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Analysis of Factors Affecting the Level of Anxiety Stroke Patients at Dr. M. Djamil Padang

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Abstract: Stroke disease can cause decreased mobility, physical strength, work difficulties, hobbies, and cognitive abilities in patients which causing anxiety. This study was conducted to assess the level of anxiety in stroke patients at RSUD Dr. M. Djamil Padang. This research is a categorical analytic study using a cross-sectional design with the Depression Anxiety Stress Scales questionnaire instrument (DASS-42). The sample in this study was selected by consecutive sampling technique with a total sample of 85 stroke patients. In this study, it was found that the highest level of anxiety was in the mild category, namely 25 patients (45.5%) of the 55 stroke patients who had anxiety, while the other 30 stroke patients had no anxiety. The most age group of stroke patients was 46-55 years, namely 28 patients (32.9%), with a correlation test value of anxiety levels based on age, namely 0.396 ($p < 0.05$). Males were the most gender, namely 47 patients (55.3%) with a correlation test value of anxiety levels based on sex, namely 0.017 ($p < 0.05$), the majority of patient education was college educated, namely 42 patients (49.4%) with a correlation test value anxiety level based on education is 0.564 ($p < 0.05$). The occupation of the most patients was PNS/TNI/Polri, namely 31 patients (36.5%), with a correlation test value of anxiety levels based on work, namely 0.044 ($p<0.05$).

Keywords: Anxiety; Factors Affecting; Level of Anxiety; Stroke Patients

Introduction

Stroke is a cerebrovascular disease characterized by functional impairment of the brain due to damage or death of brain tissue due to lack of blood flow to the brain oxygen (Zlokovic et al., 2020). This is because the blood vessels of the brain experience narrowing, blockage, or bleeding due to the rupture of these blood vessels (Pajri et al., 2018; Simanjuntak & Pariama, 2023).

Stroke is divided into 2 types, namely ischemic stroke and hemorrhagic stroke (Saragih & Rustam, 2020; Simarmata & Suryanegara, 2022). Most ischemic strokes are a complication of several diseases characterized by symptoms of a sudden drop in blood pressure, tachycardia, pallor and irregular breathing, while hemorrhagic strokes are caused by intracranial hemorrhage with symptoms of an increase in systolic blood pressure >200mmHg at hypertonic and *180mmHg* on nonmotonik, bradycardia, purplish face, cyanosis, and snoring breathing (Pajri et al., 2018).

In 2016, *the World Health Organization* (WHO) stated that stroke is the cause of 6.7 million deaths every year worldwide and causes 6 deaths every 60 seconds. In 2019 WHO also announced that the highest mortality at the global level was 55% of the 55.4 million deaths worldwide. New stroke increases can occur in 30 incidents worldwide (Yessi et al., 2022).

According to *the World Stroke Organization* that 1 in 6 people in the world will experience a stroke in their lifetime, while data from *the American Health Association* (AHA) states that every 40 seconds there is 1 new case of stroke with a prevalence of 795,000 new or recurrent stroke patients occurring annually and approx. Approximately every 4 minutes a stroke patient dies. The death rate from stroke reaches 1 per 20 deaths in America (Mutiarasari, 2019).

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The prevalence of stroke in 2018 among the elderly in Indonesia is 6% or the equivalent of 8.3 per 1000 population and what has been stated by health workers is 6 per 1000 population. This shows that around 72.3% of cases of stroke in the community have been declared by health workers. The highest prevalence of stroke was found in Nanggroe Aceh Darussalam with 16.6 per 1000 population, and the lowest prevalence of stroke was in Papua with 3.8 per 100, while the prevalence of stroke in West Sumatra province was 10.8% of all cases on a national scale. The prevalence of stroke events in the city of Padang in 2018 was 17.8% of the total stroke events in West Sumatra.

Several risk factors that lead to stroke include; age, sex, hereditary, socioeconomic, high-fat and high-calorie foods, eating less vegetables and fruit, smoking habits, consuming alcohol, lack of exercise, hypertension, obesity, diabetes mellitus, atherosclerosis, peripheral arterial disease, heart disease and hypertension (Delima et al., 2016).

