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HIGH JOB STRAIN AND RELATED FACTORS AMONG NURSES AT MEDICAL CENTERS IN HO CHI MINH CITY, 2025

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ABSTRACT

A multicenter cross-sectional study was conducted at medical centers in Ho Chi Minh City from December 2024 to December 2025. The study included 768 nurses who were surveyed using a self-administered questionnaire on high job strain among nurses. The objective of the study was to determine the prevalence of high strain job and related factors among nurses working at medical centers in Ho Chi Minh City in 2025. The results showed that the prevalence of high job strain among nurses was 6.3%. Nurses with low job control and low job comfort accounted for high proportions, at 57.6% and 54.4%, respectively. Nurses experiencing high physical workload accounted for 31.6%, while those with high decision-making authority and high social support accounted for 85.4% and 81.0%, respectively. Regarding psychological stress status, nurses with active jobs accounted for 42.4%, and those perceiving high job strain accounted for 6.3%. Nurses with 3–6 years and 6–9 years of working experience in their departments had higher work pressure compared to those with less than 3 years of experience. Nurses working in administrative, support, and paraclinical departments experienced higher work pressure than those working in clinical departments. Nurses working 41–48 hours per week and more than 48 hours per week had higher work pressure than those working ≤40 hours per week. Nurses who concurrently performed additional duties experienced higher work pressure than those without additional responsibilities, with $p < 0.0$

Keywords: High job strain, nurses, related factors.

1. INTRODUCTION

According to the American Foundation for Suicide Prevention (2017), the medical profession, due to its unique characteristics, has consistently shown high rates of burnout, depression, and suicide risk[1]. Occupational stress is common and has serious impacts on both the mental and physical health of healthcare workers[2-3].

A study by Le Thanh Tai et al. (2008) reported that the average prevalence of occupational stress among Vietnamese nurses was 42.8%4. The study conducted by Pham Minh Khue et al. (2011) found that the prevalence of high work pressure among healthcare workers at Kien An Hospital in Hai Phong was 6.39%[5]. Issues related to multiple responsibilities, balancing workplace relationships, family, and work have increasingly caused healthcare workers to experience stress, insomnia, and burnout [6-7]. According to the study by Do Nguyen Nhut Tran et al. (2008), stress was associated with several factors, including educational level, job characteristics, job satisfaction, physical activity, inadequate rest time, poor management, deadline pressure, lack of support from supervisors, harassment and discrimination, and insufficient equipment[8].

Thus, nurses are a group experiencing high work pressure. However, in Vietnam, there is still a lack of multicenter studies investigating the prevalence and related factors of work pressure among nurses. To provide a comprehensive overview of work pressure among nurses, we conducted a multicenter study at medical centers in Ho Chi Minh City to address this research question.

2. SUBJECTS AND METHODS

2.1. Patients, time and location

This study was conducted on 55 female patients diagnosed with early-stage breast cancer who were treated at the Department of Breast Surgery, K Hospital, from June 2021 to September 2021. Eligible patients included those with stage T1–T2, N0 breast cancer according to the AJCC/UICC 2017 classification, histopathological confirmation of breast carcinoma, and those who underwent sentinel lymph node imaging and biopsy using Tc-99m with available postoperative histopathological results and complete medical records. Patients were excluded if they had recurrent breast cancer, had received chemotherapy or radiotherapy before surgery, had evidence of distant metastasis, were allergic to radiopharmaceutical agents, or refused to participate in the study.

2.2. Research methods

2.2.1. Study subjects

The study subjects were nurses working in departments/ units at the medical centers of District 6, Tan Phu District, Thu Duc District, and Binh Chanh District in Ho Chi Minh City.

2.2.2. Study period

The study was conducted from December 2024 to December 2025.

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2.3. Research methods

A descriptive cross-sectional study design was employed.

2.4. Sample size

The sample size was calculated using the formula for estimating a proportion. The expected prevalence was selected as p = 0.0639. The allowable error was chosen as d = p/2 = 0.03195. Assuming a 10% non-response rate and applying a design effect coefficient of K = 3, the required sample size was 756 participants.

Because the number of nurses at the selected medical centers was limited, total population sampling was applied. The final study sample included 768 nurses.

2.5. Data collection instrument

The study utilized the JCQ-V questionnaire developed by Robert Karasek, which has been standardized, translated, and widely used in 22 countries across Europe, the United States, and Asia.

2.6. Data management and analysis

Data was collected using self-administered questionnaires. Data entry was performed using Epidata 3.1 software, and statistical analysis was conducted using Stata 14.0.

