

Study of Knowledge, History of Allergies, and Personal Hygiene on the Incidence of Dermatitis

Marniati¹, Sufyan Anwar¹, Teuku Muliadi¹, Itza Mulyani¹, Muhammad Iqbal Fahlevi²

¹ Department of Nutrition, Faculty of Public Health, Universitas Teuku Umar, Indonesia

² Faculty of Public Health Universitas Teuku Umar, Indonesia

Corresponding author: Marniati, marniati@utu.ac.id

Co-author: S.A: sufyananwar@utu.ac.id, T.M: teukumuliadi@utu.ac.id, I.M: Itzamulyani@utu.ac.id, M.I.F: muhammadiqbalfahlevi@utu.ac.id

Submitted: 08/03/2021 **Revised:** 21/03/2022 **Accepted:** 27/03/2022 **Published online:** 22/04/2022

DOI: <https://doi.org/10.35308/j-kesmas.v7i2.5199>. **How to cite this article:** Marniati., Anwar, S., Muliadi, T., Mulyani, I., & Fahlevi, I.F. (2022). Study of Knowledge, History of Allergies, and Personal Hygiene on the Incidence of Dermatitis. *J-Kesmas: Jurnal Fakultas Kesehatan Masyarakat (The Indonesian Journal of Public Health)*. 9(1): 6-13.

Abstract

A Knowledge factor, allergy history, and environment strongly influence the incidence of Dermatitis, followed by allergy history factors. From the survey results, the problem in this study is the high cases of Dermatitis in the community, which reached 623 points. This study aims to examine the impact of Knowledge, history of allergies, and the environment on the incidence of Dermatitis in the working area of Alue Rambot health centre, Darul Makmur District Nagan Raya district. The research method used in this research is analytic with a cross-sectional design. This research was conducted in January 2022, The population in this study is people who suffer from Dermatitis in the working area of the Alue Rambot Health Center, as many as 623 sufferers, the sample in this study was taken based on the Slovin formula with an error rate (0.1), where a sample of 86 respondents was obtained with criteria who were willing to be interviewed and were in the working area of the Puskesmas. Processing data using statistical tests, namely univariate and bivariate analysis, then tested using the Chi-Square test. The study results stated that after being analyzed, it turned out that there was an impact of Knowledge, history of allergies, and the environment affected the incidence of Dermatitis as evidenced by the value (P-value 0.05) with the Prevalence Ratio (7.302, 3.062, and 2.460). The conclusion turns out that the lack of public knowledge about the causes of Dermatitis, the presence of a previous history of allergies, and the environment regarding poor personal Hygiene has a significant influence on the incidence of Dermatitis. Local government advice directly implement socialization about Dermatitis by increasing Knowledge, breaking the chain of causes of allergy recurrence, and improving the cleanliness of the surrounding environment for the formation of work areas whose communities are dermatitis-free.

Keywords: Dermatitis; Environment; History of Allergies; Knowledge

Introduction

Dermatitis is an inflammation of the skin (epidermis and dermis) in response to the influence of endogenous and exogenous factors (Bains, S. N., et al., 2019), causing clinical abnormalities in the form of polymorphic Efloresensi and characterized by itching, can be thickening or reddish spots, multiple clustering or spreading, sometimes scaly, watery and others (Kostner, L. et al., 2017). Dermatitis is a prevalent

skin disease that affects 15-30% of children and 2-10% of adults (Pustišek, N., & Hadžavdić, S. L., 2019) such as inflammatory skin diseases, pruritus, chronic, a recurrence that often occur in families with other atopic conditions (e.g., bronchial asthma and allergic rhinoconjunctivitis).

Nassau, S., & Fonacier, L. (2020), said dermatitis is a skin disease caused by a history of allergies that results in significant morbidity found in a wide variety of everyday products such



as occupational exposure and food, helping patients and others. Dermatitis herpetiformis is related to genetics and gluten sensitivity and may also be related to gut microbiome imbalances (Cao, S., & Yang, B, 2021).

Torres, T. et al. (2019) also said this Dermatitis occurs due to a combination of genetic and environmental factors that induce skin barrier dysfunction, skin and systemic immune dysregulation, skin microbiota dysbiosis, and strong genetic influences. Diagnosis is based on specific criteria that consider the patient's family history and clinical manifestations. The overall severity of the disease should be determined by evaluating objective signs and subjective symptoms. Research (Marniati; Putri, E.S; Mulyani, I; Muliadi, T; Khairunnas; Dharmayanti, 2021) say that environmental factor strongly influences the prevalence of Dermatitis in the community. In other studies, it is also noted that environmental exposure is in line with its effect on the pathogenesis of Dermatitis. The dose and time of exposure are binding domains that can cause exacerbations or improvements in disease (Stefanovic N. et al., 2021).

