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RELATIONSHIP BETWEEN ANTICIPATED STIGMA, ANXIETY, DEPRESSION, RESILIENCE AND QUALITY OF LIFE IN STROKE SURVIVOR PATIENTS

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Abstract

The aim of this study was to analyze the relationship between anxiety, depression, anticipated stigma, quality of life, and resilience in stroke survivor patients. Using a quantitative, correlational, non-experimental, cross-sectional design, a sample of 40 patients from Hospital San Jerónimo de Montería (Colombia) was evaluated through intentional non-probabilistic sampling. The Hospital Anxiety and Depression Scale (HAD), the Connor-Davidson Resilience Scale (CD-RISC 10), the Chronic Illness Anticipated Stigma Scale (CIASS), and the SF-36 Health Survey were administered. Results showed that anxiety and depression were significantly and inversely related to quality of life dimensions such as physical functioning, vitality, social functioning, and mental health, while a direct relationship was found with bodily pain. No statistically significant correlations were found between anticipated stigma and other variables, or between resilience and the remaining scales. Notably, 37.5% of participants showed low resilience and 45% moderate resilience. Findings underscore the importance of addressing emotional components in a comprehensive post-stroke rehabilitation approach and suggest future research including moderating variables such as perceived social support and spirituality.

Keywords: anxiety, quality of life, depression, anticipated stigma, resilience, stroke.

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Introduction

A stroke is a medical emergency that occurs when blood flow to the brain is interrupted, which can cause neurological damage and sequelae of varying severity. According to the World Health Organization (WHO, 2021), stroke is the second leading cause of death worldwide, and it is estimated that approximately 70% of survivors experience some degree of disability requiring ongoing care (Feigin et al., 2020). This results in motor, cognitive, emotional, and social sequelae that may persist in the long term. In Colombia, the National Administrative Department of Statistics (DANE, 2023) reported 2,011 deaths from stroke in the first half of 2023 alone, making this condition the second leading cause of death nationally, accounting for 6.7% of all deaths. In the city of Montería, stroke ranks second among the most significant health issues, with a rate of 51.05 cases per 100,000 inhabitants in 2019 (ASIS, 2021).

However, the complexity of this medical condition often suggests that the quality of life of stroke survivors may be affected by multiple factors that go beyond observable physical sequelae. Hackett et al. (2021) note that approximately 30% of this population exhibits significant depressive symptoms, while the prevalence of post-stroke anxiety ranges from 25% to 50% in the acute phase (Luna-Matos et al., 2017). Quality of life can be significantly influenced by anxiety and depressive symptoms due to their association with the adaptation process, as they affect the physical, psychological, and social dimensions involved in recovery and subsequent adaptation following a stroke.

Likewise, anticipated stigma—understood as the expectation of experiencing social rejection or discrimination due to an illness or disability—has become a construct of growing interest in health research. Johnson and Brown (2018) found significant associations between anticipated stigma and anxiety in stroke patients, while Judd et al. (2020) highlight this construct's potential to affect quality of life. At the same time, resilience has been identified as a potential protective factor in this population; studies such as that by Yan and Lin (2022) indicate that patients with higher levels of resilience report a better quality of life and fewer emotional symptoms.

Despite growing interest in these variables, there has been little research examining them collectively in the Colombian population, especially in contexts with specific sociodemographic characteristics such as those found on the Colombian Caribbean Coast. This study sought to analyze the relationship between anticipated stigma, anxiety, depression, resilience, and quality

of life in stroke survivors at San Jerónimo Hospital in Montería, with the aim of generating useful evidence to guide comprehensive psychosocial interventions tailored to this population.

Method

Design

The study was conducted using a quantitative, correlational, non-experimental, cross-sectional design. The aim was to analyze the relationships among the variables of interest without intervening in or modifying any of them, assessing participants at a single point in time.

