



**OVERVIEW DISTRESS FAMILY TO INCREASE THE QUALITY OF LIFE
COMMUNICATION DISORDER IN STROKE PATIENTS WITH DIABETES
MELLITUS COMPLICATION**

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ABSTRACT

Communication disorders due to stroke with DM complications negatively impact to self-image, social and emotional well-being and quality of life. On the other hand, not all communication disruptions are reported to have negative impacts. We are interested in examining the picture of family distress in improving the quality of life of sufferers of stroke communication disorders complicated by DM. Objective: This research is important to see whether communication is fully related to the quality of life of stroke sufferers complicated by DM and has an impact on family stress. Method: This research uses a descriptive study design. The sampling technique used was purposive sampling with the plan to involve 30 stroke respondents with DM complications. Quantitative data analysis in the form of univariate and bivariate data. Fisher test is used to see the relationship between variables. Results: The majority of stroke patients with DM complications are women at 63.3%, with a maximum age of 76 years and a minimum age of 40 years. The maximum LAST score result is 15 and the minimum is 3. The highest family stress level result is in the normal category at 70% and the highest quality of life is in the good category at 43.3%. The results of statistical tests on the relationship between family stress levels and the quality of life of sufferers stroke communication disorders with DM complications found that P value = 0.000 < 0.05 Conclusions: Our findings confirm that there are relationship between the level of family stress and the quality of life of sufferers of stroke communication disorders complicated by DM. This is the first time that the research is highlight that family has an important impact on the quality of life stroke sufferers complicated by DM. Improving the quality of life of stroke sufferers complicated by DM by increasing self-care and caring for the family is very important.

Keywords: communication disorder; family distress; quality of life; stroke with dm complication

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INTRODUCTION

Communication disorders due to stroke, also known as aphasia, are disorders of language ability that occur after brain damage (Berthier, 2005; Dronkers, F. N, 2009). Aphasia sufferers have signs and symptoms including slow, sluggish speech and poor speech articulation. This is caused by paralysis of the hypoglossal brain nerve in Broca's and Wernicke's areas which results in loss of communication abilities (Dronkers, F.N, 2009; Amila, Sitorus and Herawati, 2015; Lumbantobing, 2015; Pinzon, 2016). Previous study results reported that around 80% of people suffer from aphasia caused by stroke (Laska *et al.*, 2001). The prevalence of stroke in Indonesia in 2018 based on doctor's diagnosis in the population aged ≥ 15 years was (10.9%) or estimated at 2,120,362 people (Kemenkes RI, 2018). Stroke itself is a blood vessel disease caused by atherosclerosis, resulting in blockage or rupture of brain blood vessels

(Pinzon, 2016). Furthermore, Diabetes Mellitus (DM) is also reported to be a risk factor for stroke (Ramadany, Pujarini dan Candrasari, 2013). Approximately 30% of patients with proven cerebral atherosclerosis are diabetic. DM causes hyperglycemia and increases platelet aggregation, thereby damaging the walls of large blood vessels and peripheral blood vessels. Hyperglycemia can increase blood viscosity which will then cause hypertension and result in stroke which causes aphasia (Gilroy, 2000).

People with aphasia may completely or partially lose the ability to formulate, produce and understand spoken and written language. Delay in detecting signs and symptoms of aphasia causes increased length of stay, emotional instability such as depression, family stress and decreased quality of life (Corallo *et al.*, 2017). Communication is very important for expressing oneself, creating self-identity, building and maintaining relationships, and managing emotional well-being (Rangamani and Judovsky, 2020). The family plays an important role in improving communication for aphasia sufferers through its functions, namely recognizing problems, making health decisions about sick families, caring for sick family members, modifying the environment and even using health facilities to improve the quality of life. Data taken from qualitative studies show that people with aphasia can have successful lives in which they have participation, meaningful relationships, support, opportunities for and facilitation of communication, independence and autonomy and see the successful lives of people with aphasia as a journey of time (Brown *et al.*, 2012).

