

The impact of occupational stress on the job performance of human resources in the public hospital institution "Djilali Bounaama" in Algiers during the COVID-19 pandemic

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Abstract---This study explores the impact of occupational stress induced by the COVID-19 pandemic on the job performance of human resources in the healthcare sector. The research focuses on the Public Hospital Institution “Djilali Bounaama” in Algiers, which played a central role in Algeria’s national response to the pandemic. The study is grounded in the relevance of understanding how extreme public health emergencies affect healthcare workers' performance, especially in institutions under severe operational pressure. The primary objective of the research is to assess the influence of three core stress dimensions—workload, job nature, and organizational structure—on employee performance during the health crisis. The institution was selected due to its frontline status during the pandemic, and the research period corresponds to the height of COVID-19 activity in Algeria. The data were collected through a field survey based on a structured questionnaire distributed to a random sample of 250 employees. The sample includes medical and administrative staff, representing diverse job profiles. SPSS version 26 was used for statistical analysis, applying a descriptive-analytical approach. The results show that while the pandemic introduced significant workplace stressors, these did not have a strong or direct impact on the job performance of the respondents. The research contributes to the literature by providing empirical evidence from a developing country context and suggests that institutional resilience and individual coping mechanisms may have played a buffering role. The study’s findings can be used by healthcare administrators and policymakers to

How to Cite:

Bouzenoura, A., & Belaribi, F. Z. (2025). The impact of occupational stress on the job performance of human resources in the public hospital institution "Djilali Bounaama" in Algiers during the COVID-19 pandemic. *The International Tax Journal*, 52(4), 1614–1628. Retrieved from <https://internationaltaxjournal.online/index.php/itj/article/view/177>

The International tax journal ISSN: 0097-7314 E-ISSN: 3066-2370 © 2025

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Submitted: 03 January 2025| Revised: 17 June 2025| Accepted: 28 August 2025

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design support mechanisms for healthcare staff during crises, especially in resource-constrained environments.

Keywords---Algeria, COVID-19, Healthcare, Job performance, Occupational stress, Public hospital, Resilience, Statistical analysis, Survey, Workload.

JEL Classification: I18, J81, M12, M54, O15

Introduction

The COVID-19 pandemic imposed unprecedented challenges on healthcare systems worldwide. Hospitals and medical staff faced growing pressures including increased patient volumes, lack of medical equipment, extended work hours, and the constant fear of infection. In Algeria, the Public Hospital Institution “Djilali Bounaama – Douera” was at the forefront of the national health response, operating under extreme and prolonged stress. This situation has highlighted a critical concern for human resources management in healthcare: the role of occupational stress in influencing employee job performance during health emergencies.

Occupational stress refers to the harmful physical and psychological responses that arise when job demands exceed the individual’s ability or resources to cope. During the COVID-19 crisis, this stress was intensified by the nature of the virus, uncertainty, rapidly changing protocols, and intense emotional burden. Healthcare workers, particularly those on the front lines, were not only expected to maintain professional standards but also to perform under highly stressful conditions with limited support. When prolonged, such stress can negatively impact job performance, leading to fatigue, reduced concentration, lowered productivity, and eventually burnout. These outcomes have direct implications for the quality of patient care and the functioning of healthcare institutions.

This study addresses this problem by examining the relationship between occupational stress and job performance among healthcare workers in the context of the COVID-19 pandemic, using the case of Djilali Bounaama Hospital in Algiers. The hospital’s strategic role during the crisis makes it a valuable context for investigating how stress factors such as workload, job nature, and organizational structure affect employee performance.

The study aims to assess the intensity of occupational stress experienced by staff members during the pandemic and its measurable impact on their performance levels. By identifying the key stressors and their effects, the research seeks to offer practical recommendations for hospital administrators and policymakers to improve stress management strategies in crisis contexts.

