



COMPARATIVE STUDY: FAMILY SUPPORT FOR STROKE PATIENTS BASED ON DEMOGRAPHIC PROFILE, TYPE OF STROKE, AND DURATION OF HOSPITALIZATION

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ABSTRACT

Family support is a crucial component in the care process for stroke patients, but there is still little research evaluating its intensity based on demographic profiles and clinical conditions. This study aims to analyze the relationship between demographic profiles (age, gender, education level, occupation, income), stroke type, and length of hospital stay on family support for stroke patients. This study used an analytical cross-sectional method with a cross-sectional approach involving 62 stroke patients treated at a hospital in Manado. Data was collected through survey sheets and observations combined with family support questionnaires. The data were analyzed using the Mann–Whitney and Kruskal–Wallis tests. The results showed that the highest level of family support was found in young-old patients (60–74 years), those with higher education, those with income above the minimum wage, and those with a long hospitalization duration (≥ 8 days). Meanwhile, in the correlation test, gender, occupation, and type of stroke did not show significant differences in family support ($p > .05$). However, age, education, family income, and length of hospital stay showed significant differences in the intensity of family support ($p < .05$) when providing assistance to stroke patients who were hospitalized. Recommendations that can be given in this study are the design of family education programs based on patient demographic profiles, such as health literacy modules for low-educated families and coping skills training for low-income families, as well as implementing family-centered care that involves family members from the first day of hospitalization.

Keywords: Demographic profile, family support, length of hospital stay, type of stroke

ABSTRAK

Dukungan keluarga merupakan komponen krusial dalam proses perawatan pasien stroke, namun masih sedikit penelitian yang mengevaluasi intensitasnya berdasarkan profil demografi dan kondisi klinisnya. Studi ini bertujuan untuk menganalisis hubungan antara profil demografi (usia, jenis kelamin, tingkat pendidikan, pekerjaan, pendapatan), jenis stroke, dan durasi rawat inap terhadap dukungan keluarga pada pasien stroke. Studi ini menggunakan metode *analytical cross-sectional study* yang melibatkan 62 pasien stroke yang dirawat di salah satu rumah sakit di Manado. Data dikumpulkan melalui lembar survei dan observasi yang dikombinasikan dengan kuesioner dukungan keluarga. Data yang tersebut dianalisis menggunakan uji deskriptif, Mann–Whitney, dan Kruskal–Wallis. Temuan hasil menunjukkan bahwa dukungan keluarga tertinggi ditemukan pada pasien usia young-old (60–74 tahun), berpendidikan tinggi, berpendapatan di atas upah minimum, dan durasi rawat inap panjang (≥ 8 hari). Sementara pada uji hubungan, jenis kelamin, pekerjaan, dan tipe stroke tidak menunjukkan perbedaan dukungan keluarga yang signifikan ($P > ,005$). Sedangkan untuk faktor usia, pendidikan, pendapatan keluarga, dan lama rawat inap mempunyai perbedaan intensitas dukungan keluarga yang signifikan ($P < ,005$) saat memberikan pendampingan pada pasien stroke yang sedang dirawat inap. Rekomendasi yang dapat diberikan dalam studi ini adalah perancangan program edukasi keluarga berdasarkan profil demografi pasien, seperti modul



literasi kesehatan bagi keluarga berpendidikan rendah dan pelatihan coping skills untuk keluarga berpendapatan terbatas, serta menerapkan *family centered care* yang melibatkan anggota keluarga sejak hari pertama rawat inap.

Kata Kunci: Dukungan keluarga, durasi rawat inap, jenis stroke, profil demograf.

INTRODUCTION

The care of stroke patients requires a multidisciplinary approach due to the complexity of the neurological disorders they experience. Stroke patients often face motor, sensory, and cognitive deficits that require structured nursing interventions ranging from monitoring vital signs and preventing secondary complications to functional rehabilitation in intensive care units and regular wards (Powers et al., 2018). The success of the nursing process is greatly influenced by the ability of the healthcare team to quickly assess changes in neurological status and implement evidence-based stroke care protocols, such as blood pressure management, nutrition, and early physiotherapy (Langhorne et al., 2011).