Research regarding the relationship between stroke and DM has been studied (Ramadany, Pujarini dan Candrasari, 2013), However, research that focuses on looking at the picture of family distress in improving the quality of life of sufferers of stroke communication disorders with DM complications is still limited. We are interested in examining the picture of family distress in improving the quality of life of sufferers of stroke communication disorders complicated by DM. This research is important to see whether communication is fully related to quality of life, especially in stroke sufferers complicated by DM and it is necessary to prove whether aphasia has an impact on family stress. The aim of this research is to see the picture of family distress in improving the quality of life of sufferers of stroke communication disorders complicated by DM.

METHOD

This research uses an analytical observational design. The population is all residents of RW XVI Tlogosari Kulon Semarang. Sampling in this study used purposive sampling. The sample in this study were families whose patients had stroke communication disorders complicated by DM. A total of 30 respondents were used as confirmed samples from the Community Health Center. Quantitative data analysis in the form of univariate and bivariate data. Data was collected using a family distress questionnaire form, a quality of life questionnaire and an aphasia assessment questionnaire using the Indonesian version of the Language Aphasia Screening Test (LAST) instrument. The initial data collection technique for this research was that all information related to stroke patients with DM complications was recorded from the Tlogosari Kulon Community Health Center. Before collecting data, the researcher first explained the aims and benefits of the research and asked for consent from respondents and families to be involved in the research. After obtaining approval, respondents will be asked to sign informed consent. The researcher will assess aphasia using the LAST instrument, then if it is declared positive for aphasia from the instrument used, a quality of life assessment will be carried out. The next step is to provide a questionnaire to the family regarding the stress they face while caring for the patient. The duration of filling out the questionnaire is \pm 15-20 minutes.

After filling in the questionnaire, the researcher checked the results of the respondent's questionnaire again to ensure the completeness of the data. All results of filling out questionnaires are collected, processed and then analyzed. Data analysis was carried out by displaying frequency distribution data on the characteristics of respondents in the form of gender, level of family distress and quality of life. Then we determined the minimum, maximum, mean and standard deviation values for Age and LAST scores. Data analysis meets the requirements for the Fisher Test by looking at the P value < 0.05.

RESULTS

Table 1.
Characteristics of gender respondents (n=30)

Gender	f	%
Male	11	36,7
Female	19	63,3

Table 1 it is known that the majority of respondents were female 19 (63,3%) and the minority were male as many as 11 (36,7%)

Table 2.
Characteristics of Age and LAST Score respondents (n=30)

Characteristics	Min	Max	Mean	SD
Age	40	76	58,70	7,940
LAST Score	3	15	11,60	3,616

Table 2 it is known that the respondents were maximum age 76 years and minimum age were 40 years, whereas for LAST score maximum were 15 and score minimum were 3

Table 3.
Distribution Frekwensi level of family distress (n=30)

Level of Distress Family	f	%
Normal	21	70,0
Low	5	16,7
Medium	4	13,3

Table 3 it is known that respondents were the majority level of distress as many as normal category 21 respondents (70%) and the minority is medium category 4 respondents (13,3%)

Tabel 4.
Distribution Quality of life Repondents (n=30)

Quality of life	f	%
Good	13	43,3
Medium	11	36,7
Low	6	20,0
Total	30	100,0

Table 4 it is known that respondents were the majority quality of life as many as good category 13 respondents (43,3%) and the minority is low category 6 respondents (20%)

Table 5.
Correlation between family distress with quality of life communication disorder patient with stroke with DM complication (n=30)

Family Distress	Quality of life		Total	α	P value
	Good	Medium			
Normal	13	8	21	0,05	0,000
Low	0	9	9		

Table 5 it is known that from 21 respondents have family distress level in normal category and have quality of life in good category is 13 and medium is 8. And 9 total of respondents as well as family distresses in low category and have quality of life good category is 0 and medium is 9. From the table too it is known P Value 0,000 ($P < 0,05$). We conclude family stress levels have relationship with the quality of life of sufferers in stroke communication disorders with DM complications.