Participants

The sample consisted of 40 stroke survivors who were receiving medical treatment at the E.S.E. San Jerónimo Hospital in Montería over a six-month period. Selection was based on non-probabilistic purposive sampling. Fifty-five percent (n = 22) were men and 45% (n = 18) were women, ranging in age from 35 to 92 years. In terms of education, 85% had completed elementary school, 12.5% had completed high school, and 2.5% had completed technical training. Ninety-five percent of the participants lived with family members.

The inclusion criteria were: a confirmed diagnosis of stroke by a healthcare professional, being over 18 years of age, and scoring above 18 on the Mini-Mental State Examination (MMSE). Patients with other serious neurological conditions, those under 18 years of age, or those unable to provide informed consent were excluded.

Instruments

Hospital Anxiety and Depression Scale (HAD).

Developed by Zigmond and Snaith (1983), it assesses symptoms of anxiety and depression in medical settings. It consists of 14 items organized into two subscales of 7 items each, with a four-point Likert-type response scale. It has been validated in Colombia by Rico et al. (2005) in cancer patients at the National Cancer Institute, with a Cronbach's alpha of .80.

Connor-Davidson Resilience Scale (CD-RISC 10).

An abbreviated version of the original scale developed by Connor and Davidson, published in 2010. It consists of 10 items rated on a scale from 0 to 4 that assess adaptability, resilience, and the ability to maintain a positive attitude in the face of adversity. It was validated in Colombia by Riveros et al. (2017) in a sample of 265 college students, with a Cronbach's alpha of .838.

SF-36 Health Survey.

Developed by Ware and Sherbourne as part of the Medical Outcomes Study (1987), it measures health-related quality of life through 36 items grouped into eight dimensions: physical functioning, physical role, bodily pain, general health, vitality, social functioning, emotional role, and mental health. It has been extensively validated in Spanish-speaking populations (Vilagut et al., 2019).

Chronic Illness Anticipated Stigma Scale (CIASS).

Developed by Earnshaw et al. (2013), it measures expectations of future discrimination among people with chronic illnesses. It consists of 12 items distributed across three subscales that assess anticipated stigma from: friends and family, coworkers, and healthcare providers. It was translated into Spanish and validated in a Colombian population by Trejos-Herrera, Vinaccia, Bahamón, Alarcón-Vásquez et al. (2021), with a Cronbach's alpha of .815.

Procedure

Data were collected in person at the San Jerónimo Hospital in Montería through structured interviews and the administration of questionnaires. Informed consent was obtained from all participants prior to data collection. Statistical analysis was performed using SPSS version 25, employing descriptive statistics, Pearson correlations, the Kolmogorov-Smirnov normality test, and Student's t-test for comparisons by gender, with a 95% confidence level.

Results

Levels of Anticipated Stigma

Participants reported predominantly low levels of anticipated stigma. Ninety-five percent reported low levels of stigma from friends and family, 90% from healthcare providers, and 52.5% from colleagues. Overall, 85% rated their levels as low and 15% as moderate, with no participants reporting high levels (see Table 1).

Table 1

Levels of Anticipated Stigma Among Stroke Survivors (n = 40)

Subscale	Level	n	%
Friends and Family	Low	38	95.0
	Moderate	1	2.5
	High	1	2.5
Colleagues	Low	21	52.5
	Moderate	12	30.0
	High	7	17.5
Healthcare providers	Low	36	90.0
	Moderate	3	7.5
	High	1	2.5
General anticipated stigma	Low	34	85.0
	Moderate	6	15.0

Levels of Anxiety and Depression

47.5% of participants had normal levels of anxiety, and 52.5% had normal levels of depression. However, 32.5% exhibited clinically significant anxiety, and 12.5% exhibited clinically significant depression. Twenty percent and 35% of participants fell into the borderline category for anxiety and depression, respectively (see Table 2)

Table 2

Levels of Anxiety and Depression in Stroke Survivors (n = 40)

Scale	Level	n	%
Anxiety	Normal	19	47.5
	Uncertain	8	20.0
	Clinical problem	13	32.5
Depression	Normal	21	52.5
	Uncertain	14	35.0
	Clinical problem	5	12.5

Levels of Resilience

37.5% of participants exhibited low resilience, 45% moderate resilience, and 17.5% high resilience, reflecting an overall profile of moderate-to-low resilience in the sample.

