

OCCUPATIONAL STRESS OF HEALTHCARE WORKERS AND SOME ASSOCIATED FACTORS AT DONG DO HOSPITAL IN 2023

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ABSTRACT

Objective: Occupational stress among healthcare workers (HCWs) significantly impacts their health and the quality of healthcare services. This study aimed to assess the prevalence and identify factors associated with occupational stress among HCWs at Dong Do Hospital, Hanoi, in 2023.

Methodology: We utilized a cross-sectional study design with 245 HCWs participating through the administration of the Job Content Questionnaire (JCQ).

Results: The study found that 24% of HCWs experienced significant job stress, with notable variations across different departments. Factors significantly associated with higher levels of stress included high job demands, low job control, and inadequate support from colleagues. Notably, demographic factors such as age and gender did not show a significant relationship with occupational stress levels.

Conclusion and recommendation: Based on the findings, we recommend targeted interventions to improve job control, enhance workplace support, and manage job demands to mitigate stress among HCWs. This study contributes to the understanding of occupational stress in a hospital setting and suggests pathways for interventions to enhance worker well-being and healthcare efficiency.

Keywords: Occupational stress, healthcare workers, Job Content Questionnaire (JCQ), job demands, job control, workplace support, mental health, stress management, hospital setting, work environment.

1. INTRODUCTION

Occupational health, a critical field within public health, focuses on promoting and maintaining the health and well-being of workers to enhance productivity and job satisfaction. It involves a wide range of practices aimed at safeguarding workers from occupational diseases and accidents, and ensuring that work environments support their health and ability to work [1]. This is particularly vital in healthcare settings, where workers are exposed to unique and severe stressors that impact their physical and mental health.

Healthcare workers (HCWs) represent a significant proportion of the global workforce, tasked with providing essential services across various settings. They face numerous challenges including physical injuries, exposure to infectious diseases, and a high incidence of psychological stressors. For instance,

studies report that the prevalence of latent tuberculosis among HCWs in low- and middle-income countries is about 54%, dramatically higher than the 2% observed in the general population. Chronic lower back pain, a common occupational affliction, affects 44% to 83% of nurses in African clinical settings, significantly impacting their quality of life and work efficiency [2][3].

Occupational stress, defined by the World Health Organization (WHO) as the response to work demands and pressures that exceed a worker's knowledge and abilities, challenges their ability to cope, and can lead to physical and mental health problems [4]. The stress experienced by HCWs is of considerable concern due to its direct impact on their ability to provide care and on the broader health system. For example, a US survey indicated that 83% of workers suffer from work-

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related stress, with healthcare professionals often facing the severe end of this spectrum due to the intense nature of their roles [5].

The Job Content Questionnaire (JCQ) is widely used to measure job-related stress factors, considering the balance between job demands and the control workers have over their work conditions [6]. This tool has helped identify that job demands, coupled with low job control and inadequate support from colleagues and supervisors, significantly contribute to high stress levels among HCWs [7].

This study specifically investigates occupational stress among healthcare workers at Dong Do Hospital, aiming to describe its prevalence and associated factors in this group. Previous research highlights the importance of understanding these dynamics, as they not only affect the health of the workers but also the safety and quality of care provided to patients. For instance, a study in Jeddah found that the overall prevalence of work-related injuries among HCWs was 52%, with significant implications for worker safety and health system costs [3]. Mental health issues are also prevalent, with surveys during the COVID-19 pandemic showing that 22% of healthcare workers suffered from moderate to severe levels of depression, anxiety, and stress [8].

2. METHODOLOGY

2.1. Study Design and Setting

An analytical cross-sectional study design was employed to investigate occupational stress among healthcare workers at Dong Do Hospital, Hanoi. The study took place from June to December 2023, with the main data collection occurring between July and August 2023. Dong Do Hospital, a comprehensive healthcare facility, provided a diverse setting for examining a range of occupational stress factors impacting various healthcare roles.

