Revista Ecuatoriana de **Ciencia, Tecnología e Innovación en Salud Pública**

CÓDIGO ISSN 2588-0551
DOI: 10.31790/inspilip.v7i22.551

Original Article

Impact of occupational stress on nursing professionals who provide hospital care

Impacto del estrés laboral en los profesionales de enfermería que otorgan cuidados hospitalarios

Navas-Fonseca Lizeth [a], lnavas0010@uta.edu.ec
Jiménez-Hurtado William [a], * wa.jimenez@uta.edu.ec

a. Technical University of Ambato, Nursing Career. Ambato, Ecuador.

***Correspondence:** William Jiménez Hurtado, **Email:** wa.jimenez@uta.edu.ec

Identification of the responsibility and contribution of the authors: The authors declare having contributed in the original idea (LNF, WJH), study design (LNF, WJH), data collection (LNF), data analysis (LNF, WJH), draft writing and article writing (LNF, WJH).

Date of Entry: 13/09/2023.
Date of Aproval: 30/11/2023.
Date of Publication: 30/11/2023.

Open Access

Citation

Navas L., Humberto W., Impact of occupational stress on nursing professionals who provide hospital care. Original Article. **INSPILIP. 2023; Vol. 7, Spec. Num.**

Scientific magazine INSPILIP. Volume 7, Special Number November 2023

Patricio Vega Luzuriaga
EDITOR-IN-CHIEF

Abstract

Introduction: One of the factors such as excessive working hours in nursing professionals poses a risk to their professional health, likely affecting the quality and productivity of the service provided. **Objective:** To determine the impact of job stress on part-time nursing professionals at the Technical University of Ambato. Methodology: A descriptive, non-experimental cross-sectional study was conducted. A survey was administered using the Spanish version of the Nursing Stress Scale (NSS) during July 2023. All part-time nursing staff working at the Technical University of Ambato as clinical instructors (n=50) were included. Data such as age and hospital work service were considered. Full-time nursing staff were excluded. **Results:** The surveyed nursing professionals predominated in services such as Operating Room 18% (n=9), Emergency 12% (n=6), Neonatology 12% (n=6), and Surgical Hospitalization 10% (n=5), with an average age of 38.6 years (Min 24 - Max 59). Regarding the determination of job stress based on evaluated stressors, scores characterized as "sometimes" predominated with 54% (n=27), followed by "never" with 26% (n=13), "frequently" with 16% (n=8), and finally "very frequently" with 4% (n=2). **Conclusion:** Stress related to disagreement with a patient's treatment was found to have a significant impact on the job stress of nursing professionals.

Keywords: Job Stress, Nursing, Health Impact Assessment.

Resumen

Introducción: *Uno de los factores como la carga horaria laboral excesiva en los profesionales de enfermería, resulta un riesgo para la salud profesional con probable afección en la calidad y productividad del servicio brindado.* ***Objetivo:*** *Determinar el impacto del estrés laboral en los profesionales de enfermería contratados a medio tiempo en la Universidad Técnica de Ambato.* ***Metodología:*** *Se realizó un estudio descriptivo, no experimental transversal. Se aplicó una encuesta con la Escala de estresores laborales versión española Nursing Stress Scale (NSS), durante el mes de julio de 2023. Se incluyó a todo el personal de enfermería que labora medio tiempo en la Universidad Técnica de Ambato como docentes de práctica hospitalaria (n=50). Se consideraron datos como edad y servicio de labores hospitalarias. Se excluyó al personal de enfermería de tiempo completo. Para determinación de la frecuencia y porcentaje del estrés laboral.* ***Resultados:*** *Los profesionales de enfermería encuestados predominaron en los servicios como Quirófano 18 % (n=9), Emergencia 12 % (n=6), Neonatología 12 % (n=6) y Cirugía Hospitalización 10 % (n=5), con una edad promedio de 38,6 años (Min 24 – Max 59). La determinación del estrés laboral según los estresores evaluados predominó el puntaje caracterizado como "alguna vez" con el 54 % (n=27), seguido del puntaje "nunca" con el 26 % (n=13), puntaje "frecuentemente" con el 16 % (n=8) y finalmente el puntaje "muy frecuentemente" con el 4 % (n=2).* ***Conclusión:*** *El estresor sobre el desacuerdo con el tratamiento de un paciente se relacionó y causo mayor impacto en el estrés laboral de los profesionales de enfermería.*

Palabras clave: *Estrés Laboral, Enfermería, Evaluación del Impacto en la Salud.*

Introduction

The nursing profession plays an important role in medical and hospital care. Nurses assume responsibilities that include providing direct patient care, administering medications, monitoring vital signs, performing medical procedures, and providing emotional and health education to patients and their families, establishing them as essential components of medical teams.

