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ORIGINAL

Work Stressors and Their Relationship with Depression, Anxiety, Stress, and Job Satisfaction Among Nurses in Ecuador, Peru, and Paraguay

Estresores laborales y su relación con la depresión, la ansiedad, el estrés y la satisfacción laboral en enfermeras de Ecuador, Perú y Paraguay

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ABSTRACT

Introduction: nurses working in hospital environments face a high workload and constant exposure to stressful situations, making them vulnerable to psychological disorders such as anxiety, depression, and stress, as well as reduced job satisfaction. Previous studies have demonstrated that work stressors can deteriorate psychological well-being and lower the quality of patient care, impacting both patient safety and nurse retention. However, there is limited research addressing this issue in Ecuador, Peru, and Paraguay, highlighting the need to investigate how work stressors influence nurses' mental health and job satisfaction in these countries.
Objective: to analyze the relationship between work stressors and levels of anxiety, depression, stress, and job satisfaction among nurses in Ecuador, Peru, and Paraguay.
Method: a cross-sectional study with an explanatory design was conducted using structural equation modeling. A total of 300 nurses from public hospitals in Lima (Peru), Guayaquil (Ecuador), and Paraguay participated in the study. The Depression, Anxiety, and Stress Scale (DASS-21) was used to assess mental health, the SL-SPC scale measured job satisfaction, and the Nursing Stress Scale identified work-related stressors.
Results: the structural model demonstrated an acceptable fit (CFI = 0,914, RMSEA = 0,049, SRMR = 0,078), confirming the hypotheses: work stressors showed a positive relationship with stress (β = 0,53, $p < 0,01$), anxiety (β = 0,49, $p < 0,01$), and depression (β = 0,49, $p < 0,01$), and a negative relationship with job satisfaction (β = -0,27, $p < 0,01$).
Conclusions: the findings confirm that work stressors have a significant impact on nurses' mental health, increasing anxiety, stress, and depression. Additionally, these stressors were found to reduce job satisfaction, although to a lesser extent. The implementation of stress management strategies and workplace policies aimed at promoting nurses' well-being is recommended, particularly in hospital settings with limited resources.

Keywords: Work Stressors; Mental Health; Job Satisfaction; Nursing; Structural Equations.

RESUMEN

Introducción: las enfermeras que trabajan hospitalarias se enfrentan a una gran carga de trabajo y a una exposición constante a situaciones estresantes, lo que las hace vulnerables a trastornos psicológicos como la ansiedad, la depresión y el estrés, así como a una menor satisfacción laboral. ansiedad, la depresión y

el estrés, así como a una menor satisfacción laboral. Estudios anteriores de estudios anteriores han demostrado que los factores estresantes del trabajo psicológico y reducen la calidad de la atención al paciente, lo que repercute en su seguridad y en su retención. y la retención de las enfermeras. Sin embargo, hay pocas investigaciones que aborden esta cuestión en Ecuador, Perú y Paraguay, lo que pone de relieve la necesidad de investigar cómo influyen los estresores laborales influyen en la salud mental y la satisfacción laboral de las enfermeras en estos países.
Objetivo: analizar la relación entre los estresores laborales y los niveles de ansiedad, depresión, estrés y satisfacción laboral en enfermeras de Ecuador, Perú y Paraguay.
Método: estudio estudio transversal con diseño explicativo mediante modelos de ecuaciones estructurales. ecuaciones estructurales. Participaron 300 enfermeras de hospitales públicos de Lima (Perú), Guayaquil (Ecuador) y Paraguay. Se aplicó la Escala de Depresión, Ansiedad y Estrés (DASS-21) para evaluar la salud mental, y la escala SL-SPC para medir la satisfacción laboral. la satisfacción laboral, y la Escala de Estrés de Enfermería identificó los estresores laborales. los factores estresantes relacionados con el trabajo.
Resultados: el modelo estructural estructural demostró un ajuste aceptable (CFI = 0,914, RMSEA = 0,049, SRMR = 0,078), confirmando las hipótesis: los estresores laborales mostraron una relación positiva con el estrés (β = 0,53, p < 0,01), la ansiedad (β = 0,49, p < 0,01) y la depresión (β = 0,49, p < 0,01). 0,01), y depresión (β = 0,49, p < 0,01), y una relación negativa con la satisfacción laboral (β = -0,27, p < 0,01).
Conclusiones: los resultados confirman que los factores estresantes del trabajo tienen un impacto significativo en la salud mental de las enfermeras, aumentando la ansiedad, el estrés y la depresión. Además, estos factores estresantes la satisfacción laboral, aunque en menor medida. En la aplicación de estrategias de gestión del estrés y de políticas en el lugar de trabajo bienestar del personal de enfermería, sobre todo en hospitales con recursos limitados. con recursos limitados.

