



THE RELATIONSHIP BETWEEN SOCIAL SUPPORT AND SPIRITUALITY AND QUALITY OF LIFE AMONG STROKE PATIENTS

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ABSTRACT

Stroke is a neurovascular disease with multidimensional impacts on patients' physical, psychological, social, and spiritual conditions. The complications of stroke not only reduce physical function but also affect patients' overall quality of life. This study aims to analyze the relationship between social support and spirituality and the quality of life of stroke patients, as well as to examine the interaction of these factors in improving quality of life. This study employed a quantitative cross-sectional design involving 125 respondents selected through purposive sampling. Data were collected using validated and reliable instruments, including the Multidimensional Scale of Perceived Social Support (MSPSS; Cronbach's $\alpha = 0.89$), the Spiritual Well-Being Scale (SWBS; Cronbach's $\alpha = 0.95$), the Stroke-Specific Quality of Life Scale (SS-QOL; Cronbach's $\alpha = 0.92$), the Barthel Index (Cronbach's $\alpha = 0.87-0.92$), and the Patient Health Questionnaire-9 (PHQ-9; validity coefficient $r = 0.73$, Cronbach's $\alpha = 0.87$). Data were analyzed using Spearman's rank correlation and multiple linear regression. The results showed significant correlations between gender, educational level, comorbidity, functional status, and depression with patients' quality of life ($p < 0.05$). Multivariate analysis indicated that gender ($p = 0.000$), functional status ($p = 0.000$), and spirituality ($p = 0.012$) had significant effects on patients' quality of life. Meanwhile, age and duration of stroke did not show significant relationships ($p > 0.05$). It can be concluded that spirituality and functional status significantly contribute to determining the quality of life among stroke patients.

Keywords: quality of life; social support; spirituality; stroke patients

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INTRODUCTION

Stroke is one of the most prevalent neurovascular diseases and remains a major public health challenge worldwide. It occurs when cerebral blood flow is interrupted, either due to vascular occlusion (ischemic stroke) or rupture of a blood vessel (hemorrhagic stroke), resulting in brain tissue damage and neurological impairment (Feigin et al., 2022). As a medical emergency, stroke requires prompt management to prevent permanent disability and reduce mortality. Globally, stroke continues to be one of the leading causes of long-term disability and is the second leading cause of death. According to the World Stroke Organization (2023), approximately 13.7 million new stroke cases occur annually, resulting in an estimated 6.7 million deaths each year. The majority of this disease burden occurs in low- and middle-income countries, including those in Asia such as Indonesia (WHO, 2023).

In Indonesia, stroke is one of the most significant non-communicable diseases, imposing a substantial health and socioeconomic burden. According to the 2023 Indonesian Health Survey (Survei Kesehatan Indonesia [SKI]), which integrates the National Basic Health Research (Riskesdas) and the Indonesian Nutritional Status Survey (SSGI), the national prevalence of stroke was 8.3 per 1,000 population aged 15 years and older. Although this figure represents a decline from the prevalence of 10.9 per 1,000 reported in the 2018 Riskesdas, the absolute number of stroke cases has continued to increase due to population growth (Ministry of Health of the Republic of Indonesia, 2023). West Java ranks fourth among Indonesian provinces in terms of stroke

prevalence, with a rate of 10.0 per 1,000 population, exceeding the national average. This places West Java among the provinces with the highest stroke burden in Indonesia (Dataloka, 2023).

The consequences of stroke are complex and multidimensional, affecting nearly every aspect of an individual's life. Stroke survivors frequently experience physical impairments, including hemiparesis, speech disorders, and balance dysfunction, which substantially limit their ability to perform activities of daily living. In addition to physical disability, stroke is associated with significant psychological consequences, including an increased risk of depression, anxiety, feelings of helplessness, and social isolation (Langhorne et al., 2018). The cumulative effects of these physical and psychosocial impairments contribute directly to a decline in the quality of life (QoL) of stroke survivors.

