DIFFERENCES IN NEUROLOGICAL DEFICITS IN ACUTE ISCHEMIC STROKE PATIENTS WITH AND WITHOUT OXYGEN THERAPY IN THE STROKE CENTER ROOM OF RSPAL DR. RAMELAN SURABAYA

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WORD COUNT 5953
TIME SUBMITTED 19-MAY-2025 09:47AM
PAPER ID 116298399

Damayanti, E., & Nurhayati, C. (2024). *Nurse and Health: Jurnal Keperawatan, 14 (1): 39-49*
http://ejournal-kertacendekia.id/index.php/nhjk/index

Original Research Article

EFFECTIVITY OF OXYGEN THERAPY IN NEUROLOGICAL DEFICITS IN ACUTE ISCHEMIC STROKE PATIENTS

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Article Info:
Received: June, 5th, 2024
Revised: March, 6th, 2025
Accepted: March, 20th, 2025

DOI:
https://doi.org/10.36720/nhjk.v14i1.656

Abstract

Background: Neurological deficits in acute ischemic stroke patients cause disrupted day living activities. The study aimed to analyze the difference in neurological deficits of acute ischemics stroke between patients with oxygen therapy in the stroke center room of Dr. Ramelan Hospital.

Objectives: The study sample used total random sampling technique. Variable of the study were neurological deficit, using the NIHSS scale instrument is the National Institute of Health Stroke Scale and using the statistical Mann Whitney test.

Methods: The research design used was quasi experiment. The population in the study was acute ischemic stroke patients in the stroke center room of RSPAL Dr. Ramelan Surabaya totaling 32 patients. Divide into 16 patients with oxygen therapy, 16 without oxygen therapy. study was neurological deficit, using the NIHSS scale instrumen is the National Institute of Health Stroke Scale and using the statistical Mann Whitney Test.

Results: The results showed that there was significant difference in neurological deficit of two group with the Mann Whitney that P = 0.037 (P≤0.05).

Conclusion: Acute ischemis stroke patients who are given oxygen therapy can cause decreased neurological deficits. The implications of this study are expected so patients can get oxygen therapy as the main therapy in the management of acute ischemic stroke.

Keywords: *Ischemic Stroke, Neurological Deficit, Oxygen Therapy*

E-ISSN
2623-2448
P-ISSN
2088-9909

INTRODUCTION

Ischemic stroke is conditio in wich individuals experience sudden deat of several brain cell that can lead to neurological defisit both local and global. The acute phase ischemic stroke lasts 12 hours-14 days post-onset. Ischemic stroke therapy aims to reduce neurological damage, reduce mortality and disability and prevent re-stroke. The combination of thrombolysis therapy and oxygen administration is a treatment given to ischemic stroke patients at RSPAL Dr. Ramelan Surabaya. Some patients get additional oxygen therapy during the acute phase and some patients do not get additional oxygen therapy. Recovery of an individual

who has suffered a stroke takes a long time and this causes the patient's daily living activities or daily activities will depend on others (Damayanti & Darussalam, 2023).

The World Stroke Organization shows that every year there are 13.7 million new cases of stroke. The prevalence of stroke in China, which is a country with a high mortality rate due to stroke, there are 9.4% of urban residents having a stroke and 1.8% of villagers having a stroke, while in the United States there are around 7 million people (3.0%) experiencing a stroke (Setiawan & Barkah, 2022). Ischemic stroke consists of two types, namely embolic and thrombosis. This narrowing will cause blockage of blood flow, obstructed blood flow causes oxygen supply to the brain to decrease, causing brain functional disorders in the form of neurological deficits or nerve paralysis (Pribadhi et al., 2019) Provision of oxygen therapy to maintain oxygen stability in the body and brain tissue is part of emergency care for stroke patients. When this ineffective perfusion is not treated quickly, intracranial pressure will increase. Therefore, the main therapy in stroke patients is to increase their oxygenation status (Kurniawan et al., 2023).

