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The Relationship of Smoking Status on the Severity of Psoriasis Patients in Dermatology and Venereology Outpatient Clinic of Dustira Hospital 2024

Lina Damayanti[1], Ali Taufan[2], Rina Munirah[1], Razqia Dhianrha Naziffa[3]
[1]Departemen Kulit dan Kelamin, Fakultas Kedokteran, Universitas Jenderal Achmad Yani, [2]Departemen MEU, Fakultas Kedokteran, Universitas Jenderal Achmad Yani, [3]Program Studi Pendidikan Dokter, Fakultas Kedokteran, Universitas Jenderal Achmad Yani

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ABSTRACT
Psoriasis is a chronic inflammatory skin disease characterized by erythematous lesions, epidermal hyperplasia, and firmly demarcated white, silver-like scales. This disease has varying degrees of severity and can be influenced by various factors, one of which is smoking status. This study aims to analyze the relationship between smoking status on the severity of psoriasis patients in the Dermatology and Venereology outpatient clinic of Dustira Hospital in 2024. This type of research is analytic observational with a cross-sectional research design. Observations were made of smoking status variables and psoriasis severity at one specific time. Data were collected through interviews and examination of patient severity based on Body Surface Area (BSA) scores. Data analysis was performed with the chi-square statistical test to determine the relationship between variables. The results showed a significant relationship between smoking status and psoriasis severity, with a p-value of 0.014 (p-value = 0.014 < 0.05). The conclusion of this study is that smoking status has a significant relationship with psoriasis severity. These results underscore the importance of efforts to reduce smoking status in order to manage psoriasis severity in patients.

Corresponding Author:
Lina Damayanti
Departemen Kulit dan Kelamin, Fakultas Kedokteran, Universitas Jenderal Achmad Yani
linad819@gmail.com

INTRODUCTION

Psoriasis is a something disease inflammation chronic skin disease known as as disease autoimmune systemic. Psoriatic lesions can found in form plaque erythematous limited firm with squama silvery white.[1] Predilection occurrence lesions in psoriasis can found localized and can attacking 100% of the body area.[1] Based on predilection psoriasis lesions, then can determine degrees severity with use a number of way, namely with *Body Surface Area* (BSA), *Dermatology Life Quality Index* (DLQI), and *Psoriasis Area Severity Index* (PASI).[2]

Psoriasis comes in into 10 diseases skin is most often found in the Skin and Venereology Polyclinic of Dustira Hospital.[3] Based on the Allergy and Immunology Division of the Dermatology and Venereology Polyclinic of Hasan Sadikin Hospital from January to August 2024, 94 patients were found suffering from psoriasis. Until moment now

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the cause of psoriasis is still Not yet known with clear, but a number of factor participate contribution in emergence disease this. Factors the including : smoking, excess body weight until obesity, alcohol, disorders metabolic, and psychological stress.[4]

Cigarette is one of the form processed from tobacco. *Nurse's Health Study* (NHS) and *Health Professionals Follow – Up Study* say that smoke can influence something pathomechanism the occurrence of psoriasis with various way, such as with speed up formation *autoantigens* on the skin or trigger something innate immunity.[5,6] Based on description regarding data and information from psoriasis, researchers interested For look for relationship between smoking status and degree severity of psoriasis with use *Body Surface Area* in psoriasis patients at the Dermatology and Venereology Polyclinic of Dustira Hospital.

MATERIALS AND METHODS

Types of research This is observational analytic with approach design study *Cross - Sectional* which me-include all Psoriasis patient at the Skin & Venereology Polyclinic of Dustira Hospital period from August to December 2024. Activity study done start from September to December 2024 at the Dermatology and Venereology Polyclinic, Dustira Hospital.

Population is all over visiting psoriasis patients to the Dermatology and Venereology Polyclinic at Dustira Hospital period from August to December 2024, namely as many as 30 people. Inclusion criteria that is Patients diagnosed with psoriasis at the Dermatology and Venereology Clinic at Dustira Hospital period August- December 2024, willing become respondents research, and have notes record complete medical examination. Exclusion criteria that is psoriasis patients with diabetes mellitus.