Quality of life (QoL) is defined as an individual's perception of their position in life within the context of the culture and value systems in which they live, as well as in relation to their goals, expectations, standards, and concerns. It encompasses physical, psychological, social, environmental, and spiritual dimensions (WHOQOL, 2012). Quantitatively, reduced QoL is highly prevalent among stroke survivors. The longitudinal Fall Study of Gothenburg (2023) reported that approximately 80% of stroke survivors experienced impaired QoL five years after stroke onset, with a median EQ-5D-3L score of 0.87 and a median EQ-VAS score of 70, both significantly lower than those observed in the general population. These findings are supported by a meta-analysis conducted in Africa involving 2,572 stroke survivors, which demonstrated a large negative effect on QoL compared with healthy individuals (Hedges' $g \approx 1.13$; $p < 0.001$) (Ambrosca et al., 2024). Similarly, a population-based study in East Asia found that approximately 24% of individuals with chronic stroke experienced depression, while nearly half reported limitations in activities of daily living (Kwok et al., 2006).

Several factors have been identified as determinants of QoL among stroke survivors, including the severity of disability, functional status, psychological conditions such as depression and anxiety, access to rehabilitation services, social support, and spirituality (Chuluunbaatar et al., 2021). Consequently, a psychosocial-spiritual approach has become increasingly important in addressing recovery needs that extend beyond medical treatment to include patients' emotional, social, and existential well-being (Puchalski et al., 2019). Social support, encompassing emotional, informational, and instrumental assistance provided by family members, friends, and healthcare professionals, plays a crucial role in improving the quality of life of stroke survivors. Individuals who receive adequate social support are generally more motivated to participate in rehabilitation, experience lower levels of depression, and report better overall QoL (Cohen et al., 2021). A meta-analysis conducted by Bi and Wang (2022), involving 25 studies and 9,431 stroke patients, demonstrated that individuals with post-stroke depression consistently reported significantly lower levels of perceived social support (standardized mean difference [SMD] = -0.338 ; $p = 0.008$).

Despite its importance, optimal social support is not universally available in Indonesia, particularly among patients whose families have limited knowledge regarding stroke care. A study conducted in Wonogiri, Central Java, by Rahman et al. (2023) found that family awareness and informational support regarding stroke management were significantly associated with better quality of life among post-acute stroke patients ($p = 0.000$). Likewise, a study by Purba et al. conducted in Bukittinggi, West Sumatra, involving 138 stroke survivors, demonstrated a significant positive correlation between social support and stroke-specific quality of life ($r = 0.337$; $p < 0.001$). In addition to social support, spirituality has emerged as another important determinant of QoL among stroke survivors. Spirituality, which encompasses personal values, beliefs, and religious practices, enables individuals to find meaning in life, strengthen psychological resilience, and maintain hope throughout the recovery process (Puchalski et al., 2019). Recognizing its importance, the World Health Organization revised the WHOQOL instrument in 2012 by incorporating the dimension of

spirituality, religiousness, and personal beliefs (SRPB) alongside the existing physical, psychological, social, and environmental domains. This revision was based on growing evidence that spiritual well-being contributes significantly to meaning in life, hope, and inner peace, particularly among individuals living with chronic or life-threatening illnesses, thereby making spirituality an integral component of overall quality of life (WHO, 2006).

Lee et al. (2020) reported that stroke survivors with higher levels of spirituality experienced lower levels of depression and better quality of life, particularly within the psychological and social domains. Similarly, a systematic review conducted by Ambrosca et al. (2024), involving 6,850 stroke survivors and 1,953 caregivers, concluded that spirituality plays a significant role in improving quality of life while reducing the prevalence of depression and anxiety among both stroke survivors and their caregivers. These findings suggest a protective effect of spirituality, especially with regard to psychological and social well-being. Furthermore, a study conducted in Malaysia by Khaw Wan-Fei et al. (2024) comparing spirituality and quality of life between stroke survivors and their caregivers found a moderate positive correlation between spiritual well-being and quality of life, indicating that higher levels of spirituality were associated with better QoL among stroke survivors ($p = 0.006$).

Failure to comprehensively address the quality of life of stroke survivors, including both social support and spirituality, may increase the risk of secondary complications. Poor quality of life has been associated with reduced adherence to treatment, feelings of hopelessness, and a greater burden on both families and healthcare systems (Hackett & Pickles, 2019). Therefore, it is essential to understand the combined roles of social support and spirituality in promoting the quality of life of stroke survivors. Such evidence may provide a stronger foundation for developing comprehensive, patient-centered rehabilitation interventions that address not only physical recovery but also psychosocial and spiritual well-being. This study aims to examine the relationship between social support and spirituality with the quality of life among stroke patients.