Oxygen therapy is recommended in acute ischemic stroke patients because oxygen saturation in stroke patients is about 1% lower than age-appropriate community controls (Roffe et al., 2020).The use of masks in the administration of oxygen therapy is less likely to be tolerated, so patients are recommended to use a nasal cannula with a flow rate of 2-3 lpm. 2 lpm of oxygen through the nasal cannula will increase oxygen saturation by 2% and 3 lpm of oxygen will increase oxygen saturation by 3%. A regimen dose of 3 lpm for patients with initial oxygen saturation <93% and 4 lpm for patients with an initial saturation of >93% is likely to prevent hypoxia without increasing oxygen saturation beyond normal range limits.

Objective: To examine the differences in neurological deficits of acute ischemic stroke between patients with oxygen therapy and patients without oxygen therapy in the stroke center room of RSPAL Dr. Ramelan Surabaya.

METHODS

Study Design

This research was a quantitative study with comparative research.

Setting

This research was conducted at the stroke center RS Pusat TNI Angkatan Laut (RSPAL) DR. Ramelan Surabaya.

Research Subject

This research was conducted from 15 November to 15 December 2023. The population in this study were all patients suffering from stroke patient. The sample size in this study was 32 patients. The sampling technique in this study used random sampling. The sample is then selected based on the characteristics and criteria of the sample based on:

1. Inclusion Criteria for all of group:
   a. Patients are willing to be a respondent
   b. Patients who have been treated at the stroke center RSPAL Dr. Ramelan Surabaya
   c. Diagnosed with iskemic without DM
   d. Diagnosed with midle hypertension
   e. Cooperative.
2. Exclusion Criteria:

Patient who suddenly dropped out of the respondent

Instruments

For the Intervension Group has given 4 lpm until 24 hours by nasal canule. The instrument used is the National Institute of Health Stroke Scale (NIHSS) Questionnaire to determine the neurologis disorder patients and to measure degree of severity of outcome stroke patient.

Data Analysis

Before being given oxygen, the patients were examined for neurological

deficit. Then, after eirg given 24 lpm oxygen for 24 hours. The respondent will be checked fr neurological deficit again. After the data is collected the researcher sorts out the research data and does the coding. Data analysis using SPSS version 25. The analysis used the Mann Whitney Test.

Ethical Consideration

This research has been reviewed and declared to have passed the ethical review of the RS Pusat TNI Angkatan Laut (RSPAL) DR. Ramelan Surabaya Ethics Committee Ramelan Surabaya no 140/EC/KEPK/2023 in an effort to protect the human rights and welfare of nursing research subjects. At the time of conducting the research, the researcher guaranteed all the confidentiality of the respondents and did not violate the rights of the respondents and did not cause harm to the respondents who participated in this research.

RESULTS

Table 1. Frequency Distribution of Respondent Characteristic (n=32)

Gender Grup	Group A With O_2 Fr	(%)	Group B without O_2 Fr	(%)
Male	13	40,6%	9	28,1%
Female	3	9,4%	7	21,3%
Total	**16**	**50%**	**16**	**50%**

Tabel 1 showed that of the 32 respondents consisting of 16 people in group A (with oxygen) there were 13 male (40.6%), 3 female (9.4%) and 16 people in group B (without oxygen) there were 9 people (28.1%) male, and 7 people (21.3%) were female. In this study in accordance with the table above, it was found that the majority of respondents were male. Male also have a higher risk of ischemic stroke compared to female because of the bad habits of men who often smoke or drink alcohol which can increase the risk of ischemic stroke (Megawati et al., 2021).

Table 2. Frequency Distribution of Respondent (n=32)

Age Grup	Group A With O_2 Fr	(%)	Group with out O_2 Fr	(%)
Elementary	4 (12,5%)		2 (6,3%)	
Middle	2 (6,3%)		3 (9,4%)	
High School	9 (28,1%)		7(21,9%)	
Diploma	1 (3,1%)		1 (3,1%)	
Undergraduate	0		3 (9,4%)	
Total	**16**	**50%**	**16**	**50%**

The characteristics of respondents based on 6 people in group A (with oxygen), namely elementary school education 4 people (12.5%), junior high school and group B there were 11 people (34.4%) who graduated from junior high school 2 people (6.3%), high school 9 people (28.1%), DIII 1 person (3.1%). Then 16 people in group B (without oxygen) consisting of elementary education 2 people (6.3%), junior high school 3 people (9.4%), high school 7 people (21.9%)x, DIII 1 person (3.1%), [illegible] people (9.4%) with the table above that the majority of respondents are high school graduates.