Anxiety is a vague fear of some unspecified or unknown danger. Anxiety affects on a deeper level because it attacks the core of personality by eroding self-esteem and personal value. Normal anxiety is a reaction necessary for survival. Anxiety disorder is a psychological condition when a person experiences constant and difficult to control excessive anxiety, resulting in a negative impact on his daily life (Anggraini et al., 2014; Wang et al., 2019).

Research conducted by D'Aniello et al in 2014 stated that 81 patients affected by stroke experienced 19.7% incidence of depression and 55.6% anxiety. This incident experienced more anxiety than the incidence of depression. The symptoms of anxiety were worry, fear, muscle tension, feelings of anxiety, increased heart rate (Kesumawati, 2018).

There are several measuring instruments that are often used to measure levels of stress and anxiety including; *Depression Anxiety Stress Scales* (DASS), *Perceived Stress Scale* (PSS), *Kessler Psychological Distress Scale* (KPDS). The tools commonly used to measure stress levels are *the Depression Anxiety Stress Scales* (DASS) with 42 items. DASS is a measurement tool commonly used. DASS is a self - *assessment scale* that is used to measure a person's negative emotional state, namely depression, anxiety and stress. There are 42 items/assessment items used. The main purpose of measurement with the DASS is to assess the severity (*severe level*) of the core symptoms of depression, anxiety and stress. Of the 42 items, 14 items related to depressive symptoms, 14 items related to anxiety symptoms and 14 items related to stress symptoms (Adientya & Handayani, 2012; Kusumadewi & Wahyuningsih, 2020).

With the distribution of symptoms like this, it is possible for an item to affect only one type of disorder. In fact, it is very possible that one item is a symptom of several disorders, although with different priorities. To give priority which indicates which type of disorder (depression, anxiety or stress) is affected by an item requires consideration from several psychologists. The consensus from these psychologists can be used as a reference for weighting items in DASS (Arifianto et al., 2014).

Method

This research is a categorical analytic study using a *cross sectional design*. The research instrument used was the *Depression Anxiety Stress Scales* Questionnaire (DASS -42) which was administered to stroke patients who were conscious and able to communicate well and without speech, vision and hearing impairments. The sample in this study was selected using the *consecutive technique sampling* 85 stroke patients.

The research flow begins with determining the problems that occur in the community, especially at Dr. M. Djamil Padang General Hospital. Problem formulation is done to focus the research so that problems can be resolved more regularly. Data were collected using The Depression Anxiety Stress Scales Questionnaire Instrument (DASS-42). After the data was collected, it was analyzed with a cross sectional design. Results were determined and explained in the discussion. After the results are obtained, conclusions can be drawn. Finally, the entire study was reported and written in a journal manuscript. The research flow is summarized in the form of Figure 1.

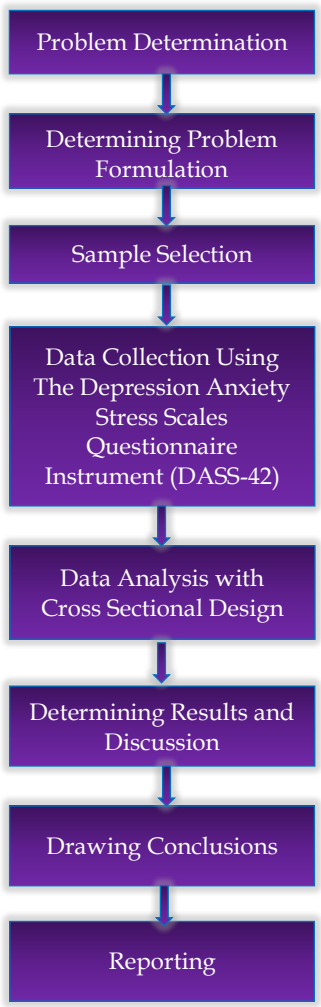

Figure 1. Research Flow

Result and Discussion

Characteristics of stroke patients at Dr. M. Djamil Padang

Table 1. Age characteristics of stroke patients and correlation with anxiety levels

Age	*f*	%	*p.s*
<45 years	25	29.4	
46 - 55 years	28	32.9	0.396
56 - 65 years	24	28.2	
> 65 years	8	9.4	
Amount	85	100.0	

Based on the table 1, it can be seen that the most age of patients is in the age category of 46-55 years with 28 patients (32.9%). The results of the Fisher's exact correlation test were 0.396 with a significance value (p <0.05). This means that there is no relationship between age and anxiety level.

