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Family support and functional independence among post-stroke patients

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Abstract

Background: Stroke frequently causes persistent disability and dependence in activities of daily living. Family support may facilitate rehabilitation by reinforcing treatment adherence, daily activity practice, continuity of care, and psychosocial adjustment.
Purpose: To examine the association between family support and functional independence among post-stroke patients attending a neurology outpatient clinic.
Method: This cross-sectional analytic study included 71 post-stroke patients recruited through purposive sampling at the neurology outpatient clinic of Jenderal Ahmad Yani Metro Regional General Hospital. Data were collected from May 21 to May 31, 2025. Descriptive statistics summarized participant characteristics and study variables, and the chi-square test was used to assess the association between family support and functional independence.
Results: High family support was the most frequently reported category, identified in 23 participants (32.4%), and 19 participants (26.8%) were classified as independent. Family support was significantly associated with functional independence ($p = 0.002$).
Conclusion: Family support was associated with functional independence among post-stroke patients. Because of the cross-sectional design, the findings indicate an association rather than a causal effect.

Keywords: Family Support; Functional Independence; Post-Stroke Patients.

INTRODUCTION

Stroke remains a major cause of death and long-term disability worldwide. Its consequences frequently include motor, cognitive, communication, and self-care limitations that restrict participation and increase the need for sustained rehabilitation (Feigin, Abate, Abate, Abd ElHafeez, Abd-Allah, Abdelalim, & Arifin, 2024; Winstein, Stein, Arena, Bates, Cherney, Cramer, Deruyter, Eng, Fisher, Harvey, Lang, MacKay-Lyons, Ottenbacher, Pugh, Reeves, Richards, Stiers, & Zorowitz, 2016). In Indonesia, the 2018 Basic Health Research survey reported a stroke prevalence of 10.9 per 1,000 population, while the corresponding prevalence in Lampung Province was 9.1 per 1,000 (National Institute of Health Research and Development, 2019). A preliminary survey conducted on January 9, 2025, identified 242 patients who had received stroke care at Jenderal Ahmad Yani Metro Regional General Hospital between January and December 2024.

Post-stroke recovery extends beyond acute medical management. Many patients require assistance with mobility, personal care, medication management, home exercise, outpatient rehabilitation, and adaptation to changes in family and social roles. Limited access to coordinated rehabilitation can further complicate recovery after discharge (Ifejika, Awosika, Black, Duncan, Harvey, Katz, Kimberley, Lutz, O'Neil, Stein, Yallapragada, & Reeves, 2025). Functional independence is therefore a central rehabilitation outcome because it reflects the extent to which patients

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can perform activities of daily living with minimal assistance.

Family support may influence recovery through emotional encouragement, practical assistance, access to information, and reinforcement of rehabilitation activities. Observational studies have associated stronger social support with community participation, functional capacity, quality of life, and psychosocial adjustment after stroke (Ashaie & Castro, 2022; Babkair, Chyun, Dickson, & Almekhlafi, 2022; Butsing, Tipayamongkholgul, Ratanakorn, Suwannapong, & Bundhamcharoen, 2019; Erler, Sullivan, McKinnon, & Inzana, 2019; Hartford, Lear, & Nimmon, 2019; Lima, Pimenta, Frazão, Ferreira, Costa, Viana, Martins, & Costa, 2019). These associations are clinically plausible because family members often help patients attend follow-up care, perform home-based exercises, and manage daily activities.

Intervention studies have also examined family-centered education, caregiver empowerment, transitional care, dyadic psychoeducation, and problem-solving support. Some programs have improved caregiver competence, functional capacity, or selected patient outcomes, whereas other trials have produced mixed or nonsignificant effects (Lindley, Anderson, Billot, Forster, Hackett, Harvey, & Sebastian, 2017; Bakas, McCarthy, & Miller, 2022; Blanton, Scheibe, Rutledge, Regan, O'Sullivan, & Clark, 2019; Cheng, Chair, & Chau, 2018; Demir Avci & Gözüm, 2023; Deyhoul, Vasli, Rohani, Shakeri, & Hosseini, 2020; Dharma, Damhudi, Yardes, & Haeriyanto, 2018; Minshall, Castle, Thompson, Pascoe, Cameron, McCabe, Apputhurai, Knowles, Jenkins, & Ski, 2020; Mou, Lam, & Chien, 2023; Quinn, LeLaurin, Eliazar-Macke, Orozco, Montague, Freytes, & Uphold 2023). This variation indicates that the contribution of family support may depend on patient, caregiver, intervention, and healthcare-system characteristics. Accordingly, this study examined the association between family support and functional independence among post-stroke patients attending the neurology outpatient clinic of Jenderal Ahmad Yani Metro Regional General Hospital in 2025.