In addition to their direct role in patient care, nurses significantly contribute to improving access to and the quality of healthcare through close collaboration with other healthcare professionals to ensure comprehensive and coordinated care, especially in hospital settings where patients have complex medical and emotional needs.

The nursing profession faces significant challenges that must be addressed to ensure the continuity and improvement of patient care. Workplace conditions, such as workload and staffing availability, can have a direct influence on the quality of care provided. Studies have shown that poor working conditions impact nurses' morale, staff retention, and patient safety. Forty-four percent of nursing staff have reportedly left the profession due to working conditions, with 27% expressing dissatisfaction with the level of patient care provided. Workplace dissatisfaction and patient distress have also been linked to decreased quality of care and patient satisfaction.

These occupational challenges result in increased work stress and tension, particularly among healthcare professionals in hospitals, with negative consequences for physical and emotional well-being. Workplace stress can be caused by various factors, including task overload, unrealistic deadlines, lack of adequate resources, insecurity, a toxic environment, and lack of control over working conditions. In this context, it is essential to address working conditions such as stress associated with health status and the productivity of professionals and, consequently, the quality of healthcare.

Although there are few studies evaluating the overall prevalence of occupational stress among nursing professionals in Latin America, the available evidence suggests that occupational stress is a significant problem in the region. For example, in Brazil, it was found that 70% of healthcare professionals reported experiencing occupational stress, while in Mexico, a prevalence of 60% with high levels of occupational stress was reported. These figures contradict the assertion that occupational stress in nursing is limited in Latin America. Rather, although scarce, studies demonstrate that occupational stress affects a significant proportion of nursing professionals in Latin American countries.

Ecuador is a country where 54% of individuals experience general stress, resulting from various factors prevalent in different establishments, primarily in healthcare settings. These factors are recognized by the World Health Organization (WHO), including unpleasant or monotonous tasks, excessive workload, lack of resources to supply the workplace, inadequate supplies for patient care, poor relationships among professionals, among others. These reports lead to a serious deterioration in the productivity of healthcare professionals who have direct contact

with patients, such as those in the nursing field.

In Ecuador, several studies show that healthcare workers face situations that increase stress levels, such as the level of responsibility in hospitals, the presence of noise, inadequate lighting, insufficient space to perform daily tasks, lack of staff to cover various areas, poor communication with colleagues, and insufficient patient information. Additionally, high levels of stress have been found among nurses. It is estimated that at the hospital level, 29.8% of nurses experience high levels of stress, with excessive workload and exposure to patient suffering and death being the main stressors.

Furthermore, in a study across several Latin American countries including Ecuador, approximately 60% of nurses reported experiencing significant levels of occupational stress, mainly related to workload overload, staff shortage, and inadequate working environment.

In the workplace, there is a level of stress generated by the different activities and demands in each position, with the healthcare sector shown to have higher stress levels. Due to multiple stressful factors, burnout syndrome, also known as occupational burnout syndrome, can be triggered. This syndrome appears as a response to prolonged pressure generated in the workplace. Both stress and burnout syndrome are situations that personnel experience during their working hours; however, they do not refer to the same thing. Stress describes temporary processes, whereas burnout syndrome is the response to chronic stress manifested by negative attitudes towards one's own work.

The effects of occupational stress vary among healthcare professionals and negatively impact their well-being and performance. High levels of stress have been observed in hospital nurses; however, studies evaluating their prevalence and impact in Ecuador are scarce. Therefore, this study aimed to determine the impact of occupational stress on nursing professionals providing hospital care. The research question was: What are the main occupational stressors and their prevalence among the studied nurses? This was conducted using the application of the Nursing Stress Scale (NSS) Spanish version.