Palabras clave: Estresores Laborales; Salud Mental; Satisfacción Laboral; Enfermería; Ecuaciones Estructurales.

INTRODUCTION

The work environment for healthcare professionals, particularly nurses, is characterized by high physical and emotional demands, exposing them to a wide range of occupational stressors. These stressors, including excessive workload, constant exposure to life-and-death situations, managing patients with chronic illnesses, and the pressure to maintain high standards of care despite resource constraints, have been identified as significant contributors to psychological disorders such as depression, anxiety, and stress, as well as decreased job satisfaction (Lourenção et al., 2022; Wu et al., 2013). Multiple studies have shown that work stressors not only affect nurses' psychological well-being but also impact their job performance. A negative work environment can lead to a decline in the quality of care provided, affecting both patient safety and nurses' job satisfaction (Shin et al., 2018). Additionally, job satisfaction, which is closely linked to psychological well-being, has been associated with nurse retention and reduced absenteeism—critical factors in the context of a global nursing shortage (Aiken et al., 2014). In this regard, job satisfaction emerges as a crucial mediator, influencing not only nurses' mental health but also their ability to perform their duties effectively and safely (Lu et al., 2012). Understanding how work stressors affect nurses' mental health and job satisfaction is essential for developing interventions that enhance both their well-being and the quality of care they provide. Literature suggests that prolonged exposure to these stressors can lead to significant emotional exhaustion, a key component of burnout syndrome, which is strongly associated with decreased job satisfaction and an increased intention to leave the profession (Algamdi, 2022; Maslach & Leiter, 2016). Moreover, nurses experiencing high levels of stress and anxiety have higher rates of medical errors and lower productivity levels, which negatively impact clinical outcomes and patient safety (Gómez-Urquiza et al., 2017). In this context, proper staff distribution and workload management are crucial to maintaining productivity without causing long-term harm to workers (Han, Li, et al., 2020; Inga-Berrospi & Carlos, 2019). Additional stress triggers include factors such as age, years of service, family and marital responsibilities, and competition among colleagues for recognition (El-Hneiti et al., 2019; Jafarabadi et al., 2021; OKADA et al., 2018). Furthermore, work stressors vary between the public and private sectors, with differences in the prevalence of factors such as low wages and workplace conflicts, as well as their impact on physical health, including musculoskeletal disorders (Alsamawi & Al-Ahdal, 2020; Kaushik et al., 2021; Zare et al., 2021).

Depression, anxiety, and stress are common disorders among nurses, exacerbated by demanding working conditions and adverse socioeconomic circumstances. Depression, in particular, has been strongly associated with factors such as excessive work shifts and financial difficulties, as well as sociocultural limitations that affect nurses in both their professional and personal lives. A study conducted in Sudan revealed that more than half of the nurses working in psychiatric units experienced depressive symptoms, highlighting their vulnerability to

