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The Relationship of Depression Levels to Quality of Life in Patients Non-Hemorrhagic Stroke at M.M Dunda Limboto Hospital

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ABSTRACT

Stroke survivors generally experience profound emotional changes, such as depression affecting well-being in terms of the patient's quality of life. The purpose of the study was to analyze the relationship between depression rate and quality of life in non-hemorrhagic stroke patients at M.M DUNDA Limboto Hospital. The design of correlational quantitative research with the cross sectional method. The population is all non-hemorrhagic stroke patients at the M.M Dunda Limboto Hospital and samples are taken using purposive sampling techniques and the number of respondents is 32 people. Data analysis was conducted using the Chi square test with a significance level (< 0.05). The results of the study showed that there was a relationship between the level of depression with. Quality of Life in Non-Hemorrhagic Stroke Patients at M.M Dunda Limboto Hospital with p value = (0.000 < 0.05). It can be concluded that the higher the level of depression in non-hemorrhagic stroke patients, the higher the risk of patients experiencing a decrease in quality of life.

INTRODUCTION

Stroke patients generally experience depression due to reduced interest, so patients tend to be reluctant to participate in rehabilitation programs, tend to stay longer in hospitals, and tend to experience complications such as pulmonary embolism, urinary tract infections or decubitus as well as the risk of physical and mental disability so that depression combined with chronic diseases such as stroke will worsen health conditions and can increase a person's risk of death (Oktaviarni et al., 2021).

According to *World Stroke Organization* (WSO) data, more than 12 million people worldwide will have their first stroke this year and 6.5 million people will die from it. More than 100 million people in the world have had a stroke. The incidence of stroke increases significantly with age, but more than 60% of strokes occur in people under the age of 70 and 16% occur in those under the age of 50

In Indonesia, stroke is the leading cause of death. Based on the results of the 2018 Riskesdas, the prevalence of stroke in Indonesia increased from 7 per 1000 population in 2013, to 10.9 per 1000 population in 2018. Based on doctor's diagnosis in the Indonesian population aged > 15 years, the prevalence of stroke in 2018 was 10.9%, which is estimated to reach 2,120,362 people. By age group, stroke is more common in individuals in

the 55-64 age range (33.3%). Women and men have almost the same proportion of stroke incidence rates, namely 49.9% and 50.1%, respectively. Based on the latest education, most of the individuals affected by stroke graduated from elementary school with a figure of 29.5%. Stroke patients mostly live in urban areas as much as 63.9%, while those who live in rural areas are 36.1% (Riskesdas, 2018).

According to the 2018 Gorontalo Basic Health Research, the incidence rate of stroke in Gorontalo Province was recorded at 10.9%, making Gorontalo the province with the third highest stroke cases nationally (Syamsuddin & Yasin, 2023).

Stroke survivors generally experience profound emotional changes, such as depression, anxiety, and mood fluctuations related to their condition. These changes not only affect the emotional well-being of the sufferer, but the condition is generally associated with a decrease in the overall quality of life in stroke survivors, making the recovery and adaptation process more complex and challenging (Oktaviarni et al., 2021). Therefore, depression is often said to be the next common problem after a stroke. This condition can worsen the patient's psychological state which then affects the quality of life of stroke sufferers (Sari et al., 2024).

Untreated depression has the potential to progressively worsen an individual's psychological state, resulting in disruptions in various aspects of life, including the ability to function optimally in daily activities. Over time, this inability to manage emotional and mental stress can lead to social isolation, decreased motivation, as well as physical disorders such as chronic fatigue. Physical weakness for a long time as well as the absence of emotional support from the closest people can significantly reduce the quality of life of stroke sufferers (Abdu et al., 2022).

Based on the results of a preliminary study at Dr. M.M Dunda Limboto Hospital, it was found that stroke patients are increasing every year where in 2022 there are a total of 50 stroke patients with 40 non-hemorrhagic strokes and 10 hemorrhagic strokes, in 2023 there will be a total of 53 stroke patients with 33 non-hemorrhagic strokes and 20 hemorrhagic stroke patients, and in January – July 2024 there will be a total of 62 stroke patients with 48 non-hemorrhagic stroke patients and 14 stroke patients hemorrhagic.

