



Behind the Scenes: Stress and Resilience in Peruvian Nurses during the COVID-19 Era

Tras Bastidores: Estrés y Resiliencia en Enfermeras Peruanas durante la era COVID-19

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Abstract

The purpose of this research was to establish the relationship between work stress and resilience during the period of the COVID-19 pandemic in Peruvian nurses, using a correlational design. The sample consisted of 112 nurses whose ages ranged from 22 to 60 years, selected by non-probabilistic sampling. The findings revealed a significant and inverse correlation between job stress and resilience, indicating that the lower the level of job stress, the higher the resilience manifested by the individual ($r = -0.31$; $p < 0.05$). After analyzing the results, it was observed that the stress level predominated in 33%, while the low resilience level prevailed in 37.5%. In conclusion, it was inferred that individuals who approach their life in an assertive and persevering manner are likely to experience less stress and are able to cope with challenges and obstacles in a positive way along their trajectory.

Keywords: work stress – resilience – nurses.

Resumen

El propósito de esta investigación fue establecer la relación entre el estrés laboral y la resiliencia durante el período de la pandemia de COVID-19 en enfermeras peruanas, utilizando un diseño correlacional. La muestra consistió en 112 enfermeras cuyas edades oscilaban entre los 22 y los 60 años, seleccionadas mediante un muestreo no probabilístico. Los hallazgos revelaron una correlación significativa e inversa entre el estrés laboral y la resiliencia, lo que indica que, a menor nivel de estrés laboral, mayor es la resiliencia manifestada por la persona ($r = -0.31$; $p < 0.05$). Después de analizar los resultados, se observó que el nivel de estrés predominaba en un 33%, mientras que el nivel de resiliencia baja prevalecía en un 37.5%. En conclusión, se infirió que los individuos que abordan su vida de manera asertiva y perseverante es probable que experimenten menos estrés y sean capaces de enfrentar los desafíos y obstáculos de manera positiva a lo largo de su trayectoria.

Palabras clave: estrés laboral – resiliencia – enfermeras

INTRODUCTION

Around the world, work-related stress has become an alarming problem with increasingly serious consequences. We often hear about employees who are dissatisfied with their jobs, even though they spend most of their day at work and are expected to enjoy their jobs because of their expertise in the field. However, the reality is often different, as most workers in various industries and companies experience stress easily. This phenomenon is attributed to various causes, such as work pressure, lack of free time, long and stressful working hours, as well as unfavorable working conditions and low wages. Rozo *et al.* (2019) point out that stress, in everyday situations, is a natural biological and psychological response to being overwhelmed, which is necessary for the survival of living beings. However, when this reaction becomes frequent and chronic, it can have detrimental effects and negatively affect functionality in daily life.

In Latin America, work-related stress is a reality that affects many individuals, with alarming figures and is often attributed to hierarchical superiors. On occasions, this problem leads to massive layoffs, job abandonment, unjustified absenteeism, and resignations. In the Peruvian context, work-related stress is a common difficulty affecting a significant number of employees in various companies. Instead of seeking solutions, employers often resort to drastic sanctions, which can force employees to leave their jobs due to pressure, resulting in high employee turnover.

Choroco (2019) argues that job stress is recurrent and can leave sequelae that have a great impact on people's physical and psychological well-being. In an organization, job stress can arise from a discrepancy between work demands and pressures and workers' ability to cope with them, which can negatively affect their performance. In Lima, in both public and private companies, job stress is an entrenched concern that generates additional costs for organizations, such as hiring new personnel, additional evaluations, and a negative work climate, resulting in absenteeism and, on occasion, job abandonment.

A similar situation has been observed in a private clinic in the district of Independencia. Patient demand and competition with state-owned

companies have led to a significant reduction in staff at the clinic, resulting in an overload of work for the remaining employees. Abrupt changes in work protocols and equipment have led to high levels of anxiety and stress among the staff, which has been reflected in absenteeism and lack of frustration tolerance. Despite these difficulties, many employees continue to strive to fulfill their responsibilities and keep the institution afloat.

Based on these considerations, the question arises: What is the relationship between job stress and resilience during the COVID-19 pandemic in Peruvian nurses?

Previous research addressing the variables of interest in this study was used to compare the results. In this regard, Miranda (2021) conducted research whose findings indicate a correlation between the variables studied, concluding in the existence of a relationship between them.