DISCUSSION

The results of this study show that family distress is in the medium category, namely 13.3%. The results of a qualitative study investigating family experiences in improving the quality of life of post-stroke patients reported that families generally showed a crying response because they were afraid of losing a family member who was sick. Apart from crying, participants also expressed anxiety about the condition of their family who had experienced repeated strokes. The first response that appears is a denial response. The form of denial that emerged was the family not believing, and also shock when a family member had a stroke. This is indicated by a response of crying, restlessness, fatigue and paleness. Sometimes, participants also act as if they have not experienced anything, refusing to admit that a loss has occurred. Sickness cannot be separated from life events (Netti, Suryarini and Budi, 2022). The research results show that the quality of life of respondents is in the poor category at 20%. Quality of life becomes important after a stroke and is a challenge for medical care and requires family support. For people who experience chronic illnesses such as stroke, anxiety will increase. This is because a stroke can cause disability and death quickly, especially if a family member who suffers from a stroke acts as the backbone of the family. Restrictions on roles and physical functions in patients can cause depression. If patients experience depression, it will affect their quality of life (Chandran *et al.*, 2017).

This research confirms that there is a relationship between the level of family stress and the quality of life of sufferers of stroke communication disorders with DM complications. The results of this research are supported by research conducted by Ludiana in 2020 which examined the relationship between family support and the quality of life of post-stroke patients in the Banjarsari Community Health Center work area. This study reported that there was a relationship between family support and the quality of life of post-stroke patients ($r=0.774$; $p\text{-value } 0.000 < 0.05$) (Ludiana dan Supardi, 2020). Family involvement begins when the patient is hospitalized, then continues until home and continues. Many post-stroke patients experience decreased abilities due to inappropriate care provided by family members who often experience miscommunication with post-stroke patients in meeting the patient's basic needs. This continues with the patient feeling useless and feeling that the family is experiencing a heavy burden (Hsieh *et al.*, 2017).

The results of this research are also supported by research conducted by Rahman in 2017 which examined family support and the quality of life of stroke sufferers in the post-acute phase in Wonogiri. The results of this study reported a significant relationship between family support and the quality of life of stroke sufferers, especially information support and awareness support ($p=0.000$) (Rahman, Dewi dan Setyopranoto, 2017). The results of this research are also supported by research conducted by Hermawati Hamalding in 2017 which examined the relationship between family support and quality of life in stroke events. This study reports that there is a relationship between family support and quality of life in the event of stroke (Hamalding and Muharwati, 2017). Related support includes informational support and appreciation support. Stroke sufferers are served to fulfill their daily needs so that the limbs that experience weakness will become weaker and stiffer (Opara and Jaracz, 2010). Families who understand the needs of post-stroke patients provide emotional support to restore the patient's self-confidence. The role of the family is needed, not only as caregivers, but also not forgetting how to support emotionally and help provide solutions to current problems. The role of the family is considered important, special attention must be given to post-stroke patients with aphasia to improve quality of life.

This study has limitations, first the sample size was small and patients with comprehension disorders who were not allowed to understand the basic questions of the questionnaire were excluded. Second, we didn't check their blood sugar to determine whether they really had high blood sugar levels. This is only based on subjective data submitted by respondents. Another limitation is that the quality of life questionnaire, which was validated in patients with aphasia, did not include patients with impaired comprehension. To our knowledge, there are no tools to explore quality of life in patients with severe comprehension disorders. Quality of life remains difficult to navigate without communication skills, and severe comprehension impairments are a major limitation of communication and cognitive abilities. Severe production disorders can be overcome using non-verbal communication, but this is not possible for severe comprehension disorders, and domains requiring communication skills cannot be explored.

CONCLUSION

Our findings confirm that there is a relationship between the level of family stress and the quality of life of sufferers of stroke communication disorders complicated by DM. This is the first time that this research highlights that the family has an important impact on the quality of life of stroke sufferers complicated by DM. Improving the quality of life of stroke sufferers complicated by DM by increasing self-care and caring for the family is very important.

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