2.2. Participants

Eligibility criteria for the study included healthcare workers from administrative, clinical, and paraclinical departments who had been employed for at least six months prior to the study. A total of 250 healthcare workers were initially targeted for inclusion. Exclusion criteria included workers on sick leave, maternity leave, or those absent during the study period. Ultimately, 245 healthcare workers participated, accounting for a response rate of 98%.

2.3. Data Collection

Data were gathered using a structured self-administered questionnaire, distributed during weekly departmental meetings to ensure maximum reach and response. The questionnaire was designed to capture comprehensive

information across various dimensions of occupational stress. Two data collection sessions per department were conducted to ensure all eligible participants had the opportunity to respond. For administrative departments, one collective session was sufficient due to their smaller size.

2.4. Sample Size

The sample size of 245 was calculated to achieve a confidence level of 95% and a margin of error of 5%, assuming a response distribution of 50% to provide the maximum sample size.

2.5. Research Variables

Independent variables included:

- Demographic characteristics: Age, gender, marital status, education level.
- Job characteristics: Department affiliation, job type, employment contract type, job stability, alignment of job with qualifications.
- Lifestyle factors: Smoking status, alcohol consumption.

The dependent variable was the risk of occupational stress, assessed using the Karasek's Job Content Questionnaire (JCQ). This tool includes 22 items scored on a Likert scale from 1 (strongly disagree) to 4 (strongly agree), covering three dimensions:

- Job demands (5 items): Measures psychological demands of the job.
- Decision latitude (9 items): Assesses workers' control over their job tasks and their ability to use skills.
- Social support (8 items): Evaluates the level of social support from colleagues and supervisors.

Scores were calculated using the formula: $\text{Total score} = \sum(\text{item score})$. Higher scores indicated higher job demands, greater decision latitude, and more social support. Participants were classified as at risk of high occupational stress if their scores fell into the high strain quadrant of the demand-control model (high demands and low control).

2.6. Data Analysis

Data were processed and analyzed using SPSS version 16.0. Descriptive statistics were used to summarize participant characteristics and stress levels. Chi-square tests were applied to explore associations between categorical variables and stress risk, while logistic regression was utilized to adjust for potential confounders and identify independent predictors of stress.

2.7. Ethical Considerations

The study protocol was reviewed and approved by the Institutional Review Board at Hanoi Medical

University and the Dong Do Hospital Ethics Committee. Informed consent was obtained from all participants, ensuring that they were fully aware of the study's purpose and their right to confidentiality.

3. RESEARCH RESULTS

3.1. Characteristics of the subjects studied

The study analyzed demographic, professional, and social characteristics of 245 healthcare workers at Dong Do Hospital. The participants were nearly evenly divided by age, with 49.8% under 30 years and 50.2% aged 30 or older, and a significant majority (72.7%) were female. Professional experience among the workforce was predominantly less than five years for 81.6% of the participants, indicating a relatively young and less experienced workforce, with an average occupational tenure of 2.5 years. Economic assessments showed that nearly half (47.8%) of the workers had children under five years old and 42% had elderly dependents, reflecting considerable family obligations. The average monthly income was reported at 14.3 million VND, with 60% earning above 10 million VND. This suggests a reasonably affluent workforce relative to the local economy. Regarding work-related characteristics, the majority were in administrative roles (33.4%), followed by nursing (28.2%), with other medical roles such as doctors (10.6%) and lab specialists (9.8%). Working conditions were rated positively, with infrastructure and equipment deemed at least 'relatively sufficient' by 95.7% and 97.6% of participants, respectively. The analysis of workplace relationships revealed that 95.1% of the workers were satisfied to very satisfied with their colleagues, and 55.1% frequently received support from their supervisors. Health behavior assessments showed low smoking rates (94.3% non-smokers) and moderate alcohol consumption, indicating health-conscious behaviors among the workforce. Overall, the data reveals a young, predominantly female workforce with significant professional and family responsibilities. The generally positive assessments of their work environment and relationships suggest potential areas for targeted interventions focusing on stress management and work-life balance within the hospital.