The scientific significance of this research lies in its contribution to the limited body of literature examining human resource performance under crisis-induced stress, particularly in developing countries. Practically, the study provides insights that can guide institutional decision-making and support systems to maintain healthcare workforce performance and resilience during future emergencies.

Research Problem

In light of the challenging professional circumstances faced by the healthcare sector during the COVID-19 pandemic, the central research question is:
How did occupational stress resulting from the COVID-19 pandemic affect the job performance of human resources in the healthcare sector?

Sub-questions

- Is there a statistically significant correlation between workload and occupational stress during the COVID-19 period at Djilali Bounaama University Hospital, at the significance level $\alpha \leq 0.05$?
- Is there a significant relationship between the nature of the job and occupational stress during the COVID-19 period at Djilali Bounaama University Hospital, at the significance level $\alpha \leq 0.05$?
- Is there a significant correlation between organizational structure and occupational stress during the COVID-19 period at Djilali Bounaama University Hospital, at the significance level $\alpha \leq 0.05$?

Literature Review

The COVID-19 pandemic marked a pivotal moment for evaluating the resilience of healthcare systems worldwide. It triggered a surge in academic research exploring the multifaceted nature of occupational stress and its influence on the performance of health professionals. This literature review synthesizes global and regional studies, with a focus on contextualizing their findings in the Algerian healthcare setting.

Occupational stress is recognized as a significant determinant of job performance, especially within high-pressure professions such as medicine and nursing (Lazarus & Folkman, 1984; Cooper et al., 2001). During the COVID-19 pandemic, this phenomenon escalated significantly. The World Health Organization (WHO, 2021) reported severe psychological impacts on health workers, including anxiety, depression, burnout, and post-traumatic stress disorder (PTSD).

Empirical studies conducted in public hospitals in Pakistan and Indonesia documented a direct relationship between pandemic-related stress and reduced job performance. Kashif et al. (2024) linked psychological distress to lowered productivity and morale, while Setyowati et al. (2020) identified disruptions in internal processes, staff training, and operational efficiency due to the pandemic's systemic strain.

Numerous studies highlight a significant increase in psychological distress among healthcare workers during the pandemic. A longitudinal international survey (Müller et al., 2022) found heightened levels of emotional exhaustion and depersonalization among hospital staff, particularly frontline workers. Similarly, Zaidi and Nautiyal (2024) reported that the hospital workforce faced considerable mental strain due to extended work hours, insufficient resources, and increased risk of infection.

Ramaci et al. (2020) found that healthcare workers in Italy and Spain experienced overwhelming stress due to high infection rates, fear of contagion, and long shifts. Shanafelt et al. (2020) observed similar trends in U.S. hospitals, with over 50% of emergency staff reporting burnout. Comparable outcomes were reported by Luceño-Moreno et al. (2020) in Spain, and by Tan et al. (2020) in Singapore, further validating the global scope of the problem.

Pintea et al. (2025) explored healthcare workers' emotional reactions and coping methods, documenting a wide range of strategies such as emotional suppression, social support, and cognitive reframing. While certain practices proved beneficial in mitigating stress, others, like emotional detachment, were associated with long-term burnout. These findings underscore the importance of targeted psychological support interventions in maintaining workforce resilience.

Numerous theoretical frameworks attempt to explain how occupational stress influences job performance. The Yerkes-Dodson Law (1908) maintains that while moderate stress may enhance focus

and productivity, excessive stress can impair performance. Ganster and Rosen (2013) established that performance declines with increased stress, particularly when organizational support is lacking.

Salas-Vallina et al. (2022) emphasize that emotionally exhausted healthcare workers are less likely to engage in organizational citizenship behavior. In Jordan, Algunmeeyn et al. (2020) found that nurses' performance was adversely affected by emotional fatigue and lack of managerial communication. Likewise, AbuAlRub (2004) linked nurse burnout to reduced job performance and poor patient outcomes.

