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Research Article

The Correlation Between Smoking Habits and Stroke Severity Among Patient with Stroke at General Public Hospital in Bandung, Indonesia

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Abstract

Aims: Stroke, a severe neurological condition, can be fatal and can be influenced by smoking habits and lifestyle choices, as it can cause plaque buildup in blood vessels. This study to determine the association between smoking behaviour and the severity of stroke in stroke patients.
Methods: The study used cross-sectional research with 51 respondents, measuring smoking habits and stroke severity. Results showed a significant positive relationship between smoking habits and stroke severity, with 23.5% having light smoking and 33.3% having mild strokes.
Results: The research reveals that 62.7% of stroke patients treated at Al Ihsan Regional Hospital are male, with most having infarction strokes and being over 60 years old. Most have a smoking habit of 10-20 cigarettes per day, with moderate habits. Smoking habits can trigger atherosclerosis, causing strokes and affecting clinical outcomes.
Conclusions: The study found a moderate relationship between smoking habits and stroke severity in stroke patients at Al Ihsan Regional Hospital, with smoking habits affecting the degree of stroke and causing infarction.

Keywords:
Degree of Stroke, Patient, Public Hospital, Smoking Habits, Stroke

INTRODUCTION

Stroke is a clinical disease characterized by a sudden reduced ability of nerves caused by disruption of blood circulation that leads to the brain and can settle for approximately 24 hours (1). Another definition mentions stroke is a state of clinical signs due to blockage or bleeding which quickly causes a neurological deficit, which can diminish and last up to 24 hours or more and can cause death without other causes other than vascular (2). cells in the brain become deficient in oxygen supply, causing temporary or permanent brain damage which can cause disability until early death (3,4).

This places stroke as the third most common cause of death in various developed countries, after cancer and cardiovascular disease. As the most common cause of death in various countries, the prevalence of stroke in the world in 2022 reached new cases every day (5). Indonesia entered into a country that has a stroke rate in Asia followed by other countries with a prevalence of 2,120,362 in West Java Province reaching 52,111 and in Bandung reaching 4,222 cases of stroke. Decreased oxygen supply to the brain or

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bleeding in the brain are two factors that can cause stroke. Factors that cannot be changed include age, gender, race, genetics, or family history. Factors that can be changed include diabetes mellitus, hypertension, dyslipidemia, alcohol, lack of physical activity, and smoking habits (6,7).

In 2021, Indonesia experienced an increase in the number of smokers with the results of 69.1 million people were smokers. Smoking is one of the habits that cause many health problems around the world. Because nicotine in cigarettes makes plaque on the walls of blood vessels, making the heart work harder than usual, smoking also increases the risk of stroke. Therefore, the amount of oxygen entering the brain is not fulfilled (8,9). People who have a smoking habit since young will experience various types of stroke and cause worse results than people who never smoke (10). Various studies were conducted and explained that the relationship between smoking habits and neurological deficits of stroke patients had significant results in accordance with research conducted by Pan (11) with a p-value of 0.001 and R 0.029 10, and other research conducted by Chen (12)which also states there is a relationship between smoking habits with a degree of stroke or neurological deficit of patients with a p-value value of 0.024 and R 0.364. With the support of the results of the study that the output of stroke or neurological deficit results that occur in patients with stroke can be assessed using (13) the National Institute of Health Stroke Scale (NIHSS) assessment and smoking habits can be assessed using a smoking habits (14). Therefore, researchers feel interested and want to develop relationships and characteristics of smoking habits with neurological deficits in patients suffering from strokes who are in hospitalization in Al Ihsan Regional Hospital to improve and strengthen the latest scientific evidence of smoking and strengthen the management of stroke prevention.