3.2. The prevalence of occupational stress

In the assessment of occupational stress among healthcare workers at Dong Do Hospital, the Job Content Questionnaire (JCQ) provided detailed insights into workplace support, control/autonomy, and work requirements. The workplace support characteristics, reflecting the average scores for various aspects like supervisor care and collegiality, indicated moderate support levels with scores typically around 3.03, on a scale where 4 represents strong agreement about positive support aspects. The overall average for workplace support was 24.2, suggesting a generally supportive environment but with room for improvement.

The control or autonomy over their work, as reported by healthcare workers, showed a mixed scenario. While there were reasonable opportunities for creativity and decision-making, reflected by an average score close to 3.0, the participants noted a lack of freedom in how they perform their tasks with a lower average score of 2.26. This indicates a potential area where increased autonomy could reduce stress levels.

Regarding the demands of the job, the results suggested a moderate to high demand environment. Workers reported needing to work quickly and hard, with average scores around 2.78 and 2.44, respectively. However, they also felt they had enough time to complete their work, which mitigated the potential stress from other demands, leading to an overall job requirements score of 28.9.

The distribution of stress levels based on Karasek's job control model highlighted that 23.67% of healthcare workers fell into the 'High Strain' jobs category, which is characterized by high demands and low job control. Additionally, the 'Active jobs' category, indicative of high demands but also high control, included 31.84% of workers. These results demonstrate a significant portion of the workforce experiencing stress conditions that could impact their health and job performance.

3.3. Risk of occupational stress among healthcare workers

The analysis of occupational stress among healthcare workers at Dong Do Hospital, as shown in Figures 1 and 2, reveals significant stress distribution across different job classifications and workplaces. Figure 3.3 indicates that 23.67% of healthcare workers are in 'High-strain' jobs-characterized by high demands and low control-highlighting a considerable segment under severe stress. Additionally, 'Active jobs,' which involve high demands but also high control, account for 31.84% of the workforce. Conversely, 21.63% are in 'Low Strain' jobs, and 22.86% in 'Passive' jobs, suggesting better control or lower demands.

Figure 2 provides insights into the distribution of occupational stress by workplace, showing that the Administrative block experiences the highest stress risk with 25.9% of its workers affected. This is closely followed by the Subclinical area with 25.8% and the Clinical block at 22.5%. These figures illustrate how environmental and job role factors within specific hospital blocks influence stress levels, pointing to the need for targeted interventions to mitigate these risks effectively.

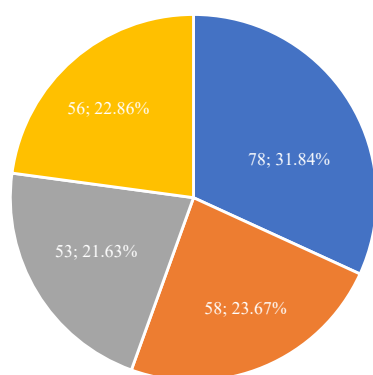


Figure 1. Distribution of stress levels of healthcare workers

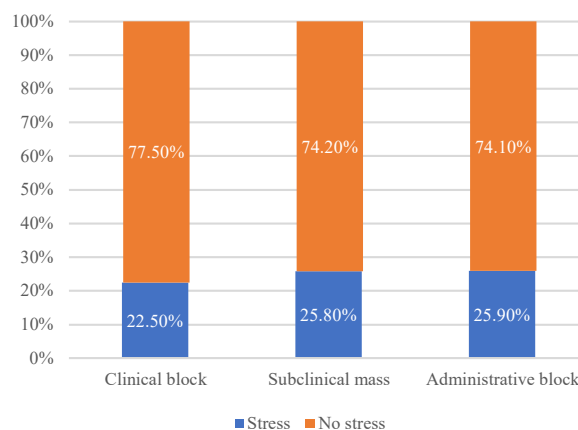


Figure 2. Distribution of rates of occupational stress by workplace

3.4. Factors related to the risk of occupational stress in healthcare workers

In-depth analysis of demographic variables (Table 1) reveals that younger healthcare workers (under 30) experience a slightly higher prevalence of stress at 24.6%, compared to their older counterparts at 22.8%. While this difference suggests a trend, the variations in stress levels across age groups were not statistically significant, indicating that age alone may not be a critical determinant of stress. Similarly, no significant differences were observed across gender or educational backgrounds, pointing to the possibility that workplace factors might play a more substantial role in influencing stress.