Tabel 3. Characteristics of Respondents Based on Education

Education	Group A Fr	(%)	Group B Fr	(%)
Elementari school	4	12,5%	2	6,3%
Junior high school	2	6,3%	3	9,4%
High School	9	28,1%	7	21,9%
DIII	1	3,1%	1	3,1%
SI	0	0,0%	3	9,4%
Total	**16**	**50%**	**16**	**50%**

Table 3 shows that of the 32 respondents consisting of 16 people in group A (with oxygen), namely elementary school education 4 people (12.5%), junior high school

and group B there are 11 people (34.4%) who graduated from junior high school 2 people (6.3%), high school 9 people (28.1%), DIII 1 person (3.1%). Then 16 people in group B (without oxygen) consisted of 2 people (6.3%), 3 people (9.4%), 7 people (21.9%) high school, 1 people DIII (3.1%), 3 people (9.4%) with the table above that the majority of respondents were high school graduates.

Tabel 4. Characteristics of Respondents by Occupation

Occupation	Group A Fr	(%)	Group B Fr	(%)
Not working	4	12.5%	3	9,4%
BUMN	4	12.5%	0	0
TNI/POLRI	2	6,3%	1	3,1%
Private	3	9,4%	3	9,4%%
Merchan	2	6,3%	1	3,1%
Total	16	50%	16	50%.

The characteristics of respondents based on occupation in table 5 show that out of 32 respondents 16 people in group A (with oxygen) there are 4 people (12.5%) not working, as civil servants 1 person (3.1%), working in SOEs 4 people (12.5%), as TNI / POLRI 2 people (6.3%), Private 3 people (9.4%), traders 2 people (6.3%). While 16 people in group B (without oxygen) there are 3 people (12.5%) not working, 8 people (25%) working as civil servants, 1 person (3.1%) as TNI / POLRI, Private 3 people (9.4%) and 1 person (3.1%) working as merchant. In this study in accordance with the table above, it was found that the majority of respondents in were civil servants (PNS).

Tabel 5. Characteristics of Respondents Based on Income

Income	Group Fr	(%)	Group B Fr	(%)
>1JT	4	12.5%	6	18,8%
>3JT	6	18,8%	4	12.5%
>5JT	6	18,8%	6	18,8%
Total	16	50%	16	50%

The characteristics of respondents based on income in table 5 show that of the 32 respondents, 16 people in group A there are 4 people (12.5%) have an income of more than 1 million, 6 people (18.8%) have an income of more than 3 million, and 6 people (18.8%) have an income of more than 5 million. While the other 16 people in group B there were 6 people (18.8%) earning more than 1 million, 4 people (12.5%) earning more than 3 million, 6 people (18.8%) earning more than 5 million. In this study according to the table above, it was found that the majority of respondents in groups A and B had an income of more than 5 million.

Tabel 6. Characteristics of Hypertension Respondents

History of Hipertensi	Group A Fr	(%)	Group B Fr	(%)
Never	2	6,3%	8	25%%
<1th	4	12.5%	2	6,3%%
1-3th	5	15.6%	4	12.5%
>4th	5	15.6%	2	6,3%
Total	16	50%	16	50%

The characteristics of respondents based on treatment in table 6 showed that of the 32 respondents consisting of 16 people in group A as many as 2 people (6.3%) had never

had HT, 4 people (12.5%) had HT for less than 1 year, 5 people (15.6%) had HT for 1-3 years and 5 people (15.6%) had HT for more than 4 years. While 16 people in group B as many as 8 people (25%) never had HT, 2 people (6.3%) had HT less than 1 year, 4 people (12.5%) had HT 1-3 years and 2 people (6.3%) had HT more than 4 years

