. Methods

This study is a cross-sectional analytic observational study. This study uses primary data obtained from interviews with research subjects. A total of 50 research subjects participated in this study, and the research subjects met the inclusion criteria. The inclusion criteria for this study were PT. Cosmas Indonesia is active in the processing and filling division work and has agreed to participate in this study which is marked by signing the informed consent form. This study was approved by the medical and health research ethics committee of the Faculty of Medicine, Universitas Islam Negeri Syarif Hidayatullah, Jakarta, Indonesia.

This study observed sociodemographic and clinical data on contact dermatitis. Observation of factors related to the incidence of contact dermatitis, namely length of contact, years of service, age, gender, history of previous skin disease, and personal hygiene. Data analysis was carried out using SPSS software version 20 for Windows. Univariate analysis was performed to present the frequency distribution of each data variable test. Bivariate analysis was carried out to determine the relationship between variables with the incidence of contact dermatitis, with a p-value <0.05.

3. Results and Discussion

Table 1 presents a cross-tabulation between variables with contact dermatitis. The incidence of contact dermatitis occurs in workers with a longer working period than in workers who do not experience contact dermatitis. Personal hygiene that is not good is also a problem factor risks associated with contact dermatitis.

Table 1. Cross tabulation between a variable with contact dermatitis.

No.	Variables	Contact dermatitis	Frequency	Mean±SD	p-value
1.	Working period	Dermatitis	24	23.9±19.7 months	0,012
		No dermatitis	26	12.3±11.1 months	
2.	Age	Dermatitis	24	23.3±4.1 years	0,008
		No dermatitis	26	20.4±2.7 years	
3.	Gender:			-	0,094
	Female	Dermatitis	11		
		No dermatitis	19		
	Male	Dermatitis	13		
		No dermatitis	7		
4.	History of other skin diseases:			-	0,501
	Have history	Dermatitis	7		
		No dermatitis	11		
	Has no history	Dermatitis	17		
		No dermatitis	15		
5.	Personal hygiene:			-	0,028
	Not good	Dermatitis	9		
		No dermatitis	2		
	Good	Dermatitis	15		
		No dermatitis	24		

Contact dermatitis is a condition in which the skin becomes inflamed and itchy as a result of exposure to certain substances. Exposure to chemical compounds continuously or for a long time can increase the risk of contact dermatitis.[10-12] Some of the chemical compounds that often cause contact dermatitis are metals such as nickel and chromium, chemicals such as formaldehyde and acrylic resin, and agricultural chemicals such as pesticides. Continuous or long-term exposure to these chemical compounds can gradually damage the skin and cause an allergic reaction. The allergic reaction may not occur immediately after the first exposure, but the more frequent the exposure, the greater the risk of contact dermatitis.[13-16] Therefore, it is very important to protect yourself from exposure to chemical compounds that have the potential to cause contact dermatitis. This can be done by using personal protective equipment such as gloves and masks when working with chemicals and washing hands with soap and water after exposure to these chemicals. Several studies also show the importance of personal hygiene

to protect yourself from contact dermatitis. The habit of washing hands and bathing regularly reduces the risk of exposure to chemical compounds in workers with exposure to chemical compounds.[17-19]

4. Conclusion

The length of time exposure to chemical compounds and personal hygiene becomes important factor role in the incidence of contact dermatitis in PT. Cosmas Indonesia.

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