METHOD

This study employed a quantitative cross-sectional design to examine the relationship between social support, spirituality, and quality of life among patients with stroke. The study was conducted at Sekarwangi Regional General Hospital, Sukabumi Regency, Indonesia, involving 125 stroke patients selected through purposive sampling based on predefined inclusion and exclusion criteria. The independent variables were social support and spirituality, while the dependent variable was stroke-specific quality of life. Potential confounding variables included age, sex, educational level, duration of stroke, functional status, comorbidities, and depression. Data were collected using validated instruments, including the Multidimensional Scale of Perceived Social Support (MSPSS) (Cronbach's $\alpha = 0.89$), the Spiritual Well-Being Scale (SWBS) (Cronbach's $\alpha = 0.95$), the Stroke-Specific Quality of Life Scale (SS-QOL) (Cronbach's $\alpha = 0.92$), the Barthel Index (Cronbach's $\alpha = 0.87$ – 0.92), and the Patient Health Questionnaire-9 (PHQ-9) (validity coefficient $r = 0.73$; Cronbach's $\alpha = 0.87$), all of which have demonstrated satisfactory validity and reliability in previous studies. Data were analyzed using descriptive statistics for univariate analysis, Spearman's rank correlation for bivariate analysis, and multiple linear regression for multivariate analysis, with statistical significance set at $p < 0.05$.

RESULT

Based on table 1, it can be concluded that the majority of respondents were female (72 people) (57.6%), and almost half were male (53 people) (42.4%). Most of the respondents' last education was elementary school/equivalent (83 people) (66.4%). Almost half of the respondents' stroke duration was <1 month (44 people) (35.2%). Most of the respondents' comorbidities were hypertension (82 people) (65.6%). Almost half of the respondents' functional status was total

dependency (40 people) (32.0%). And almost half of the respondents' depression was moderate depression (36 people) (28.8%).

Table 1.
Distribution of respondents based on gender, education level, length of stroke, comorbidities, functional status, and depression

Variables	Category	f	%
Gender	Man	53	42.4
	Woman	72	57.6
Last Education	No school	10	8.0
	Elementary School/Equivalent	83	66.4
	Junior High School/Equivalent	10	8.0
	High School/Equivalent	19	15.2
	College	3	2.4
Long-term Stroke Suffering	< 1 month	44	35.2
	1-6 months	31	24.8
	7-12 months	28	22.4
	> 1 year	22	17.6
Comorbidities	Hypertension	82	65.6
	Diabetes Mellitus	6	4.8
	Dyslipidemia	1	0.8
	Heart disease	18	14.4
	Obesity	2	1.6
	Smoking	15	12.0
	Consuming Alcohol	1	0.8
Functional Status	Total Dependence	40	32.0
	Heavy Dependence	28	22.4
	Moderate Dependence	22	17.6
	Mild Dependence	10	8.0
	Independent	25	20.0
Depression	Severe depression.	10	8.0
	Moderate-severe depression	17	13.6
	moderate depression	36	28.8
	Mild depression	33	26.4
	No depression	29	23.2

Table 2.
Distribution of Respondents Based on Age, Quality of Life, Social and Spiritual Support

Variable	Average	Standard Deviation	Min-Max
Age	59.99	10,230	39-95
Quality of Life	194.50	47,396	91-294
Social Support	65.59	12,453	26-84
Spiritual	95.14	12,948	70-118

Based on table 2 above, the sample in this study who became respondents had an average age of 59.99 years, Std. Deviation of 10.230 with a minimum age of 39 years and a maximum age of 95 years. The average quality of life of respondents was 194.50, Std. Deviation of 47.396 with a minimum score of 91 and a maximum score of 294. The average social support of respondents was 65.59, Std. Deviation of 12.453 with a minimum score of 26 and a maximum score of 84. The average spirituality of respondents was 95.14, Std. Deviation of 12.948 with a minimum score of 70 and a maximum score of 118.