Approaches to help prevent Dermatitis (McNichol, L. L., et al., 2018) through this indispensable Knowledge and evidence in practice are also required to be extensive Knowledge. Furthermore, A study found that a higher level of knowledge is needed about the prevention and treatment of Dermatitis (Şahin, F. et al., 2019, September 1). The prevalence of Dermatitis in the first two years of life also increased by 7–27% in Asia Pacific countries, including South Korea, China, Singapore, Malaysia, and Taiwan. The incidence of Dermatitis is highest in children, with 85% appearing in the first year of life and 95% appearing before age 5. 278 subjects had at least one manifestation of allergic disease, of which 1.8% of cases of Dermatitis were reported. Urticaria and allergic rhinitis are the most common atopic diseases, with a positive family history of Dermatitis in 60.79% of cases.

In Indonesia, the prevalence of Dermatitis is increasing every year. Research by (Kárpáti S, 2012) reports that the morbidity of allergic diseases in school children in metropolitan cities in Indonesia has the same pattern as in other developing countries. The prevalence of

Dermatitis in Aceh province reached 68.8%, where this prevalence is higher than the national prevalence rate (Dinkes Aceh, 2017). Among the prevalence, one of the districts with the highest prevalence is Nagan Raya, reaching 30.5% (Dinkes Aceh 2017). According to the Nagan Raya district health office is increasing from year to year. It can be seen that in 2018 there were 967 cases, while in 2019, it expanded rapidly to 1247 cases. One of these cases includes the work area of Alue Rambot health centre, which has 623 patients. (Nagan Raya Health Office, 2019).

Research (Djafri and Sham, 2018) explains that the environment and allergies can affect the incidence of Dermatitis and low levels of public knowledge and awareness. They live in densely populated areas and poor environmental conditions so that contact with the environment and others is higher. Based on the results of interviews that researchers conducted with some dermatitis sufferers, they have experienced a history of skin diseases in the form of hives, rashes, and swelling; they do not know the cause of Dermatitis; they also said there is indeed a previous history of allergies, their environmental condition is wet, places are humid or hot. Based on the survey results that have been conducted, it is necessary to research: " Study of Knowledge, History of Allergies and Personal Hygiene on the incidence of Dermatitis in the work area of Alue rambot health centre of Nagan Raya District."

Methods

The research method used in this research is analytic with a cross-sectional design. This research was conducted in January 2022, the population in this study were people who suffered from Dermatitis in the working area of the Alue Rambot Health Center as many as 86 sufferers, the sample in this study was taken based on total sampling, where all the population was sampled, namely 86 samples with criteria that were willing to be interviewed and were in the working area of the PUSKESMAS to be the respondent. Processing data using statistical tests, namely univariate and bivariate analysis, then tested using the Chi-Square test.

Results

Dermatitis old	37	43,0
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Table 1. Distribution of Frequency

Variable	Frequency	Percentage(%)
Knowledge		
Know	39	45,3
Do not know	47	54,7
History of allergies		
There is a history of allergies.	45	52,3
No history of allergies	41	47,7
Environment		
Good Personal Hygiene	33	38,3
Personal Hygiene is not good	53	61,7
Occurrence dermatitis		
Dermatitis New	49	57,0

Source: *Primary Data, 2021*

Of the above univariate the 86 respondents, the knowledgeable respondents were less than 47 (54.7%), and the remaining 39 (45.3%) were well-informed. It can be seen that of the 86 respondents, it is known that respondents who do not have a history of allergies are as many as 45 (52.3%), while respondents who experience a history of allergies areas as 41 (47.7%). Furthermore, of the 86 respondents, 53 (61.7%) with environmental conditions are not good, while the environmental conditions are good is as many as 33 (38.3%). According to the table above, the incidence of Dermatitis is out of 86 respondents there are 49 (57.0) respondents are the incidence of old Dermatitis, while 37 (43.0%) respondents are new sufferers.