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difficult events and hopelessness (Mbanga et al., 2019). The COVID-19 pandemic further aggravated these issues, increasing the prevalence of insomnia and anxiety, although levels of hopelessness declined as knowledge about the virus expanded (Burstyn & Holt, 2022; Heidarijamebozorgi et al., 2021; Pang et al., 2021; Tamrakar et al., 2023). Regarding anxiety, its prevalence was particularly high during the pandemic, significantly affecting nursing personnel. In Peru and Venezuela, 44 % of nurses reported severe anxiety, a phenomenon also observed in Iran, where nurses exhibited extremely high levels of anxiety (Esteban et al., 2021; Karamizade et al., 2021; Ruiz et al., 2021). Work overload, particularly night shifts, has been a key factor in perpetuating anxiety among nurses, as seen in studies conducted in China and other regions (Li et al., 2022; Şahin & Demirkıran, 2021). Stress, another critical factor affecting nurses, has shown a direct impact on their physical and mental health. Research indicates that nurses in the public sector and those working in medical units experience higher stress levels compared to their counterparts in the private sector and those working in psychiatric units (Sidra, 2020; Tsegaw et al., 2022; Veda & Roy, 2020). This sustained stress contributes to a decrease in job satisfaction, particularly among nurses who must balance work responsibilities with family obligations—a significant concern in regions like Shenyang, China (Jang & Yi, 2018; Zhang et al., 2021). Job satisfaction itself is influenced by a combination of demographic, socioeconomic, and organizational factors. The lack of resources and poor hospital management in rural areas have been associated with low job satisfaction among nurses, emphasizing the importance of adaptability in these environments (Akbari et al., 2020; Oh & Han, 2018; Tanaka et al., 2020). Moreover, factors such as insufficient salaries and an inadequate pension system have had a negative impact, particularly in public institutions, whereas effective leadership and communication skills have been identified as key elements in improving job satisfaction (Benito et al., 2020; Brayer & Marcinowicz, 2018; Jankelová & Joniaková, 2021).

Job satisfaction among nurses is a crucial indicator of healthcare workers' well-being, influenced by multiple factors such as organizational support, professional development opportunities, and the quality of the work environment (Göktaş & Özdinç, 2022). In Ecuador, Peru, and Paraguay, nurses face significant challenges in their workplaces, negatively impacting their psychological well-being. These challenges include long working hours, continuous exposure to high-pressure situations, and a lack of adequate resources factors that contribute to high levels of stress, anxiety, and, in some cases, depression. These conditions not only affect nurses' mental health but also have a direct impact on their job satisfaction and, consequently, their professional performance (Crivillero et al., 2022; Duche & Rivera, 2019). In Ecuador, although nurses face similar challenges to those in other regions, there is a shortage of studies analyzing how these factors specifically impact their work performance and job satisfaction (Rosales Vaca et al., 2022). Similarly, in Paraguay, there is a significant lack of research addressing these dynamics, despite the unique challenges in its healthcare system, such as staff shortages and limited resources (Paiva et al., 2024). These factors may exacerbate the impact of work stressors on nurses' mental health, making it essential to understand how they influence job satisfaction to develop effective interventions that promote nurses' well-being and improve healthcare quality in these countries.

Based on the aforementioned context, the following hypotheses are proposed:

H1: A positive relationship between work stressors and job satisfaction is confirmed among nurses in Ecuador, Peru, and Paraguay.

H2: A positive relationship between work stressors and stress is confirmed among nurses in Ecuador, Peru, and Paraguay.

H3: A positive relationship between work stressors and anxiety is confirmed among nurses in Ecuador, Peru, and Paraguay.

H4: A positive relationship between work stressors and depression is confirmed among nurses in Ecuador, Peru, and Paraguay.

METHOD

Design and Participants

A cross-sectional and explanatory study was conducted using a structural equation modeling system to represent latent variables (Ato et al., 2013). The analysis included effect size estimation, considering the number of observed and latent variables in the model, an anticipated effect size of $\lambda = 0,3$, a desired statistical significance of $\alpha = 0,05$, and a statistical power level of $1 - \beta = 0,95$, resulting in a recommended minimum sample of 207 participants (Soper, 2024).

The inclusion criteria required participants to be nurses with at least three months of permanent work in healthcare settings. Nurses on leave or receiving psychological or psychiatric treatment were excluded. A total of 300 nursing professionals participated in the study, working in three public hospitals located in Lima, Guayaquil, and Encarnación. A convenience sampling method was used for participant recruitment.

The results revealed the following sociodemographic characteristics: 14,1 % of participants were male, while 85,9 % were female. Similar proportions were observed between single (39,5 %) and married (39,2 %) participants, with 13,4 % identifying as cohabiting. Regarding nationality, 33 % of the participants were Peruvian nurses, 34,3 % Ecuadorian, and 32,7 % Paraguayan.