Methodology

A descriptive study with a non-experimental quantitative approach was conducted. A survey on the impact of occupational stress in providing hospital care was administered during the month of July 2023. The sample included all part-time nursing staff working at the Technical University of Ambato (n=50) as clinical practice instructors. Demographic data such as age and the department where they carried out their daily duties were collected. Full-time nursing staff were excluded from the study.

The Spanish version of the Nursing Stress Scale (NSS) was applied to determine the frequency and percentage of occupational stress. However, this study focused on evaluating occupational stress rather than Burnout Syndrome, as they are related but distinct concepts. Occupational stress describes a temporary process of tension in response to work stressors, while Burnout Syndrome is a prolonged response to chronic stress manifested in exhaustion, depersonalization, and reduced personal accomplishment.

Data collection and evaluation of occupational stress in nursing staff utilized the NSS scale physically, created in 1998 by Pamela Gray-Toft and James G. Anderson. This scale measures the frequency of stressful situations for hospital nursing staff, consisting of 34 items. Scores range as follows: never (0), sometimes (1), frequently (2), very frequently (3), with a total score ranging from 0 to 102 points. It has a Cronbach's alpha above 0.8, validating the feasibility of the instrument's application.

The scale, along with the description of each stressor and its scores, is available at the following link: https://drive.google.com/file/d/19YSFd2wONISrNdYL1hewnZgu281NY6-p/view?usp=sharing.

Statistical analysis

The collected data were digitized into Microsoft Excel 2019 and processed using the statistical platform SPSS version 27. Frequencies and percentages were calculated for categorical variables, and measures of central tendency were calculated for continuous variables.

Ethical considerations

This research adhered to the ethical principles of the Declaration of Helsinki. Additionally, the study was reviewed by the Research Ethics Committee for Human Subjects at the Technical University of Ambato, with approval letter 080-CEISH-UTA-2023, dated April 20, 2023.

Results

According to the analysis conducted, nursing staff predominated in the areas of Operating Room, Emergency, Neonatology, Surgery and Hospitalization, comprising 52% (n=26), with an average age of 38.6 years, ranging from a minimum of 24 years old to a maximum of 59 (Table 1).

Table 1. Demographic characteristics of nursing staff regarding the assessment of occupational stress at the Technical University of Ambato, July 2023.

Service	Frequency	Porcentage
Operating room	9	18%
E.R.	6	12%
Neonatology	6	12%
Surgical hospitalization	5	10%
Clinic	4	8%
Gynecology	4	8%
Obstetric Center	3	6%
Pediatrics	3	6%
ICU	3	6%
Maternity Ward	2	4%
Public Health	2	4%
Coordination	1	2%
Traumatology	1	2%
Comprehensive Care Unit	1	2%
Total	50	100%
Age		
Average (DE) 38,6 (∓)		
Median (RIQ) 37,5 (29 – 47)		
Min-Max. (24 – 59)		
Mode 27		

Source: Prepared by the authors

The determination of occupational stress according to the evaluated stressors was predominantly characterized as "sometimes" with 54% (n=27), followed by "never" with 26% (n=13), "frequently" with 16% (n=8), and finally "very frequently" with 4% (n=2) (Table 2). In the study, the factors that influenced the onset of occupational stress were identified. With a score of 1 (sometimes), stressor 14 (disagreement with patient treatment) predominated with a percentage of 80% (n=40). With a score of 2 (frequently), stressors 3 (performing nursing care that is painful for patients), 4 (feeling powerless in cases of no improvement in patients), and 20 (fulfilling nursing role in other services due to staff shortage) predominated, each with percentages of 36% (n=18). With a score of 3 (very frequently), stressors 6 (mentioning or hearing about the possible death of a patient) and 28 (not having enough time to provide emotional support to users) predominated, with a percentage of 30% (n=15) each (Table 2).

Table 2. Determination of the frequency and percentage of Occupational Stress in nursing staff at the Technical University of Ambato, July 2023.