RESEARCH METHOD

A quantitative analytic study with a cross-sectional design was conducted at the neurology outpatient clinic of Jenderal Ahmad Yani Metro Regional General Hospital, Lampung, Indonesia. The study population comprised post-stroke patients attending the clinic. A total of 71 participants were recruited through purposive sampling, and data were collected from May 21 to May 31, 2025.

Family support was the independent variable and was categorized as very low, low, moderate, or high. Functional independence in activities of daily living was the dependent variable and was classified as total dependence, severe dependence, moderate dependence, or independence. Data were collected using the study questionnaires.

Categorical variables were summarized using frequencies and percentages. The association between family support and functional independence was assessed using the chi-square test, with statistical significance set at $p < 0.05$.

The study was conducted in accordance with applicable research-ethics requirements, and participants provided consent before data collection.

RESEARCH RESULTS

Table 1. Frequency Distribution of Respondent Characteristics (N = 71)

Variable	Results, n (%)
Age (n%) (Mean ± SD) (Range)(Year)	(55.15 ± 13.15) (18–78)
18-44	11/15.5
45-59	34/47.9
≥60	26/36.6

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Gender	
Male	48/67.6
Female	23/32.4
Family support	
Very low	5/7.0
Low	21/29.6
Moderate	22/31.0
High	23/32.4
Functional independence	
Total dependence	17/23.9
Severe dependence	17/23.9
Moderate dependence	18/25.4
Independent	19/26.8

Table 1 shows that the mean age of the participants was 55.15 ± 13.15 years, with an age range of 18–78 years. The largest proportion of participants was aged 45–59 years, comprising 34 participants (47.9%), followed by those aged ≥60 years, comprising 26 participants (36.6%). Most participants were male, accounting for 48 participants (67.6%). High family support was the most frequently reported category, identified in 23 participants (32.4%), followed by moderate family support in 22 participants (31.0%). Regarding functional independence, 19 participants (26.8%) were classified as independent, while 52 participants (73.2%) experienced some degree of dependence.

Table 2. Family support and functional independence among post-stroke patients (N = 71)

Family support	Functional independence, n (%)				Total, n (%)	p-value
	Total dependence	Severe dependence	Moderate dependence	Independent		
Very low	1/20.0	2/40.0	1/20.0	1/20.0	5/100.0	
Low	9/42.9	2/9.5	4/19.0	6/28.6	21/100.0	
Moderate	6/27.3	10/45.5	1/4.5	5/22.7	22/100.0	0.002
High	1/4.3	3/13.0	12/52.2	7/30.4	23/100.0	
Total	**17/23.9**	**17/23.9**	**18/25.4**	**19/26.8**	**71/100.0**	

Table 2 shows a statistically significant association between family support and functional independence among post-stroke patients (p = 0.002). Among participants with low family support, 9 participants (42.9%) had total dependence. In contrast, among those with high family support, 12 participants (52.2%) had moderate dependence and 7 participants (30.4%) were independent. These findings indicate that the distribution of functional independence differed across the family-support categories.

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DISCUSSION

This study identified a statistically significant association between family support and functional independence among post-stroke patients. Participants reporting high family support had a substantially lower proportion of total dependence than those reporting low support. However, the distribution was not uniformly graded across all categories, and the very-low-support group contained only five participants. The result should therefore be interpreted as an overall association rather than a simple dose-response pattern.

The finding is consistent with observational evidence linking social support to functional capacity, community participation, positive affect, and psychosocial outcomes after stroke (Ashaie & Castro, 2022; Babkair et al., 2022; Butsing et al., 2019; Erler et al., 2019; Lima et al., 2019). Family members may help patients translate rehabilitation goals into everyday routines by providing transportation, reminders, supervision, emotional encouragement, and assistance with personal care. Qualitative evidence also indicates that continuity of support across the recovery trajectory is important to patients and families.