Variables free is smoking status and variable bound is degrees severity of psoriasis. Analysis univariate For look for distribution of each variable to be studied. Distribution data frequency every variables will categorized in accordance with its further classification will served in form amount and percentage. Analysis bivariate For test relationship between smoking status and degree severity of psoriasis. Statistical test using the *chi-square* test with use level significance (*alpha*) = 0.05 with *confidence interval* (CI) = 95%.

RESULTS AND DISCUSSION

Univariate Analysis

Characteristics subject study obtained from respondents which cover age, type gender, and employment status. Based on the results of data analysis in Table 1 which presents the distribution of characteristics of 30 psoriasis respondents at the Dermatology and Venereology Clinic of Dustira Hospital, it is known that the majority of psoriasis patients are male, amounting to 21 people (70%). This shows that psoriasis cases are more common in men than women. These results are in accordance with the research of Jerry, et al. (2024) at Prof. Dr. IG. NG Ngoerah General Hospital, Denpasar, which found 53 men (70.7%) and 22 women (29.3%). This may be due to the fact that men's lifestyles tend to be less healthy, and the emergence of smoking habits compared to the female population.[7,8] Distribution subject study the can seen in table 1.

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Table 1. Distribution Characteristics of Research Subjects

Variables	Frequency (N)	Percentage (%)
Gender		
Man	21	70
Woman	9	30
Age (Years)		
18	1	3.3
23	1	3.3
24	2	6.7
25	1	3.3
28	1	3.3
29	1	3.3
31	1	3.3
38	1	3.3
41	1	3.3
42	2	6.7
43	1	3.3
44	2	6.7
46	1	3.3
49	1	3.3
51	2	6.7
54	1	3.3
56	1	3.3
57	1	3.3
64	1	3.3
65	3	10.0
69	2	6.7
70	1	3.3
Mean ± SD	46.6 ± 16.3	
Median (Min – Max)	45 (18-71)	
Employment status		
Work	16	53.3
Doesn't work	14	46.7

Based on age in table 1, can known that age most found in the range age 40-49 years followed range aged 20-29 years. This shows that psoriasis cases are more common in the 20-49 age group. These results are in accordance with research by Jerry, et al. (2024) in part. Most patients experience psoriasis between the ages of 30 and 49. [9]If the age range is expanded, the most common age is 45. The occurrence of psoriasis in young people under 40 years of age can be associated with HLA class I antigens, especially HLA-Cw6, while psoriasis in age over 40 years is associated with HLA class II.[10,11]

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Further more done assessment of smoking status which includes from criteria Once or No smoke as well as amount stem cigarettes that were asked at the time interview. Results of the distribution of smoking status in the study This can seen in table 2.

Table 2. Frequency Distribution of Smoking Status

Smoking status	Frequency (N)	Percentage (%)
No smokers	14	46.7
Smoker	16	53.3
Total	30	100.0

Based on the data analysis in Table 2 regarding smoking status, 16 respondents were smokers (53.3%), while 14 respondents were non-smokers (46.7%). These results are consistent with research by Fiqhan Syauki Sajjad (2024). at Hospital X in Central Lombok Region, most of Respondents were smokers (63.5%) divided into 4 groups and the results showed that there were 20 non-smokers (38.5%), 6 light smokers (11.5%), 7 moderate smokers (13.5%), and 8 heavy smokers (38.5%).[12]

Table 3. Distribution Ever smoked in 1 year *****

Once smoke	Frequency (N)	Percentage (%)
Yes	16	53.3
No	12	40.0
Ever (Already) stopped >1 year)	2	6.7
Total	30	100.0

*Table 3 supports the results of table 2.

Based on the results of the data analysis in Table 3 regarding whether or not they had smoked in the past year, the majority of respondents had smoked (53.3%). Furthermore, it is also necessary to assessment conducted For assess smoking status covers from amount consumption stem cigarettes per day for 1 year last asked to respondents at the time interview. Based on results data analysis table 4 can known frequency amount stem cigarettes consumed by respondents in a day. Based on results said, it was obtained results that psoriasis patients who smoke >10 cigarettes cigarette as many as 5 people and psoriasis patients who smoke ≤10 sticks cigarette as many as 10 people. As many as 3.3% consumed each 1 stick, 1–3 sticks, 10 sticks, 12–20 sticks, 2–6 sticks, 6–10 sticks, 7 sticks, and 8–10 sticks per day. Meanwhile that is, 13.3% consumed 12 cigarettes cigarette in a day and 6.7% of respondents consuming 3 and 6 cigarettes cigarettes per day. Distribution amount stem cigarette listed in table 4.