Evaluation	(0)*		(1)*		(2)*		(3)*	
Occupational stress	(n)*	(%)*	(n)*	(%)*	(n)*	(%)*	(n)*	(%)*
Stressor 1	6	12%	22	44%	17	34%	5	10%
Stressor 2	20	40%	26	52%	3	6%	1	2%
Stressor 3	4	8%	26	52%	18	36%	2	4%
Stressor 4	3	6%	26	52%	18	36%	3	6%
Stressor 5	31	62%	18	36%	1	2%	-	-
Stressor 6	26	52%	8	16%	1	2%	15	30%
Stressor 7	11	22%	36	72%	3	6%	-	-
Stressor 8	9	18%	35	70%	3	6%	3	6%
Stressor 9	35	70%	12	24%	3	6%	-	-
Stressor 10	5	10%	30	60%	13	26%	2	4%
Stressor 11	9	18%	31	62%	10	20%	-	-
Stressor 12	23	46%	20	40%	6	12%	1	2%
Stressor 13	23	46%	21	42%	5	10%	1	2%
Stressor 14	7	14%	40	80%	3	6%	-	-
Stressor 15	14	28%	30	60%	6	12%	-	-
Stressor 16	14	28%	34	68%	2	4%	-	-
Stressor 17	15	30%	26	52%	7	14%	2	4%
Stressor 18	20	40%	26	52%	4	8%	-	-
Stressor 19	5	10%	35	70%	10	20%	-	-
Stressor 20	4	8%	26	52%	18	36%	2	4%
Stressor 21	12	24%	25	50%	13	26%	-	-
Stressor 22	16	32%	30	60%	2	4%	2	4%
Stressor 23	16	32%	29	58%	5	10%	-	-
Stressor 24	25	50%	22	44%	3	6%	-	-
Stressor 25	14	28%	20	40%	14	28%	2	4%
Stressor 26	16	32%	27	54%	7	14%	-	-
Stressor 27	3	6%	29	58%	14	28%	4	8%
Stressor 28	6	12%	29	58%	-	-	15	30%
Stressor 29	14	28%	30	60%	4	8%	2	4%
Stressor 30	6	12%	31	62%	10	20%	3	6%
Stressor 31	11	22%	35	70%	4	8%	-	-
Stressor 32	11	22%	36	72%	1	2%	2	4%
Stressor 33	14	28%	33	66%	3	6%	-	-
Stressor 34	4	8%	26	52%	17	34%	3	6%
TOTAL	**13**	**26%**	**27**	**54%**	**8**	**16%**	**2**	**4%**

Source: Prepared by the authors

*Score 0 (Never), score 1 (Sometimes), score 2 (Frequently), score 3 (Very frequently); Percentage (%), frequency (n).

Discussion

The present study was conducted among part-time nursing staff, and according to the results, the reasons for the staff experiencing work stress can be explained by analyzing the main stressors identified in this study.

The most prevalent stressor was disagreement with patient treatment, reported by 80% (n=40) of the surveyed nurses. This could be attributed to the perception among professionals that the prescribed treatments are not the most suitable or that there are better alternatives, leading to frustration and powerlessness in not being able to modify therapeutic decisions.

Other significant stressors included performing painful procedures and witnessing suffering in patients without apparent improvement, reported by 36% (n=18) each, as well as feeling powerless in the face of patients' lack of improvement, also reported by 36% (n=18). These findings reflect the distress experienced by nursing staff in response to the suffering and deterioration of patients under their care.

Likewise, covering nursing duties in various services due to staff shortages was reported as a stressful factor by 36% (n=18) of respondents. This indicates issues with staffing levels and an excessive workload distributed across various hospital areas.

On the other hand, 30% (n=15) stated that mentioning or witnessing patient deaths and not having time to provide emotional support impacted their occupational stress. This highlights the emotional burden of caring for seriously ill or terminally ill patients.

It is evident that nursing staff are a group of healthcare professionals who frequently experience high levels of stress due to the nature of their work. They may be subjected to stressful situations such as assessing severely ill or traumatized individuals, making rapid and critical decisions, handling excessive workloads, task rotation, and resource shortages. Therefore, nursing work proves to be a challenge that tests the knowledge, autonomy, and skills of the professional, decreasing their coping capacity in various situations encountered in the workplace.

