

Gender Differences in Spiritual Well Being among Stroke Survivors

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Abstract

Spirituality is acknowledged as a protective factor in stroke recovery, with spiritual well-being (SWB) as a measurable dimension of spirituality. Gender may affect SWB through cultural, religious, and psychosocial influences. In nursing practice, understanding gender differences in SWB is essential to develop holistic stroke recovery based on the spiritual gender-sensitive care. This research investigated gender differences in SWB among stroke survivors in Bondowoso, Indonesia. A cross-sectional study with convenience sampling was utilized, including 141 participants (71 men and 70 women) from July to September 2024. The Indonesian version of the Spiritual Well-Being Scale (SWBS) was employed to evaluate religious well-being (RWB) and existential well-being (EWB). Pearson correlation and independent t-tests analyses were performed. Women exhibited markedly higher overall SWB scores than men (105.2 ± 7.76 vs. 102.4 ± 6.30 ; $p < 0.05$). Furthermore, there was a difference only in the RWB domain. Age, education, occupation, income, and stroke history with SWB did not correlate. The findings indicate that gender-related differences in SWB may be influenced by the cultural and religious environment of stroke survivors, where spirituality frequently informs coping mechanisms. Multicenter studies with larger and more diverse samples are required to elucidate the influence of gender on SWB.

Keywords: Gender; Spiritual well being; Stroke survivor

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1. Introduction

Stroke continues to be a worldwide concern that necessitates concentrated attention. Stroke is the second most common cause of global mortality. Globally, there were approximately 7.8 million instances of ischemic stroke, yielding an age-standardized incidence rate (ASIR) of 92.39 per 100,000 individuals (Zhang, Lu, & Yang, 2024). The total number of occurrences significantly escalated from 1990 to 2019, with incident strokes increasing by 70.0%, stroke-related death by 43.0%, stroke prevalence by 102.0%, and Disability-Adjusted Life Years (DALYs) by 143.0% (Feigin et al., 2022).

The prevalence of stroke is rising in several Asian nations as a result of demographic shifts and hypertension. The epidemiology of stroke is clearly established in nations like China and Japan, where ischemic stroke predominates (Turana et al., 2021). Investigations of stroke epidemiology throughout Asia have revealed disparities in the disease's burden, fatality rates, incidence, and prevalence. In Indonesia, the stroke incidence in 2023 was 8.2 incidents per 1,000 individuals. This figure is elevated in

comparison to other developing nations in Asia. (Adityasiwi, Budiono, Zainafree, & Cahyati, 2025; Kalkonde et al., 2023)

The population of stroke survivors is increasing due to enhanced survival rates. Stroke survivors are those who have endured the acute period of a stroke, but often experience various physical, cognitive, and emotional repercussions (Gibbs, Anderson, Simpson, & Jones, 2020).

Stroke survivors experience physical, psychological, and social challenges. Stroke survivors experience physical obstacles, including mobility impairments and health concerns (Khat'kova & Pogorel'tseva, 2024). Moreover, stroke survivors encounter psychological difficulties such as existential dilemmas, depression, anxiety, and post-traumatic stress disorder (Tjokrowijoto, Kneebone, Baker, Andrew, & Stolwyk, 2024). Spirituality may serve as a protective factor for dealing with both psychological and physical problems among stroke survivors (Sausan, Adnan, & Rhadiana, 2025).

Spirituality is characterized as a dynamic and subjective experience of personal connection with the

universe, others, or a transcendent entity (Murgia, Notarnicola, Rocco, & Stievano, 2020). From a positivistic perspective, spiritual well-being (SWB) refers to a measurable state of spirituality (Bufford & Paloutzian, 2023). From a positivist standpoint, spiritual well-being (SWB) denotes a quantifiable condition of spirituality. Bufford and Paloutzian, 2023. In research contexts, spirituality and spiritual well-being are synonymous. Consequently, employing SWB from a positivist perspective can illuminate an individual's spirituality (Woo, Ang, Rogers, & Zhou, 2025).

Nurses play a vital role in evaluating patient spirituality and the elements that affect the execution of appropriate interventions. Li et al. (2024) indicated that patient demographics, social support, and psychological factors can influence the spiritual needs of stroke survivors. The gender factor warrants further exploration.

Gender is a significant factor influencing spirituality/SWB and is closely associated with cultural, religious, and individual hormonal elements (Bożek, Nowak, & Blukacz, 2020). In the context of other chronic diseases, different spirituality/SWB characteristics are observed between genders (Rassouliau, Gaiger, & Loeffler-Stastka, 2021).