Similarly, Gutiérrez (2020) developed a thesis in which 40 individuals participated, using questionnaires validated by experts. The results of this work also suggest a relationship between the variables in question.

For his part, Bautista (2019) conducted a study with a sample of 70 individuals, finding results that support the existence of a significant relationship between the variables investigated.

In addition, the contributions of different authors were analyzed in relation to the concepts of the variables of interest. In this sense, Bastidas de Miguel (2011) argues that stress can intensify in adverse or complex situations that the individual perceives as threatening, while the International Labor Organization (ILO, 2016) points out that work stress, on many occasions, is determined by the demands of the company, which can generate a feeling of pressure when these demands exceed the individual's capabilities.

On the other hand, Morrison and Bennett (2018) indicate that stress develops as a response to external stimuli perceived by the individual, being a psychological phenomenon that arises from the interaction between these stimuli and the emotional and cognitive capacities of the person.

Regarding the variable of resilience, the Royal Spanish Academy (RAE, 2014) defines it as the ability of a person to adapt and cope with adversity. García and Barbera (2013) add that

resilience also implies the intellectual capacity to face difficult moments and recover the initial balance, thus allowing personal growth after facing adversity.

On the other hand, Salcedo (2019) distinguishes two approaches to resilience: one focuses on variables, and the other focuses on the person. The former focuses on measuring obstacles and examining the variables that arise in contexts of difficulty. In contrast, the latter focuses on identifying the characteristics of resilient individuals and the variables present in their resilience process.

Based on the above, the general objective was to identify the relationship between work stress and resilience during the COVID-19 pandemic in Peruvian nurses.

METHOD

Research Design

The research design adopted was non-experimental. This decision is based on obtaining data at a single specific time and place, without active manipulation of the variables involved, in accordance with the definitions of Hernández and Mendoza (2018).

Participants

The research was conducted using a non-probability sampling method, which implies that the selection of participants was based on specific criteria relevant to the study. G*Power 3.1 software was used to determine the sample size. Subsequently, two data collection instruments were administered to collect information, as described in the studies by Leongómez (2020) and Vinuesa (2016). In total, 112 Peruvian nurses participated in the study.

Instruments

The ILO-WHO Job Stress Scale, adapted by Sonia Palomino Sánchez (2017), aims to assess stressors at the individual, group, and organizational levels. This scale has demonstrated adequate reliability, with an alpha coefficient of 0.97.

The Resilience Scale (ER), developed by Wagnild and Young (1993), was used to assess personal resilience capacity, which is recognized as a positive quality that allows people to adapt to various circumstances. This scale has demonstrated acceptable reliability, with an alpha coefficient of 0.83.

Procedure

The corresponding authorization was obtained to collect the sample at the clinic, which provided access to the contacts of the company's collaborators. Subsequently, the instruments designed to assess work stress and resilience were adapted into a virtual form, which was distributed via e-mail. The data collected were analyzed using SPSS IBM 24 and JAMOVI 1.1.9 programs to perform correlations and determine the effect size of the variables, as well as JASP 0.14.1.0 to calculate confidence intervals and comprehensively present the results.

Data analysis

To obtain the results of this study, G*Power 3.1 software was first used to determine the sample size (Cardenas & Arancibia, 2014). Subsequently, the reliability of the instruments was evaluated using Cronbach's Alpha coefficient (Almehrizi, 2013). After collecting information through the two instruments, the Shapiro-Wilk normality test was performed, which is considered the most effective and established test for evaluating the normal distribution of data (Mendes & Pala, 2003). It was found that the data did not follow a normal distribution, so Spearman's Rho correlation coefficient was used to analyze the relationships between the variables and their dimensions (Gonzales *et al.*, 2017). In addition, a descriptive analysis of the variables was carried out to determine the levels of resilience and stress in the sample, which were presented as percentages and frequencies.

RESULTS

Table 1

Correlation between job stress and resilience variables with their dimensions.

		Stress at work				
		r	p	TE	IC 95%	
					Lower	Upper
Dimensions	Resilience	-.31**	.00	0.1	-.47	-.13
	Personal Satisfaction	-.33**	.00	.11	-.49	-.15
	Equanimity	-.17	.07	.03	-.34	.02
	Self-confidence	-.35**	.00	.12	-.50	-.17
	Feeling good alone	-.21*	.03	.04	-.38	-.02
	Perseverance	-.21*	.03	.04	-.38	-.02

In Table 1, a significant and inverse correlation between the variables is observed ($r=-.31^{**}$; $p<.05$), which implies that as a person's resilience increases, their level of job stress decreases (Flores et al., 2020). Furthermore, the effect size of this correlation is .1, indicating that it is of small magnitude (Dominguez, 2017).