In a study conducted in 2018 with 43 nursing professionals at the Montilla Hospital (Spain), titled "Burnout Syndrome in Nursing Staff: Association with Hospital Environment Stressors," the Occupational Stressors Scale and the Maslach Burnout Inventory-Human Services Survey (MBI-HSS) were used. The results reflect that the dimension of depersonalization on the scale (MBI-HSS) is influenced by hospital stressors (NSS), where the most common ones are: death and suffering, workload, uncertainty regarding treatment, hierarchy issues, inadequate preparation, lack of support, not knowing how to handle equipment properly, problems among nursing staff, temporary shifts to other services with staff shortages, thus demonstrating that burnout syndrome is related to the stressors mentioned above, which vary according to the service in which healthcare professionals work. This research aligns with the present study, as both find that the main stressors for nursing staff are related to workload, disagreement with treatments, problems among colleagues, and service changes. In particular, the stressor regarding disagreement with patient treatment was one of the most prevalent in our study, consistent with the findings of the 2018 study.

On a global scale, the prevalence of work stress among nurses varies, although it is believed to be highest. Work stress levels among nurses have been recorded in several countries, such as in northwest Egypt, at 29.2%, and in Wollega, Western Ethiopia, with values exceeding 29.8%. In other nations, work stress rates among nurses also vary. In Addis Ababa, Ethiopia, a prevalence of 37.8% has been reported, while in Arsi Zone, central Ethiopia, it was 53%. In East Gojjam Zone, northwest Ethiopia, a prevalence of 57.3% was reported, and in Harar, eastern Ethiopia, it reached 66.2%. Outside of Ethiopia, a prevalence of 74% was reported in Botswana, 87.4% in Delhi, 56.5% in Slovenia, 75% in Iran, and 45.5% in Saudi Arabia (13).

Hence, the results of this study are consistent with recent research reporting high levels of occupational stress among Ecuadorian nurses, primarily associated with excessive workload and nursing staff shortages. For example, a study in 2019 found a prevalence of 29.8% of high work stress among hospital nurses in Guayaquil, identifying excessive workload and exposure to patient suffering/death as the main stressors. Likewise, the shortage of nurses relative to the population has been identified as a relevant factor in the occurrence of work stress.

Conclusions

In conclusion, the impact of work stress on part-time nursing professionals providing hospital care was not very significant according to the results of the present study. This is because the frequency of stress characterized as "sometimes" prevailed in 54% of the responses, indicating a moderate level.

The stressor related to disagreement with patient treatment was identified and predominated among the work stressors in the studied nursing professionals. This addresses the objective of identifying the main stressors in this group.

When examining specific hospital areas, Operating Room, Emergency, Neonatology, and Hospitalization emerged as the zones with the highest frequency of surveyed professionals and recorded higher scores of work stress. This finding, aligned with the objective of recognizing critical areas of work stress, offers valuable insights for management and effective intervention in hospital environments.

This study suggests, based on the results found, that the survey should be applied to full-time operational staff who are in direct contact with patients. Ultimately, these results underline the need to specifically address stress derived from disagreements in patient treatments and highlight the importance of implementing support strategies in areas identified as most prone to generating work tensions. This analysis provides a solid starting point for the design of personalized interventions aimed at improving well-being and work quality in these critical areas, thereby contributing to a healthier and more sustainable working environment for part-time nursing professionals.

Peer Review

The manuscript underwent blind peer review and was promptly approved by the Editorial Team of the INSPILIP journal.

Availability of Data and Materials

The data supporting this manuscript are available upon request to the corresponding author.

Conflicts of Interest

The authors declare no conflicts of interest.

Funding

Self-funded by the authors.

Acknowledgments and Contributors

The authors express gratitude to the INSPILIP Scientific Digital Journal for its openness to academic scientific contributions from our country.

Translator's Note: I, Jean Louis León S., have translated this academic document from Spanish to English to facilitate its accessibility to a wider audience. While every effort has been made to ensure accuracy and fidelity to the original text, any discrepancies or errors are solely my responsibility. Should there be any questions or concerns regarding the translation, please feel free to contact me at jeanlleons2005@gmail.com. Thank you for entrusting me with the translation of this document.