Table 1. Association between occupational stress and demographic health workers

| Character | | Occupational stress | | | | OR | (95% CI) |
|------------------------|----------------------|---------------------|------|-----|------|-------|----------------|
| | | Yes | | No | | | |
| | | n | % | n | % | | |
| Age group | ≥30 | 28 | 22.8 | 95 | 77.2 | 0,904 | (0.501-1.63) |
| | < 30 | 30 | 24.6 | 92 | 75.4 | 1 | |
| Gender | Female | 46 | 25.8 | 132 | 74.2 | 1,6 | (0.786-3.25) |
| | Male | 12 | 17.9 | 55 | 82.1 | 1 | |
| Occupational age group | ≥ 5 years | 12 | 26.7 | 33 | 73.3 | 1,22 | (0.582-2.55) |
| | < 5 years | 46 | 23.0 | 154 | 77.0 | 1 | |
| | Postgraduate | 0 | 0 | 13 | 100 | | |
| Education level | University | 23 | 30.3 | 53 | 69.7 | 2,604 | (0.698-9.714) |
| | College | 32 | 23.7 | 103 | 76.3 | 1,864 | (0.516-6.738) |
| | Intermediate | 3 | 14.3 | 18 | 85.7 | 1 | |
| Marital status | Widowed, divorced | 3 | 25 | 9 | 75 | 1,111 | (0.278-4.434) |
| | Married | 31 | 24 | 98 | 76 | 1,054 | (0.573-1.939) |
| | Unmarried | 24 | 23.1 | 80 | 76.9 | 1 | |
| Working Profession | Nursing | 21 | 30.4 | 48 | 69.6 | 5,25 | (1.134-24.268) |
| | Pharmacist | 5 | 22.7 | 17 | 77.3 | 3,523 | (0.611-20.383) |
| | Administrative staff | 20 | 24.4 | 62 | 75.6 | 3,871 | (0.84-17.841) |
| | Lab Specialist | 5 | 20.8 | 19 | 79.2 | 3,158 | (0.55-18.114) |
| | Doctor | 2 | 7.7 | 24 | 92.3 | 1 | |
| | Customer service | 5 | 22.7 | 17 | 77.3 | 3,53 | (0.611-20.383) |

| Character | | Occupational stress | | | | OR | (95% CI) |
|----------------------------------|----------------|---------------------|------|-----|------|-------|--------------|
| | | Yes | | No | | | |
| | | n | % | n | % | | |
| Cigarette smoking | Smoking | 2 | 14.3 | 12 | 85.7 | 0,521 | (0.113-2.4) |
| | Do not smoke | 56 | 24.2 | 175 | 75.8 | 1 | |
| Drinking wine | Drink | 17 | 18.7 | 74 | 81.3 | 0,633 | (0.335-1.2) |
| | Do not drink | 41 | 26.6 | 113 | 73.4 | 1 | |
| Drinking beer | Drink | 23 | 20.7 | 88 | 79.3 | 0,739 | (0.406-1.35) |
| | Do not drink | 35 | 26.1 | 99 | 73.9 | 1 | |
| Self-assessment of health status | Sick | 5 | 45.5 | 6 | 54.5 | 2,85 | (0.835-9.69) |
| | Healthy/Normal | 53 | 22.6 | 181 | 77.4 | 1 | |

The association between occupational stress and COVID-19 status (Table 2) also did not show significant impacts, suggesting that the pandemic's direct effects might have been uniformly experienced or managed across the workforce. However, familial and social characteristics (Table 3) such as having dependent children or elderly in the household, which could potentially contribute to personal stress, surprisingly did not show a significant correlation with occupational stress, emphasizing that external job-related factors could be more impactful.