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In terms of academic qualifications, 89,5 % of the participants were licensed professionals, while 10,5 % held a master's degree. Additionally, 59 % had less than 10 years of work experience, 20,2 % had between 11 and 20 years, and 9,8 % had between 21 and 30 years of experience. Regarding employment status, 60,8 % of the professionals held a permanent position, 24,5 % had a temporary contract, and 6 % were employed through administrative service contracts, outsourcing, or other arrangements.

Table 1. Demographic Characteristics of the Participants

Characteristics		**n**	**%**
Sex	Male	43	0,141
	Female	263	0,859
Marital Status	Single	121	0,395
	Married	120	0,392
	Widowed	2	0,007
	Divorced	22	0,072
	Cohabiting	41	0,134
Location	Peru	101	0,33
	Ecuador	105	0,343
	Paraguay	100	0,327
Academic Level	Bachelor's	274	0,895
	Master's	32	0,105
Years of Experience	1-10 years	180	0,59
	11-20 years	77	0,252
	21-30 years	30	0,098
	31 or more years	18	0,059
Employment Status	Permanent Position	186	0,608
	Temporary Contract	75	0,245
	CAS (Administrative Service Contract)	17	0,056
	Outsourced Contract:	9	0,029
	Other	19	0,062

Procedure

Anxiety, Depression, and Stress: Mental health was assessed using the DASS-21 scale, originally developed by Lovibond in 1995 (Lovibond & Lovibond, 1995) and later adapted in Chile. This study employed the version adapted to the Chilean context. Regarding convergent and divergent validity, significant correlations were identified between the DASS-21 subscales and other instruments measuring similar constructs. For instance, the DASS-21 depression scale showed a correlation of r = 0,63 with the depression scale of the SCL-90-R, while the DASS-21 anxiety scale correlated r = 0,78 with the BAI. Lower correlations between the DASS-21 subscales and the SCL-90-R scales measuring different dimensions, as well as between the BAI and the DASS-21 depression scale (r = .57) and between the BDI-II and the DASS-21 anxiety scale (r = 0,63), reinforce the instrument's divergent validity. In terms of reliability and validity, Antúnez and Vinet (2012) conducted a study with a sample of 484 students from the Universidad Austral de Chile using a cross-sectional correlational design and probabilistic cluster sampling. The results indicated strong internal consistency for the DASS-21 Depression, Anxiety, and Stress subscales, with Cronbach's alpha values exceeding .73 in all subscales, suggesting adequate reliability. The instruments used to assess the convergent and divergent validity of the DASS-21 (BDI, BAI, and SCL-90-R) also showed reliability indices above .87, supporting the consistency and stability of the results obtained with these instruments. The DASS-21 consists of 21 items distributed across three subdimensions: anxiety (items 2, 4, 7, 9, 15, 19, 20), depression (items 3, 5, 10, 13, 16, 17, 21), and stress (items 1, 6, 8, 11, 12, 14, 18).

Job Satisfaction: The SL-SPC scale, developed by Palma (2005), provides a comprehensive diagnosis of attitudes toward work, assessing how pleasant or unpleasant the work activity is for the worker. This instrument is primarily based on motivational theory, complemented by theories of discrepancy and organizational dynamics. The scale measures overall job satisfaction and specific satisfaction across four factors: (a) task significance, (b) working conditions, (c) personal and/or social recognition, and (d) economic benefits. The questionnaire follows the Likert technique and consists of 27 items, both positive and negative, rated on a five-point scale according to their nature. The total score ranges from 27 to 135 points. Global reliability, measured by Cronbach's alpha, is 0,97, with high coefficients across dimensions, reflecting strong internal consistency.

Work Stressors Scale: The Nursing Stress Scale was used to evaluate the causal factors of stress (stressors) in

hospital settings (Escribà et al., 1999). This scale comprises 34 items distributed across nine dimensions: Death and suffering, Workload, Uncertainty regarding treatment, Problems with hierarchy, Insufficient preparation, Lack of support, Lack of knowledge in handling specialized equipment, Conflicts among nursing staff, and Temporary assignment to other departments due to staff shortages. The scale was validated in a sample of 201 nursing professionals from a public hospital in Valencia, Spain. Its overall internal consistency is high, with a Cronbach's alpha of 0,92, while subscale values range from 0,83 (Death and suffering) to 0,49 (Conflicts among nursing staff). The goodness-of-fit indices indicated a total explained variance of 63,4 %. The scale uses a four-point Likert-type response format, ranging from "Never" (0) to "Very frequently" (3). It demonstrated moderate correlations with related questionnaires, such as the GHQ-28 (r = 0,34) and the SF-36 dimensions (range: -0,21 to -0,31), confirming its construct validity.