References

1. Barratt, C. Developing resilience: the role of nurses, healthcare teams and organisations. Nursing Standard. October 1, 2018; 33(7):43-9. Available at: https://pubmed.ncbi.nlm.nih.gov/30152222/.

2. Luther, M. The Future of Nursing 2020-2030: Charting a Path to Achieve Health Equity. [Internet]. US: Flaubert JL, Le Menestrel S, Williams DR, et al., editors; May 11, 2021 [cited August 31, 2023]. Available at: https://www.ncbi.nlm.nih.gov/books/NBK573910/.

3. Jiménez Jiménez, M. J., Albornoz Zamora, E. J., Vega Falcón, V., Jiménez Jiménez, L. M., & Hermida Cazar, X. A. (2023). Estimación del Estrés Laboral en Personal de Enfermería de Cuidados Críticos del Hospital Quito Nº1 de la Policia, abril 2022. Ciencia Latina Revista Científica Multidisciplinar, 6(6), 12300-12316. Available at: https://doi.org/10.37811/cl_rcm.v6i6.4252.

4. Feddeh SA, Darawad MW. Correlates to Work-Related Stress of Newly-graduated Nurses in Critical Care Units. International Journal of Caring Sciences. 2020; 13(1):507-16. Available at: https://www.internationaljournalofcaringsciences.org/docs/56_darawad_original_13_1.pdf.

5. Mejía, C., et al. Factores asociados al estrés laboral en trabajadores de seis países de Latinoamérica. Rev Asoc Esp Espec Med Trab 2019; 28: 204—211. Available at: https://scielo.isciii.es/pdf/medtra/v28n3/1132-6255-medtra-28-03-204.pdf.

6. Alvarado L, Bretones F, Rodríguez J. The Effort-Reward Model and Its Effect on Burnout Among Nurses in Ecuador. Frontiers in Psychology. 2021; 12. Available at: https://www.frontiersin.org/articles/10.3389/fpsyg.2021.760570/full.

7. Vásquez Mendoza S, González Márquez YV. El estrés y el trabajo de enfermería: factores influyentes. Más Vita. Rev. Cienc. Salud. 2022; 2(2):51-9. Available at: https://acvenisproh.com/revistas/index.php/masvita/article/view/85.

8. Cerón López EM. Síndrome de burnout en enfermeros de hospitales públicos y privados en Guayaquil, Ecuador. RevMICG [Internet]. 2020; 1(1):33–40. Available at: http://dx.doi.

org/10.51597/rmicg.v1i1.55.

9. Más Pons Rosa, Escribà Agüir Vicenta. La versión castellana de la escala "the nursing stress scale". proceso de adaptación transcultural. Rev. Esp. Salud Pública [Internet]. 1998 Nov [cited 10th September 2023]; 72(6): 529-538. Available at: http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1135-57271998000600006&lng=es.

10. Schultz, C; et al. Resilience and reduction of work-related stress in Nursing. Rev. Latino-Am. Enfermagem. 2022; 30. Available at: https://www.scielo.br/j/rlae/a/fkgqmJ3NsXVrDjVZ7Z3Rm3q/?format=pdf&lang=es.

11. Carrillo-García, C; Ríos-Rísquez, M; Escudero-Fernández, L; Martínez-Roche, M. Factors of work-related stress in hospital nursing bureau according to the demand-control-support model. Enfermería Global. 2018; 17: 315-324. Available at: https://scielo.isciii.es/pdf/eg/v17n50/en_1695-6141-eg-17-50-304.pdf.

12. Blanca-Gutiérrez J, Arias-Herrera A. Burnout syndrome in nursing staff: association with hospital environment stressors, Andalusia, Spain. Enferm. univ [Internet]. 2018 Mar [cited 10th September 2023]; 15(1): 30-44. Available at: http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S1665-70632018000100030&lng=es.

13. Mekonen EG; Gebrie MH; Jemberie SM. Work-related stress among nurses working in northwest Amhara Referral Hospitals; a burden for hospitals. International Journal of Africa Nursing Sciences. 2022; 17:100486. Available at: https://www.sciencedirect.com/science/article/pii/S2214139122000932.