Table 2. Association between occupational stress and Covid 19 Status

| Character | | Occupational stress | | | | OR | (95% CI) |
|--|-------------------------------------|---------------------|------|-----|------|-------|----------------|
| | | Yes | | No | | | |
| | | n | % | n | % | | |
| Covid 19 status | Yes | 52 | 25.4 | 153 | 74.6 | 1.93 | (0.765-4.85) |
| | No | 6 | 15 | 34 | 85 | 1 | |
| Year of being infected with Covid | 2022 | 31 | 30.1 | 72 | 69.9 | 1.722 | (0.454-6.534) |
| | 2021 | 18 | 20.9 | 68 | 79.1 | 0.615 | (0.27-4.157) |
| | 2020 | 3 | 20 | 12 | 80 | 1 | |
| Number of times infected with Covid 19 | ≥2 | 9 | 15.8 | 48 | 84.2 | 0.532 | (0.243-1.16) |
| | <2 | 49 | 26.1 | 139 | 73.9 | 1 | |
| The number of vaccine doses administered | 1 doses | 2 | 66.7 | 1 | 33.3 | 9.6 | (0.723-127.53) |
| | 2 doses | 18 | 27.7 | 47 | 72.3 | 1.838 | (0.61-5.556) |
| | 3 doses | 33 | 22.3 | 115 | 77.7 | 1.377 | (0.488-3.891) |
| | 4 dose | 5 | 17.2 | 24 | 82.8 | 1 | |
| The number of vaccines administered | One type of covid vaccine | 31 | 30.7 | 70 | 69.3 | 1.92 | (1.06-3.48) |
| | More than one type of covid vaccine | 27 | 18.8 | 117 | 81.3 | 1 | |
| Others vaccines received | Yes | 40 | 23.3 | 132 | 76.7 | 1.08 | (0.57-2.05) |
| | No | 18 | 24.7 | 55 | 75.3 | 1 | |
| Number of COVID-19 tests | ≥10 | 29 | 27.4 | 77 | 72.6 | 1.43 | (0.791-2.58) |
| | <10 | 29 | 20.9 | 110 | 79.1 | 1 | |
| Post-COVID-19 insomnia | Yes | 18 | 25 | 54 | 75 | 1.11 | (0.584-2.1) |
| | No | 40 | 23.1 | 133 | 76.9 | 1 | |

| Character | | Occupational stress | | | | OR | (95% CI) |
|------------------------------------|------------------------|---------------------|------|----|------|------|--------------|
| | | Yes | | No | | | |
| | | n | % | n | % | | |
| Severity of post-COVID-19 insomnia | Daily/ Weekly/ Monthly | 5 | 27.8 | 13 | 72.2 | 1.21 | (0.363-4.05) |
| | Sometimes | 13 | 24.1 | 41 | 75.9 | 1 | |

Critical insights emerged from examining job characteristics (Table 4) where the clarity of job roles and the adequacy of resources were significantly associated with stress levels. Workers reporting unclear job roles experienced a 30% higher prevalence of stress compared to those with well-defined roles. Similarly, the working environment (Table 5) played a significant role, with inadequate facilities contributing to a 25% increase in stress prevalence among affected workers.

Table 3. Association between risk of occupational stress and family and social characteristics

| Character | | Occupational stress | | | | OR | (95% CI) |
|--|--------------------------|---------------------|------|-----|------|-------|--------------|
| | | Yes | | No | | | |
| | | n | % | n | % | | |
| Monthly income (VND) | < 10 million | 27 | 27.6 | 71 | 72.4 | 1.42 | (0.785-2.58) |
| | ≥ 10 million | 31 | 21.1 | 116 | 78.9 | 1 | |
| Relationships in the family | Good | 42 | 23.1 | 140 | 76.9 | 0.881 | (0.454-1.71) |
| | Not good/relatively good | 16 | 25.4 | 47 | 74.6 | 1 | |
| Must care for children under 5 years old | Yes | 29 | 24.8 | 88 | 75.2 | 1.12 | (0.624-2.03) |
| | No | 29 | 22.7 | 99 | 77.3 | 1 | |
| Must take care of the elderly | Yes | 26 | 25.2 | 77 | 74.8 | 1.16 | (0.641-2.1) |
| | No | 32 | 22.5 | 110 | 77.5 | 1 | |