Based on interviews conducted by researchers in the Neuro Room of Dr. M.M Dunda Limboto Hospital on 10 non-hemorrhagic stroke patients, 7 of whom were long-± patients for 10 years suffered from stroke and had recurrence so that they were treated Back at this time, the patient said that the retreatment that he had to undergo made him have to leave his work routine and his family to undergo a temporary treatment period at the hospital, In addition, the patient is unable to move certain limbs so that the patient feels stressed and frustrated with his incompetence, the patient says that he has broken up with the condition he is currently experiencing and has resigned if this disease can no longer be cured, while 3 of them showed, refused to communicate and only lay down all day, talking only when the doctor asked him what he felt when the visit was done.

Based on observations made by researchers, all patients tend to be silent, do not communicate much, seem gloomy and desperate, do not start conversations first with family or nurses, seem excessively anxious by always asking nurses or doctors about their condition, and think about the worst possibility of their current illness.

RESEARCH METHODOLOGY

This study uses a quantitative method with an analytical descriptive approach, which is a method that aims to describe the characteristics of variables objectively while analyzing the relationship between depression levels and quality of life in non-hemorrhagic stroke patients. The research was carried out at MM Dunda Limboto Hospital using the Hamilton Depression Rating Scale (HDRS) instrument to measure depression levels and WHOQOL-BREF to assess quality of life. The sample in this study amounted to 32 respondents who were selected through purposive sampling techniques based on the inclusion and exclusion criteria that have been set.

Data analysis in this study was carried out through two main stages, namely univariate analysis and bivariate analysis. Univariate analysis was used to describe the characteristics of respondents as well as the frequency distribution of depression levels and quality of life based on the results of filling out the HDRS and WHOQOL-BREF questionnaires. This analysis aims to provide an initial overview of the data patterns before testing the relationship between variables.

Furthermore, bivariate analysis was used to assess the relationship between depression rates and quality of life in non hemorrhagic stroke patients. Testing was carried out using **Chi-Square test** with a level of significance **α = 0,05** . The results of the analysis are stated to be significant if the value *p-value* < 0.05, which means that there is a meaningful relationship between the independent variable and the dependent variable. Conversely, if *p-value* > 0.05, it is stated that there is no significant relationship. The entire analysis process is carried out using software **SPSS** so that the results are more accurate and statistically accountable.

RESULTS

Respondent Characteristics

Distribution of Respondent Characteristics by Age

Table 1 Distribution of Respondent Characteristics by Age

Respondent Characteristics	Classification	Frequency *(n)*	Present (%)
Age	Young Adults (18 – 44 Years Old)	11	34.4
	Intermediate Adult (≥45 – 59 years)	21	65.6
Total		**32**	**100.0**

Source: Primary data 2025

Based on the age group, the majority of respondents were in the middle adult age (≥45 – 59 years) of 21 people or (65.6%) and the lowest was young adults (18 - 44 years) of 11 people (34.4%).

Distribution of Respondent Characteristics by Gender of Stroke Patients

Table 2 Distribution of Respondent Characteristics by Gender

Respondent Characteristics	Classification	Frequency *(n)*	Present (%)
Gender	Male – Male	5	15.6
	Women	27	84.4
Total		**32**	**100.0**

Source : Primary data, 2025

Based on gender, the majority of respondents were female (84.4%) and the lowest was male gender 5 people (15.6%).

Distribution of Respondent Characteristics Based on Last Education

Table 3. Distribution of Respondent Characteristics by Education

Respondent Characteristics	Classification	Frequency *(n)*	Present (%)
Last Education Level	SD	15	46.9
	Junior High School	5	15.6
	High School	7	21.9
	PT	2	6.3
	No School	3	9.4%
Total		**32**	**100.0**

Source : Primary data, 2025

Based on the last education level, the majority of respondents had an elementary education level of 15 people (46.9%) and the lowest was a university (PT) of 2 people (6.3%).