Table 2. Characteristics of the sex of stroke patients and their correlation with anxiety levels

Gender	*f*	%	*p.s*
Man	47	55.3	0.017
Woman	38	44.7	
Amount	85	100.0	

Based on the table 2, it can be seen that the sex of the most patients was male as many as 47 patients (55.3%). The results of the Fisher's exact correlation test were 0.017 with a significance value (p <0.05). This means that there is a relationship between gender and anxiety level.

Table 3. Characteristics of stroke patient education and correlation with anxiety levels

Education	*F*	%	*p.s*
Elementary school	6	7.1	
Junior High School	6	7.1	0.564
Senior High School	31	36.5	
College	42	49.4	
Amount	85	100.0	

Based on the table 3, it can be seen that the education level of most patients is at the tertiary education level with 42 patients (49.4%). The results of the Fisher's exact correlation test were 0.564 with a significance value (p <0.05). This means that there is no relationship between education and anxiety levels.

Table 4. Occupational characteristics of stroke patients and correlation with anxiety levels

Work	*f*	%	*p.s*
Doesn't work	20	23.5	
Retired	11	12.9	
PNS/TNI/Polri	31	36.5	0.044
Private	18	21.2	
Farmers/Fishermen/Laborers	5	5.9	
Amount	85	100.0	

Based on the table 3, it can be seen that the occupation of most patients is civil servants/armymen/police with 31 patients (36.5%). The results of the Fisher's exact correlation test were 0.044 with a significance value (<0.05). This means that there is a relationship between work and anxiety levels.

Frequency characteristics anxiety level stroke patients at RSUP Dr. M. Djamil Padang

Table 5 can be seen that the highest level of patient anxiety is in the mild category as many as 25 patients (45.5%) of the 55 stroke patients who have anxiety. While stroke patients who do not have anxiety are as many as 30 patients (35.3%).

Table 5. Distribution of the frequency of anxiety levels of stroke patients at RSUP Dr. M. Djamil Padang

Anxiety Level	*f*	%
No worries	30	35.3
Worried:	55	64.7
Light	25	45.5
Currently	15	2 7.3
Heavy	8	14.5
Very heavy	7	12.7
Amount	85.55	100.0

Discussion

Characteristics of stroke patients at Dr. M. Djamil Padang and its relationship with anxiety levels

In this study, the most age group of patients was in the 46-55 year age category with 28 patients (32.9 %). And the results of the Fisher's exact correlation test on the anxiety level of stroke patients by age group obtained a significance value of 0.396 (p <0.05) , which meaning that there is no relationship between anxiety levels by age group .

This is similar to the results of a who found that age is a risk factor that independently has nothing to do with stroke. However, the susceptibility to stroke increases with age, whereas in the young age group, stroke is closely related to lifestyle and temperament that tends to be ambitious and the lifestyle of a young age which is thought to trigger a stroke (Alchuriyah & Wahjuni, 2016; Karlina et al., 2023; Wayunah & Saefulloh, 2017).

The results of this study are different from research by Arboix in Spain in 2015 where the proportion of stroke incidence was found to be mostly at the age of >65 years and over. The incidence of stroke doubles every decade for those over 55 years of age. The results of other studies also show that there is a shift in the incidence of stroke to a younger age. This condition can be caused by various factors, including unhealthy lifestyle and unhealthy eating patterns (Arboix, 2015; Mozaffarian et al., 2015).

This study indicate that the sex of the most patients is male, namely as many as 47 patients (55.3 %). The results of this study were reinforced by research by Susilawati et al. (2014) that male gender is more at risk of stroke than women with a ratio of 1.33: 1. This is also the same as the results of a study by Khariri & Saraswati (2021) in the stroke patient population which found that of the 64 respondents, the majority were male (59.4%). The results of the Fisher's exact correlation test between the anxiety levels of stroke patients based on gender obtained significant results, namely 0.017 (p< 0.05) (Khariri & Saraswati, 2021; Susilawati et al., 2014).