In addition to physical limitations, stroke patients are also prone to psychological and social disorders that can complicate the recovery process. Anxiety, depression, and high dependence on care increase the workload of nurses in providing emotional support and family education (Khutorniuk et al., 2022). This highlights the need for synergy between the nursing team, therapists, and the patient's family so that rehabilitative interventions can run optimally and reduce the risk of permanent disability (Al Taleb et al., 2017).

Families act as coordinators of follow-up care, ensuring patient compliance with rehabilitation and treatment programs. Emotional and social support from families has been shown to increase patient motivation to participate in physical exercise and improve quality of life after stroke. Family involvement also reduces readmission rates and complications, as family members can help monitor early warning signs such as hypertension or signs of post-stroke infection (Bakas et al., 2014). In the context of Indonesian culture, strong family values make it easier for families to be actively involved in patient recovery. However, the psychosocial burden felt by families can affect the quality of support provided (Venketasubramanian et al., 2022). Therefore, this study will assess the intensity of family support based on patient demographic profiles, stroke type, and length of hospital stay to be used in formulating more focused nursing intervention strategies.

Elderly stroke patients experience a decline in neuroplasticity, resulting in a slower recovery process compared to younger patients. The decrease in brain mass volume and cerebral vascular changes in the elderly increase the risk of complications such as vascular dementia and long-term mobility difficulties, requiring more intensive family support in daily activities and routine physical rehabilitation to prevent permanent disability (Burke & Barnes, 2006; Gorelick et al., 2011). In addition, the presence of chronic comorbidities such as hypertension and diabetes mellitus in older adults also prolongs the length of hospital stay and increases the need for family education on the management of comorbidities (Feigin et al., 2017).

Biological and hormonal differences between men and women affect the clinical manifestations and recovery from stroke. Women generally have a higher severity of stroke and a greater prevalence of post-stroke depression, so families need to provide more intense emotional support and psychological monitoring for female patients. Meanwhile, men tend to



experience strokes at a younger age with a dominant risk profile of smoking and hypertension, so family nursing interventions for male patients often focus on healthy lifestyle education and cardiovascular risk prevention (Padmakar et al., 2020).

The educational level of patients and their families has a significant effect on their understanding of medical information and compliance with treatment plans. Families with higher educational backgrounds tend to understand therapy instructions and complication prevention protocols more quickly, making it easier to involve them in the rehabilitation process and medication management. Conversely, families with low educational levels may require simplified educational materials and hands-on demonstrations to ensure understanding, so the nursing team needs to adjust their health literacy-based educational approach (Kaur & Huang, 2013).

The employment status of the patient or head of household affects the type of support that can be provided during treatment. Patients who are still actively working may feel pressure to return to work immediately, so families need to balance motivating the recovery process and preventing repeat injuries with adequate rest. Meanwhile, retired or unemployed patients have more time to focus on rehabilitation, but families may face economic pressure due to loss of income, making financial support or referral to social security programs important (Peeters et al., 2010; Yeo, 2017).

Family income determines access to additional therapy and medical aids after a stroke. High-income families can more easily provide rehabilitation equipment at home, such as splints or mini treadmills, and hire private physiotherapists for additional sessions outside the hospital. Conversely, low-income families often rely on public facilities with limited capacity, so family support must include advocacy to ensure patients receive priority services and health care scholarships (Håkansson & Widinghoff, 2020; Koopsen et al., 2018).

Ischemic stroke and hemorrhagic stroke have different clinical characteristics, which affect nursing needs and family support. In ischemic stroke, treatment is usually focused on early reperfusion and close neurological monitoring to prevent the expansion of the ischemic area. Patients with hemorrhagic stroke require intensive care to control bleeding and cerebral edema, which often requires routine monitoring of intracranial pressure (Nolte et al., 2018).

The differences in severity and long-term complications between the two types of stroke have implications for family support patterns. Families of hemorrhagic stroke patients may need to provide more intensive physical support and medical supervision at the beginning of treatment, while families of ischemic stroke patients usually focus on long-term rehabilitative therapy such as mobility and cognitive exercises. Comparative studies of these two groups can reveal specific differences in support needs (Hemphill et al., 2015).