Tabel 7. Characteristics of Respondents Based on Stroke History

Stroke History	Group A Fr	(%)	Grou B Fr	(%)
Had never	11	34,4%	14	25%%
1-3Th	5	15,6%	2	6,3%%
>4TH	0	0	0	0
Total	**16**	**50%**	**16**	**50%**

The characteristic of respondents based on the history of stroke in table 7 show that of the 32 respondents in group A (with O2) and group B (tp O2), there were 24 people (75%) who had never had a history of stroke, 7 people (21.9%) had a history of stroke in a span of 1-3 years, and 1 person (3.1%) had a history of stroke within more than 4 years. In study in accordance with the table above, it was found that the majority of respondents had never experienced a history of stroke

Table 8. Characteristics of Respondents Based on Medical History

Stroke History	Group A Fr	(%)	Group B Fr	(%)
Reguler	11	34,4%	8	25%%
Ireguler	5	15,6%	8	25%
Total	**16**	**50%**	**16**	**50%**

The characteristics of respondents based on treatment history in table 8 showed that of the 32 respondents comprised 16 people in group A (with oxygen) 11 people (34.4%) irregular treatment, 5 people (15.6%) . Another 16 people in group B (without oxygen) 8 people (25%) had regular treatment and 8 people (25%) were irregular. In the study, he obtained data mostly on regular treatment.

Tabel 9. Characteristics of Respondents Based on Blood Pressure

No	Group A Blood Pressure	Group B Blood pressure
1	161/91	140/90
2	154/79	160/90
3	141/93	156/107
4	133/87	130/90
5	139/73	166/76
6	145/87	155/84
7	135/90	145/82
8	147/84	139/80
9	171/91	120/70
10	171/90	142/76
11	170/90	150/80
12	137/70	160/100
13	154/86	149/91
14	141/102	120/70
15	130/90	140/80
16	160/80	140/90

Table 10. Special Data on Research Results Neurological Deficits Day 1 Group A (with Oxygen) and Group B (without Oxygen)

Deficit Neurologis	Group A Fr	%	roup B Fr	%
Mild<4	0	0%	3	9,4%
Modern5-15	6	18,8%	12	37,7%
Severe>15	10	31,3%	1	3,1 %
Total	**16**	**50%**	**16**	**50%**

Table 10 shows that of the 32 respondents consisting of 16 people in group A, namely 6 people (18.8%) moderate neurological deficit and 10 people (31.3%) severe neurological deficit. While 16 people in group B (without oxygen) were 3 people (9.4%) mild neurological deficit, 12 people

(37.7%) moderate neurological deficit and 1 person (3.1%) severe neurological defi[8]. In this study according to the table above, it was found that the majority of respondents in both groups experienced moderate neurological deficits on Day 1

Table 10. Special Data on Research Results Neurological Deficits Day 2 Group A (with Oxygen) and Group B (without Oxygen)

Defisit Neurologis	Group A Fr	%	Group B Fr	%
Mild <4	4	12.5%	5	15,6%
Moderat 5-15	11	34,4%	11	34,4%
Severe >15	1	3.1%	0	0%
Total	**16**	**50%**	**16**	**50%**

Table 10 shows that out of 32 respondents, 16 people in group A (with Oxygen) who had mild neurological deficits as many as 4 people (12.5%) 11 people (34.4%) moderate neurological deficits 1 person (3.1%) had severe neurological deficits. While 16 people in group B (without oxygen), 5 people (15.6%) mild neurological deficit and 11 people (34.4%) moderate neurological defici[8]. In this study according to the table above, it was found that the majority of respondents in both groups experienced moderate neurological deficits on Day 2.

The difference in neurological deficits of acute ischemic stroke between patients with oxygen therapy and patients without oxygen therapy in the Stroke Center Room of Dr. Ramelan Hospital

Table 10 shows that of the 16 respondents who belonged to group A (with oxygen) there were mean ranks of 19.94 and sum of ranks of 319 while the other 16 respondents who were of group B (without oxygen) got mean ranks of 13.06 and sum of ranks of 209. Based on statistical tests with the Mann Whitney test shows that $\rho = 0.037$ ($\rho \leq 0.05$) which means that there is a difference in neurological deficits of acute ischemic stroke patients between group A (with O2) and group B (without O2) on Day 2 in the Stroke Center Room of RSPAL Dr. Ramelan Surabaya.