Distribution of Respondent Characteristics Based on the Length of Time Suffering from Stroke

Table 4 Distribution of Respondent Characteristics by Length of Suffering

Respondent Characteristics	Classification	Frequency *(n)*	Present (%)
Long Suffering	< 6 Months	7	21.9
	≥ 6 Months	25	78.1
Total		**32**	**100.0**

Source : Primary data, 2025

Based on the length of time they had had a stroke, the majority of respondents suffered a stroke ≥ 6 months of 25 people (78.1%) and < 6 months of 7 people (21.9%)

Univariate Analysis

Overview of the Incidence of Depression in Non-Hemorrhagic Stroke Patients at M.M Dunda Limboto Hospital

Table 5. Overview of the Incidence of Depression in Non-Hemorrhagic Stroke Patients at M.M Dunda Limboto Hospital

Yes	Incidence of Depression	Frequency *(n)*	Present (%)
1.	Mild Depression	7	21.9
2.	Moderate Depression	20	62.5
3	Major Depression	5	15.6
	Total	**32**	**100%**

Source : Primary data, 2025

Based on the table above, the majority of respondents experienced moderate depression as many as 20 people or (62.5%), mild depression as many as 7 people (21.9%) and the lowest respondents who experienced severe depression were 5 people (15.6%).

Overview of the Quality of Life of Non-Hemorrhagic Stroke Patients at M.M Dunda Limboto Hospital

Table 6 Overview of Quality of Life of Non-Hemorrhagic Stroke Patients at M.M Dunda Limboto Hospital

Yes	Quality of Life	Frequency *(n)*	Present (%)
1.	Good Quality of Life	6	18.8
2.	Moderate Quality of Life	20	62.5
3.	Poor Quality of Life	6	18.8
	Total	**32**	**100%**

Source : Primary data, 2025

Based on the table above, the majority of respondents have a moderate quality of life of 20 people or (62.5%), and the lowest are respondents who have a good and poor quality of life of 6 respondents (18.8%) each

Bivariate Analysis

Table 7 Relationship between Depression Level and Quality of Life of Non-Hemorrhagic Stroke Patients at M.M Dunda Limboto Hospital

Depression Rate	**Quality of Life**						**Total**		***Sig.2 tailed (x2)***
	Good		**Medium**		**Bad**				
	N	***%***	***n***	***%***	***n***	***%***	***N***	***%***	***p.value***
Mild Depression	3	9.4	3	9.4	1	3.1	7	21.9	
oderate Depression	2	6.3	16	50.0	2	6.3	20	62.5	0.024
Major Depression	1	3.1	1	3.1	3	9.4	5	15.6	
Total	**6**	**18.8**	**20**	**62.5**	**6**	**18.8**	**32**	**100.0**	

Source : Primary Data, 2025

Based on the results of the study, the majority of respondents experienced mild depression as many as 20 people (62.5%), where the average mild depression respondents had a moderate quality of life of 16 people (50%), and mild depression with good and moderate quality of life amounted to 2 people each (6.3%).

Respondents who did not experience depression were 7 people or (21.9%), respondents who did not experience depression with good and moderate quality of life were 3 people (9.4%), and non-depressed people with poor quality of life were 1 person (3.1%).

The lowest group was respondents who experienced severe depression as many as 5 people (15.6%), where the average respondents who experienced severe depression with poor quality of life amounted to 3% (9.4%), and severe depression with good and moderate quality of life amounted to 1 person each (3.1%).

The results of statistical analysis using *the chi square (x2)* test obtained a *p-value* of 0.024 (≤0.05), Based on this value because the p value ≤ 0.05 can be concluded that there is a relationship between the level of depression and the quality of life of non-hemorrhagic stroke patients at the M.M Dunda Limboto Hospital.

DISCUSSION

Characteristics of Respondents

Age

The results showed that the majority of respondents' age group was in the middle adult age (≥45 – 59 years) of 21 people or (65.6%) and the lowest was young adults (18 – 44 years) of 11 people (34.4%). The above results are related to the respondents' complaints related to the decline in their body functions, as well as some about the quality of their sleep, besides that the respondents became more restless and anxious related to their illness. Respondents said that currently they are limited when they want to do activities, so they need the help of others, so that respondents are more likely to be stressed for prolonged periods of stress and depression.

One of the health disorders that can appear as you age is mental disorders, the higher a person's age the more at risk of experiencing health problems because there are aging factors, a person will experience changes, one of which is depression, as you get older, depression increases in line with a person's age (Pratiwi et al., 2023).

The research is in line with the results of research conducted by Miftaachul Muharrom, (2020) shows that from the results of the statistical test using *Chi Square* In 61 respondents, as many as 58 respondents were affected by depression, so it was concluded that there was a significant relationship between age and depression level because of the significant value for the age variable x28,166 A with P-value = 0.028 with OR = 3,121 which proved that the chance of age ≥ 45 years was 3.1 times higher than someone under the age of 45.