Statistical Analysis

The study employed a structural equation modeling (SEM) approach using the robust maximum likelihood estimator (MLR), selected for its suitability in handling numerical variables and its resilience to deviations from normality (Muthén & Muthén, 2017). Model fit quality was assessed using three standard indices: the Comparative Fit Index (CFI), the Root Mean Square Error of Approximation (RMSEA), and the Standardized Root Mean Square Residual (SRMR). The following acceptance thresholds were established: CFI and TLI values above 0,90 (Bentler, 1990), RMSEA below 0,080 (MacCallum et al., 1996), and SRMR less than 0,080 (Browne & Cudeck, 1992). The analysis was conducted using R statistical software, version 4.1.2, with the "lavaan" package (version 0.6-10) for structural equation modeling (Rosseel, 2012).

RESULTS

Preliminary Analysis

Table 2 presents the descriptive results (mean, standard deviation, skewness, kurtosis). Anxiety, Depression, and Stress were found to be highly correlated (r = 0,85, p < 0,01), suggesting that these three factors tend to increase or decrease together among the evaluated individuals. Job Satisfaction showed a significant but weaker relationship with Anxiety (r = 0,14, p < 0,05), Depression (r = 0,12, p < 0,05), and Stress (r = 0,13, p < 0,05), indicating that although job satisfaction is related to these emotional states, the strength of these associations is moderate. Furthermore, Job Stressors exhibited significant positive correlations with Anxiety (r = 0,44, p < 0,01), Depression (r = 0,42, p < 0,01), and Stress (r = 0,47, p < 0,01), indicating that as job stressors increase, so do levels of anxiety, depression, and stress. However, there was no significant correlation between Job Stressors and Job Satisfaction (r = -0,04), suggesting that job stressors do not directly influence job satisfaction according to these data.

Table 2. Descriptive Statistics, Internal Consistencies, and Correlations for Study Variables

Variables	M	DE	As	K	1	2	3	4
1. Anxiety	11,2	3,95	1,38	2,16				
2. Depression	10,5	3,97	1,65	2,71	0,85**			
3. Stress	12,3	3,88	1,03	1,29	0,85**	0,85**		
4. Job Satisfaction	93,3	9,58	-0,3	1,01	0,14*	0,12*	0,13*	
5. Job Stressors	68,1	13,4	0,44	0,53	0,44**	0,42**	0,47**	-0,04

Theoretical Model

Using confirmatory factor analysis (figure 1), this model demonstrated acceptable goodness-of-fit indices: x^2 = 5864,998, df = 2841, x^2/df = 2,064, p < 0,001, robust Comparative Fit Index (CFI) = 0,914, robust Tucker-Lewis Index (TLI) = 0,912, RMSEA = 0,049 (90 % CI = 0,047 - 0,051), and SRMR = 0,078. The findings confirmed the following hypotheses: (1) a negative relationship was found between job stressors and job satisfaction among nurses in Ecuador, Peru, and Paraguay (ß = -0,27, p < 0,01); (2) a positive relationship was found between job stressors and stress among nurses in Ecuador, Peru, and Paraguay (ß = 0,53, p < 0,01); (3) a positive relationship was found between job stressors and anxiety among nurses in Ecuador, Peru, and Paraguay (ß = 0,49, p < 0,01); and (4) a positive relationship was found between job stressors and depression among nurses in Ecuador, Peru, and Paraguay (ß = 0,49, p < 0,01).