METHODS

This study used a cross-sectional analytic correlation approach to determine whether or not there was a relationship between smoking habits and the degree of stroke in patients who experienced a stroke. The subjects or respondents in this study are stroke patients who have a smoking habit with a total sample of 51 people who will be conducted at Al Ihsan Regional Hospital, West Java Province. The measuring tool uses a questionnaire for the degree of stroke or neurological deficit with the National Institute of Health Stroke Scale (NIHSS) which has been tested for validity and reliability with r=0.610 and α=0.660 and a smoking habits questionnaire which has been modified from Narayana and Sudhana's research with validity test results and reliability r=0.851 and α=0.731 12. Data collection begins with an ethical review process with ethical number 02/KEPK/EC/III/2024. After the ethical review is approved, the researcher takes care of the research permit application letter to Al Ihsan Hospital, West Java Province and after obtain permission, followed by distributing smoking habit questionnaires and measuring the degree of stroke of patients who are included in the required respondent criteria. Prior to this, informed consent will be given to each respondent who will be studied as proof of willingness to participate. After the data was collected, it was continued by analyzing the data to see the frequency distribution of respondents' characteristics and analysis using Chi Square to determine whether or not there was a relationship between smoking habits and the degree of stroke neurological deficit in patients who experienced a stroke at Al Ihsan Regional Hospital, West Java Province in 2024.

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RESULTS

Table 1. Frequency distribution of stroke patient characteristics responden at RUBA I West Java Provincial Hospital Al Ihsan Bale Endah Bandung Regency

Variabel	Frequency	Presentation (%)
Gender		
Man	32	62,7
Woman	19	37,3
Total	51	100
Age		
19-44	4	7,8
45-59	19	37,3
>60	28	54,9
Total	51	100
type of stroke		
infarction stroke	44	86,3
hemorrhagic stroke	7	13,7
total	51	100
long time smoking		
<5 years	4	7,8
5-10 Years	1	2
>10 Years	46	90,2
total	51	100
Cigarette consumption		
<10 Rods per day	21	41,2
10-20 Rods per day	22	43,1
20Rods per day	8	15,7
total	51	100

The results of the univariate data analysis that has been processed describe the description of the respondents in the following frequency distribution table. Based on the results obtained in the research in table 1, it can be seen that of all 51 respondents in UBA room 1, the majority (62.7%) were men and a small portion of the respondents (37.3%) were women, the age characteristics of the respondents in this study the majority (54.9%) were aged > 60 years, a small proportion (37.3%) were aged 45 – 59 years, and very few (7.8%) respondents were aged 19 – 44 years, and the type of stroke Almost all of the respondents (86.3%) experienced an infarction stroke and very few (13.7%) of the respondents experienced a hemorrhagic stroke. Almost all respondents who smoked for stroke patients consumed >10 years (90.2%), very few respondents consumed cigarettes for <5 years (7.8%) and 5 – 10 years (2%). Nearly half of the respondents consumed <10 cigarettes (41.2%) and 10 – 20 cigarettes (43.1%) per day, and very few respondents consumed >20 cigarettes per day (15.7%).

Table 2. Frequency distribution of respondents' smoking habits

Level of smoking habit	Average	Std.Deviasi	min	max	Frequency	Presentation (%)
ight smoking habit	2,16	0,835	1	3	12	23,5
light to moderate	5,10	0,875	4	6	19	37,3

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smoking habits						
heavy smoking habit	7,8	0,696	7	9	20	39,2
total					51	100

The results of another study, the distribution of respondents based on the patient's smoking habits and the degree of stroke neurological deficit in stroke patients at Al Ihsan Regional Hospital are as follows Based on the results in table 2 we can see that of the 51 respondents, very few (23.5%) respondents had a light smoking habit with an average score of 2.16, almost half (37.3%) of respondents had a moderate smoking habit with the average score was 5.10 and almost half (39.2%) of the respondents had a heavy smoking habit with an average score of 7.80.

Tabel 3. Frequency distribution of respondents based on degree of stroke

degree of stroke	averege	Std Deviasi	Min	Max	Frequency	Presentation (%)
light	3,47	1,125	1	5	17	33,3
currently	8,68	2,765	6	14	25	49
heavy	16,12	1,642	15	20	8	15,7
very heavy	34		34	34	1	2,0
Total					51	100

Based on the analysis attached in table 3, it can be seen that of the 51 respondents, very few (2%) experienced very severe strokes with an average score of 34 and very few (15.7%) experienced severe strokes with an average score of mean 16.12, almost half (49%) experienced a moderate degree of stroke with an average score of 8.68 and almost half (33.3%) of respondents experienced a mild degree of stroke with an average score of 3.47. In the bivariate test, it is used to see whether or not there is a relationship between the two research variables in patients who have had a stroke. The bivariate test in this research used Chi Square with the following results.