Table 3.
Relationship between Social Support and Quality of Life of Stroke Patients

		Social Support	Quality of Life
Social Support	Correlation Coefficient	1,000	0.419**
	Sig. (2-tailed)	.	<,001
	N	125	125
Quality of Life	Correlation Coefficient	0.419**	1,000
	Sig. (2-tailed)	<,001	.
	N	125	125

The Spearman's rho test obtained a P value of <0.001 (p value <0.05), which means that it can be concluded that there is a relationship between social support and the quality of life of stroke patients.

Table 4.

Spiritual Relationship with Quality of Life of Stroke Patients

		Spiritual	Quality of Life
Spiritual	Correlation Coefficient	1,000	,273**
	Sig. (2-tailed)	.	,002
	N	125	125
Quality of Life	Correlation Coefficient	,273**	1,000
	Sig. (2-tailed)	,002	.
	N	125	125

The Spearman's rho test obtained a P value of 0.002 (p value <0.05), which means that it can be concluded that there is a spiritual relationship with the quality of life of stroke patients.

Table 5.

Relationship between age and quality of life of stroke patients

		Age	Quality of Life
Age	Correlation Coefficient	1,000	-0.118
	Sig. (2-tailed)	.	0.188
	N	125	125
Quality of Life	Correlation Coefficient	-0.118	1,000
	Sig. (2-tailed)	0.188	.
	N	125	125

The Spearman's rho test obtained a P value of 0.188 (p value >0.05), which means that it can be concluded that there is no relationship between age and the quality of life of stroke patients.

Table 6.

Relationship between Gender and Quality of Life of Stroke Patients

		Gender	Quality of Life
Gender	Correlation Coefficient	1,000	-,314**
	Sig. (2-tailed)	.	<,001
	N	125	125
Quality of Life	Correlation Coefficient	-,314**	1,000
	Sig. (2-tailed)	<,001	.
	N	125	125

The Spearman's rho test obtained a P value of <0.001 (p value <0.05), which means that it can be concluded that there is a relationship between gender and the quality of life of stroke patients.

Table 7.

Relationship between Education Level and Quality of Life of Stroke Patients

		Level of education	Quality of Life
Level of education	Correlation Coefficient	1,000	0.364**
	Sig. (2-tailed)	.	<,001
	N	125	125
Quality of Life	Correlation Coefficient	0.364**	1,000
	Sig. (2-tailed)	<,001	.
	N	125	125

The Spearman's rho test obtained a P value of <0.001 (p value <0.05), which means that it can be concluded that there is a relationship between the level of education and the quality of life of stroke patients.

Table 8.
Relationship between Length of Stroke Suffering and Quality of Life of Stroke Patients

		Long-term Stroke Suffering	Quality of Life
Long-term Suffering	Correlation Coefficient	1,000	-,001
	Sig. (2-tailed)	.	,989
	N	125	125
Quality of Life	Correlation Coefficient	-,001	1,000
	Sig. (2-tailed)	,989	.
	N	125	125

The *Spearman's rho* test obtained a P value of 0.989 (p value >0.05), which means it can be concluded that there is no relationship between the length of time suffering from stroke. with the quality of life of stroke patients.

Table 9.
Relationship between Comorbidities and Quality of Life in Stroke Patients

		Comorbidities	Quality of Life
Comorbidities	Correlation Coefficient	1,000	,297**
	Sig. (2-tailed)	.	<,001
	N	125	125
Quality of Life	Correlation Coefficient	,297**	1,000
	Sig. (2-tailed)	<,001	.
	N	125	125

The *Spearman's rho* test obtained a P value of <0.001 (p value <0.05), which means that it can be concluded that there is a relationship between comorbidities and the quality of life of stroke patients.

Table 10.
Relationship between Functional Status and Quality of Life of Stroke Patients

		Functional Status	Quality of Life
Functional Status	Correlation Coefficient	1,000	,522**
	Sig. (2-tailed)	.	<,001
	N	125	125
Quality of Life	Correlation Coefficient	,522**	1,000
	Sig. (2-tailed)	<,001	.
	N	125	125

The *Spearman's rho* test obtained a P value of <0.001 (p value <0.05), which means that it can be concluded that there is a relationship between functional status and the quality of life of stroke patients.