Gender inequalities represent a significant health issue in Indonesia. A strategy to mitigate gender inequalities involves implementing gender-responsive policies and conducting gender-sensitive research (Cameron, 2023). However, the literature review process reveals a lack of studies exploring gender differences among stroke survivors, particularly concerning spiritual well-being. This study examines gender differences in spiritual well-being among stroke survivors.

The findings of this research are expected to contribute to the field of nursing by providing empirical evidence that strengthens the integration of gender-sensitive and spiritually oriented care into post-stroke management. Understanding variations in spiritual well-being between women and men stroke survivors may guide nurses in designing tailored interventions that address not only physical and psychological needs but also spiritual dimensions

2. Method

This study utilised a cross-sectional design including outpatient stroke survivors at a hospital located in Bondowoso, Indonesia. In 2023, the hospital reported a population of 530 stroke survivors. The inclusion criteria consist of individuals aged 18-65 who have been diagnosed with a stroke by a physician and are capable of effective communication. Convenience sampling was employed, utilising gender as a grouping factor with an equal ratio of 1:1.

The sample size was determined by G*power analysis, employing an independent t-test with a 1:1

allocation ratio between the two groups (men and women). The statistical power was 80% with a significance threshold of 0.05, and a medium effect size was established at 0.5 (Kang, 2021). The G*power study indicated that 128 respondents were necessary for the sample. The researcher included an additional 10% of the total responses to mitigate the risk of dropouts or incomplete surveys. Consequently, a total of 141 replies were necessary. The allocation ratio of the two groups is 1:1, with a sample proportion of 70 for the men group and 71 for the women group.

This study included two instruments: respondent characteristics and the Indonesian version of the Spiritual Well-Being Scale (SWBS) questionnaire. The researcher organized the respondents' demographic data, including name, gender, age, educational attainment, occupation, marital status, monthly income, stroke history, and hospitalization history. The Spiritual Well-Being Scale (SWBS) comprises 20 items. This SWBS quantitatively assesses the spiritual landscape through two domains: religious well-being (RWB) and existential well-being (EWB), each comprising 10 question items. Religious well-being is represented in items 1, 3, 5, 7, 9, 11, 13, 15, 17, and 19. Existential well-being is located in items 2, 4, 6, 8, 10, 12, 14, 16, 18, and 20. Each statement item is allocated a value between 1 and 6. The outcome yielded a spiritual well-being score between 20 and 120, with elevated values signifying enhanced levels of spiritual well-being. The Indonesian version of the SWBS had a reliability coefficient of 0.86 (Bufford & Paloutzian, 2023).

This research was carried out at a hospital in Bondowoso, Indonesia, from July to September 2024. Research scientists collected data in the neurological outpatient department of a hospital in Bondowoso. One hundred forty-one (141) questionnaires were sent to participants based on the established criteria, and all respondents completed the questionnaire in its entirety (response rate=100%). The researcher confirmed that all participants were informed about the study and provided their consent. This research has obtained ethical approval from the institutional review board of the Faculty of Nursing, University of Jember, under number 281/UN25.1.14/KEPK/2024, dated June 14, 2024.

This research employed SPSS version 27 for data analysis. The researcher initially assessed the normality of the data by applying the Kolmogorov-Smirnov test to the dependent variable, spiritual well-being. The second phase examined the correlation between respondent characteristics and spiritual well-being (SWB). Given the normal distribution of the dependent variable, the connection between Age and SWB was examined by Pearson correlation analysis. An independent t-test was employed to examine education level, gender, occupation, marital status,

monthly income, stroke history and hospitalisation history. Additionally, in the third phase, the researcher examined the gender disparities within each area of spiritual well-being (RWB and EWB) utilizing an independent t-test analysis.

3. Results and Discussion

Table 1 shows the characteristics of stroke survivor respondents and their correlation with SWB. The researcher used a 1:1 ratio between men and women, with the majority being married couples (89.4%). Islam was the majority religion among respondents, with 99.3%. The average age was

39.69±12.56, with 86.5% having a high school education or less. Most stroke survivors are employed, with 61.7% and the majority have incomes below the regional minimum wage. Most stroke survivors had a stroke history <3 Years ago, 78% and 51.8% had a history of hospitalization of less than 7 days. Furthermore, Table 1 showed a difference in SWB based on gender, with an average higher for women than men (105.2±7.76 vs 102.4±6.30; p<0.05). Age, education level, occupation, marital status, income per month, stroke history, and hospitalization history showed no relationship with SWB.