DISCUSSION

This study was designed to determine the difference in neurological deficits of acute ischemic stroke between patients with oxygen therapy and patients without oxygen therapy in the Stroke Center [1]oom of RSPAL Dr. Ramelan Surabaya. In accordance with the purpose of the study, things will be discussed as:

Neurological Deficit of Acute Ischemic Stroke Patients receiving Oxygen Therapy

Tabel 1, it was found that 16 respondents of ischemic stroke patients from group A (with O2) were included in the middle age category of 5 people (15.6%), early elderly [21]people (25.0%), elderly 3 people (9.4%). This is in accordance with the theory put forward by Zidane, et al (2023) that in general, stroke is a [5]disease in old age, there is an increase in the prevalence of stroke incidence which increases with age. The risk possessed by a person to suffer a stroke doubles after the age of 55 years, because stroke is a disease that occurs due to impaired flow in blood vessels.

Researchers argue that people with old age are more susceptible to various diseases caused by various [2]isk factors such as genetic and degenerative associated with aging poses where all organs of the body experience deterioration in function and lifestyle when young w[7]ch can result in old age.

Table 1 shows that of the 16 respondents in group A (with oxygen) men 13 people (40.6%) and women 6 people (9.4%). This is in accordance with the table above, it was found that the majority of respondents were men. When compared to women, one of the causes is hormonal factors, men do not have hormones that can increase blood HDL levels while women have estrogen hormones that can increase HDL levels in the blood which can prevent atherosclerosis due to the

formation of plaques in blood vessels. Men also have a higher risk of ischemic stroke compared to women due to the bad habits of men who often smoke or drink alcohol which can increase the risk of ischemic stroke (Megawati et al., 2021). According to researchers, men have higher risk factors than women because of lifestyle such as high blood pressure, smoking, high cholesterol and diabetes mellitus. These various risk factors can cause high ischemic stroke

The characteristics of respondents based on occupation in table 4 show that of the 16 respondents in group A (with oxygen) consisting of 4 people (12.5%) not working, 1 person (3.1%) civil servants 1 person (12.5%), BUMN 4 people (12.5%) as TNI / POLRI 2 people (6.3%) working in the private sector, 3 people (9.4%) as traders 2 people (6.3%). Work is one of the influential factors for ischemic stroke patients who experience neurological deficits as the theory said by Sugiyah et al. (2021) that work is known as one of the indirect risk factors that affect the incidence of stroke. Ischemic stroke patients who experiencemild to severe neurological deficits can be affected by the job they have. Pressure can come from heavy workloads or pressure from superiors. Work-related stress causes the adrenal and thyroid glands to work harder, so these glands increase the production of adrenaline, thyroxine, and cortisol, which are the main stress hormones.

In the table 1 of 16 respondents from group A (with oxygen) 4 people (12.5%) earned more than 1 million, 6 people (18.7%) earned more than 3 million and 6 people (18.8%) earned more than 5 million. This is in line with research conducted by Bariroh (2016, in Sugiyah et al., 2021) explaining that residents who have low economic status compared to people with sufficient income, their quality of life is worse. Patients with sufficient family income can help them meet their daily needs. High income can provide better quality and purchasing power, especially in daily consumption needs.

Table 6 shows that out of 16 respondents in group A (dgO2) 2 people (6.3%) never had hypertension, 4 people (12.5%) hypertension less than 1 year, 5 people (15.6%) hypertension 1-3 years, hypertension more than 4 years 5 people (15.%). Hypertension is the main precipitating factor for the occurrence of stroke, both hemorrhagic and ischemic stroke. This can be exacerbated by smoking habits and eating foods high in fat and salt by patients which can cause atherosclerosis plaques, hypertension that causes atherosclerosis plaques continuously will trigger strokes (Karangan & Setyawati, 2022). According to researchers, hypertension is a major factor in triggering stroke which can cause poor neurological deficits because increased systemic blood pressure will make cerebral blood vessels contricted.