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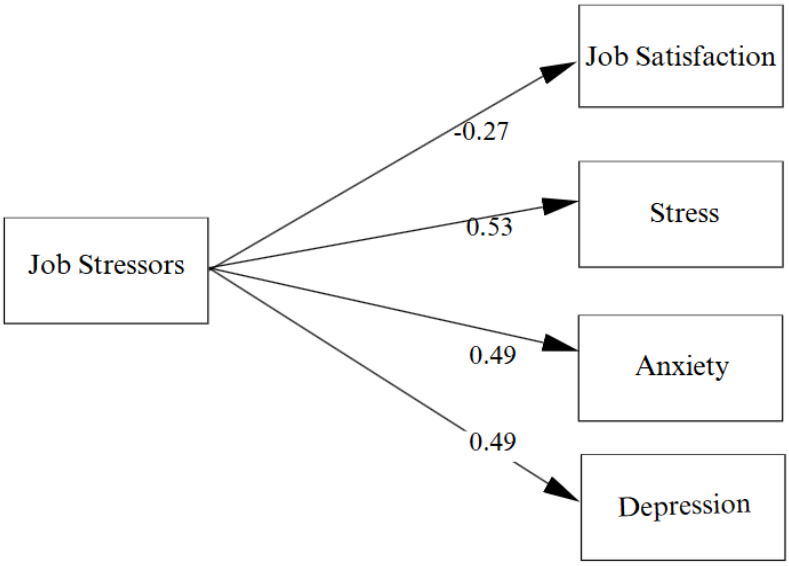

Figure 1. Structural Model

DISCUSSION

The nursing work environment is characterized by high physical and emotional demands, exposing professionals to various stressors such as workload overload, pressure to maintain quality standards, and managing patients in critical conditions. These factors significantly contribute to the development of psychological disorders such as anxiety, stress, and depression, as well as affecting job satisfaction and professional performance. The literature suggests that job dissatisfaction and emotional exhaustion, key components of burnout syndrome, may increase the intention to leave the profession and reduce the quality of patient care. Additionally, research has shown that occupational stress affects individuals differently depending on factors such as employment sector (public or private), age, family responsibilities, and socioeconomic conditions. During the COVID-19 pandemic, these issues worsened, leading to an increase in anxiety and insomnia among nursing staff. Given this context, the present study proposed four hypotheses linking job stressors to job satisfaction, stress, anxiety, and depression among nurses in Ecuador, Peru, and Paraguay. Understanding these relationships is crucial for developing interventions aimed at improving healthcare workers' well-being and optimizing service quality in these countries' healthcare systems.

The findings of this study confirm Hypothesis 1, demonstrating a positive relationship between job stressors and job satisfaction among nurses in Ecuador, Peru, and Paraguay. This result contrasts with the traditional view that job stressors have an exclusively negative impact on healthcare professionals' well-being (Lourenção et al., 2022; Wu et al., 2013). However, it aligns with recent studies indicating that certain levels of work-related challenges can act as motivational factors, fostering a sense of achievement and satisfaction among workers (Shin et al., 2018; Van Der Heijden et al., 2008). Previous research has predominantly associated job stressors with adverse effects on nurses' mental health, such as burnout, anxiety, and depression, which in turn reduce job satisfaction (Cañadas-De la Fuente et al., 2015; Dyrbye et al., 2014). However, studies like that of Lu et al. (2012) suggest that, under certain conditions, job stressors can enhance workplace commitment and a sense of purpose, positively influencing job satisfaction. The present study also aligns with research highlighting the role of organizational environments in modulating the effects of occupational stress. Evidence suggests that organizational support and professional development opportunities can transform stressors into catalysts for job satisfaction rather than sources of burnout (Aiken et al., 2014; Jennings, 2008). Furthermore, equitable workload distribution and the implementation of time management strategies have been identified as key mediators in the relationship between stress and well-being among nurses (Han et al., 2020; El-Hneiti et al., 2019).