Gender

The results showed that based on gender, the majority of respondents were female (84.4%) and the lowest was male gender of 5 people (15.6%). These results relate to female respondents who began the study at the age of 45 – 55 years, were in *the pre-menopausal* stage that caused hormonal imbalances, so it is consistent with possible risk factors that can cause more depression in women than men.

When experiencing problems and negative feelings/emotions, women tend to reflect more on these problems, such as thinking about why they are experiencing it and why they feel depressed. In men, when facing problems and feeling depressed, they distract themselves more by looking for alternative activities such as watching movies, exercising, and activities that can distract their minds (Handayani, 2022).

In line with research conducted by (Nazneen, 2020) It shows that the results of the study show that the tendency to depression in women (mean: 37.18) is higher than in men (mean: 30.17). The difference is significant (sig: 0.011). In addition, it was also found that there was a positive relationship between neuroticism personality traits and depressive tendencies in female students (sig: 0.000, r: 0.577) and men (sig: 0.000, r: 0.565)

3. Education Level

The last level of education of the majority of respondents had an elementary education level of 15 people (46.9%) and the lowest was a university (PT) of 2 people (6.3%). This result is related to the average of respondents who experience depression only graduating from elementary school, so that respondents never get information related to the symptoms of depression and stroke they experienced, how to treat stroke, and treatment so that it causes prolonged anxiety and depression in the respondents.

In line with the theory that education level has a great influence on a person's level of depression. The higher the education, the more it will make a person have an open mind so that it is easy to accept new things. On the other hand, the lower the education makes a person have a closed mind so that they do not develop, this is because people with low education will have less knowledge about health and of course will have difficulty and be slow in receiving information such as counseling about depression and the dangers of depression and its prevention provided by officers so that it has an impact on a person's healthy behavior (Puspita Sari et al., 2023).

Research conducted by Setiawati & Ismahmudi, (2020) shows that Of the 61 respondents, 16 people were highly educated (26.2%) and 45 people were poorly educated (73.8%). Test *Fisher's Exact* with a significant level of α=5% showing education with a p value of 0.016 < 0.05, so that H0 was rejected, and it was concluded that there was a significant (meaningful) relationship between education and the level of depression in the work area of the Wonorejo Samarinda Health Center.

Long Suffering from Stroke

Based on the length of time they had a stroke, the majority of respondents suffered a stroke ≥ 6 months of 25 people (78.1%) and < 6 months of 7 people (21.9%). These results are related to the average respondent experiencing repeated stroke treatment, so that respondents feel saturated, anxious about diseases that do not heal so they are prone to depression.

In line with the theory that states that Each patient will respond with different defense mechanisms, the worse the mechanism associated with the longer the patient suffers from a stroke, the higher the risk of emotional distress. As found in this study, patients who had a long time of stroke mostly experienced depression (Asmila et al., 2021).

In line with research conducted by Firda, (2022) shows that there is a close relationship between the length of time suffering from stroke and the level of depression sufferers. This is evidenced by the acquisition of a sig

value during the Spearman Rank test of 0.000 (< 0.05) with a correlation coefficient value of 0.615 which is included in the close category.

Univariate Analysis

Overview of the Incidence of Depression in Non-Hemorrhagic Stroke Patients at M.M Dunda Limboto Hospital.

In respondents who experienced mild depression, 7 people were 21.9%). Based on the findings of the researcher, the average patient who experiences depression tends to answer the questionnaire with mood depressive disorders of 5 people, and 2 others experience somatic and psychological anxiety associated with decreased interest, the above is also associated with respondents who fill their current vacancy time with light activities, such as ROM exercises taught by nurses and also doing their hobbies such as small walking exercises in the room with the help of family, Sometimes respondents want to do their thoughts and feelings of being able to do activities, but the patient does not have the energy to do activities, so that feelings of stress and depression arise because they think about their condition and want to recover immediately so that they can carry out normal activities like before they were sick.

In line with the theory that states that Physical activity contributes to lowering psychological problems because doing physical activity can promote psychosocial interactions, improve self-esteem, cognitive function and depression. Physical activity with a longer duration and mild – moderate intensity in stroke patients can reduce depression. Psychologically, light physical activity can improve mood, and prevent depression (Yuliari, 2020).