3. RESULTS

3.1. Job status of nurses

Table 1. Job status of nurses (n = 768)

Job status		n	%
High-strain job	Yes	48	6,3
	No	720	93,8
Passive job	Yes	44	5,7
	No	724	94,3
Active job	Yes	326	42,4
	No	442	57,6
Low-strain job	Yes	350	45,6
	No	418	54,4

The prevalence of high-strain jobs among nurses was 6.3%. The proportions of nurses without active jobs and without comfortable jobs were relatively high, accounting for 57.6% and 54.4%, respectively.

3.2. Perceptions of decision-making authority

Table 2. Perceptions of decision-making authority regarding work schedule and work pace (n = 768)

Perceptions of decision-making authority regarding work schedule and work pace		n	%
I can decide my own working hours	Strongly disagree	26	3,4
	Disagree	520	67,7
	Agree	188	24,5
	Strongly agree	34	4,4
I can stop working whenever I want	Strongly disagree	44	5,7
	Disagree	461	60,0
	Agree	235	30,6
	Strongly agree	28	3,6
I can decide my own work pace.	Strongly disagree	46	6,0
	Disagree	600	78,1
	Agree	106	13,8
	Strongly agree	16	0,8
I can decide my own vacation schedule.	Strongly disagree	49	6,4
	Disagree	557	72,5
	Agree	144	18,8
	Strongly agree	18	2,3

Most nurses disagreed that they could decide their own working time (67.7%), stop working whenever they wanted (60.0%), determine their own work pace (78.1%), or decide their vacation schedule independently (72.5%). These findings indicate limited autonomy regarding work organization and scheduling among nurses.

3.3. Perceptions of social support

Table 3. Nurses' perceptions of social support (n = 768)

Nurses' perceptions of social support		n	%
The working environment at my workplace is very good	Strongly disagree	28	3,6
	Disagree	203	26,4
	Agree	512	66,7
	Strongly agree	25	3,3
I have a good relationship with my supervisor.	Strongly disagree	44	5,7
	Disagree	176	22,9
	Agree	525	68,4
	Strongly agree	23	3,0

A high proportion of nurses agreed that their working environment was good and that they had good relationships with their supervisors, accounting for 66.7% and 68.4%, respectively. These proportions were approximately three times higher than the percentages of nurses who disagreed with these statements (26.4% and 22.9%, respectively)

3.4. High strain job among nurses

Table 4. High job strain among nurses (n = 768)

High strain of job		n	(%)
Physical workload	Very low	1	0,1
	Low	393	51,2
	High	243	31,6
	Very high	131	17,1

High strain of job		n	(%)
Decision-making authority	Very low	1	0,1
	Low	91	11,8
	High	656	85,4
	Very high	20	2,6
Social support	Very low	3	0,4
	Low	106	13,8
	High	622	81,0
	Very high	37	4,8

The proportion of nurses experiencing high physical workload was 31.6%, while 17.1% experienced very high physical workload. Most nurses reported high decision-making authority (85.4%) and high social support (81.0%).

3.5. Association between high strain job and socio-demographic characteristics

Table 5. Association between high strain job and socio-demographic characteristics (n = 768)

Socio-demographic characteristics	High strain job		p	OR (95% CI)
	Yes (%)	No (%)		
Gender				
Male	21 (10,0)	190 (90,0)		1
Female	27 (4,8)	530 (95,2)	0,01	0,49 (0,28-0,84)
Caring for children under 5 years old				
No	7 (2,7)	253 (97,3)		
Yes	41 (81)	467 (91,9)	0,006	3,0 (1,36-6,59)
Housing status				
Private house	20 (13,2)	132 (86,8)		1
Rented house	18 (3,4)	514 (96,6)	< 0,001	0,26 (0,14-0,47)
Others	10 (11,9)	74 (88,1)	0,783	0,9 (0,44-1,84)

Female nurses had a lower prevalence of high job strain (4.8%) compared to male nurses (10.0%) (OR = 0.49; 95% CI: 0.28–0.84; p = 0.01). Nurses who were caring for children under five years old had a prevalence of high job strain approximately three times higher than those without childcare responsibilities (8.1% vs. 2.7%) (OR = 3.0; 95% CI: 1.36–6.59; p = 0.006). Regarding housing conditions, nurses living in rented houses had a lower prevalence of high job strain (3.4%) than those living in their own houses (13.2%) (QR = 0.26; 95% CI: 0.14–0.47; p < 0.001).