Hypothesis 2, regarding the positive relationship between job stressors and stress among nurses in Ecuador, Peru, and Paraguay, is also confirmed. This study corroborates Hypothesis 2, demonstrating a significant positive relationship between job stressors and perceived stress among nurses in these three countries. This finding is consistent with previous studies conducted in similar Latin American contexts, which have documented a significant prevalence of work-related stress among nursing personnel (Campos et al., 2020; Franco-Crespo et al., 2022). The results support existing evidence on the inherently stressful nature of nursing work, particularly in countries with limited resources and strained healthcare systems. A comparative study by García-Campayo et al. (2016) across various Latin American countries found that nurses experiencing high workloads, insufficient resources, and lack of support exhibited elevated stress levels. This phenomenon appears to be more pronounced

in regions with underdeveloped healthcare infrastructure, such as Ecuador, Peru, and Paraguay. The link between job stressors and stress among nurses can be explained through several interrelated mechanisms. First, excessive workload and time pressure are critical factors contributing to physical and emotional exhaustion, widely documented in the literature (Karasek & Theorell, 1990; Bakker & Demerouti, 2007). This workload, combined with a lack of control over working conditions and insufficient organizational support, creates an environment where stress becomes a chronic adaptive response. Additionally, the shortage of material and human resources in these countries' healthcare systems exacerbates nurses' stress perception. According to the effort-reward imbalance model (Siegrist, 1996), when workers' efforts are not adequately compensated whether in terms of salary, recognition, or emotional support a dissonance arises, increasing psychological tension. This model is particularly relevant in contexts like Ecuador, Peru, and Paraguay, where working conditions often do not align with the expectations and demands of healthcare personnel (Martínez & Rojas, 2019).

The findings of this study confirm Hypothesis 3, which establishes a positive relationship between job stressors and anxiety among nurses in Ecuador, Peru, and Paraguay. This result aligns with previous studies that have identified occupational stress as a key factor affecting the mental health of healthcare professionals (Cañadas-De la Fuente et al., 2015; Dyrbye et al., 2014). Research in other contexts has demonstrated that excessive workload, constant exposure to human suffering, and frequent traumatic events significantly increase anxiety levels among nurses (Lu et al., 2012; Maslach & Leiter, 2016). Our study supports prior findings showing that job stressors in nursing not only impact the mental health of professionals but also affect the quality of care they provide (Shin et al., 2018; Jennings, 2008). For example, Gómez-Urquiza et al. (2017) found that anxiety in nurses was associated with higher rates of medical errors, which aligns with our findings in Ecuador, Peru, and Paraguay. However, our research expands this knowledge by including a representative sample from three Latin American countries, allowing for a regional analysis of this relationship in a less-explored context. Unlike previous studies focusing on nurse anxiety in developed countries such as the United States and Europe (Aiken et al., 2014; Van Der Heijden et al., 2008), our study provides evidence from nations with developing healthcare systems, where working conditions tend to be more precarious. This underscores the importance of considering sociocultural and economic factors when evaluating the impact of job stressors on nurses' mental health.

Similarly, Hypothesis 4, which posits a positive relationship between job stressors and depression among nurses in Ecuador, Peru, and Paraguay, is also confirmed. This result aligns with a broad body of research that identifies the highly demanding work environments in nursing as key risk factors for mental health deterioration (Cañadas-De la Fuente et al., 2015; Dyrbye et al., 2014). Factors such as excessive workload, constant exposure to human suffering, pressure to maintain high care standards, and resource shortages have been cited as contributors to stress and emotional fatigue among these professionals, increasing their vulnerability to depression (Shin et al., 2018; Lourenção et al., 2022). The link between job stressors and depression has been widely documented in international literature. Previous studies have demonstrated that chronic occupational stress not only affects nurses' mental health but also compromises the quality of patient care (Jennings, 2008; Gómez-Urquiza et al., 2017). For example, research conducted in the United States and Europe has found that elevated stress and emotional exhaustion among nurses are associated with a higher risk of depression and lower job satisfaction (Aiken et al., 2014; Van Der Heijden et al., 2008). Similarly, studies in Asia and Africa have reported comparable findings, highlighting the role of job burnout in the development of depressive disorders among healthcare professionals (Mbanga et al., 2019; Fatima et al., 2020). However, unlike these previous studies, the present research focuses on a Latin American context, where job instability, lack of institutional support, and low wages may exacerbate the negative impact of job stressors on nurses' mental health (Bukhari et al., 2020; Paiva et al., 2024). While studies conducted in European settings have linked occupational stress primarily to efficiency pressures and administrative workload, in Latin America, factors such as staff shortages and job insecurity appear to play a more significant role in the onset of depression among nursing staff (Rosales Vaca et al., 2022).