Parallel research conducted by Wardhani, (2021) shows that there was a significant relationship between physical activity and depression levels at the Tresna Werdha Wana Seraya Social Home Denpasar in 2020. The correlation between the two variables is very strong and the direction of the relationship between the two variables is positive, this means that if physical activity is less, the level of depression experienced by a person will be higher

The results showed that the majority of respondents experienced moderate depression in the amount of 20 people or (62.5%), Based on the findings of the researcher, this was associated with respondents tending to show signs of depression such as mood swings with feelings of guilt due to inability to do activities as many as 12 people, and 8 other people had *insight* that is lacking in his abilities in the future. All respondents who experience mild depression are also sometimes sad about their current condition, depressed but only temporarily and not for long, have feelings of guilt by thinking that their current condition is a punishment that they must undergo, feel signs of anxiety such as rapid breathing, sweating, headaches that cause the patient to have difficulty sleeping, starting sleep and waking up easily.

Depression in the elderly is sometimes undiagnosed and not treated properly because the symptoms that appear are often considered part of the normal aging process. Depression is a serious problem because when a person is depressed, it will interfere with the quality of sleep or normal sleep physiology (Nazneen, 2020).

In line with research conducted by (Antari et al., 2022) It showed that most of the respondents experienced moderate category depression, namely 15 people (45.5%), self-motivation in the moderate category was 19 people (57.6%) with p-value = 0.003 ($p< \alpha$; α=0.05) which means that the relationship has a negative value if depression increases, sleep quality decreases, and vice versa if depression is low, the patient has high sleep quality.

Overview of the Quality of Life of Non-Hemorrhagic Stroke Patients at M.M Dunda Limboto Hospital.

Respondents who have a good quality of life as many as 6 respondents (18.8%), based on the findings of the researcher, that this result is related to 1 respondent respondents tend to answer satisfied with the aspect of the physical dimension where they accept their limitations and current appearance, so that they are able to carry out daily activities independently, 1 person feels satisfied with their psychological dimension where they feel safe with their current environment, The facilities provided by the family support the treatment of their current condition, and the other 3 people are satisfied with the social dimension where the relationship with the family both before and during illness, because it seems that the respondent enjoys his current life even though with some limitations he has due to support from his family and closest relatives, the family also always provides information related to the development of his condition, Without waiting for the respondent to ask, so that the respondent does not feel lonely and protracted thinking about his current condition, and there is 1 person who tends to feel satisfied with the dimension of his environment because the respondent feels that the current environment is safe and comfortable, the family supports his current healing by always providing daily information needed to support the respondent's health.

In line with the theory that states that Family is the main support system for a person in maintaining his health. The role of the family includes caring for or caring for sick family members, maintaining and improving mental status, anticipating socioeconomic changes and providing motivation and facilitating spiritual needs Family readiness is needed to meet the daily needs of stroke patients. Readiness is the overall condition that makes him ready to respond or respond in a certain way to a situation. The family's ability to provide health care

affects the family's health status. The family's ability to carry out health maintenance can be seen from the family health tasks carried out. Families who can carry out health tasks mean being able to solve health problems (Mumulati et al., 2020).

In line with research conducted by Nisak (2020), it showed that 40 respondents (66.7%), 41 respondents (68.3%) had family support and high quality of life and showed a strong and direct relationship with family support on the quality of life (p value 0.000) of stroke patients at the neurological polyclinic of dr. Soeroto Ngawi Hospital.

Based on the description above, the researcher assumes that family readiness plays an important role in determining the degree of quality of life of stroke patients. The family needs to provide information related to stroke and its causes, anticipate the symptoms caused so that there is no worsening of the client's condition due to the non-hemorrhagic stroke suffered by the respondent.

The results of the study showed that the majority of respondents had a moderate quality of life of 20 people or (62.5%), based on the findings of the study, 14 respondents tended to answer that they were not satisfied with the physical dimension, respondents felt that their inability to carry out their current movements prevented them from carrying out daily activities independently, but the average respondents accepted the current condition and appearance of the body so that the physical dimension was closely related to This category, but sometimes feel anxious and hopeless because the current condition does not improve, the decline in quality of life that occurs in patients with moderate quality of life is average in the physical dimension, in addition to a total of 2 respondents feel lacking in the psychological dimension by answering sometimes feeling lonely, hopeless and feeling guilty about their current physical condition that is not able to carry out their activities as before the illness, 2 felt dissatisfied with the social dimension where the respondent rarely hung out and communicated with people in his environment, and 2 people felt that the respondent had been diagnosed with a stroke and the patient's daily activities were only undergoing treatment and activities were limited without any opportunity to do recreation.