Family-centered interventions provide a plausible context for the observed association, although evidence of effectiveness is not uniform. Programs involving caregiver education, empowerment, transitional care, and structured psychoeducation have improved selected caregiver or patient outcomes in several trials (Blanton et al., 2019; Cheng et al., 2018; Demir Avci & Gözüm, 2023; Deyhoul et al., 2020; Dharma et al., 2018). Conversely, large or well-designed trials have sometimes reported limited effects on patient functioning, indicating that family involvement alone may be insufficient when stroke severity, rehabilitation access, caregiver capacity, or intervention intensity constrain recovery ((Lindley et al., 2017; Minshall et al., 2020; Mou et al., 2023; Quinn et al., 2023). A systematic review likewise concluded that the evidence for stroke caregiver and dyad interventions remains heterogeneous (Bakas et al., 2022).

Only 26.8% of participants in the present study were classified as independent, while 73.2% had total, severe, or moderate dependence. This distribution demonstrates the continuing functional burden among patients attending outpatient care. Contemporary rehabilitation guidance emphasizes coordinated, sufficiently intensive, and person-centered care across settings, with family members involved when appropriate (Ifejika et al., 2025; Winstein et al., 2016). Nevertheless, the present data do not establish that increasing family support will directly improve independence because functional status may also shape the amount and type of support that families can provide.

The findings should be interpreted in light of several limitations. Purposive sampling at a single outpatient clinic limits generalizability. The cross-sectional design precludes conclusions about temporal direction or causality. The analysis did not adjust for potentially important confounders, including stroke severity, time since stroke, cognitive status, comorbidities, rehabilitation exposure, socioeconomic circumstances, and caregiver characteristics. In addition, several cells in the contingency table had small frequencies, and the measurement instruments and category thresholds require fuller reporting before the findings can be independently evaluated.

CONCLUSION

Family support was significantly associated with functional independence among post-stroke patients attending the neurology outpatient clinic. Patients with high family support had a lower proportion of total dependence than those with low support, although the pattern was not uniform across every category. Given the cross-sectional design, these findings demonstrate an association and should not be interpreted as evidence of causation.

SUGGESTION

Future studies should use multicenter longitudinal or intervention designs, validated and fully reported measurement instruments, larger probability-based samples, and analytical models that account for stroke severity, time since stroke, cognitive status, comorbidities, rehabilitation exposure, socioeconomic factors, and caregiver characteristics. Exact or simulation-based statistical procedures should also be considered when contingency-table assumptions are not satisfied.

REFERENCES

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DOI: https://doi.org/10.56922/msc.v6i2.3017

Ashaie, S. A., & Castro, N. (2022). Complexity of participation post-stroke: longitudinal assessment of community participation, positive affect, social support and functional independence. *Journal of rehabilitation medicine*, *54*, 2238.

Babkair, L. A., Chyun, D., Dickson, V. V., & Almekhlafi, M. A. (2022). The effect of psychosocial factors and functional independence on poststroke depressive symptoms: a cross-sectional study. *Journal of Nursing Research*, *30*(1), e189.

Bakas, T., McCarthy, M. J., & Miller, E. L. (2022). Systematic review of the evidence for stroke family caregiver and dyad interventions. *Stroke*, *53*(6), 2093-2102.

Blanton, S., Scheibe, D. C., Rutledge, A. H., Regan, B., O'Sullivan, C. S., & Clark, P. C. (2019). Family-centered care during constraint-induced therapy after chronic stroke: A feasibility study. *Rehabilitation Nursing Journal*, *44*(6), 349-357.

Butsing, N., Tipayamongkholgul, M., Ratanakorn, D., Suwannapong, N., & Bundhamcharoen, K. (2019). Social support, functional outcome and quality of life among stroke survivors in an urban area. *Journal of Pacific Rim Psychology*, *13*, e4.

Cheng, H. Y., Chair, S. Y., & Chau, J. P. C. (2018). Effectiveness of a strength-oriented psychoeducation on caregiving competence, problem-solving abilities, psychosocial outcomes and physical health among family caregiver of stroke survivors: A randomised controlled trial. *International Journal of Nursing Studies*, *87*, 84-93.