Motivational decline among public hospital staff was another critical consequence of the pandemic. Ștefănescu et al. (2022) found that lack of recognition, increased workloads, and ambiguity in organizational directives significantly diminished employees' intrinsic motivation and commitment. In Jordanian hospitals, factors such as inadequate training, unclear communication, and insufficient rewards were shown to undermine performance (Hamdan et al., 2020).

El-Sayed (2021), studying Egyptian public hospitals, discovered that institutional weaknesses intensified occupational stress and subsequently reduced healthcare delivery effectiveness. Studies by Panagioti et al. (2017) and Dall'Ora et al. (2020) confirm a consistent pattern: elevated occupational stress leads to diminished job quality and productivity.

Despite challenges, some institutions demonstrated resilience through the application of high-performance HR practices. Khanchanapong (2022) reported that a Thai public hospital successfully leveraged ability-motivation-opportunity (AMO)-based HR strategies to maintain performance and employee satisfaction. This highlights the critical role of strategic HR planning in mitigating the negative impacts of public health crises.

Occupational stress is rarely caused by a single factor. Instead, it stems from a constellation of stressors that interact with one another:

- **Workload:** Heavy workloads are one of the most documented stressors. Khamisa et al. (2015) found a direct correlation between extended working hours and emotional exhaustion among nurses in South Africa. Similar observations were made by Sampaio et al. (2021) in Brazil and Galić et al. (2021) in Croatia.
 - **Job Nature:** Jobs that involve direct patient care, especially in infectious disease units, significantly elevate the risk of stress (Zhang et al., 2020; Que et al., 2020). Frontline workers report higher levels of insomnia, anxiety, and depressive symptoms compared to those in administrative roles (Lai et al., 2020).
 - **Organizational Structure:** A rigid and poorly communicative organizational framework can amplify feelings of helplessness and loss of control. Karasek's (1979) Demand-Control model remains relevant, as supported by more recent studies like those of Bakker & Demerouti (2017) and Li et al. (2021), which connect poor autonomy with higher stress.
- Despite the global nature of occupational stress research, localized studies in Algeria remain sparse. Bouabdellah et al. (2021) documented stress-related challenges in Algerian public hospitals, citing poor infrastructure and limited PPE (personal protective equipment) availability. Kaci et al. (2022) observed that rural hospitals faced greater burdens due to logistical constraints.

Cherif & Madani (2021) explored burnout among Algerian nurses during COVID-19 and emphasized the emotional toll of witnessing high patient mortality. Benyahia et al. (2022) found that institutions lacking psychological support services reported higher rates of absenteeism and staff turnover.

High levels of burnout among female hospital workers across various roles were reported during COVID-19, with emotional exhaustion and work overload being widespread. This suggests professional pressure significantly impacted mental well-being and likely job performance (Kherbache et al., 2021).

Orthopedic surgery residents in Algiers experienced elevated stress, disrupted education, and fear of infecting family members. Over 90% of residents reported increased stress, and most felt their training and clinical performance were negatively impacted by pandemic-related changes (Meraghni et al., 2022). Organizational commitment affected by remote work and pressure – Among Algerian public sector employees, including some in healthcare, professional stress during mandatory telework impacted organizational commitment. Perceived employer support and job conditions influenced how employees coped with pandemic-related stress (Serradj & Saidani, 2024).

Pandemic risk and hospital operations – Although not about Djilali Bounaama specifically, other hospitals in Algiers like Mustapha Bacha University Hospital reported disruptions in care and increased mortality in pediatric cancer patients during COVID-19, indirectly pointing to system-level strain that could affect HR performance (Arous et al., 2021).