Similarly, an inverse and significant correlation are evident between job stress and the various dimensions of resilience ($r=-.33^{**}$, $p<.05$) ($r=-.35^{**}$, $p<.05$) ($r=-.21^*$, $p<.05$) ($r=-.21^{**}$, $p<.05$), with the exception of the Equanimity dimension, where an inverse correlation is observed, but not significant ($r=-.17$, $p>.05$) (Flores, et al., 2020). In addition, the effect sizes of these correlations are less than 1, indicating that they are of small magnitude (Dominguez, 2017).

Table 2

Correlation between resilience and dimensions of job stress

		Resilience				
Variable		r	p	TE	IC 95%	
					Lower	Upper
Dimensions of Job Stress	Organizational Climate	-.22*	.02	.05	-.39	-.03
	Organizational Structure	-.31**	.00	.1	-.47	-.13
	Organizational Territory	-.34**	.00	.11	-.49	-.16
	Technology	-.30**	.00	.09	-.46	-.12
	Leader Influence	-.22*	.02	.05	-.39	-.04
	Lack of Cohesion	-.39**	.00	.16	-.54	-.23
	Group Support	-.26**	.01	.07	-.42	-.08

In Table 2, an inverse and significant correlation between resilience and the dimensions of job stress is evident. In addition, it was determined that the effect size of these dimensions of job stress does not exceed the value of .30, suggesting that it is of small magnitude (Dominguez, 2017).

Table 3
Correlation between the dimensions of the first variable with the second variable (to be continued)

		Resilience				
		Personal Satisfaction	Ecuanimidad	Self-confidence	Feeling good alone	Perseverance
	r	-.27**	-.15	-.25**	-.12	-.11
	p	.00	.11	.01	.21	.25
	TE	.07	.02	.06	.01	.01
	IC	-.43	-.33	-.41	-.30	-.29
	95%	-.088	.035	-.064	.068	.077
	r	-.32**	-.16	-.33**	-.21*	-.21*
	p	.00	.09	.00	.03	.03
	TE	.10	.03	.11	.04	.04
	IC	-.47	-.34	-.48	-.38	-.38
	95%	-.14	.02	-.15	-.02	-.02
	r	-.25**	-.11	-.28**	-.12	-.16
	p	.01	.25	.00	.22	.10
	TE	.06	.01	.08	.01	.02
	IC	-.41	-.29	-.44	-.30	-.33
	95%	-.06	.08	-.10	.07	.03

	r		-.36**	-.15	-.31**	-.21*	-.20*
	p		.00	.12	.00	.03	.03
	TE		.13	.02	.10	.04	.04
	IC	Lower	-.51	-.32	-.47	-.38	-.37
	95%	Upper	-.19	.04	-.13	-.02	-.02
	r		-.37**	-.24**	-.40**	-.29**	-.30**
	p		.00	.01	.00	.00	.00
	TE		.14	.06	.16	.08	.09
	IC	Lower	-.52	-.41	-.55	-.45	-.46
	95%	Upper	-.20	-.06	-.23	-.11	-.12
	r		-.28**	-.13	-.31**	-.21*	-.13
	p		.00	.16	.00	.03	.16
	TE		.08	.02	.10	.04	.02
	IC	Lower	-.45	-.31	-.47	-.38	-.31
	95%	Upper	-.10	.05	-.14	-.02	.05
	r		-.30**	-.19*	-.37**	-.23*	-.26**
	p		.00	.05	.00	.01	.01
	TE		.09	.03	.13	.05	.07
	IC	Lower	-.46	-.36	-.52	-.40	-.43
	95%	Upper	-.12	-3.85	-.19	-.05	-.08

Technology

Lack of Cohesion

Group support

Organizational Territory

In Table 3, it is observed that the personal satisfaction dimension in resilience exhibits an inverse and significant correlation with the different dimensions of job stress. This correlation is characterized by an effect size that does not exceed the value of .30, which indicates that it is of small magnitude, according to the established parameters (Domínguez, 2017).