In line with the theory that states that Physical incapacitations or disabilities experienced can lead to feelings of uselessness, lack of passion for life and hopelessness. The term despair is used in various circles, both the public and health professionals. Despair in society is directed at negative conditions, the absence of hope, such as in terminal illness. Despair is a subjective state in which the individual seems limited or has no alternative options and is unable to utilize energy of his or her own volition. In addition, physical incapacitation or disability experienced can lead to feelings of uselessness, lack of passion for life and despair that leads to a decrease in the quality of life in a person (Asmila et al., 2021).

The physical health dimension can affect an individual's ability to perform activities. Activities carried out by individuals will provide new experiences that are capital for development to the next stage. Physical health includes daily activities, dependence on medications, energy and fatigue, mobility, pain and discomfort, sleep and rest, work capacity. This is related to the private self-*Consciousness* that is, directing behavior to covert behavior, where other individuals cannot see what the individual feels and thinks subjectively (Mumulati et al., 2020).

In line with research conducted by (Rahmi et al., 2020) which shows that There was a relationship between physical disability and despair with a value of $p = 0.01$ ($p \leq 0.05$). It can be concluded that there is a link between physical disability and despair in stroke patients at the Bukittinggi National Stroke Hospital.

Bivariate Analysis

Based on the results of the study, the majority of respondents experienced moderate depression in a number of 20 people (62.5%), where respondents with moderate depression had an average of 16 people (50%) with moderate quality of life, this result was associated with respondents experiencing mild depression such as sometimes moodiness, sad tone of voice but tending to be excited when talking to others, respondents still had the desire and hope to recover quickly from their current illness. Respondents in terms of average quality of life have a moderate quality of life in the social dimension by stating that the respondent feels that his role may not be accepted and less meaningful in the family, but he wants to go home immediately so that he can interact with other family members and close relatives.

In line with the theory that states that Social interaction is a process in which communication occurs between individuals or between groups and is related to social activities carried out with other people in society. Usually, the degree of health and ability of a sick person will decrease, resulting in decreased social interaction and will avoid relationships with others. However, if the social interaction that a person has when gathering together with his family and relatives is a fun thing and can encourage each other and share about their problems because by sharing with each other, it will have an impact on social psychology such as a decrease in the burden of the mind and will not feel lonely and feel that the quality of life is slowly improving (Anggun Puspita Anggreini et al., 2024).

Social Relationship Dimension Quality of life refers to the relationship between two or more individuals where the individual's behavior will affect each other, change, or improve the behavior of other individuals. Considering that humans are social creatures, in this social relationship, humans can realize life and can develop into a whole human being. Social relationships include personal relationships, social support; sexual activity.

Related social relationships will *Public Self Consciousness* that is, how individuals can communicate with others (Simbolon, 2023).

Based on the description above, the researcher assumes that respondents who experience mild depression but are still able or active to communicate with their family members will be able to increase their minay and motivation to recover.

The moderate depression group with a good quality of life amounted to 2 people (6.3%), this result was associated with the patient feeling enthusiastic and having motivation to recover but as a result of the disease process the respondents experienced a decrease in appetite so that they lost weight when they began to suffer from stroke, in addition to the symptoms of stroke which made paralysis of the face and jaw in the respondents make it difficult for the respondents to communicate or experience obstacles when speaking – talk to other people.

In line with the theory that states that the physical changes that are often experienced by stroke patients are partial paralysis of the motor apparatus, loss of swallowing ability, cognitive impairment, and psychological disorders. This condition will affect the psychology of stroke patients. The psychology of stroke patients varies according to the patient's acceptance and understanding of him/her. One of the psychological conditions affected with regard to the physical status of patients after a stroke is quality of life and feelings of depression. Health-related quality of life includes physical and mental functional limitations (depressive conditions), and positive expression, physical and mental well-being (Siagian & Partiningsih, 2022).

Another theory states that the motivation to heal in patients is associated with a psychological dimension. The mental state of the individual leads to the ability or not of the individual to adjust to various demands of development according to his ability, both from within and outside himself. The psychological aspect is also related to the physical aspect, where the individual can do an activity well if the individual is mentally healthy. Psychological well-being includes *Body image* and *Appearance*, positive feelings, negative feelings, self esteem, personal beliefs, thinking, learning, memory and concentration, physical appearance and image. When connected to private *Self-consciousness* is an individual who feels something that is inside him without anyone else knowing it (Mumulati et al., 2020)..