The length of hospital stay reflects the severity of the stroke and the complexity of care required. Longer treatment periods are generally associated with medical complications or the need for intensive rehabilitative therapy. Patients with short hospital stays may show good initial recovery but still require post-discharge rehabilitation support, so the pattern of family support will differ from that of patients with long hospital stays (García-Rudolph et al., 2020; Lu et al., 2025).



Analysis of the duration of hospitalization along with the intensity of family support can help identify crucial moments for nursing intervention. For example, in the early days of hospitalization, family support in communication and exercise motivation may affect the speed of recovery of basic mobility. Meanwhile, in the transition phase to home, family education about follow-up care is a key factor in preventing readmission and recurrence of complications (Björkdahl et al., 2023; Creasy et al., 2015; So & Park, 2024; Thrush et al., 2025).

This study is very important because, to date, there has been little research on family support for stroke patients in the Manado region of North Sulawesi. The findings of the publication show that research related to family support is limited to descriptive surveys and its relationship with one of the target outcomes for stroke patients, which is the ability to perform daily activities. The 2023 Basic Health Research (Riskesdas) data shows that the prevalence of stroke in North Sulawesi has increased to 15.1 per 1,000 population, but there has been no comprehensive study mapping the patterns of family support in local hospitals, even though this support plays a major role in the rehabilitation process and reducing post-stroke disability rates. This is because the incidence of stroke in Indonesia is estimated to double by 2030 due to population aging and lifestyle changes. On the other hand, the capacity of health facilities in Manado, especially rehabilitation services, is still limited, so a deep understanding of the role of the family can be an affordable and far-reaching intervention to accelerate the recovery process of stroke patients (Cheng et al., 2024; Tim Penyusun SKI, 2023).

The novelty of this study lies in the strong Minahasa cultural context that upholds the values of kinship and mutual cooperation. There is a lack of studies that authentically explore how the “mapalus” tradition and extended family structure in Manado influence the intensity of family support for stroke patients, both emotionally, physically, and financially. Thus, this study can fill the knowledge gap regarding the interaction between local culture and stroke patient care outcomes (Mandolang & Pandean, 2024; Nismawati & Nugroho, 2021).

MATERIALS AND METODES

This study used an comparative analytical cross-sectional method, which involved collecting study data simultaneously during a predetermined data collection period from March to April 2025. The sample selection in this study used the convenience sampling technique with a total of 62 patients, due to time constraints in this study. The respondents involved in the study were stroke patients treated in the neuro ward of a hospital in North Sulawesi who had immediate family (husband or wife, children, parents, or siblings), were willing to participate in this study, and did not experience severe communication disorders. This study was approved by the faculty's internal research department. When conducting this study, research ethics considerations were also applied, such as respecting the autonomy of respondents through informed consent, paying attention to beneficence and avoiding non-maleficence during data collection, and maintaining the confidentiality of respondent data.

Researchers used survey sheets and observations combined with questionnaires to collect data. Survey and observation sheets were used to collect demographic profile data (age, gender, education level, occupation, and family income), stroke type, and length of hospital stay. Meanwhile, for family support data, the researchers adopted the family support questionnaire from Sudrajad (2021), which presents 24 questions and represents four dimensions of family support (informational support, evaluative support, instrumental support, and emotional support). In addition, this questionnaire has also undergone validity and reliability tests in previous studies with a validity score of 1 and a reliability score of 0.7918. Therefore, with the



completeness of the family support dimensions in the questionnaire, which has been tested for validity and reliability and has been translated into the local language, the researchers used it in this study.

Descriptive analysis was chosen to describe the study variables through the collected data using frequency and percentage calculations. Comparative analysis was chosen to analyze the correlation between independent and dependent variables through Mann Whitney calculations for gender, type of stroke, and income. Meanwhile, Kruskal Wallis calculations were used for occupation, education level, age, and length of hospital stay. These tests were chosen because the data on the independent and dependent variables, particularly the numerical data, were not normally distributed based on the Kolmogorov-Smirnov test ($P > .005$). Therefore, nonparametric tests were used in this study, the Mann-Whitney and Kruskal Wallis test.