Despite the availability of global and regional data on the impact of occupational stress on healthcare workers during the COVID-19 pandemic, there remains a clear lack of precise local studies addressing this issue within the Algerian context, particularly in the following areas:

- **Absence of field case studies in specific hospitals:** No research has specifically focused on the Djilali Bounaama Public Hospital in Algiers, despite its significance as a major healthcare institution in the capital. This leaves a gap in understanding the local realities of human resource performance under pressure during the pandemic.
- **Limited mixed-methods research:** Most Algerian studies have primarily described stress or burnout without establishing a direct relationship between stress levels and job performance using rigorous measurement tools.
- **Weak internal organizational analysis:** There is a lack of analytical studies exploring how administrative policies, leadership models, or institutional support mechanisms have mitigated or intensified the effects of occupational stress within this particular hospital.
- **Insufficient coverage of diverse HR experiences:** Existing research has mostly concentrated on specific categories of personnel (such as nurses or residents), without offering a comprehensive view that includes other essential staff such as administrators, technicians, physicians, and support teams.

Methodology

This study adopted a descriptive-analytical approach to examine the relationship between occupational stress caused by the COVID-19 pandemic and job performance among human resources in the healthcare sector. The questionnaire was employed as the main data collection tool.

Study Population and Sample:

The study population included employees from the Public Hospital Institution “Djilali Bounaama” in Algiers. A random sample of 250 respondents was selected, consisting of 185 females and 85 males. The demographic data revealed that:

- A majority of respondents were young and unmarried (56.8%), aged between 25 and 35 years (35.2%).
- 44.4% of respondents had less than 10 years of work experience.
- Occupational distribution: 44.4% nurses, 43.4% administrative staff, and 12.4% physicians.
- Educational level: 62% secondary education, 29.6% university graduates, and 8.4% with middle-level education.

Data Collection Tool:

The questionnaire consisted of three main parts:

1. Demographic and professional characteristics: gender, age, marital status, job title, and years of service.
 2. Occupational stress during the COVID-19 pandemic, measured through three dimensions:
 - Workload-related stress (5 items)
 - Job nature-related stress (4 items)
 - Organizational structure-related stress (3 items)
 3. Impact of COVID-19-related stress on job performance (11 items)
- Responses were measured using a three-point Likert scale: Agree, Neutral, Disagree.

Reliability and Validity:

To assess reliability, Cronbach's Alpha was used. The results showed an overall alpha value of **0.70**, indicating acceptable internal consistency, as values above 0.60 are statistically acceptable.

Hypotheses:

- There is a strong, statistically significant correlation between workload and occupational stress during the COVID-19 period at Djilali Bounaama University Hospital, at the significance level $\alpha \leq 0.05$.
- There is a significant positive relationship between the nature of the job and occupational stress during the COVID-19 period at Djilali Bounaama University Hospital, at the significance level $\alpha \leq 0.05$.
- There is a significant positive relationship between the organizational structure and occupational stress during the COVID-19 period at Djilali Bounaama University Hospital, at the significance level $\alpha \leq 0.05$.

Statistical Methods:

Data analysis was performed using SPSS V26, and the following statistical techniques were applied:

- Cronbach's Alpha to test reliability
- Frequencies and percentages
- Mean and standard deviation
- Spearman Correlation Coefficient to examine the relationships between key variables

Results

This section presents the results of the statistical analysis conducted on the responses obtained from the 250 participants at Djilali Bounaama Hospital in Douera, Algiers. The findings are divided into four thematic dimensions: workload-related stress, job nature-related stress, organizational structure-related stress, and the perceived impact of COVID-19 on job performance. Results are reported with descriptive statistics (means and standard deviations), followed by inferential statistics to test the hypotheses. Interpretation is provided within the context of existing literature.

• Workload-Related Stress During COVID-19

The following table presents the means and standard deviations associated with workload-induced stress during the COVID-19 pandemic.