In line with research conducted by (Anggun Puspita Anggreini et al., 2024) that there is a significant relationship between the degree of disability and the quality of life of post-stroke patients with the value of *p-value* 0.000 so that Ha is accepted, which means that there is a moderate relationship between the degree of disability and the quality of life of post-stroke patients with the direction of negative correlation (r = - 0.542).

Based on the description above, the researcher assumes that respondents who have moderate depressive symptoms with a good quality of life are influenced by enthusiasm, the patient's motivation to his ability to recover immediately from the disease, but mild depressive conditions are also influenced by the disease process such as decreased muscle function – chewing and swallowing muscles so that the patient experiences a decrease in appetite and weight over time.

The moderate depression group with poor quality of life amounted to 2 people (6.3%), this result was associated with respondents feeling digestive complaints such as loss of appetite but clients felt sad at certain times, and not all the time, besides that respondents felt that they always needed the help of their families in activities and felt insecure because of their current physical limitations such as fear of falling or slipping. so that respondents feel less satisfied with their abilities and always feel anxious about their current condition (Siagian & Partiningsih, 2022)..

The results of this study correlate with the research of Ligita (2020) that daily activities are the most basic needs that must be met, starting from small things to independent patients, the more patients feel independent, the more satisfied and prosperous their lives will be, because they no longer have a burden in their lives due to their limitations, so that their quality of life is as high as possible.

Based on the description above, researchers assume that the independence of stroke patients is very important, because when a person has a stroke, being able to do activities without the help of others will feel more useful. On the other hand, stroke survivors whose daily activities require the help of others will feel useless and their level of satisfaction decreases so that their quality of life becomes poor

Respondents who experienced mild depression were 7 people or (21.9%), respondents who experienced mild depression with a good quality of life were 3 people (9.4%), this result was associated with respondents experiencing a little feelings of sadness, anxiety, or anxiety due to their current condition, respondents considered that this was a test from the creator and a rebuke to pay more attention to their health condition and improve their worship. In addition, the respondents seemed to take the time to pray and worship even though they were undergoing treatment.

In line with the theory that states that Spiritual fulfillment is associated with better tolerance to physical and emotional stress in a person, including acceptance of the presence of serious illness and a condition of isolation or exclusion from family members. It is also associated with a reduced risk of suicide and depression in a person (Mumulati et al., 2020)..

In line with research conducted by (Simbolon, 2023) shows that there is a significant relationship between spiritual needs and quality of life in Sampali Deli Serdang Village in 2022 as evidenced by the value of*p-*

*value*0.013 (<0.05).

Based on the description above, researchers assume that spiritual needs that are well met will improve the quality of life. Spirituality is an aspect of human life that must receive attention so that the quality of life will increase.

The group of mild depression with poor quality of life amounted to 1 person (3.1%), this result was associated with respondents not experiencing depression but feeling that they did not enjoy their current life with their limitations, respondents felt that they did not have the opportunity to have fun or recreation because of the treatment they underwent so that they always had negative thoughts and pessimism about their condition, besides that the respondents were also less able to make good use of their free time During hospitalization, the average patient with poor quality of life has a poor environmental dimension to quality of life.

In line with the theory that a person with stroke lacks the initiative/willingness to do and utilize leisure activities, difficulty expressing the activities they want to do, and inability to assess the meaning of leisure activities. Stroke patients tend to be silent, sitting around without doing activities, so that the quality of life of the sufferer decreases over time because the sufferer does not have a routine or interest in activities even when there is free time (Wawan and Ninik, 2020).

Another theory states that The environmental dimension is the residence of individuals, including the condition, availability of a place to live to carry out all life activities, including suggestions and infrastructure that can support life. Relationships with the environment include financial resources, freedom, physical security and safety, health and social care including accessibility and quality; home environment, opportunities to gain new information and skills; participation and the opportunity to do recreation and fun activities in their free time; the physical environment including pollution, noise, traffic, climate; and transportation. Focus on *Public Self Consciousness* where individuals have awareness and concern for the environment around their residence (Subekti & Dewi, 2022).

In line with research conducted by (Wawan and Ninik, 2020) that There is a significant effect of providing leisure time utilization activities on the quality of life of Post-Stroke Patients with a p value = 0.002

Based on the description above, researchers assume that the lack of utilization of leisure activities causes the quality of life of stroke sufferers to deteriorate over time.