HASIL

The findings of this study are presented in tabular form and interpreted after presentation. The results of this study are based on descriptive analysis and comparative correlation analysis. The results of the study are presented in the following tables.

Table 1 *Description of Demographic Profile, Type of Stroke, Length of Hospital Stay, and Family Support for Stroke Patients*

Variable	Category	f	%
Age	Adult	32	51.6
	Young old	29	46.8
	Middle old	1	1.6
Gender	Male	37	59.7
	Female	25	40.3
	Elementary school	9	14.5
Education level	Junior high school	13	21.0
	High school	32	51.6
	Higher education	8	12.9
	Civil servant	4	6.5
Occupation	Entrepreneur	10	16.1
	Farmer	9	14.5
	Private sector	5	8.1
	Housewife	34	54.8
Family income	≤ Minimum wage	39	62.9
	> Minimum wage	23	37.1
Type of stroke	Hemorrhagic	11	17.7
	Non-hemorrhagic	51	82.3
Length of hospital stay	Short	38	61.3
	Normal	14	22.6
	Long	10	16.1
Family support	Poor	8	12.9
	Moderate	13	21.0
	Good	41	66.1

Source: Primary research data (2025)



Table 1 outlines the results of this study, showing that the majority of stroke patients were “adults” (18–59 years) numbering 32 people (51.6%), followed by the “young old” group (60–74 years) numbering 29 people (46.8%), and a very small number in the “middle old” (75–89 years) group, with only 1 person (1.6%). This shows that stroke cases are concentrated in the productive population to early elderly. A total of 37 patients (59.7%) were male, while 25 patients (40.3%) were female. This indicates that men are more vulnerable or more often diagnosed with stroke in this sample. The group with high school education dominated with 32 people (51.6%), followed by junior high school with 13 people (21.0%) and elementary school with 9 people (14.5%). Only 8 people (12.9%) had higher education. The majority were housewives, 34 people (54.8%), followed by entrepreneurs, 10 people (16.1%), farmers, 9 people (14.5%), higher education, 8 people (12.9%), civil servants, 4 people (6.5%), and private sector employees, 5 people (8.1%). Most of the patients' families had an income $\leq$ minimum wage, totaling 39 people (62.9%), while the rest had an income $>$ minimum wage, totaling 23 people (37.1%). Non-hemorrhagic (ischemic) strokes were much more common (51 people; 82.3%) than hemorrhagic strokes (11 people; 17.7%). The majority of hospitalizations were “Short” (≤ 4 days) 38 people (61.3%), ‘Normal’ (5–7 days) 14 people (22.6%), and “Long” (≥ 8 days) 10 people (16.1%). Most patients received “Good” family support (41 patients; 66.1%), ‘Moderate’ support (13 patients; 21.0%), and “Poor” support (8 patients; 12.9%). Thus, the stroke patient population in this study was dominated by patients of productive age to early elderly, male, high school educated, housewives, and low income. The majority experienced non-hemorrhagic stroke, underwent short hospitalization, and received good family support.

Table 2

Comparative Analysis of Demographic Profile, Stroke Type, and Length of Hospitalization on Family Support in Stroke Patients

	N	Mean Rank	U/X ²	Z/df	P-value
Gender					
Male	37	32.28	433.500	-.421	.674
Female	25	30.34			
Occupation					
Civil servant	4	34.63	2.301	4	.681
Entrepreneur	10	29.25			
Farmer	9	37.61			
Private sector employee	5	37.00			
Housewife	34	29.37			
Type of stroke					
Hemorrhagic	11	25.41	213.500	-1.249	.212
Non-hemorrhagic	51	32.81			
Income					
$\leq$ Minimum wage	39	25,32	207.500	-3.553	.000
$>$ Minimum wage	23	41,98			
Education level					
Elementary school	9	21.39	9.026	3	.029
Junior high school	13	38.12			
Senior high school	32	28.69			
Higher education	8	43.38			



Post-hoc test of Education Level and Family Support in Stroke

Patients

Elementary	9	8.11	28	-2.076	.038
Junior High	13	13.85			
Elementary	9	6.00	9	-2.637	.008
Higher Education	8	12.38			
Senior High	32	18.52	64.5	-2.166	.030
Higher Education	8	28.44			