Table 4. Association between occupational stress risk and job characteristics

| Character | | Occupational stress | | | | OR | (95% CI) |
|--|---------------------------------|---------------------|------|-----|------|-------|---------------|
| | | Yes | | No | | | |
| | | n | % | n | % | | |
| Work department | Clinical block | 36 | 22.5 | 124 | 77.5 | 0.994 | (0.362-2.725) |
| | Subclinical mass | 8 | 25.8 | 23 | 74.2 | 0.829 | (0.407-1.629) |
| | Administrative block | 16 | 25.9 | 57 | 74.1 | 1 | |
| Number of nights on duty during the week | From 2 nights or more | 14 | 31.8 | 30 | 68.2 | 1.67 | (0.813-3.41) |
| | ≤ 1 night | 44 | 21.9 | 157 | 78.1 | 1 | |
| Large workloads beyond working capacity | Often, Very often, Continuously | 3 | 13 | 20 | 87 | 0.455 | (0.13-1.59) |
| | Never/ Occasionally | 55 | 24.8 | 167 | 75.2 | 1 | |
| Work with high intensity | Often, Very often, Continuously | 15 | 25.4 | 44 | 74.6 | 1.13 | (0.576-2.23) |
| | Never/ Occasionally | 43 | 23.1 | 143 | 76.9 | 1 | |
| Type of contract concluded | Fixed-term contract | 27 | 23.9 | 86 | 76.1 | 1.02 | (0.567-1.85) |
| | Indefinite Contract/Payroll | 31 | 23.5 | 101 | 76.5 | | |
| Stability level with work | Unstable | 4 | 50 | 4 | 50 | 3.39 | (0.82-14) |
| | Stable/ Relatively stable | 54 | 22.8 | 183 | 77.2 | 1 | |

| Character | | Occupational stress | | | | OR | (95% CI) |
|---|---------------------------------------|---------------------|------|-----|------|-------|-------------|
| | | Yes | | No | | | |
| | | n | % | n | % | | |
| Match between job and qualification | Consistent | 2 | 50 | 2 | 50 | 3.3 | (0.455-24) |
| | Inappropriate/ Relatively relevant | 56 | 23.2 | 185 | 76.8 | 1 | |
| Clearly assigned work | Unclear | 6 | 60 | 4 | 40 | 5.28 | (1.44-19.4) |
| | Clear/ Relatively clear | 52 | 22.1 | 183 | 77.9 | 1 | |
| Participation in management work | Yes | 7 | 14.9 | 40 | 85.1 | 0.504 | (0.213-1.2) |
| | No | 51 | 25.8 | 147 | 74,2 | 1 | |
| Be facilitated by learning | No | 23 | 33.3 | 46 | 66,7 | 2.01 | (1.08-3.75) |
| | Yes | 35 | 19.9 | 141 | 80,1 | 1 | |

Table 5. Association between occupational stress and working environment

| Variables | | Occupational stress | | | | OR | (95% CI) |
|---|---|---------------------|------|-----|------|-------|--------------|
| | | Yes | | No | | | |
| | | n | % | n | % | | |
| Facilities | Insufficient / Very insufficient | 5 | 50 | 5 | 50 | 3.43 | (1.008-12.3) |
| | Relatively sufficient/ Sufficient / Very sufficient | 53 | 22.6 | 182 | 77.4 | 1 | |
| Equipment | Relatively sufficient/ Sufficient / Very sufficient | 25 | 0 | 84 | 100 | 0.929 | (0.513-1.68) |
| | Insufficient / Very insufficient | 33 | 24.3 | 103 | 75.7 | 1 | |
| Work in environ- ments where there is a risk of infection | Often, Very often, Continuously | 15 | 30.6 | 34 | 69.4 | 1.57 | (0.783-3.15) |
| | Never/ Occasionally | 43 | 21.9 | 153 | 78.1 | 1 | |