Table 11.
Relationships Between Depression and Quality of Life in Stroke Patients

		Depression	Quality of Life
Depression	Correlation Coefficient	1,000	,354**
	Sig. (2-tailed)	.	<,001
	N	125	125
Quality of Life	Correlation Coefficient	,354**	1,000
	Sig. (2-tailed)	<,001	.
	N	125	125

The *Spearman's rho* test obtained a P value of <0.001 (p value <0.05), which means that it can be concluded that there is a relationship between depression and the quality of life of stroke patients.

Table 12.

The influence of social support, spiritual support and confounding factors together on the quality of life of stroke patients

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Age	-0.720	0.368	-0.155	-1.953	0.053
Gender	-30,110	8,332	-0.315	-3,614	0.000
Level of education	-4,271	3,330	-0.100	-1.283	0.202
Long-term Suffering	-1,412	4,517	-0.027	-.312	0.755
Stroke Comorbidities	3,393	1,937	.134	1,751	0.083
Functional Status	11,788	2,407	.373	4,898	0.000
Depression	4,666	3,561	.119	1,311	0.193
Social Support	10,434	7,374	.121	1,415	0.160
Spiritual	19,422	7,620	.203	2,549	0.012

Based on table 12, the analysis results show that there are three variables that have a p value <0.05, namely Gender (Sig): 0.000, Functional Status (Sig): 0.000, and Spiritual (Sig): 0.012, where the large p value <0.05 then H0 is rejected and Ha is accepted, meaning that there is a significant influence of gender, functional and spiritual status together on the quality of life of stroke patients.

DISCUSSION

The mean quality of life score among stroke patients in this study was 194.50 ± 47.40 (range: 91–294), indicating that despite rehabilitation, many patients continued to experience suboptimal quality of life. This finding is consistent with previous studies reporting that stroke survivors generally have poorer health-related quality of life than the general population due to mobility limitations, impaired activities of daily living, pain, and emotional problems (Langhammer et al., 2022; Sulistyanto et al., 2024). Quality of life is determined by the interaction of biological, psychological, social, and spiritual factors, with post-stroke depression recognized as a major predictor of poorer outcomes, whereas adequate social support and spiritual coping contribute to better rehabilitation adherence, greater hope, and reduced anxiety and depression (Lumbantobing et al., 2025; Zhang et al., 2024). In the present study, most participants reported high social support (64.8%) and moderate-to-high spirituality (58.4%), suggesting the presence of protective psychosocial resources. These findings align with evidence showing that social support enhances resilience, adaptive coping, and quality of life through increased hope and reduced emotional distress (Wang et al., 2023; Li et al., 2022), while family support plays a central role in improving rehabilitation adherence and long-term recovery among Indonesian stroke survivors (Israfil, 2024; Nisak, 2023). Likewise, spirituality has been associated with lower levels of anxiety and depression, greater psychological well-being, and improved quality of life, particularly when integrated with family and healthcare support (Ambrosca et al., 2024; Chen et al., 2022; Lumbantobing et al., 2025; Xu et al., 2024). Collectively, these findings highlight the importance of adopting a biopsychosocial-spiritual approach in stroke rehabilitation to optimize patients' quality of life.

Social support and spirituality were significantly associated with quality of life among stroke patients ($p < 0.001$ and $p = 0.002$, respectively), whereas age was not significantly associated with quality of life ($p = 0.188$). These findings support previous evidence demonstrating that social support improves physical and psychosocial quality of life by fostering hope, reducing emotional distress, enhancing rehabilitation adherence, and facilitating adaptation to disability (Chan et al., 2022; Suharsono et al., 2025). Likewise, spirituality contributes to better quality of life by reducing anxiety and depression, strengthening coping mechanisms, promoting meaning in life, and improving psychological well-being among stroke survivors (Ambrosca et al., 2024; Zhang et al., 2024; Yousofvand et al., 2023; Sutikno et al., 2025). Although age was not associated with quality of life, previous studies suggest that psychosocial and spiritual factors exert a greater influence on

post-stroke quality of life than demographic characteristics alone (Li, 2024; Pucciarelli et al., 2022; Azar et al., 2023). In contrast, sex showed a significant association with quality of life ($p < 0.001$), consistent with evidence that men and women differ in coping strategies, social roles, support needs, and access to spiritual resources following stroke, resulting in different quality-of-life outcomes (Matérne, 2025; Comer et al., 2024; Langingi et al., 2025; Praditya et al., 2025; Alilu et al., 2025). Overall, these findings emphasize that post-stroke quality of life is influenced predominantly by psychosocial, spiritual, and gender-related factors rather than age alone, highlighting the importance of integrating family support, psychosocial interventions, and spiritual care into comprehensive stroke rehabilitation programs.