Table 4. Distribution Frequency Amount Cigarette in One day *

Number of Cigarettes (Sticks / day)	Frequency (N)	Percentage (%)
1 stick	1	3.3
1-3 sticks	1	3.3
10 sticks	1	3.3
12 sticks	4	13.3
12-20 sticks	1	3.3

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Number of Cigarettes (Sticks / day)	Frequency (N)	Percentage (%)
2-6 sticks	1	3.3
3 sticks	2	6.7
6 sticks	2	6.7
6-10 sticks	1	3.3
7 sticks	1	3.3
8-10 sticks	1	3.3
Total	16	100.0

*Table 4 supports the results of table 2.

Next, an assessment of the distribution of smoking status by gender was conducted to determine which gender had the highest smoking status. The results can be seen in Table 5. Based on the data analysis in Table 5, the frequency distribution of men and women is shown. There are more smokers (66.7%) than non-smokers (33.3%). This is inversely proportional to women, in table 4.5 it shows that there are more non-smokers (77.8%) than smokers (22.2%). This is due to the habit of smoking among man is things that are considered Already commonplace among society. Different case in point with woman, smoking Still is something that is taboo and gives rise to a negative stigma from public.[13,14]

Next is done An assessment of the distribution of smoking status by age was conducted to determine the age range with the highest number of smokers. The results for this age range can be seen in Table 6.

Table 6. Distribution of Smoking Status Characteristics by Age

Age	Smoking Status				Total
	Smoker		Non-smoker		
	N	%	N	%	
10-19 Years	0	0.0	1	100.0	1
20-29 Years	4	66.7	2	33.3	6
30-39 Years	2	100.0	0	0	2
40-49 Years	3	37.5	5	62.5	8
50-59 Years	4	80.0	1	20.0	5
60-69 Years	3	50.0	3	50.0	6
70-79 Years	0	0.0	2	100.0	2
Total	16	53.3	14	46.7	30

Based on the data analysis results in Table 6, the frequency distribution of the 20-29 age range (4 people) and 50-59 age range (4 people) is the age range with the highest number of smokers. Meanwhile, the 40-49 age range is the age range with the highest number of non-smokers (5 people). Smoking status in society is inseparable from various factors that encourage smoking. Some of the main drivers include social interactions, psychological factors such as stress, lack of knowledge, and socialization.
and who promote cigarettes.[15,16]

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Assessment of psoriasis severity in this study was conducted using the BSA score. Based on the data analysis in Table 7 regarding psoriasis severity based on the BSA score, the majority of psoriasis respondents at the Dermatology and Venereology Clinic of Dustira Hospital in 2024 fell into the mild psoriasis category (50%). This finding differs from the research conducted by Fiqhan Syauki Sajjad (2024). At Hospital X in the Central Lombok Region, the distribution of the highest degrees of psoriasis severity was obtained is a severe degree (51.9%). Frequency distribution of psoriasis degrees based on The BSA scores can be seen in table 7.

Table 7. Frequency Distribution of Psoriasis Degree (BSA Score)

Psoriasis Severity (BSA Score)	Frequency (N)	Percentage (%)
Light	15	50.0
Currently	10	33.3
Heavy	5	16.7
Total	30	100.0

Next, an assessment of the distribution of the severity of psoriasis based on gender was carried out to determine which gender had the highest number of cases in each category. psoriasis severity categories. The results can be seen in Table 8.

Table 8. Distribution of Characteristics of Psoriasis Severity Based on Gender

Gender	Psoriasis Severity						Total
	Heavy		Currently		Light		
	N	%	N	%	N	%	
Man	3	14.3	9	42.9	9	42.9	21
Woman	2	22.2	1	11.1	6	66.7	9
Total	5	16.7	10	33.3	15	50.0	30

Based on the results of the data analysis in Table 8, the frequency distribution of men suffering from psoriasis is as follows: the majority have mild and moderate degrees of severity (42.9%). Meanwhile, Table 8 shows that more women suffering from psoriasis have mild degrees of severity (66.7%) compared to moderate degrees moderate or severe severity. Next, an assessment of the distribution of psoriasis severity by age was conducted to determine the dominant age range in each psoriasis severity category. Based on the data analysis results in Table 9, the frequency distribution of the age range with mild psoriasis severity is highest (62.5%). These results are shown in Table 9.