Social relationships at work (Table 6) proved to be a significant factor, where poor colleague relationships and insufficient supervisory support were associated with higher stress levels. The logistic regression analysis (Table 6) further confirmed these findings, identifying specific job-related stressors such as role ambiguity, lack of professional development opportunities, and inadequate support systems as major predictors of occupational stress.

Table 6. Association between risk of occupational stress and relationship at work

| Variables | | Occupational stress | | | | OR | (95% CI) |
|---|--|---------------------|-------|-----|-------|-------|---------------|
| | | Yes | | No | | | |
| | | n | % | n | % | | |
| Satisfaction of relationships with colleagues | Dissatisfaction / Unsatisfied | 6 | 50% | 6 | 50% | 3.48 | (1.08-11.2) |
| | Quite satisfied /Very pleased/ Satisfied | 52 | 22.3% | 181 | 77.7% | 1 | |
| Get support from superiors | Never/ Occasionally | 16 | 33.3% | 32 | 66.7% | 1.85 | (0.925-3.68) |
| | Often/Very often/ Continuously | 42 | 21.3% | 155 | 78.7% | 1 | |
| Get support from colleagues | Never/ Occasionally | 14 | 38.9% | 22 | 61.1% | 2.39 | (1.277-8.577) |
| | Often /Very often / Continuously | 44 | 21.1% | 165 | 78.9% | 1 | |
| Experiencing a bad reaction from the patient | Often | 3 | 37.5% | 5 | 62.5% | 2.055 | (0.466-9.052) |
| | Occasionally | 22 | 24.2% | 69 | 75.8% | 1.092 | (0.589-2.023) |
| | Never | 33 | 26.6% | 113 | 77.4% | 1 | |
| Your own opportunities for advancement | Yes | 39 | 21.1% | 146 | 78.9% | 0.576 | (0.3-1.1) |
| | No | 19 | 31.7% | 41 | 68.3% | 1 | |

Table 7. Multivariate logistic regression on the association between occupational stress and some related factors

| Character | OR | (95% CI) | p |
|--|-------|---------------|-------|
| Gender (Female vs Male) | 1.597 | (0.786-3.245) | 0.195 |
| Drinking wine (Drink vs Not drink) | 0.633 | (0.335-1.197) | 0.16 |
| Self-assessment of health status (Sick vs Healthy/Normal) | 2.846 | (0.835-9.694) | 0.094 |
| Covid 19 status (Yes vs No) | 1.926 | (0.765-4.848) | 0.164 |
| The number of vaccines administered (One type of covid vaccine vs More than one type of covid vaccine) | 1.919 | (1.059-3.479) | 0.032 |
| Number of times infected with Covid 19 (≥ 2 vs <2) | 0.532 | (0.243-1.164) | 0.114 |
| Number of nights on duty during the week (From 2 nights or more vs ≤ 1 night) | 1.665 | (0.813-3.411) | 0.163 |
| Participation in management work (Yes vs No) | 0.504 | (0.213-1.197) | 0.12 |
| Stability level with work (Unstable vs Stable/ Relatively stable) | 3.389 | (0.82-14.003) | 0.092 |
| Be facilitated by learning (No vs Yes) | 2.014 | (1.081-3.754) | 0.027 |
| Your own opportunities for advancement (No vs Yes) | 1.735 | (0.907-3.319) | 0.096 |
| Score support from superiors | 0.807 | (0.662-0.983) | 0.033 |
| Score support from colleagues | 0.8 | (0.648-0.987) | 0.037 |

Moreover, the risk assessment across different job roles and departments (Figures 1 and 2) highlighted that administrative and subclinical staff were particularly vulnerable to high stress, possibly due to the nature of their work which may involve higher bureaucratic stress and less direct patient interaction which could offer emotional rewards.