Age

Adult	32	26.64			
Young old	29	35.93	6.459	2	.040
Middle old	1	58.50			

Post-hoc test Age and Family Support in Stroke Patients

Adult	32	26.59	323	-2.061	.039
Young old	29	35.86			

Length of Hospital Stay

Short	38	28.08			
Normal	14	28.93	10.355	2	.006
Long	10	48.10			

Post-hoc test Length of Hospital Stay and Family Support in Stroke Patients

Short	38	21.18	64	-3.254	.001
Long	10	37.10			
Normal	14	9.64	30	-2.383	.017
Long	10	16.50			

Source: Primary research data (2025)

Table 2 analysis shows that there was no significant difference between men and women in terms of family support ($p=.674$), no significant difference in family support based on the patient's occupation ($p=.681$), and no significant difference between hemorrhagic and non-hemorrhagic patients in terms of family support ($p=.212$). However, there was a significant difference in family support between age groups (adult, young old, and middle old) with a value of $p=.040$. The post-hoc test showed a significant difference between the adult and young old groups ($p=.039$), where the families of young old patients provided higher support. At the education level, a significant difference was found between education levels (elementary school, junior high school, senior high school, and higher education) in terms of family support with $p=.029$. The post-hoc test showed that elementary school and junior high school ($p=.038$), elementary school and higher education ($p=.008$), senior high school and higher education ($p=.030$), and families of patients with higher education provided the best support. Based on income, a significant difference was found between the $\leq$ minimum wage and $>$ minimum wage income groups ($p<.000$), with families earning $>$ minimum wage providing better support. In terms of length of stay, there was a significant difference in family support between lengths of stay (short, normal, and long) with $p=.006$. The post-hoc test showed that short and long durations ($p=.001$), normal and long hospital stays ($p=.017$), and families of patients with long hospital stays provided higher support. Thus, the variables that significantly influenced the intensity of family support were age (higher in the young old group), education level (highest



in higher education), income (higher in > minimum wage), and length of hospitalization (higher in long hospitalization). Gender, occupation, and type of stroke did not show significant differences in family support.

DISCUSSION

Family support for elderly patients is not only in the form of physical assistance, but also psychosocial intervention to reduce loneliness and post-stroke depression. Studies show that active involvement of family members in rehabilitation sessions increases patients' motivation to exercise and adherence to therapy schedules, which leads to improved functional outcomes and quality of life (Abd Elhameed Abd Elmawla et al., 2022; da Silva & Boery, 2021).

The type of work does not determine the quality of family support, indicating that the patient's economic role or type of work is not a major determinant of the intensity of care support provided by the family. Although some studies mention that workers with long working hours or high job stress may reduce the time available for family members to care for patients directly, the family context in Indonesia, especially in Manado, encourages family members to work together to provide care despite time constraints or work commitments. The culture of mutual cooperation and the dual role of the extended family likely balance caregiving contributions regardless of the individual's employment status (Arboix et al., 2012; Ofori-Asenso et al., 2018). In addition, other studies have reported that structural factors such as the availability of family members and social support networks often have a greater impact on caregiving than the patient's employment status. Extended families in Minahasa culture, for example, tend to mobilize help from many relatives when a member experiences a serious illness, so that the burden of caregiving does not fall solely on one person who may be busy working. Therefore, nursing interventions aimed at improving family support need to focus more on strengthening family social networks and collective caregiving education, rather than solely on the patient's economic or employment status (Al Taleb et al., 2017).

Non-hemorrhagic stroke types dominated (82.3%), consistent with global data reporting ischemic stroke as 80–85% of total cases (Moraes et al., 2023; Potluri et al., 2015). Stroke classification was also not a factor in the provision of family support to stroke patients. This indicates that the type of stroke pathology does not affect the intensity of support received by patients, possibly because families provide full attention based on the functional needs and risk of complications of the patient, rather than the diagnostic classification. Family support is more influenced by perceptions of vulnerability and long-term rehabilitation needs, which can be similar even though the disease mechanisms are different. The literature shows that although hemorrhagic stroke is often associated with higher severity and mortality rates, families still provide emotional and physical support comparable to that provided to ischemic patients. This is driven by emotional factors, namely empathy and concern for the health of family members, which transcend considerations of stroke type. Therefore, intervention strategies need to prioritize the assessment of individual patient needs, such as disability level and comorbidities, rather than being based solely on stroke type (Moraes et al., 2023).