Tabel 4. The relationship between smoking habits and stroke severity responden

			P.Value	Koefsien korelasi
smoking habits with	Averege	5,47		
stroke severity	Averege	8,61	0,024	0,444

Based on the bivariate test results attached in table 4, it can be seen that the results of the correlation test using Chi square showed a p-value of 0.024 compared to $\alpha<0.05$, indicating that there is a relationship between smoking habits and the degree of stroke in stroke patients. The correlation coefficient obtained was 0.444, which means this relationship has a moderate level of relationship in a positive direction, so every time there is an increase in the dependent variable it will also be followed by an increase in the independent variable.

DISCUSSION

The research results obtained from 51 respondents showed that the majority (62.7%) of stroke patients being treated at Al Ihsan Regional Hospital were male. This is in accordance with the opinion of those

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who have conducted research, namely by Ariesta in 2012 that 53.3% the stroke patient was male (15). Almost all of the respondents who were treated at Al Ihsan Regional Hospital had an infarction type of stroke and most of the respondents were >60 years old. Almost half of the respondents have a habit of smoking 10 – 20 cigarettes per day, almost all of whom have been smokers for >10 years. This shows that patients who have had a stroke and are being treated have the habit of consuming quite a lot of cigarettes over a long period of time. Almost half of the respondents showed moderate smoking habits. This smoking habit is an unhealthy lifestyle and according to Dieni, people who smoke >10 years are 4 times more likely to have a stroke than non-smokers and people who smoke 10 - 20 cigarettes a day are 2.5 times more at risk. suffered a stroke (16). Having a smoking habit for a long time and the number of cigarettes consumed per day can have an influence on the incidence of alterosclerosis which can trigger a stroke and can influence the clinical outcome or degree of stroke of stroke patients (17). Of the 51 people who answered, almost half had moderate strokes. More of them experience infarction strokes and are male because atherosclerosis causes blockages in unresolved infarction strokes, which cause blood vessels to burst in the brain and cause hemorrhagic strokes. Apart from that, many men suffer strokes due to the fact that men do not have the hormone estrogen, while women can be protected from various cardiovascular diseases and strokes because they have the hormone estrogen which helps protect women from this (18,19). The results of the research that researchers have conducted show that there is a significant relationship between smoking habits and the degree of stroke neurological deficit in patients who have had a stroke in the inpatient room at Al Ihsan Regional Hospital. As a result of one of the risk factors for stroke, namely smoking, it can trigger the formation of atherosclerotic plaque which makes the oxygen supply to the brain not optimal or obstructed, so that neuron cells cannot work properly and result in poor neurological outcomes (20). Various addictive substances contained in cigarettes cause People will feel addicted, so smokers will continue to consume it. By conducting this research, we can find out that a person's smoking habit can influence the patient's degree of stroke. The degree of the patient's stroke assessed can be used as an evaluation for the progress of the patient's recovery in determining the patient's further treatment.

CONCLUSION

Patients who suffered from strokes in Al Ihsan Regional Hospital, particularly in the Utsman bin Affan I room, where the majority of the responders were male and older than sixty years old, and practically all of the patients had undergone stroke infarction. This study found that approximately half of the stroke patients consumed between ten and twenty cigarettes on a daily basis, and virtually all of them had been smokers for more than ten years. This long-term smoking habit caused almost half of the respondents to suffer a moderate smoking habit, with an average total score of 5.47. Additionally, almost half of the respondents experienced a moderate degree of stroke, with an average total score of 8.61. Both of these outcomes were attributed to the persistent smoking habit. As a result of the findings of the research that has been conducted, it was discovered that there is a connection between smoking habits and the severity of stroke in stroke patients. This connection was found to have a p-value of 0.024 and a correlation coefficient of 0.444, which places it in the category of having a medium strength of relationship and a positive direction.