Table 9. Distribution of Characteristics of Psoriasis Severity Based on Age

Age	Psoriasis Severity						Total
	Heavy		Currently		Light		
	N	%	N	%	N	%	
10-19 Years	0	0.0	0	0.0	1	100.0	1
20-29 Years	1	16.7	2	33.3	3	50.0	6
30-39 Years	0	0.0	2	100.0	0	0.0	2
40-49 Years	1	12.5	2	25.0	5	62.5	8
50-59 Years	2	40.0	1	20.0	2	40.0	5

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Age	Psoriasis Severity						Total
	Heavy		Currently		Light		
	N	%	N	%	N	%	
60-69 Years	0	0.0	2	33.3	4	66.7	6
70-79 Years	1	50.0	1	50.0	0	0.0	2
Total	5	16.7	10	33.3	15	50.0	30

Bivariate Analysis

Based on research conducted on 30 research subjects, the results of bivariate analysis included the relationship between smoking status and the severity of psoriasis in patients treated at the Skin Clinic and Gender Dustira Hospital in 2024. In this study, the *chi-square test was used.* The results of the test on the relationship between smoking status and the severity of psoriasis patients can be seen in Table 10.

Table 10. Relationship between Smoking Status and Psoriasis Severity

Smoking status	Psoriasis Severity						Total	*P-Value*
	Heavy		Currently		Light			
	N	%	N	%	N	%		
No smokers	1	7.1	2	14.3	11	78.6	14	
Smoker	4	25.0	8	50.0	4	25.0	16	0.014
Total	5	16.7	10	33.3	15	50.0	30	

Based on the analysis results in Table 10, the relationship between smoking status and psoriasis severity is shown. Of the 14 non-smoking respondents, 1 respondent experienced severe psoriasis (7.1%), 2 respondents (7.1%) had moderate psoriasis. Of the 16 smoker respondents, 4 had severe psoriasis (25%), 8 respondents (50%) had moderate psoriasis, and 4 respondents (78.6%) had mild psoriasis experiencing mild psoriasis (25%).

The statistical analysis of the *chi-square test* shows that there is a significant relationship between smoking status and the severity of psoriasis, with a probability value of 0.014 (*p-value* = 0.014 <0.05) obtained so that it can be concluded that H0 is rejected, namely smoking status has a significant relationship with the severity of psoriasis in psoriasis patients at the Dermatology and Venereology Polyclinic of Dustira Hospital in 2024. These results are in accordance with the research of Fiqhan Syauki Sajjad (2024) At Hospital X in the Central Lombok Region, a significant relationship was found between smoking status and the severity of psoriasis (p value = 0.000 < 0.05).[11]

Patients who smoke own risk more tall For experience degrees severity more clinical heavy. Smoking trigger stress oxidative, lowering level antioxidants, and exposure radical free is component main in cigarette smoke can initiate various systemic disorders.[16] Nicotine activate a number of subtype receptors nicotinic acetylcholine (nAChRs) contained in the system nerves, adrenal medulla, and keratinocytes. Activation of nAChRs play a role in communication between cells, adhesion keratinocytes, as well as epidermal migration.

Nicotine also increases release cytokines, such as IL-12, IL-2, TNF, INF-α, and *granulocyte-monocyte* colony-*stimulating factor.* In addition, components cigarette other like

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acrolein, benzo(a)pyrene, and hydroquinone produce effect proinflammatory as well as influence system vascular. Smoking can also bother regulations factor growth endothelium vascular and angiogenesis processes.[17]

CONCLUSION

Based on the results of the research conducted, the following conclusions can be drawn: Psoriasis patients at the Dermatology and Venereology Clinic of Dustira Hospital in 2024 who were smokers were mostly male, with a total of 14 people (66.7%). Psoriasis patients are mostly male and are most often found at the age of 40-49 years, with 15 people known to have mild severity (50%), 10 people with moderate severity (33.3%), and 5 people with severe severity (16.7%). There is significant relationship between smoking status and degree severity Psoriasis patients at the Dermatology and Venereology Clinic of Dustira Hospital 2024.

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