The proportion of men (59.7%) was higher than that of women (40.3%), confirming epidemiological data that places men at greater risk of stroke at a younger age due to the prevalence of smoking and hypertension (Garland et al., 2015; Haq et al., 2024). Gender differences were also not a factor in the provision of family support to stroke patients. The literature shows that although post-stroke women have a higher prevalence of depression, the level of emotional and social support provided by families does not differ significantly based



on the gender of the patient. This indicates that families respond to stroke care needs in an equal manner, regardless of gender differences (Gofir et al., 2017). However, the local cultural context in Indonesia can influence the nature of support; traditional gender roles may influence the type of support that is dominant, physical versus emotional, even though the total support score is similar. Therefore, caregiving interventions need to be gender-sensitive by adjusting educational and psychosocial approaches according to the unique roles and needs of patients (Jessup et al., 2014; Ofori-Asenso et al., 2018).

Descriptive results show that the stroke patient population at Manado Hospital is dominated by the productive age group and early elderly, with 51.6% aged 18–59 years and 46.8% aged 60–74 years. These findings are in line with global trends where stroke not only affects the elderly but also the young adult population due to an increase in cardiovascular risk factors and unhealthy lifestyles (Kandou et al., 2016; Li et al., 2024; Mahama et al., 2014). The age distribution shows that family support for young elderly patients (aged 60–74 years) is higher than for the adult group (aged 18–59 years). This is in line with findings that early elderly patients tend to receive more intensive attention from their families due to increased perceptions of vulnerability and family awareness of the functional limitations of the elderly after a stroke. In addition, early elderly generally involve more family members in collaborative care, so that the frequency of visits and assistance interventions is associated with higher levels (Al Taleb et al., 2017; Garland et al., 2015). On the other hand, productive adult patients are often viewed as more independent, so families may give them more space for independence, which can lower measurable support scores. Studies show that perceptions of patient independence significantly reduce the intensity of emotional and physical support provided by caregivers. Adjustments to nursing interventions need to consider the dynamics of family roles and expectations of independence between age groups (Gaspari et al., 2019).

The majority of patients had a high school education (51.6%) and were housewives (54.8%), reflecting the local demographic background in which many women are fully involved in domestic roles. Differences in education levels may explain differences in the form of family support; the findings state that patients with higher education receive the highest level of family support. This is consistent with evidence that family health literacy affects the ability to understand medical instructions and implement care plans, thereby improving the quality and quantity of caregiving support. Highly educated families are also more proactive in seeking additional information, including online resources and support groups, which strengthen social networks and sources of support for patients (Atalay & Turhan, 2009; Vahdati et al., 2024). Conversely, families with elementary school education tend to face challenges in understanding medical instructions, requiring a simpler educational approach and direct demonstrations to increase their involvement in caregiving. Health literacy-based educational strategies need to be integrated into rehabilitation programs to minimize the support gap between education levels (Haq et al., 2024).

Approximately 62.9% of families had incomes below the minimum wage, indicating potential economic barriers to accessing additional rehabilitation services. Family income is a factor in the provision of family support, with groups with family incomes above the minimum wage showing higher levels of family support than groups with incomes at or below the minimum wage. This finding is in line with studies that note a positive correlation between economic status and family access to private therapy services and medical aids at home, such as splints and independent rehabilitation devices, which strengthen caregiving support. Financially secure families can also allocate more time and resources for transportation to rehabilitation



centers, improving the continuity of patient care (Moraes et al., 2023; Potluri et al., 2015). Conversely, economic pressures on low-income families can increase the burden on caregivers and reduce the intensity of emotional, physical, and financial support. Studies show that financial stress correlates negatively with the quality of family support, so interventions need to include financial counseling and access to social assistance programs to mitigate economic barriers to caregiving (Poll et al., 2024).