REFERENCES

1. Hui C, Tadi P, Suheb MZK, Patti L. Ischemic stroke. In: StatPearls

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Jurnal Keperawatan Komprehensif
Volume 10 Issue 3 July 2024

[Internet]. StatPearls Publishing; 2024.
2. Feigin VL, Brainin M, Norrving B, Martins S, Sacco RL, Hacke W, et al. World Stroke Organization (WSO): global stroke fact sheet 2022. International Journal of Stroke. 2022;17(1):18–29.
3. Yeo LLL, Andersson T. Stroke, Pathophysiology, Diagnosis, and Management By James C. Grotta, Gregory W. Albers, Joseph P. Broderick, Scott E. Kasner, Eng H. Lo, A. David Mendelow, Ralph L. Sacco, and Lawrence KS Wong: (2016) 1504 pages US $405.00, Hardcover, ISBN: 9780323295444 Elsevier. Springer; 2017.
4. Lee SH. Stroke revisited: diagnosis and treatment of ischemic stroke. Springer; 2017.
5. Donkor ES. Stroke in the 21st century: a snapshot of the burden, epidemiology, and quality of life. Stroke Res Treat. 2018;2018(1):3238165.
6. Katan M, Luft A. Global burden of stroke. In: Seminars in neurology. Thieme Medical Publishers; 2018. p. 208–11.
7. Mensah GA, Norrving B, Feigin VL. The global burden of stroke. Neuroepidemiology. 2015;45(3):143–5.
8. Al Ghifari M, Andina M. Gambaran Tekanan Darah pada Pasien Stroke Akut di Rumah Sakit Umum Haji Medan Tahun 2015. Buletin Farmatera. 2017;2(1).
9. Ali M, Berbudi Bl A, Robbani FY, Hanafi I, Anugrah MR, Ansari N V, et al. Peningkatan Kesadaran Masyarakat Terhadap Pentingnya Pencegahan Dini Stroke. Jurnal Pengabdian Masyarakat Fisioterapi dan Kesehatan Indonesia. 2023;2(01):65–71.
10. Owolabi MO, Thrift AG, Mahal A, Ishida M, Martins S, Johnson WD, et al. Primary stroke prevention worldwide: translating evidence into action. Lancet Public Health. 2022;7(1):e74–85.
11. Pan B, Jin X, Jun L, Qiu S, Zheng Q, Pan M. The relationship between smoking and stroke: a meta-analysis. Medicine. 2019;98(12):e14872.
12. Chen J, Li S, Zheng K, Wang H, Xie Y, Xu P, et al. Impact of smoking status on stroke recurrence. J Am Heart Assoc. 2019;8(8):e011696.
13. Ghose SK, Ahmed KGU, Chowdhury AH, Hasan ATMH, Saha K, Mahmud R, et al. Assessment of initial stroke severity by National Institute health stroke scale (NIHSS) score at admission. Journal of Dhaka Medical College. 2017;26(2):90–3.
14. Markidan J, Cole JW, Cronin CA, Merino JG, Phipps MS, Wozniak MA, et al. Smoking and risk of ischemic stroke in young men. Stroke. 2018;49(5):1276–8.
15. Ramadhini AZ, Angliadi LS, Angliadi E. GAMBARAN ANGKA KEJADIAN STROKE AKIBAT HIPERTENSI DI INSTALASI REHABILITASI MEDIK BLU RSUP PROF. DR. RD KANDOU MANADO PERIODE JANUARI â€"DESEMBER 2011. e-CliniC. 2013;1(2).
16. Dienni Latifah S. Perilaku merokok dengan kejadian stroke. The Sun. 2015;2:2.
17. Hidayat F, Gamayani U, Wibisono Y, Berliana S, Amalia L. Perbandingan Luaran Klinis pada Pasien Stroke Iskemik Fase Akut dengan Satu atau Lebih Faktor Risiko. Jurnal Neuroanestesi Indonesia. 2022;11(1):7–14.
18. Kesuma NMTS, Dharmawan DK, Fatmawati H. Gambaran faktor risiko dan tingkat risiko stroke iskemik berdasarkan stroke risk scorecard di RSUD Klungkung. Intisari Sains Medis. 2019;10(3).
19. Kabi GYCR, Tumewah R, Kembuan MAHN. Gambaran faktor risiko pada penderita stroke iskemik yang

p-ISSN : 2354 8428 | e-ISSN: 2598 8727

Jurnal Keperawatan Komprehensif
Volume 10 Issue 3 July 2024

dirawat inap neurologi RSUP Prof. Dr. RD Kandou Manado periode Juli 2012-Juni 2013. e-CliniC. 2015;3(1).

20. Rahayu TG. Analisis Faktor Risiko Terjadinya Stroke Serta Tipe Stroke. Faletehan Health Journal. 2023;10(01):48–53.

https://doi.org/10.33755/jkk