American Heart Association revealed that more stroke attacks more common in males than women , this is evidenced by the results of research which indicates that the prevalence of more strokes in men , namely 81.7 per 100,000 and women 71.8 per 100,000. This condition is thought to be related to *lifestyle* and to other risk factors, namely smoking, alcohol consumption and dyslipidemia (Mozaffarian et al., 2015).

Another study that males suffer more strokes than females, because males have smoking and drinking alcohol behavior (Alchuriyah & Wahjuni, 2016). Different from the results of a study put forward by Boehme et al in 2017 which examined the relationship between gender and age-related stroke risk. At a young age, women have the same or even higher risk of stroke than men, but at an older age, men have a relatively higher risk of stroke. The high risk of stroke in women at a young age is related to pregnancy, postpartum conditions and hormonal factors, one of which is the use of hormonal contraception (Cherian, 2023; Thomas et al., 2021; Zucker et al., 2021). Another study was also conducted in eight European countries which showed that the risk of stroke increased 9% per year in men and 10% per year in women (Boehme et al., 2017).

In this study, it was found that the level of education of most stroke patients was at the tertiary level of education, namely as many as 42 patients (49.4 %), but the results of the Fisher's exact correlation test between the anxiety level of stroke patients based on educational level not significant, namely 0.564 (p <0.05).

This is different from the results of a study by Dudung et al. (2015) which found that most stroke patients had high school/high school education, namely 11 people (45.8%). The level of education is not a risk factor that influences stroke, but only illustrates that stroke patients are hospitalized. The results of Saputra et al's 2018 study also found that the education of most stroke patients was high school education, with 1.8 patients (26.70%) (Dudung et al., 2015; Saputra et al., 2018).

According to Notoatmodjo in 2014 that the level of knowledge is a predisposing factor in the formation of health behavior. The level of education is one of the determining factors for behavior change, where a highly educated person will experience a longer learning process, in other words, education reflects the intensity of the learning process. At this stage someone who has taken higher education will be better able to understand his condition. The higher a person's education level, the better he understands his situation, and vice versa, so that he is able to minimize the increase in stress and anxiety in dealing with the situation he is experiencing (Notoatmodjo, 2010).

This study indicate that the most occupational patients are PNS/TNI/Polri as many as 31 patients (36.5%), with the results of the Fisher's exact correlation test which is significant between the patient's anxiety

level stroke based on occupation , namely 0.044 (p <0.05).

The results of research by Saputra et al. (2018) found that the characteristics work is included in the category of moderate anxiety in stroke patients. The type of work will greatly affect one's anxiety and affect one's maturity in overcoming problems. Young men who have a position or job position who experience or suffer from heart disease will feel helpless and anxious about losing their position or position (Saputra et al., 2018).

Characteristics of the frequency of anxiety levels of stroke patients at RSUP Dr. M. Djamil Padang

In this study, it was found that the highest level of patient anxiety was in the mild category of 25 patients (45.5 %) of the 55 stroke patients who had anxiety. While stroke patients who do not have anxiety are as many as 30 patients (35.3%).

Several other studies also state that stroke patients have different levels of anxiety. Saputra et al. (2018) research in 2018 showed that most stroke patients experienced moderate anxiety, namely 17 patients (56.70%). The results of Kustiawan and Hasriani's 2014 study showed that the anxiety level of most stroke patients was moderate anxiety, namely 28 patients (71.8%). The results of Ananda and Darliana's 2017 study showed that the majority of stroke patients experienced moderate/severe anxiety, 81 people (84.4%) (Ananda & Darliana, 2017; Kustiawan, 2015; Saputra et al., 2018).

Conclusion

Stroke patients in this study had high levels of anxiety mild category, with the age group 46-55 years. Most stroke patients are men with patient education is tertiary education and work as PNS/TNI / Polri. Gender and occupational factors had a significant relationship with the anxiety level of stroke patients, while age and education level had no significant relationship with the anxiety level in stroke patients.

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Conflicts of Interest
The authors declare no conflict of interest.

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