Table 1. the means and standard deviations associated with workload-induced stress during the COVID-19 pandemic

No.	Statement	Mean	Std. Dev.	Degree of Agreement	Rank
1	During COVID-19, employees performed tasks beyond their personal capacities.	1.95	0.23	High	1

No.	Statement	Mean	Std. Dev.	Degree of Agreement	Rank
2	Tasks and responsibilities assigned to you increased during COVID-19.	1.79	0.41	High	3
3	During COVID-19, employees had no rest breaks during official working hours.	1.48	0.58	Low	4
4	During COVID-19, no plans were provided to mitigate occupational stress.	1.85	0.63	High	2
5	Your supervisor's behavior changed during COVID-19 compared to normal times.	1.48	0.41	Low	5
	Overall Average for the Dimension	1.60	0.29	Moderate	

Sources: The author based on SPSS output

The average score for workload-related stress was 1.60, indicating a moderate level of agreement among respondents that the COVID-19 pandemic intensified their work burden. The highest-rated item was: "During the COVID-19 period, staff performed work exceeding their personal capabilities" (mean = 1.95, SD = 0.23), reflecting strong agreement. This aligns with Khamisa et al. (2015), who reported that excessive workloads increase emotional exhaustion among nurses.

Other high-rated items included lack of planning to mitigate professional stress (mean = 1.85, SD = 0.63), and increased obligations (mean = 1.79, SD = 0.41). Lower ratings were observed for lack of rest times (mean = 1.48) and changes in managerial behavior (mean = 1.48), indicating that while some dimensions of workload increased significantly, others were perceived less intensely.

These findings support Ramaci et al. (2020) and Tan et al. (2020), who emphasize that workload surges were key stressors during the pandemic. The perception of workload pressure appears consistent across multiple countries, validating the international comparability of our data.

- **Job Nature-Related Stress During COVID-19**

The following table presents the means and standard deviations pertaining to job nature-related stress during the COVID-19 pandemic.

Table 2. the means and standard deviations pertaining to job nature-related stress during the COVID-19 pandemic

No.	Statement	Mean	Std. Dev.	Degree of Agreement	Rank
1	During COVID-19, staff were required to be alert, attentive, and quick in executing procedures and treating patients.	1.71	0.46	Moderate	2
2	Necessary support was provided to workers during COVID-19.	1.62	0.54	Moderate	3
3	During COVID-19, employees encountered many problems while performing their tasks.	1.59	0.55	Low	4
4	During COVID-19, I felt stressed and anxious due to preventive requirements in the hospital.	1.72	0.60	Moderate	1
	Overall Average for the Dimension	1.75	0.40	Moderate	

Sources: the author based on SPSS output

The average score for this dimension was 1.75, reflecting a moderate perception of stress arising from the nature of healthcare work during the pandemic. The top-rated item was "During COVID-19, I felt stressed due to the hospital's preventive requirements" (mean = 1.72, SD = 0.60), followed by the requirement for vigilance and fast medical response (mean = 1.71, SD = 0.46).

Respondents moderately agreed that necessary support was provided (mean = 1.62), and acknowledged frequent problems during task execution (mean = 1.59). These results echo the findings of Zhang et al. (2020), who highlighted that direct patient care workers, particularly in infectious wards, faced elevated psychological burdens.

These findings highlight the complex duality of job nature during crises: while healthcare workers accept their role, the psychological and physical demands are intensified, which can impact their focus, wellbeing, and long-term resilience.

1. Organizational Structure-Related Stress:

The following table presents the means and standard deviations related to organizational structure-induced stress during the COVID-19 pandemic.

Table 3. The means and standard deviations related to organizational structure-induced stress during the COVID-19 pandemic

No.	Statement	Mean	Std. Dev.	Degree of Agreement	Rank
1	Work procedures in the hospital were not clearly defined during COVID-19.	1.67	0.47	Moderate	3
2	During COVID-19, there was poor coordination between personnel across hospital units.	1.95	0.45	High	1
3	During COVID-19, employees received conflicting instructions from their supervisors.	1.80	0.65	High	2
	Overall Average for the Dimension	2.00	0.37	High	

Source: the author based on SPSS output

Organizational structure was the most significant stress factor, with an average score of 2.00, indicating high levels of stress. Respondents overwhelmingly agreed that there was weak coordination among departments (mean = 1.95, SD = 0.45), conflicting instructions from supervisors (mean = 1.80, SD = 0.65), and unclear procedures (mean = 1.67, SD = 0.47).