In table 7 of 16 respondents in group A (with oxygen) consisting of 13 people (40.6%) had never had a history of stroke, 2 people (6.3%) had a history of stroke within 1-3 years, and 1 person (3.1%) had a history of stroke within more than 4 years. This is in accordance with the table above, it was found that the majority of respondents had never experienced a history of stroke. There is a history of recurrent stroke is closely related to the possibility of worse severity due to a history of neurological deficits in previous strokes (Amalia et al., 2020). Researchers argue that factors of stroke history experienced by previous patients can affect neurological deficits, the level of disability sufferers, and psychological.

In the table 8 of 16 respondents in group A (with oxygen) 11 people (34.4%) were on regular medication, 5 people (15.6%) were on regular medication. Regular treatment is an important factor for the degree of neurological deficits that according to researchers, regular treatment can improve the prevention of stroke.

Table 5.11 shows that from 16 respondents in group A (with O2) on day 2 obtained 4 people (12.5%) mild neurological

deficits, 11 people (34.4%) moderate neurological deficits, 1 person (3.1%) severe neurological deficits. Ischemic stroke is a stroke caused by blockage of blood vessels in the brain so that oxygen to the brain is reduced and cell death or brain tissue occurs. In accordance with the specific purpose of this study in No. 1 is to identify neurological deficits in acute ischemic stroke patients in the Stroke Center room of RSPAL Dr. Ramelan Surabaya who were given oxygen therapy.

Neurological deficits of acute ischemic stroke patients without oxygen therapy

In table 1 of 16 respondents in group B (without O2) 6 people (18.8%) middle age, 6 people (18.8%) early elderly, and 4 people (12.5%) elderly elderly. The risk of stroke doubles every decade after age 55.

Blood vessels in older people tend to undergo degenerative changes and begin to be seen from Goldstein's asterosclerosis process (2011, in Megawati et al., 2021). Researchers argue that in addition there are changes in the structure and function of blood vessels such as lumen diameter, wall thickness, wall strength and In elderly stroke patients have a higher mortality rate when compared to younger ages

In table 2 Of the 16 respondents in group B (without oxygen) 9 people (28.1%) were men, and 7 people (21.9%) were women. In both of these groups men became a large group.

In both of these groups men became a large group. There is a difference in sex hormones between men and women, where men are dominated by the sex hormone testosterone, while in women by estrogen. The hormone estradiol in women has a strong dilating effect on the vascular endothelium and increases blood flow, while the hormone testosterone in men has the opposite effect of constricting the endothelium and decreasing blood flow.

Table 3 in group B (without oxygen) graduated SD 2 people (6.3%), SMP 3 people (9.4%), SMA 7 people (21.9%), DIII 1 person (3.1%). And S1 3 people (9.4%). This result is in line with census data conducted by the Central Statistics Agency in 2019 which states that the highest education completed by the community is the most high school / equivalent.

Table 3 in group B (without oxygen) graduated SD 2 people (6.3%), SMP 3 people (9.4%), SMA 7 people (21.9%), DIII 1 person (3.1%). And S1 3 people (9.4%). This result is in line with census data conducted by the Central Statistics Agency in 2019 which states that the highest education completed by the community is the most high school / equivalent. According to researchers, education affects the learning process, the higher a person's education, the easier it is for the person to receive and find information.

Table 4 shows 16 respondents, while in Group B (Without oxygen) 3 people (9.4%), civil servants 8 people (25%), BUMN 0 and TNI / Polri are 1 person (3.1%), private 3 people (9.4%), 1 person (3.1%) are traders. Wayurah (2018 in Sugiyah et al., 2021) explained that lack of physical activity is a major risk factor for heart attack and stroke which is usually marked with the accumulation of fat, cholesterol, calcium and other elements that supply blood to the heart muscle and brain, thereby affecting blood flow to the brain and heart.

In the table 5 of the 16 respondents in group B (without oxygen) 6 people (18.8%) earned more than 1 million, 4 people (12.5%) earned less than 3 million, 6 people (18.8%) earned more than 5 million. Therefore, in this case, it can not only meet the needs of daily life, but also pay the necessary medical expenses related to stroke to maintain a healthy state. Researchers argue that income level is related to a person's purchasing power to get help in times of need.