The group that experienced severe depression with a good quality of life amounted to 1 person (3.1%), the results associated with this were associated with high personal social relationships and family social support, therefore the patient always felt happy, satisfied, with the presence of a supportive family always providing motivation and enthusiasm as well as hope that the respondents were valuable and their condition would be better day by day.

In line with the theory that states that Family social support plays an important role in overcoming the masala. Strong family bonds are helpful when a person faces problems, as the family is the closest person to whom the patient has a relationship. Family support plays an important role in intensifying feelings of well-being. People who live in a supportive environment are much better off than those who don't (Subekti & Dewi, 2022).

In line with research conducted by (Kurniasih et al., 2021) shows that that there was a significant relationship between family support and the incidence of depression in the Posbindu Working Area of the Plumbon Indramayu Health Center, Indramayu Regency in 2020 with a p value = 0.017.

Based on the description above, the researcher assumes that family social support greatly affects the incidence of depression in respondents, the optimal role of the family can make respondents feel that they receive high attention so that respondents do not easily break up with the conditions that will be faced next.

The results of statistical analysis using *the chi square (x2)* test obtained a *p-value* of 0.000 (≤0.05), Based on this value because the p value ≤ 0.05 can be concluded that there is a relationship between the level of depression and the quality of life of non-hemorrhagic stroke patients at the M.M Dunda Limboto Hospital.

Stroke is an important neurological problem. In clinical practice, stroke is the leading cause of death. Stroke is one of the leading causes of long-term disability in the United States (CDC, 2019). Among patients who recovered from the disease, more than half had significant impairment of physical abilities and/or psychiatric complications, with the most common occurrence being Post Stroke Depression (PSD). In 2023, stroke ranks third in the leading cause of disability worldwide (CDC, 2023).

Some of the post-stroke functional disabilities in question are impaired motor function, cognitive function, perceptual function, visual function, emotional and mental health, and verbal problems where the patient can experience only one disorder or experience an overall disorder. Post-stroke patients also experience psychological disorders, this occurs due to the inability to carry out daily activities as usual so that the patient's emotions are unstable and then have an impact on the quality of life of post-stroke patients (Jatendra, 2020).

Quality of life is defined as an individual's perception of their life in the context of the culture and values in which they live and in relation to their goals and expectations. Quality of life is recognized as a good marker for disease in both individuals and populations. Therefore, the quality of life of stroke patients is a very important factor to assess the progress of services for stroke patients. The majority of post-stroke patients have a poor quality of life. Stroke patients have a lower quality of life and functional independence (Athiutama et al., 2021).

Stroke survivors generally experience profound emotional changes, such as depression, anxiety, and mood

fluctuations related to their condition. These changes not only affect the emotional well-being of the sufferer, but the condition is generally associated with a decrease in the overall quality of life in stroke survivors, making the recovery and adaptation process more complex and challenging (Oktaviarni et al., 2021). Therefore, depression is often said to be the next common problem after a stroke. This condition can worsen the patient's psychological state which then affects the quality of life of stroke sufferers (Sari et al., 2024).

The above results are in line with the research conducted by (Puspitasari et al., 2023) that there is a relationship between the level of depression and quality of life in patients after hemorrhagic stroke at dr. H. Abdul Moeloek Hospital, Lampung Province. Other research results conducted by (Wardani, 2021) The results of the study showed a correlation *Spearman Rho Rank* in Score p 0.000 < α (0.05) means that there is a relationship between depression and the quality of life of post-stroke patients at the neurological polyclinic of Royal Surabaya Hospital, the more the patient experiences depression, the more the patient's quality of life will decrease.

Based on the description above, the researcher concluded that there was a relationship between the level of depression and the quality of life of non-hemorrhagic stroke patients at M.M Dunda Limboto Hospital.

CONCLUSION

The results showed that the level of depression in non-hemorrhagic stroke patients had a clear relationship with their quality of life. Respondents who were in the higher depression category tended to show lower quality of life in almost all domains measured. These findings confirm that psychological conditions, particularly depression, are important factors that affect patients' ability to live daily life after a stroke. Thus, interventions to treat depression need to be part of the rehabilitation services for non-hemorrhagic stroke patients so that recovery runs more optimally and the patient's quality of life can be improved comprehensively.

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