Table 2. Study of Knowledge, History of Allergies, and Personal Hygiene on the incidence of Dermatitis

Variables	Incidence of Dermatitis				Total		P-Value	Odds Ratio
	f	%	f	%	f	%		
Knowledge								
Know	5	12,8	34	87,2	39	100	0,000	7,302
Do Not know	44	93,6	3	6,4	47	100		
History of allergies								
There is a history of allergies.	18	40,0	27	60,0	45	100	0,002	2,460
No history of allergies	10	24,4	31	75,6	41	100		
Environment								
Good Personal Hygiene	6	18,8	26	81,2	32	100	0,001	3,062
Personal Hygiene not good	31	57,4	23	42,6	54	100		

Source: *Primary Data, 2021*

Based on table 2, out of 47 well-informed respondents, as many as 44 respondents (93.6%) have long experienced the incidence of Dermatitis. In contrast, of the 39 well-informed respondents, 34 respondents (87.2%) experienced new occurrences of Dermatitis. Based on statistical tests using chi-square obtained value (P.value 0.000 < α 0.05), it is explained that Knowledge is influenced by the incidence of Dermatitis in the Working Area of Alue Rambot Health Center Darul Makmur District Nagan Raya.

The bivariate analysis results showed that of the 45 respondents who had a history of allergies, 18 respondents (40.0%) had experienced Dermatitis for a long time. Conversely, of the 41 respondents who did not share a history of allergies, as many as 31 respondents (75.6%) had

recently experienced the incidence of Dermatitis. Based on statistical tests using Chi-square obtained value (P.Value 0.002 < α 0.05), it is explained that allergic history influences the incidence of Dermatitis in the Work Area of Alue Rambot Health Center Darul Makmur District Nagan Raya.

According to the bivariate analysis above, it is known that of the 54 respondents who have poor personal Hygiene, 31 respondents (57.4%) have experienced Dermatitis for a long time. On the other hand, of the 32 respondents who had good personal Hygiene, 26 respondents (81.2%) had experienced Dermatitis.

Based on statistical tests using chi-square obtained value (P.value 0.001 < α 0.05), it is described here as an environmental influence on the incidence of Dermatitis in the Working Area



of Alue Rambot Health Center Darul Makmur District Nagan Raya.

Discussion

The research aims to examine the impact of Knowledge, history of allergies, and the environment on the incidence of Dermatitis in the Working Area of Alue Rambot Health Center, Darul Makmur District of Nagan Raya Regency. The variables studied are knowledge variables, allergy history, and environment. The study results show an effect of the impact of the variables looked on the high cases of Dermatitis as evidenced by the value of P.value ($P.value 0.001 < \alpha 0.05$).

Impact of Knowledge on the incidence of Dermatitis

Based on the results of statistical tests using chi-square obtained value ($P.value 0.000 < 0.05$), it is outlined that there is an influence of Knowledge on the incidence of Dermatitis in the Working Area of Alue Rambot Health Center Darul Makmur District Nagan Raya. Based on the results of the Prevalence Ratio with a value of 7,302, it can be concluded that poorly knowledgeable respondents will have a 7,302-times more chance of suffering from Dermatitis than well-informed respondents.

According to frugal researchers, knowledgeable respondents are less well. Respondents who have long suffered from Dermatitis because respondents do not know that Dermatitis can occur from skin inflammation that occurs in the epidermis layer, they do not know that Lice cause dermatitis, do not washing their hands after work, do not using gloves when working can trigger the occurrence of Dermatitis. Conversely, respondents who are well-informed but only suffer from Dermatitis because they know about Dermatitis symptoms to avoid the occurrence of Dermatitis.

Knowledge is the result of human sensing, or the result of knowing a person (Marniati, M. 2016) to objects through the sense of seeing, sense of smell, sense of hearing, and so on. All these senses can produce Knowledge influenced by the intensity of attention and perception of objects. Most of a person's Knowledge is gained through

hearing (ear) and sense of sight (eye). A person's Knowledge is related to the hand he works with (Marniati M. et al., 2020). An object has different intensities or levels, and Knowledge will affect workers in doing work. For example, workers do not wash their hands immediately after exposure to chemicals; this will cause the chemicals to stick to the skin longer and be absorbed (Sanders, M.G.H., et al. 2018).

According to previous research, Knowledge greatly influences the incidence of Dermatitis due to public ignorance of the cause or source of Dermatitis (Mendes, F.B. R., et al., 2013). This resulted in weak general knowledge bias, adversely affecting the organization of future nation generations (Berke, R. et al., 2012). We need to realize that Dermatitis is not something that we can take lightly among the public, where there needs to be severe treatment by relevant parties, especially those in charge of local health (Collins, C.D., and Hivnor, C., 2017). Most previous studies have said there is an influence of public knowledge factors on the incidence of Dermatitis.