These findings suggest a structural deficiency in crisis management protocols. The lack of clarity and consistency in hospital communication exacerbated stress levels. As Karasek's (1979) model suggested, low autonomy and unclear job roles are key determinants of occupational stress. Similar findings by Li et al. (2021) emphasize the need for streamlined communication and robust decision-making hierarchies.

• Perceived Impact of COVID-19 on Job Performance

The following table presents the means and standard deviations related to the perceived impact of COVID-19 on job performance.

Table 4. The means and standard deviations related to the perceived impact of COVID-19 on job performance

No.	Statement	Mean	Std. Dev.	Degree of Agreement	Rank
1	During COVID-19, I executed tasks faster than in	1.65	0.51	Neutral	4

No.	Statement	Mean	Std. Dev.	Degree of Agreement	Rank
	normal times.				
2	Workload intensity during COVID-19 negatively affected my performance.	1.56	0.49	Disagree	9
3	During COVID-19, the sense of responsibility in work increased.	1.76	0.47	Neutral	3
4	Employees were fully committed to their tasks during COVID-19.	1.64	0.52	Neutral	5
5	During COVID-19, I felt my productivity exceeded normal levels.	1.59	0.50	Disagree	7
6	The workload increase during COVID-19 led to more errors in my work.	1.57	0.49	Disagree	8
7	Staff layoffs during COVID-19 led to a shortage of personnel.	1.43	0.55	Disagree	10
8	I suffered from shortages of medical materials and equipment during COVID-19.	1.60	0.63	Disagree	6
9	Staff absenteeism increased during COVID-19 compared to normal times.	1.52	0.52	Disagree	11
10	Work programs were provided to reduce stress during COVID-19.	1.80	0.47	Agree	2
11	I received compensation for the efforts exerted during the pandemic.	1.94	0.38	Agree	1
	Overall Average for the Dimension	1.72	0.28	Neutral	

Source: the author based on SPSS output

The average score was 1.72, indicating neutral perceptions regarding the impact of COVID-19 on job performance. This neutrality may reflect variability in institutional responses and the uneven distribution of support mechanisms.

Top-rated positive indicators included benefiting from compensation programs (mean = 1.94, SD = 0.38) and work schedules designed to reduce stress (mean = 1.80, SD = 0.47). However, responses were less favorable concerning increased errors due to overload (mean = 1.57) and increased absenteeism (mean = 1.52). The lowest score was related to staff dismissals and manpower shortages (mean = 1.43, SD = 0.55).

These findings are consistent with Panagioti et al. (2017), who linked stress to increased errors, and Dall'Ora et al. (2020), who emphasized that unmanaged stress can disrupt institutional stability and affect care outcomes.

Discussion and Hypothesis Testing

First Hypothesis:

There is a statistically significant relationship between workload and job performance during the COVID-19 pandemic at Djilali Bounaama University Hospital in Douira (at the significance level $\alpha \leq 0.05$).

To test this hypothesis, a simple linear regression analysis was conducted. The results are presented in Table 5:

Table 5. Simple Linear Regression Analysis of the Effect of Workload on Job Performance

Variable	Correlation Coefficient (R)	Coefficient of Determination (R ²)	Regression Coefficient (β)	F-value	Sig.
Effect of Workload on Job Performance	0.129	0.017	-0.123	4.186	0.042

Source: the author based on SPSS output.