Correlations Among Variables

Pearson's correlation analysis did not reveal any statistically significant relationships between anticipated stigma and the other variables (resilience, anxiety, and depression), nor between resilience and the other scales. However, a significant and direct relationship was identified between anxiety and depression ($r = .565$, $p < .01$), indicating that higher levels of anxiety are associated with higher levels of expected depression in these patients (see Table 3).

Table 3

Pearson correlation matrix between anticipated stigma, resilience, anxiety, and depression

Variable		1	1.1	1.2	1.3	2	3	4
1.	Total EA	—						
1.1	Friends' EA	.633**	—					
1.2	EA colleagues	.803**	.239	—				
1.3	EA suppliers	.560**	.180	.142	—			
2.	Resilience	.137	.271	.017	.039	—		
3.	Anxiety	.074	.210	-.081	.103	.115	—	
4.	Depression	.040	.054	-.011	.065	071	.565**	—

Note. *EA = Anticipated stigma. ** p < .01.*

Regarding the relationship between anticipated stigma and quality of life, significant correlations were identified between social functioning and general anticipated stigma ($r = .449$, $p < .01$), anticipated stigma from friends and family ($r = .461$, $p < .01$), and anticipated stigma from healthcare providers ($r = .327$, $p < .05$). A direct relationship was also observed between anticipated stigma from healthcare providers and self-reported health status ($r = .338$, $p < .05$).

Regarding the correlations between quality of life, anxiety, and depression, significant inverse relationships were found between anxiety and the dimensions of physical functioning ($r = -.379$, $p < .05$), vitality ($r = -.413$, $p < .01$), social functioning ($r = -.381$, $p < .05$), and mental health ($r = -.568$, $p < .01$), as well as a positive relationship with bodily pain ($r = .482$, $p < .01$). Depression showed significant inverse relationships with physical functioning ($r = -.476$, $p < .01$), physical role ($r = -.423$, $p < .01$), vitality ($r = -.460$, $p < .01$), social functioning ($r = -.580$, $p < .01$), and mental health ($r = -.633$, $p < .01$), and a positive relationship with physical pain ($r = .541$, $p < .01$) (see Table 4).

Table 4

Pearson Correlations Between Quality of Life, Resilience, Anxiety, and Depression

QOL Dimension	Resilience	Anxiety	Depression
Physical Function	.316	-.379*	-.476**
Physical Role	-.053	-.281	-.423**
Physical Pain	.009	.482**	.541**
General Health	-.040	.045	.084
Vitality	-.099	-.413**	-.460**
Social function	-.050	-.381*	-.580**
Emotional role	-.091	-.148	-.247
Mental health	-.255	-.568**	-.633**

*Note. QoL = Quality of life. * p < .05. ** p < .01.*

The gender comparison analysis (Student's t-test) revealed no statistically significant differences in anticipated stigma, resilience, anxiety, or depression between men and women. The only exception was the physical pain dimension of quality of life, where women scored significantly higher than men ($M = 46.11$ vs. $M = 28.64$; $t = 2.69$, $p = .011$).

Discussion

The objective of the present study was to analyze the relationship between anticipated stigma, anxiety, depression, resilience, and quality of life in stroke survivors at San Jerónimo Hospital in Montería. The results provide relevant information on the dynamics of these variables in a Latin American context with specific sociodemographic characteristics.

Regarding anticipated stigma, most participants reported low levels, especially on the subscale for friends and family (95%) and healthcare providers (90%).

These results could be partially explained by the high level of family support in the sample, given that 95% of the participants lived with their families. Previous research highlights that perceived social support acts as a protective factor against stigma among stroke survivors (Lawal et al., 2020; Ng et al., 2022). However, the highest proportion of anticipated stigma in the sample came from colleagues (17.5% at the high level), indicating that the workplace could constitute a significantly significant source of social vulnerability for this population.