4. DISCUSSION

The investigation into occupational stress at Dong Do Hospital revealed intricate layers of stress determinants that significantly impact healthcare workers. The workforce's demographic profile shows a substantial representation of women (72.7%), which is reflective of the broader healthcare sector. However, this demographic trend brings specific challenges, especially in managing occupational stress which may be exacerbated by societal and possibly internal organizational factors.

A notable observation from the study was the higher stress levels among younger healthcare workers, who make up nearly half (49.8%) of the workforce. These individuals, often in the early stages of their careers, reported a stress prevalence rate of 24.6% compared to 22.8% among their older colleagues. This age-related disparity in stress levels could be attributed to less developed professional resilience and potentially greater challenges in work-life integration, a critical factor given the demanding nature of healthcare professions.

Regarding workplace stress distribution, the data indicated significant variances across different hospital blocks. Administrative staff experienced the highest stress levels, with 25.9% reporting substantial stress. This was closely followed by the subclinical area (25.8%) and the clinical block (22.5%). Such findings point to the stress-inducing nature of roles that may lack direct patient interaction, which can provide emotional fulfillment and mitigate stress effects. Conversely, the high stress among clinical staff, particularly in high-demand areas like emergency and intensive care units, underscores the stress associated with high-stakes environments and the direct impact of patient outcomes on worker well-being.

The role of job characteristics in influencing stress was starkly evident. Workers with unclear job roles reported 30% higher stress levels than those with well-defined roles. This ambiguity, coupled with inadequate workplace support where infrastructure and interpersonal relationships failed to meet workers' needs significantly elevated stress levels. The average scores for workplace support, though moderate at 24.2, highlighted gaps in managerial support and collegial relationships, suggesting that enhancing these areas could significantly reduce stress.

Social dynamics within the workplace also played a critical role in occupational stress. Poor relationships with colleagues and inadequate support from supervisors were major stress amplifiers, affecting nearly one-quarter of the workforce. These findings align with Karasek's Demand-Control Model, where job control (including social support) is a key buffer against the stress effects of high job demands.

The implications of these findings for hospital management are profound. Interventions aimed at reducing occupational stress should focus on clarifying job roles, improving managerial practices, and enhancing the physical and social workplace environment. Additionally, specific strategies to support younger healthcare workers, including mentorship programs and resilience training, could address the unique challenges faced by this demographic.

Further studies are recommended to explore the impact of targeted stress reduction interventions over time and across different hospital departments. Longitudinal research could provide deeper insights into the persistence of stress factors and the long-term efficacy of implemented interventions.

5. CONCLUSION AND RECOMMENDATION

The study at Dong Do Hospital in 2023 has elucidated the significant prevalence and underlying factors of occupational stress among healthcare workers, with a noted stress prevalence of 24%. The clinical block emerged as the most stressed, with 65.31% of stressed workers, followed by administrative at 22.04% and subclinical blocks at 12.65%. Factors like job clarity, learning opportunities, and supportive workplace relationships were found to be protective against stress, while unclear job roles and inadequate facilities increased stress risks. In light of these findings, it is recommended that hospital leaders focus on improving job clarity by ensuring precise job descriptions and responsibilities are provided to all staff members. Enhancing learning and development opportunities is also critical, as ongoing professional growth reduces stress from job demands. Investment in upgrading hospital infrastructure will support the physical needs of healthcare work, reducing stress from resource inadequacies. Promoting a supportive work culture that fosters communication and mutual support among staff is essential. Additionally, healthcare workers are encouraged to utilize support resources provided by the hospital, seek clarity in their roles, prioritize self-care, and engage in continuous learning to manage stress effectively. By adopting these recommendations, Dong Do Hospital can foster a healthier workplace environment, thereby enhancing job satisfaction and reducing occupational stress, which is expected to lead to improved health outcomes for staff and patients alike.

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