The analysis shows a weak but statistically significant negative correlation between workload and job performance ($R = 0.129$, $\text{Sig.} = 0.042 < 0.05$). The R^2 value of 0.017 indicates that 1.7% of the variation in performance can be attributed to changes in workload. The negative regression coefficient ($\beta = -0.123$) suggests that as workload stress increases, job performance tends to decline.

Although the relationship is weak, the statistical significance confirms the hypothesis. These findings are consistent with studies such as those by Salas-Vallina et al. (2020) and Chen et al. (2021), which emphasized that increased workload during health crises leads to emotional exhaustion and diminished work outcomes. Similar research during COVID-19 (e.g., Kisely et al., 2020) highlighted the burnout risk among healthcare professionals due to overwhelming work demands.

Second Hypothesis:

There is a statistically significant positive relationship between the nature of the job and professional stress during the COVID-19 pandemic at Djilali Bounaama University Hospital ($\alpha \leq 0.05$).

The results of the regression analysis are summarized in Table 18:

Table 6. Simple Linear Regression Analysis of the Effect of Job Nature on Job Performance

Variable	Correlation Coefficient (R)	Coefficient of Determination (R ²)	Regression Coefficient (β)	F-value	Sig.
Effect of Job Nature on Job Performance	0.076	0.006	-0.053	1.425	0.234

Source: The author based on SPSS output.

The correlation coefficient ($R = 0.076$) indicates a very weak positive association between job nature and performance. The R^2 value (0.006) reveals that only 0.6% of the performance variance is explained by the nature of job stressors. Moreover, the regression coefficient is slightly negative ($\beta = -0.053$), which contradicts the stated hypothesis. The p -value = 0.234 > 0.05 shows that the relationship is not statistically significant.

Hence, the second hypothesis is not supported. This result contrasts with findings by Panagioti et al. (2018) and Shanafelt et al. (2020), who reported that role-related stressors—especially during health emergencies—strongly influence healthcare performance. However, the current study's results suggest that perceived job nature stress did not significantly influence employee performance, possibly due to adaptive coping mechanisms or effective managerial support in certain units.

Third Hypothesis:

There is a statistically significant positive relationship between organizational structure and professional stress during the COVID-19 pandemic at Djilali Bounaama University Hospital ($\alpha \leq 0.05$).

The regression results are shown in Table 7:

Table 7. Simple Linear Regression Analysis of the Effect of Organizational Structure on Job Performance

Variable	Correlation Coefficient (R)	Coefficient of Determination (R ²)	Regression Coefficient (β)	F-value	Sig.
Effect of Organizational Structure on Job Performance	0.057	0.003	-0.043	0.810	0.369

Source: the author based on SPSS results.

The correlation between organizational structure and performance was very weak ($R = 0.057$), with only 0.3% of the variance explained ($R^2 = 0.003$). The regression coefficient was also negative ($\beta = -0.043$), indicating that unclear structures and poor coordination might slightly reduce performance. However, the p -value = $0.369 > 0.05$ shows that the relationship is not statistically significant.

Despite anecdotal and qualitative evidence of administrative confusion and a lack of coordination during COVID-19, this statistical outcome suggests that organizational structure alone did not significantly determine performance outcomes. This contradicts literature such as **Tawfik et al.** (2019), who emphasized the importance of structural clarity and leadership during crises. However, this discrepancy may reflect local contextual factors or the presence of informal coping systems within hospital units.

Conclusions

The primary objective of this study was to investigate the effects of occupational stress—arising from workload, job nature, and organizational structure—on the performance of healthcare professionals during the COVID-19 pandemic, with a focus on Djilali Bounaama General Hospital in Douera. The findings offer empirical insight into the specific mechanisms through which stress affected staff efficiency and behavior during this global health crisis.

The quantitative analysis revealed that workload-related stress had a weak but statistically significant negative correlation with job performance. This suggests that heightened work demands during the pandemic—such as extended shifts, increased patient load, and administrative overload—resulted in a tangible, albeit limited, reduction in employee efficiency. This result aligns with previous international studies (e.g., Khamisa et al., 2015; Sampaio et al., 2021), which identified excessive workload as a core driver of emotional exhaustion, fatigue, and reduced service quality in healthcare settings.

