

UNDERGRADUATE THESIS

**CORRELATION BETWEEN MODIFIABLE RISK FACTORS AND SEVERITY
OF ISCHEMIC STROKE IN DR. SOETOMO GENERAL HOSPITAL**



Written by:

Muhammad Fadhila Naufal

NIM. 011911133084

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FAKULTAS KEDOKTERAN UNIVERSITAS AIRLANGGA
SURABAYA
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To fulfil the requirement of Research Block

Faculty of Medicine Universitas Airlangga

Written by:

Muhammad Fadhila Naufal

NIM. 011911133084

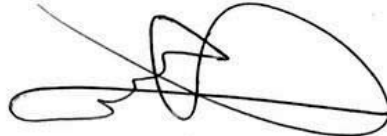
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SURABAYA**

2022

LETTER OF AGREEMENT

This research paper has been approved by:

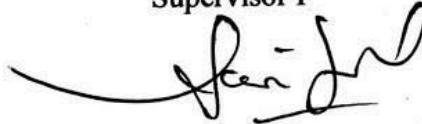
Chief of Assessor



Achmad Firdaus Sani, dr., Sp.S (K), FINS

NIP. 197511092008121002

Supervisor I



Mohammad Saiful Ardhi, dr., SpS(K)

NIP. 198012072008121001

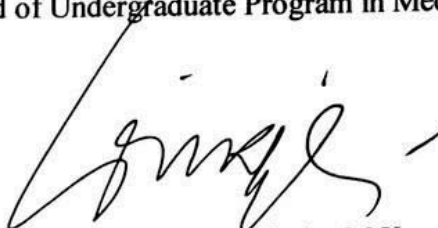
Supervisor II



Ulfa Kholili, dr., Sp.PD, K-GEH, FINASIM

NIP. 197504042008012017

Head of Undergraduate Program in Medicine



Dr. Purwo Sri Rejeki, dr., M.Kes.

NIP. 197506122005012003

STATEMENT OF ORIGINALITY

I, the undersigned:

Name : Muhammad Fadhila Naufal
Student Number : 011911133084
Major : Medicine
Faculty : Faculty of Medicine, Universitas Airlangga

declares that this Final Paper is indeed my original work that is submitted to the Undergraduate Program of Universitas Airlangga. The theories and/or findings from the previous studies by other researchers have been acknowledged accordingly. The findings in this research are my own research results and have not been submitted for any degree in any other universities or institutions. If it is later proved that this Final Paper contains partly or wholly plagiarized, I am willing to accept the sanctions and consequences established by the Universitas Airlangga.

Surabaya, December 29th, 2022

The researcher,



Muhammad Fadhila Naufal

NIM. 011911133084

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CORRELATION BETWEEN MODIFIABLE RISK FACTORS AND SEVERITY OF ISCHEMIC STROKE IN DR. SOETOMO GENERAL HOSPITAL

SUMMARY

Stroke is classically characterized as a neurological deficit attributed to an acute focal injury of the central nervous system (CNS) by a vascular cause, including cerebral infarction, intracerebral hemorrhage (ICH), and subarachnoid hemorrhage (SAH), and is a major cause of disability and death worldwide (Sacco *et al.*, 2013). The researcher aspires to study about the correlation between modifiable risk factors and severity of ischemic stroke in Dr. Soetomo General Hospital to analyze about the effect of each modifiable risk factors towards the clinical outcome of ischemic stroke patients.

This research is a correlational study, with analytical observation as the research design which aims to analyze the relation between variables. It is a retrospective cross-sectional study by collecting data from medical records of ischemic stroke patient in Dr. Soetomo General Hospital Surabaya. The sample is 41 ischemic stroke patients which fulfilled the inclusion criteria, chosen by total sampling. All datum is gained from patient's medical record, with the independent variables being smoking, hypertension, uric acid, diabetes, and dyslipidemia, and the dependent variable being NIHSS. The data is then analyzed to determine the correlation using correlation test in SPSS. After the data is analyzed with statistical test, all modifiable risk factors show no significant relationship with a weak correlation to severity of ischemic stroke ($p>0.05$). More research remains needed to study about the correlation between modifiable risk factors and stroke outcomes.

CORRELATION BETWEEN MODIFIABLE RISK FACTORS AND SEVERITY OF ISCHEMIC STROKE IN DR. SOETOMO GENERAL HOSPITAL

ABSTRACT

Background: Stroke is classically characterized as a neurological deficit attributed to an acute focal injury of the central nervous system (CNS) by a vascular cause, including cerebral infarction, intracerebral hemorrhage (ICH), and subarachnoid hemorrhage (SAH), and is a major cause of disability and death worldwide (Sacco *et al.*, 2013). The researcher aspires to study about the correlation between modifiable risk factors and severity of ischemic stroke in Dr. Soetomo General Hospital to analyze about the effect of each modifiable risk factors towards the clinical outcome of ischemic stroke patients.

Method: A total of 41 ischemic stroke patients which fulfilled the inclusion criteria is analyzed. We obtain the needed data from patient's medical record and analyzed the data using correlation test to determine any correlation towards modifiable risk factors and stroke outcomes, with the independent variables being smoking, hypertension, uric acid, diabetes, and dyslipidemia, and the dependent variable being NIHSS. The data is then analyzed to determine the correlation using correlation test in SPSS.

Result: After the data is analyzed with statistical test, all modifiable risk factors show no significant relationship with a weak correlation to severity of ischemic stroke ($p>0.05$).

Conclusion: The research found weak relationship between the modifiable risk factors and stroke severity, with a non-significant statistic result. More research remains needed to study about the correlation between modifiable risk factors and stroke severity.

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LIST OF ABBREVIATIONS

DALYs	: Disability-Adjusted Life Years
BA	: Broadmann Area
CNS	: Central Nervous System
NMJ	: Neuro-Muscular Junction
UMN	: Upper Motor Neuron
SNS	: Sympathetic Nervous System
PNS	: Parasympathetic Nervous System
ENS	: Enteric Nervous System
NIHSS	: National Institutes of Health Stroke Scale
AHA/ASA	: American Heart Association/American Stroke Association
CT	: Computed Tomography
CVD	: Cerebrovascular Disease
FBG	: Fasting blood glucose
2HPP	: 2-hour post-prandial glucose
TCHOL	: Total cholesterol
TG	: Triglycerides