Table 1. The correlation between characteristic respondents and SWB (n=141)

Variables	Category	n(%) or mean SD	SWB	
			Mean±SD	p
Gender	Men	71 (50.4)	102.4±6.30	0.025 ^{a*}
	Women	70 (49.6)	105.2±7.76	
Religion	Islam	140 (99.3%)	103.84±7.18	0.595 ^a
	Christian	1 (0.7%)	-	
Age (year)		39.69±12.56		0.176 ^b
Education level	High school or less	122 (86.5)	104.5±7.16	0.514 ^a
	Diploma/graduate school	19 (13.5)	103.6±6.4	
Occupation	No	54 (38.3)	105.1±7.79	0.078 ^a
	yes	87 (61.7)	102.9±6.66	
Marital status	Single	15 (10.6)	100.4±5.57	0.51 ^a
	Couple	126 (89.4)	104.2±7.24	
Income per month (based on the regional minimum wage)	Below	94 (66.7)	104.3±6.75	0.202 ^a
	Above or equal	47 (33.3)	102.7±7.89	
Stroke history	< 3 years ago	110 (78.0)	103.7±7.44	0.762 ^a
	≥ 3 years ago	31 (22.0)	104.4±6.18	
Hospitalisation history	< 7 days	73 (51.8)	103.9±7.02	0.888 ^a
	≥ 7days	68 (48.2)	103.7±7.37	

^aIndependent t-test, ^bPearson correlation test, *p value <0.05

Table 2 illustrates gender differences in the two domains of SWB. There is no difference between men and women in the domain of existential well-being (EWB), with t = -0.327 and p = 0.744. while in

religious well-being. (RWB), there was a difference between men and women group (51.36±4.85 vs. 53.6±4.17) with t = -3.039 and p-value = 0.003.

Table 2. The gender differences in EWB and RWB (n=141)

Domain SWB	Men	Women	t	P
	(Mean±SD)	(Mean±SD)		
EWB	51.2±5.23	51.4±4.16	-0.327	0.744 ^a
RWB	51.36±4.85	53.6±4.17	-3.039	0.003 ^{a*}

^aindependent t-test, *p value <0.05

This study clarifies the disparities in spiritual well-being among stroke survivors, categorized by gender. The SWBS score results demonstrate that women outperform men. This corresponds with the study Li et al. (2024), which identified differences in spiritual demands across women and men cohorts within the stroke demographic in China. In the context

of cancer patients, it is clear that disparities in spiritual demands exist, impacted by gender differences; moreover, Rassoulia et al. (2021) Discovered that the spiritual disposition of women cancer patients surpassed that of their men counterparts. The analysis of chronic kidney diseases revealed notable disparities in spiritual well-being between men and women

cohorts, with the women group exhibiting a higher score than their men counterparts.

The gender lens associated with spirituality indicates that women demonstrate a higher level of spirituality. Additionally, regarding religious well-being, this study indicated disparities between men and women among stroke survivors. Women score higher on the RWB than men. RWB is a person's understanding of and faith in a higher power. When it comes to religiosity, religious coping is a big part of what makes someone religious. For Christian women with chronic illnesses, praying to God makes them feel stronger (Cluley, Trivedi, & Burton, 2024). In a study in Morocco, Muslim women have tawakkul (trust in God) and yaqeen (certainty), so they consider illness as a destiny that must be accepted (Adeleye, Ogungbe, Chutiya, & Iradukunda, 2024).

This study indicates that nurses are crucial in supporting spiritual well-being (SWB) in stroke survivors by acknowledging gender differences. By comprehending these differences, nurses can modify the spiritual care strategy, offering enhanced assistance for the religious dimension of men patients and reinforcing the existential component overall (Yang et al., 2024). Adding gender-based spiritual strengthening in post-stroke discharge planning is an important step to develop (Rayanti & Yoel, 2020). Furthermore, enhancing nurse proficiency through gender-specific spiritual care training can fundamentally improve the rehabilitation and quality of life for stroke survivors. (Olmaz, Özden, & Parlar Kılıç, 2024; Wang et al., 2022).

This study is gender-sensitive and represents the initial exploration of spirituality and spiritual well-being in the setting of stroke survivors. However, several limitations must be acknowledged. First, this study was conducted at a single hospital in Bondowoso, Indonesia, which may limit the generalizability of findings. Second, nearly all respondents were Muslim and from Javanese–Madurese cultural backgrounds, reducing the cultural and religious diversity of the sample. Finally, the cross-sectional design precludes causal interpretations.

4. Conclusions and Suggestions

This study describes the existence of gender-based SWB differences in stroke survivors. Based on SWB components, there is no difference in the EWB domain between men and women. Furthermore, there is a difference in the RWB domain. These results indicate the importance of gender-specific spiritual training for nurses to improve nursing care quality in stroke survivors. Further study is needed to explore the differences in gender among stroke survivors in multicentre settings with a large number of respondents and more diverse religious and cultural backgrounds.

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