Avci, Y. D., & Gözüm, S. (2023). Effects of Transitional Care Model–Based Interventions for Stroke Patients and Caregivers on Caregivers' Competence and Patient Outcomes: Randomized Controlled Trial. *CIN: Computers, Informatics, Nursing*, *41*(10), 805-814.

Deyhoul, N., Vasli, P., Rohani, C., Shakeri, N., & Hosseini, M. (2020). The effect of family-centered empowerment program on the family caregiver burden and the activities of daily living of Iranian patients with stroke: a randomized controlled trial study. *Aging clinical and experimental research*, *32*(7), 1343-1352.

Dharma, K. K., Damhudi, D., Yardes, N., & Haeriyanto, S. (2018). Increase in the functional capacity and quality of life among stroke patients by family caregiver empowerment program based on adaptation model. *International journal of nursing sciences*, *5*(4), 357-364.

Erler, K. S., Sullivan, V., Mckinnon, S., & Inzana, R. (2019). Social support as a predictor of community participation after stroke. *Frontiers in neurology*, *10*, 1013.

Feigin, V. L., Abate, M. D., Abate, Y. H., Abd ElHafeez, S., Abd-Allah, F., Abdelalim, A., & Arifin, H. (2024). Global, regional, and national burden of stroke and its risk factors, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021. *The Lancet Neurology*, *23*(10), 973-1003.

Hartford, W., Lear, S., & Nimmon, L. (2019). Stroke survivors' experiences of team support along their recovery continuum. *BMC health services research*, *19*(1), 723.

Ifejika, N. L., Awosika, O. O., Black, T., Duncan, P. W., Harvey, R. L., Katz, D. I., & Reeves, M. J. (2025). Improving access to stroke rehabilitation and recovery: a policy statement from the American Heart Association/American Stroke Association. *Stroke*, *56*(9), e218-e233.

Lima, R. J. D., Pimenta, C. J. L., Frazão, M. C. L. D. O., Ferreira, G. R. S., Costa, T. F. D., Viana, L. R. D. C., & Costa, K. N. D. F. M. (2019). Capacidad funcional y apoyo social de personas afectadas por accidente cerebrovascular. *Revista Brasileira de Enfermagem*, *72*, 868-873.

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DOI: https://doi.org/10.56922/msc.v6i2.3017

Lindley, R. I., Anderson, C. S., Billot, L., Forster, A., Hackett, M. L., Harvey, L. A., & Sebastian, I. (2017). Family-led rehabilitation after stroke in India (ATTEND): a randomised controlled trial. *The Lancet*, *390*(10094), 588-599.

Minshall, C., Castle, D. J., Thompson, D. R., Pascoe, M., Cameron, J., McCabe, M., & Ski, C. F. (2020). A psychosocial intervention for stroke survivors and carers: 12–month outcomes of a randomized controlled trial. *Topics in stroke rehabilitation*, *27*(8), 563-576.

Mou, H., Lam, S. K. K., & Chien, W. T. (2023). The effects of a family-focused dyadic psychoeducational intervention for stroke survivors and their family caregivers: a randomised controlled trial. *International Journal of Nursing Studies*, *143*, 104504.

National Institute of Health Research and Development. (2019). *National report of the 2018 Basic Health Research*. Publishing Agency of the National Institute of Health Research and Development. Retrieved from : https://repository.badankebijakan.kemkes.go.id/id/eprint/3514/

Quinn, E. B., LeLaurin, J. H., Eliazar-Macke, N. D., Orozco, T., Montague, M., Freytes, I. M., & Uphold, C. R. (2023). Effect of a telephone and web-based problem-solving intervention for stroke caregivers on stroke patient activities of daily living: A randomized controlled trial. *Clinical rehabilitation*, *37*(8), 1062-1073.

Winstein, C. J., Stein, J., Arena, R., Bates, B., Cherney, L. R., Cramer, S. C., & Zorowitz, R. D. (2016). Guidelines for adult stroke rehabilitation and recovery: a guideline for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke*, *47*(6), e98-e169.

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