3.6. Association between high strain job and occupational characteristics

Table 6. Association between high strain job and occupational characteristics (n = 768)

Occupational characteristics	High strain job		p	OR (95% CI)
	Yes (%)	No (%)		
Years of working experience in the department				
< 3 years	4 (18,2)	18 (81,8)		1
3-6 years	4 (3,4)	113 (96,6)	0,01	0,23 (0,08-0,65)
6-9 years	12 (4,2)	276 (95,8)	0,006	0,23 (0,08-0,65)
>9 years	28 (8,2)	313 (91,8)	0,103	0,45 (0,17-1,17)
Working department				
Clinical department	20 (3,8)	510 (96,2)		1
Paraclinical department	8 (9,3)	78 (90,3)	0,02	2,47 (1,12-5,42)
Administrative department	14 (10,4)	120 (89,6)	0,002	2,77 (1,44-5,34)
Support department	6 (33,3)	12 (66,7)	< 0,001	8,83 (4,04-19,32)
Weekly working hours				
≤40 hours	2 (0,5)	376 (99,5)		1
41-48 hours	9 (12,7)	62 (87,3)	< 0,001	23,96 (5,28-108,67)
>48 hours	37 (11,6)	282 (88,4)	< 0,001	21,92 (5,32-90,33)
Concurrent duties				
No	17 (3,4)	486 (96,6)		1
Yes	31 (11,7)	234 (88,3)	< 0,001	3,46 (1,95-6,14)

Nurses with 3–6 years and 6–9 years of working experience in their departments had significantly higher work pressure compared to those with less than 3 years of experience. Nurses working in paraclinical, administrative, and support departments had higher work pressure than those working in clinical departments, with the highest prevalence observed among nurses in support departments (33.3%).

Nurses working 41–48 hours per week and those working more than 48 hours per week experienced significantly higher work pressure than nurses working ≤40 hours per week (p < 0.001). In addition, nurses who concurrently

performed additional duties had a higher prevalence of high work pressure compared to those without additional responsibilities (11.7% vs. 3.4%) (PR = 3.46; 95% CI: 1.95–6.14; p < 0.001).

4. DISCUSSION

The present multicenter study found that the prevalence of high strain among nurses working at medical centers in Ho Chi Minh City was 6.3%. This finding is similar to the study conducted by Pham Minh Khue et al. (2011), which reported a prevalence of occupational stress of 6.39% among healthcare workers at a provincial general hospital in Hai Phong[5]. However, our result was lower than that reported by Le Thanh Tai et al. (2008), in which the prevalence of occupational stress among Vietnamese nurses reached 42.8%[4]. The difference may be explained by variations in study populations, working environments, assessment tools, and time periods. In recent years, healthcare institutions in Vietnam have increasingly paid attention to improving working conditions and mental health support for nurses, which may contribute to the lower prevalence observed in this study.

The study also showed that a considerable proportion of nurses experienced high physical workload (31.6%), while most nurses reported high decision-making authority (85.4%) and high social support (81.0%). These findings indicate that although nurses still face substantial physical demands, they may benefit from supportive working environments and improved professional autonomy. This result is consistent with the Job Demand-Control model proposed by Robert Karasek, which suggests that social support and decision latitude may reduce the negative effects of occupational stress. Similar findings were reported in the study by Hoang T G et al. (2013), which validated the JCQ questionnaire in Vietnam and emphasized the importance of decision-making authority and workplace support in reducing job strain among healthcare workers[7].

Regarding occupational characteristics, nurses working 41–48 hours per week and more than 48 hours per week had significantly higher work pressure compared to those working ≤40 hours per week. This finding agrees with the study by Stimpfel A W et al. (2012), which demonstrated that longer working hours among hospital nurses were associated with higher levels of burnout and dissatisfaction[1]. Prolonged working hours may lead to physical exhaustion, sleep disturbances, reduced recovery time, and psychological stress. In addition, nurses who performed additional duties had significantly higher work pressure than those without additional responsibilities. Similar findings were reported by Smith F et al. (2017), who indicated that excessive workload and work-life imbalance negatively affected healthcare workers' wellbeing[6].

This study also found that nurses working in administrative, support, and paraclinical departments had higher work pressure than those working in clinical departments. One possible explanation is that nurses in these departments may experience additional administrative burdens, multitasking responsibilities, and indirect patient care pressures. Furthermore, nurses with responsibilities for caring for children under five years old had a significantly higher prevalence of high strain compared to those without childcare responsibilities. This finding reflects the dual burden of professional and family responsibilities among nurses, especially women, and is consistent with the findings of Do Nguyen Nhut Tran et al. (2008), who identified family and workplace pressures as important contributors to occupational stress among healthcare workers[8].

Several limitations should be acknowledged. First, the cross-sectional design could not establish causal relationships between related factors and high strain. Second, information was collected through self-administered questionnaires, which may result in recall bias or social desirability bias. However, the study was conducted across multiple medical centers with a relatively large sample size, which improves the representativeness and reliability of the findings. The results provide important evidence for healthcare managers to develop interventions aimed at reducing occupational stress and improving nurses' mental health and working conditions.

5. CONCLUSIONS

High job strain among nurses in Ho Chi Minh City was low (6.3%), with key associations found for gender, childcare, working hours, and job characteristics.

Male gender, childcare under 5 years, longer working hours, multitasking, and non-clinical departments were linked to higher job strain.

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