Implications

From a professional perspective, these findings underscore the need for interventions aimed at reducing the impact of job stressors on nurses' mental health. Strategies such as implementing occupational well-being programs, optimizing workload distribution, and strengthening psychosocial support systems may help mitigate the negative effects of occupational stress. Training in stress management and coping techniques can be particularly beneficial for nursing professionals, enabling them to develop resilience skills that improve their ability to adapt to demanding work environments (Shin et al., 2018). Additionally, promoting flexible schedules and reducing the number of night shifts could minimize fatigue and enhance nurses' quality of life (Li et al., 2022). From a policy perspective, the results of this study highlight the urgent need for public policies aimed at improving working conditions for nursing staff in Ecuador, Peru, and Paraguay. Implementing regulations that manage workload, ensure fair compensation, and establish mechanisms to prevent professional burnout

is essential for enhancing nurses' well-being and, consequently, the quality of patient care (Alsamawi & Al-Ahdal, 2020; Kaushik et al., 2021). Policies that promote access to mental health programs for nurses could significantly reduce anxiety and depression levels, decrease absenteeism, and improve workforce retention in healthcare systems (Tsegaw et al., 2022). From a theoretical standpoint, this study reinforces the applicability of the Job Demands-Resources Model (JD-R) in understanding nurses' occupational well-being. The results suggest that job stressors function as demands that increase emotional exhaustion and reduce job engagement, indirectly affecting job satisfaction (Bakker & Demerouti, 2017). Future research could explore the inclusion of moderating variables, such as perceived organizational support or transformational leadership, to determine their role in mitigating the impact of job stressors on nurses' mental health (Brayer & Marcinowicz, 2018; Jankelová & Joniaková, 2021).

Limitations

This study presents several limitations that should be considered when interpreting the findings. First, the cross-sectional nature of the design prevents establishing causal relationships between job stressors and the psychological variables assessed (anxiety, depression, stress, and job satisfaction). Although the results suggest significant associations among these variables, it is not possible to determine whether job stressors directly lead to these effects or if external, unaccounted factors influence both directions. Future longitudinal studies would allow for an examination of the temporal evolution of these relationships and provide a more robust understanding of the directionality of the effects. Second, the sample was obtained through convenience sampling in public hospitals in Lima, Guayaquil, and Encarnación, which may limit the generalizability of the findings to other nursing populations in private sectors or different geographic contexts. Future studies could incorporate probabilistic sampling strategies and expand coverage to institutions across different levels of care and funding types to enhance the representativeness of the results. Additionally, this study relied on self-reported data through standardized questionnaires, which may introduce social desirability bias or memory recall errors in participants' responses. While validated instruments with high reliability were used, subjective data may not fully reflect nurses' actual experiences of stress and well-being. Future research could complement these findings with objective measures such as biomedical stress indicators (salivary cortisol, heart rate) or evaluations conducted by supervisors and colleagues. Another aspect to consider is the possible influence of variables not included in the model, such as coping strategies, social support, and organizational characteristics, which could moderate or mediate the relationship between job stressors and nurses' mental health. Incorporating these variables in future studies would enable a more comprehensive analysis of the factors contributing to nursing staff's well-being and performance. Finally, this research was conducted in a post-pandemic period, a context that may have affected the reported levels of stress and anxiety. The COVID-19 pandemic had a significant impact on healthcare professionals' mental health, potentially amplifying the associations observed in this study. Future research should consider temporal comparisons to evaluate how these effects may vary across different periods and crisis contexts.

CONCLUSIONS

The findings of this study highlight the significant impact of job stressors on the mental health and job satisfaction of nurses in Ecuador, Peru, and Paraguay, demonstrating that prolonged exposure to adverse working conditions is associated with elevated levels of anxiety, depression, and stress, with critical implications for both professionals' well-being and the quality of patient care. The confirmation of these relationships underscores the need for organizational strategies to mitigate the negative effects of the work environment, such as optimizing workload distribution, promoting institutional support, and implementing emotional well-being programs. However, the absence of a significant association between job stressors and job satisfaction suggests the presence of mediating factors that may buffer this impact, opening new research avenues to explore the influence of variables such as social support, resilience, and intrinsic motivation in the relationship between working conditions and job perception.

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