Table 6 shows that of the 16 respondents in Group B (without O2) there were 8 people (25%) who had never had a history of hypertension, 2 people (6.3%) had a history of hypertension less than 1 year, 4 people (12.5%) had a history of hypertension within 1-3 years, and 2 people with hypertension more than 4 years. Hypertension

is the main factor in increasing the risk of hemorrhagic stroke and ischemic stroke, while atrial fibrillation is a rare risk factor in stroke patients (Sanyasi & Pinzon, 2018).

This is in line with the results of Wayurah & Saefulloh's research, (2017) states that there is a significant relationship between hypertens and physical activity (with the type of stroke. According to the researchers' assumptions, hypertension causes an increase in peripheral blood pressure, causing a poor hemodynamic system and thickening of blood vessels and hypertrophy of the heart muscle.

In table 7 of 16 respondents In group B (tp O2) there were 11 people (34.4%) Never had a stroke, 5 people (15.6%) stroke 1-3TH. Patients who have suffered a stroke have a risk for secondary stroke. This secondary stroke attack can be more fatal than the first stroke, because of the increasing extent of brain damage that occurs due to previous strokes (Mulyatsih, 2010).

In table 5.8 of 16 respondents in Group B (without oxygen) as many as 11 people (34.4%) underwent treatment regularly and 5 people (15.6%) did not undergo treatment regularly.According to researchers, medical history plays a role in preventing stroke, both early stroke and repeat stroke. monitor patients at risk of stroke with regular health check-ups to prevent stroke in productive age.

In table 10 Characteristics of respondents of 16 people on Day 1 group B (without oxygen) 3 people (9.4%) had mild neurological deficits, 12 people (37.5%) moderate neurological deficits, and 1 person (9.1%) severe neurological deficits. In this study according to the table above, it was found that the majority of respondents in group B experienced moderate neurological deficits on day 1. In table 10 of 16 respondents in group B on day 2, namely 5 people(15.6%) mild neurological deficits, 11 people (34.4%) moderate neurological deficits, 1 person (3.1%) severe.

In this study according to the table above, it was found that the majority of respondents in group B experienced moderate neurological deficits on Day 2. From the results of the table, respondents without oxygen administration can also experience a decrease in neurological deficits, but there are also neurologis deficits that increase or remain.

Researchers assume that patients with acute ischemic stroke without oxygen therapy can also experience a decrease in neurological deficits because the main therapy in ischemic stroke patients is the administration of appropriate anti-thrombolysis. In thrombosis, blood flow is affected by narrowing of blood vessels due to atherosclerosis

CONCLUSION

There are differences in neurological deficits in acute ischemic stroke between patients given oxygen therapy and patients without oxygen therapy.

SUGGESTIONS

The application of oxygen therapy to maintain oxygenation of brain tissue at a certain threshold can improve mortality rates and neurological outcomes in stroke patients. Researchers assume that although neurological deficits can be influenced by several factors, it still has a better impact when patients are given combination therapy, namely oxygen therapy and anti-thrombolysis in the acute phase.

ACKNOWLEDGMENT

The authors express their gratitude of STIKES Hang Tuah Surabaya and RS Pusat TNI Angkatan Laut (RSPAL) DR. Ramelan Surabaya who has given their permission for the authors conduct research, guided the authors, and to all the participants who were involved.

DECLARATION OF CONFLICTING INTEREST

Related to conflict of interest that arise when conducting research.

FUNDING

All costs for this research were carried out independently by the researcher.

AUTHOR CONTRIBUTION

Ervin Damayanti: Contributes to the completion of the article.

Ceria Nurhayati: Contributes to the completion of the article.

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Cite this article as: Damayanti, E., & Nurhayati, C. (2024). Effectivity of Oxygen Therapy in Neurological Deficits in Acute Ischemic Stroke Patients. Nurse and Health: Jurnal Keperawatan, 14 (1), 39-49. https://doi.org/10.36720/nhjk.v14i1.656

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