The majority of hospital stays were short ($61.3\% \leq 4$ days), reflecting the efficiency of acute stroke care in modern stroke units but also requiring families to be prepared to support patients immediately after discharge. The “Good” level of family support in 66.1% of patients illustrates the high level of family involvement in the context of Minahasa culture, which practices strong family values, an important factor in the success of post-stroke rehabilitation (Ofori-Asenso et al., 2018). In Minahasa culture, *mapalus*, or a strong spirit of mutual cooperation, makes the family the main pillar in providing comprehensive support to stroke patients. Families not only assist with daily physical activities and ensure patient compliance with rehabilitation exercises, but also actively provide emotional support, reduce loneliness, and motivate patients through a collective approach that enhances the spirit of recovery. This approach has been proven to mediate the effects of social support on increasing rehabilitation motivation and quality of life for stroke patients, where family involvement improves significant functional outcomes in the long term, while reflecting the *mapalus* family values in strengthening the Minahasa family's psychosocial support network (Lee & Won, 2022; Nelwan, 2020). Longer hospital stays provide families with more opportunities to be involved in the daily care process at the hospital, including participating in nursing education and rehabilitation with patients. This continuous presence increases the emotional closeness and understanding of the family regarding the patient's medical needs (Gaspari et al., 2019). Conversely, short hospital stays tend to limit direct interaction between families and healthcare teams, which can reduce the intensity of post-discharge support. Studies emphasize the importance of implementing structured discharge planning and intensive caregiving training during the transition period to ensure continuity of family support, especially for patients with short hospital stays (Ofori-Asenso et al., 2018).

The results of this study highlight the importance of the family's role in supporting stroke patient recovery and direct nursing practitioners and policymakers to integrate a family-centered care approach into stroke care protocols. Nurses should actively involve family members through structured discussions and education covering symptom understanding, follow-up care, and complication risk management; this is in line with family rehabilitation recommendations indicating that family system conversation strategies can improve mutual understanding and emotional bonds between family members, thereby facilitating the patient's transition home. Additionally, developing caregiver preparedness training programs and mindfulness interventions for patients' families can reduce stress levels and improve the quality of care at home, as shown in studies recommending MBI (Mindfulness-Based Interventions) training for nurses to accompany patients and families throughout the stroke care cycle. Hospital and regional health institution policies should include the allocation of resources for family counseling sessions, caregiver training modules, and psychosocial support for low-income or low-educated families to address disparities in family support. Thus, the role of the family as a unit in stroke care can be optimized, supporting more comprehensive clinical outcomes for patients (Pusa et al., 2022; Saban et al., 2022).



However, this study is still imperfect due to several limitations. The use of convenience sampling has the potential to cause selection bias, as the sample was selected based on the researcher's ease of access and may not represent the entire stroke patient population. The cross-sectional design also limits the study in terms of temporal limitations, namely the inability to establish a causal sequence between independent variables (e.g., demographic profiles) and family support as a dependent variable, allowing only for the observation of correlations at a single point in time without assessing changes or long-term effects. In addition, the cultural specificity of Minahasa—with local values such as Mapalus (mutual cooperation) that influence family support and participation behaviors—limits the generalizability of the findings to other communities outside of that cultural context (Figueiredo et al., 2025; Nelwan et al., 2022; Tyrer & Heyman, 2016).

CONCLUSION

This study reveals that the intensity of family support for stroke patients is significantly related to age, education level, income, and length of hospital stay, with elderly patients, highly educated families, those with incomes above the minimum wage, and those undergoing long hospital stays receiving the highest level of support. Conversely, gender, type of stroke, and occupation did not play a significant role in the variation of support, indicating that socioeconomic and clinical factors such as the complexity of care trigger caregiver responses more than basic demographics.

Hospitals and nursing staff need to design family education programs tailored to patient profiles, such as health literacy modules for low-educated families and coping skills training for low-income families, and implement family-centered care that involves family members from the first day of hospitalization. In addition, the integration of psychosocial support and structured discharge planning should be prioritized for patients with short hospital stays to ensure continuity of rehabilitation and prevent post-discharge complications.

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