Contrary to expectations, no statistically significant correlations were found between anticipated stigma and the psychological variables assessed. This result can be understood by considering that the experience of stigma is related to contextual and situational factors; therefore, its manifestation varies according to individual and environmental characteristics (Goffman, 1963, cited in Miric et al., 2018). Furthermore, it has been suggested that the effects of anticipated stigma tend to develop progressively over time, being more pronounced in longitudinal studies than in cross-sectional ones, which helps explain the results obtained (Earnshaw & Quinn, 2012). Furthermore, recent research has indicated that sociodemographic variables such as educational level and socioeconomic status could significantly modulate the perception of stigma among stroke survivors; however, these factors were not included among the control variables in the present study (Zheng et al., 2023).

The levels of anxiety and depression in the sample show a trend similar to that reported in various previous studies conducted among populations with chronic diseases. Specifically, nearly one-third of the participants exhibited clinically significant anxiety symptoms, and a smaller proportion exhibited clinically significant depressive symptoms. These findings are consistent with the previously reviewed international literature, which has documented the presence of emotional distress in patients with cardiovascular conditions, with comparable prevalences for depression and anxiety (Cerezo & Vicario, 2021). The results are also consistent with Smith et al. (2019), who concluded that anxiety and depression are determining factors in treatment adherence and functional outcomes among stroke survivors.

The significant inverse correlations between anxiety and depression and multiple dimensions of quality of life are among the most relevant findings of the study. Anxiety was negatively associated with physical functioning ($r = -.379$), vitality ($r = -.413$), social functioning ($r = -.381$), and mental health ($r = -.568$), while depression showed inverse relationships with

physical functioning (r = -.476), physical role (r = -.423), vitality (r = -.460), social functioning (r = -.580), and mental health (r = -.633). The association observed between depression, anxiety, and bodily pain is consistent with previous findings highlighting the impact of these variables on the quality of life of stroke survivors. In particular, it has been shown that higher levels of anxiety and depression are associated with greater impairment in physical and social functioning, as well as a decline in overall well-being (Galligan et al., 2021). One explanation for this relationship stems from Beck's cognitive model (1976), which posits that recurrent negative thoughts and the cognitive schemas characteristic of these disorders amplify the perception of pain and physical limitations, leading to a more negative perception of one's own health status.

The results suggest a predominantly low or moderate resilience profile among the participants. Although no significant relationships were identified between resilience and the other variables assessed, the theory of resilient personality posits that resilience exerts a protective effect against stress when it reaches sufficient levels (Kobasa, 1979). In this regard, it is likely that the levels observed in the sample limited the ability to detect significant effects. However, previous studies have demonstrated an association between higher levels of resilience and better social support and quality of life among stroke survivors, highlighting its potential relevance as a target for intervention (Yan & Lin, 2022; Sun et al., 2024).

Regarding gender, a significant difference was identified only in physical pain, which was higher among women. This result is consistent with previous studies, which report a greater burden of physical symptoms and greater functional impairments among female stroke survivors (Lai et al., 2005).

Notable limitations of the study include its cross-sectional design, sample size, and the absence of moderating variables such as perceived social support, spirituality, and stroke severity. Similarly, the use of self-reports could introduce response bias. Future research could consider longitudinal designs with larger samples and include additional biometric and psychosocial variables

Conclusions

The results indicate that anxiety and depression may be associated with a lower quality of life, representing factors with a significant negative impact on stroke survivors. These findings highlight the importance of incorporating the assessment and management of emotional symptoms as a key component of comprehensive rehabilitation processes for this population.

No significant relationships were found between stigma and the variables studied, possibly moderated by the family support observed in the sample. However, it is recommended that future research explore this relationship using longitudinal designs and consider the mediating role of perceived social support.

Although resilience did not show significant relationships with the variables studied, its nature—which can potentially be modified by individual and social factors—positions it as a relevant target for intervention among stroke survivors. It is recommended that future research delve deeper into its relationship with perceived social support, spirituality, and stress to gain a clearer understanding of its role in the recovery process.

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