Likewise, the equanimity dimension presents an inverse and significant correlation with the dimensions of job stress, with the exception of organizational climate, organizational structure, leader influence, technology, and group support. The effect size associated with these correlations is also below .30, suggesting an influence of a small magnitude (Domínguez, 2017).

Similarly, the self-confidence dimension of resilience shows an inverse and significant correlation with the dimensions of job stress,

with an effect size below .30, indicating a small influence within the established range (Domínguez, 2017). Por otro lado, la dimensión de sentirse bien solo evidencia una correlación inversa y significativa con las dimensiones del estrés laboral, a excepción de the organizational climate and leader influence dimensions. This correlation is also characterized by an effect size of less than .30, indicating a small influence (Domínguez, 2017).

In addition, the perseverance dimension presents an inverse and significant correlation with the dimensions of job stress, with the exception of the dimensions of organizational climate, leader influence, and group support. The effect size associated with these correlations is also below .30, suggesting a small influence (Domínguez, 2017).

Table 4
Describe levels of occupational stress and resilience.

	Stress		Resilience		
	Frequency	%	Frequency	%	
Low stress level	33	29.5	Low	42	37.5
Intermediate level	14	12.5	Medium	31	27.7
Stress	37	33	High	39	34.8
High level of stress	28	25	Total	112	100
Total	112	100			

Table 4 shows that the predominant level of stress corresponds to 33%, which indicates a considerable proportion of subjects who experience this phenomenon. On the other hand, it is identified that the lowest level of stress represents 12.5%, an intermediate level compared to the other levels. Regarding resilience, it is

evident that the most frequent level is low, with a percentage of 37.5%, suggesting a significant proportion of participants with lower levels of resilience. In contrast, the lowest level of resilience is found in 27.7%, which constitutes a medium level in relation to the other levels observed.

DISCUSSION

This study was carried out with the purpose of fulfilling the established objectives, the general objective being to identify the relationship between work stress and resilience during the COVID-19 pandemic in Peruvian nurses. After the analysis was performed, results were obtained showing a significant and inverse correlation between the variables ($r=-.31$, $p<.05$). These results are similar to previous research, such as that carried out by Salazar (2021) in medical personnel of a regional hospital, where a similar significant and inverse correlation was found between the variables ($r=-.44$, $p<.05$). In addition, Cardenas and Quispe (2020) observed a low inverse correlation between work stress and resilience in nurses at a hospital in Cusco ($r=-.34$, $p<.05$). Similarly, Miranda (2021) identified a low significant inverse relationship between resilience and job stress ($r=-.16$, $p<.05$) in administrative workers.

In line with these findings, experts from the International Labor Organization (ILO, 2016) point out that job stress is influenced by the demands of the company, which often exceed the capabilities of some employees, generating a sense of pressure. In addition, Robbins and Judge (2009) argue that stress can be perceived as an opportunity in which an individual faces challenges. On the other hand, when addressing the descriptive objectives, levels of job stress were found in nurses, with the predominant stress level being 33%. Similarly, the levels of resilience were described, with a predominance of the low level, with a percentage of 37.5%.

In summary, this study has achieved its objective by finding a relationship between stress and resilience, which is consistent with the findings of other research, demonstrating that the greater the stress, the greater the resilience in the population studied.

The main limitation of the present study was the timing of the data collection due to the global contingency, which could have generated bias in the responses.

CONCLUSIONS

It was concluded that those individuals who adopt a positive and persevering attitude towards life's challenges are likely to experience lower levels of stress and are better prepared to face daily adversities.

It was observed that self-confidence, personal satisfaction, and perseverance contribute to greater resilience to stress in daily life.

Individuals with greater resilience were found to have a significant ability to effectively manage work stresses, including lack of cohesion and a negative environment both personally and professionally.

In addition, it was found that those individuals with greater self-confidence, personal satisfaction, and coping skills to deal with daily and work-related difficulties are more resilient.

Regarding the levels of work stress, it was observed that, among nurses, the level of stress prevails in 33% of the population.

In relation to resilience levels, it was noted that, among nurses, the most common level is low, at 37.5%, while the lowest level is 27.7%.

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AUTHOR CONTRIBUTIONS

TMN: Analyzed statistical results, collected and processed data, writing up, interpreting results and proofreading.

COMPETING INTERESTS

The author declares under oath not to incur in problems of interest in carrying out this work.

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