In contrast, stress related to job nature (e.g., direct exposure to infected patients or emotionally distressing environments) and organizational structure (e.g., procedural ambiguity, weak internal communication) showed very weak and statistically insignificant relationships with job performance. This surprising outcome implies that certain mitigating factors may have buffered the negative impact of these stressors. These factors potentially include:

- A strong sense of professional responsibility and commitment among medical staff during emergencies;
- Robust team-based collaboration and informal peer support mechanisms;
- Adaptive or flexible leadership responses, which may have compensated for structural shortcomings during the crisis.

A particularly noteworthy observation was the resilience displayed by healthcare workers, who were able to maintain acceptable performance levels despite being subjected to substantial stress. This resilience appears to be fueled by intrinsic motivation, a profound sense of ethical duty, and—in some cases—

external institutional support, even if limited in scope. These findings reflect what other researchers have described as "latent organizational strength" or "invisible capital" that becomes activated in moments of crisis.

The negligible influence of organizational structure on performance suggests that formal rules and procedures may play a secondary role in high-pressure contexts compared to informal networks, leadership flexibility, or individual coping capacity. Furthermore, it is possible that temporary operational adjustments during the pandemic (e.g., emergency protocols, decentralization of decisions) mitigated the structural rigidity typically seen in bureaucratic systems.

From a scientific standpoint, this study contributes to filling a significant empirical gap in understanding occupational stress within Algerian healthcare institutions during a pandemic. It moves beyond descriptive accounts by quantitatively assessing the link between different types of stress and job performance within a specific public hospital setting. The findings reinforce the idea that stress impacts are multifactorial and context-dependent, influenced by both internal organizational dynamics and personal or collective coping strategies.

Practically, these results provide actionable insights for hospital administrators and policymakers, suggesting that effective stress management requires a nuanced approach. Recommendations include:

- Strategic workload distribution and staffing optimization to prevent burnout;
- Investment in resilience training and psychological support services;
- Revisiting organizational communication and decision-making models to ensure clarity and responsiveness during crises.

Future Research Directions

Given the limitations of this study—particularly its cross-sectional design and focus on a single institution—future research should adopt a multivariate and longitudinal approach. Such studies could examine the interaction between stress factors and mediators such as organizational culture, leadership styles, and psychological resilience. Long-term tracking would also reveal the enduring effects of occupational stress on job satisfaction, turnover intention, and overall health system performance in the post-pandemic period.

Author Contributions

Conceptualisation: A. B., F. B.; Data curation: A. B.; Formal analysis: A. B., F. B.; Funding acquisition: F. B.; Investigation: A. B., F. B.; Methodology: A. B.; Project administration: A. B.; Resources: F. B.; Software: F. B.; Supervision: A. B.; Validation: A. B., F. B.; Visualisation: A. B., F. B.; Writing – original draft: A. B.; Writing – review & editing: A. B., F. B.

Table 8. Contributor Roles Taxonomy (CRediT)

Role	Asma Bouzenoura	Fatima Zahra Belaribi
Conceptualization	✓	✓
Data curation	✓	
Formal analysis	✓	✓
Funding acquisition		✓
Investigation	✓	✓
Methodology	✓	
Project administration	✓	

Role	Asma Bouzenoura	Fatima Zahra Belaribi
Resources		✓
Software		✓
Supervision	✓	
Validation	✓	✓
Visualization	✓	✓
Writing - original draft	✓	
Writing - review & editing	✓	✓

Acknowledgements

The authors would like to thank all healthcare professionals who participated in the study. This article was prepared with the assistance of AI tools for language refinement, while all content and analysis were authored by the researchers themselves.

Conflicts of Interest

The authors declare no conflict of interest.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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