Impact of allergic history on the incidence of Dermatitis

Based on the results of statistical tests using chi-square obtained value $P-value = 0.002$ and this is smaller than $\alpha = 0.05$ ($P-Value = 0.002 < 0.05$) so that it is described there is a history of Allergy with the incidence of Dermatitis in the Work Area of Alue Rambot Health Center Darul Makmur District Nagan Raya. Based on the results of the Prevalence Ratio with a value of 2,460, it can be concluded that respondents who have a history of allergies will have a 2,460-time chance of suffering from Dermatitis compared to respondents who do not have a history of allergies.

Based on the researchers' observations in the field, the respondent had a history of allergies and suffered from Dermatitis. The respondent had experienced excessive skin reactions to substances from outside the body, such as dust, drugs, or food, and these disorders could cause itching on the skin. Therefore, contact allergy symptoms can appear within a few minutes to several hours after the contact occurs and can last for 2-4 weeks. On the other hand, respondents who do not have a history of allergies and do not

suffer from Dermatitis have never experienced excessive skin reactions to substances from outside the body and maintain skin cleanliness.

A history of allergies (Diana, C. P., et al., 2021) is a disease usually caused by heredity and environmental factors. If the hereditary factors are significant and ecological factors are small, allergic reactions can still occur. But if the heredity and environment do not spur, then the Allergy will not happen (Peng, W., & Novak, N, 2015). There is a significant relationship between the history of allergies and the incidence of Dermatitis, and some opinions state that Dermatitis will be easier to arise if there is a previous history of allergies (Kanen in Cahwati, 2011).

In line with previous research (Bonamonte D. et al., 2013), the history of allergies turned out to be an influential factor in the occurrence of Dermatitis in the community. Other studies also say this dermatitis bias is also caused by a person's history of allergies so that it quickly recurs in a person's body. (DaVeiga, S. P, 2012). Recurrence of allergies can be associated with the factor of food we consume missal because eating nuts, fish, and others invite the presence of Dermatitis (Rundle, C. W., et al., 2017)

Impact of environmental influences on the incidence of Dermatitis

According to the results of statistical tests using chi-square obtained value (P.value $0.001 < 0.05$), the impact of the environment affects the incidence of Dermatitis in the Working Area of Alue Rambot Health Center Darul Makmur District Nagan Raya. The results of the Prevalence Ratio with a value of 3,062 can be concluded that respondents who are poor environment will have a chance of as much as 3,062 times suffering from Dermatitis compared to respondents who are in a good atmosphere.

Researchers' observations on the ground found that respondents who had fewer clean environments experienced fewer incidences of Dermatitis because they kept their environment clean from their limbs, clothing, home, and the environment around their homes. This causes germs to not be around them and avoid the occurrence of Dermatitis. Furthermore,

respondents who had an unclean environment experienced more incidence of Dermatitis because they did not maintain the cleanliness of their environment and their limbs, clothes, homes, and the environment around their homes. This causes germs to be around them and experience the occurrence of Dermatitis.

The environment is one factor that triggers the increase in Dermatitis cases in people's lives. Diana, C. P., et al. (2021) say a bad environment has a risk of Dermatitis. Kasiadi, Y., et al., (2018). For example, following the theory, a dusty, dry, or humid climate in the absence of sunlight will be a medium for developing bacteria or fungi (Marniati et al., 2021). The above study results are also supported by previous researchers who said that environmental factors influence the incidence of Dermatitis (Gofur, A., & Sham, N. 2018). Research (Fitriani, 2015) said the environment could affect the occurrence of Dermatitis in the community if the domain is problematic such as humid, wet, or dusty.

Conclusion

Based on the results of statistical tests, it turns out that the impact of the lack of public Knowledge related to the occurrence of Dermatitis, those who have a previous history of allergies from a family background and an unfavourable environment related to personal Hygiene have a significant effect on the incidence of Dermatitis as evidenced by P.value 0.05. This means that all the variables studied influence the occurrence of Dermatitis in both new and old patients so far in the community.

Acknowledgement

Local government to directly implement socialization about stunting increases public Knowledge, avoids foods that cause allergies, and maintains the cleanliness of the surrounding environment for the formation of dermatitis-free community work areas.

Author Contributions and Competing Interest

Contributing authors for this research are interested in collecting in-depth interview data,



analyzing the results, and compiling the manuscript.

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