Educational level and comorbidity were significantly associated with quality of life among stroke patients ($p < 0.001$), whereas stroke duration showed no significant association ($p = 0.989$). Higher educational attainment may improve quality of life by enhancing health literacy, treatment adherence, access to healthcare services, cognitive adaptation, and social participation (Martini et al., 2022; Pădureanu et al., 2023). Furthermore, individuals with higher educational levels are more likely to recognize and address their spiritual needs, adopt adaptive spiritual coping strategies, and effectively utilize family and healthcare support, thereby contributing to better quality of life (Rukmana, 2025; Li et al., 2024). In contrast, the absence of an association between stroke duration and quality of life suggests that long-term outcomes are influenced more by functional status, cognitive adaptation, depression, and psychosocial factors than by disease duration itself (Handayani et al., 2023; Milani et al., 2023; Sitohang et al., 2024). Previous studies also indicate that social support, hope, psychosocial adaptation, and fulfillment of spiritual needs can buffer the negative effects of chronic disability and help maintain quality of life regardless of stroke duration (Frontiers in Psychiatry, 2022; Chang et al., 2024). Conversely, comorbidities were associated with poorer quality of life, consistent with evidence that multiple chronic conditions increase post-stroke fatigue, functional limitations, psychological burden, and reduced vitality (Matérne et al., 2025). Nevertheless, strong social support remains an important protective factor by reducing depression, enhancing self-efficacy, improving rehabilitation adherence, and mitigating the adverse impact of comorbidities on quality of life (Yamanie et al., 2022; Rosyadi et al., 2025). Collectively, these findings suggest that educational attainment, psychosocial resources, and comorbidity play a greater role in determining post-stroke quality of life than stroke duration alone.

Functional status and depression were significantly associated with quality of life among stroke patients ($p < 0.001$), and multiple linear regression further identified sex, functional status, and spirituality as independent predictors of quality of life ($p < 0.05$). Better functional status has consistently been associated with greater independence, mobility, social participation, and higher health-related quality of life, emphasizing the importance of structured and continuous rehabilitation programs (Sitohang, 2024; Hartley et al., 2022). Moreover, social support and spirituality may enhance the benefits of functional recovery by strengthening motivation, rehabilitation adherence, resilience, and psychological adaptation to disability (Indrika, 2022; Sinaga, 2023). Conversely, depression was associated with poorer quality of life, consistent with evidence that post-stroke depression impairs daily functioning, return to work, psychological well-being, and survival (Shewangizaw et al., 2023; Sekeon et al., 2025). Previous studies also suggest that adequate social support can alleviate depressive symptoms and improve rehabilitation outcomes and quality of life (Yamanie et al., 2022; Akrib Juara, 2023). Furthermore, the multivariable analysis demonstrated that sex, functional status, and spirituality independently influenced quality of life, supporting the biopsychosocial-spiritual model of stroke recovery (Ambrosca et al., 2024). Sex differences in recovery patterns, disability burden, and psychosocial adaptation may explain the observed variation in quality of life between men and women (Comer et al., 2024), while improvements in functional independence remain a key determinant of long-term quality of life (Sitohang, 2024; Hartley et al., 2022). These findings highlight the need for comprehensive stroke rehabilitation that integrates physical rehabilitation with psychosocial and

spiritual interventions to optimize patients' quality of life.

CONCLUSION

This study demonstrates that social support, spirituality, educational level, sex, comorbidity, functional status, and depression are significantly associated with the quality of life of stroke patients, whereas age and stroke duration are not. Multiple linear regression further identified sex, functional status, and spirituality as independent predictors of quality of life. These findings highlight that post-stroke quality of life is shaped not only by physical recovery but also by psychosocial and spiritual factors. Therefore, comprehensive stroke rehabilitation should integrate functional rehabilitation with family-centered social support, psychological management, and spiritual care to optimize patients' quality of life and long-term recovery.

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