



Occupational stress among nurses at the National Hospital of Endocrinology in 2025

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ABSTRACT

Objective: To describe the current status of occupational stress among nurses and associated factors at the National Hospital of Endocrinology in 2025. **Methods:** A cross-sectional descriptive study was conducted on 399 nurses at the National Hospital of Endocrinology from October 2024 to June 2025. Occupational stress was assessed using the Expanded Nursing Stress Scale (ENSS), which had been translated into Vietnamese and validated for reliability in previous studies. **Results:** The mean total ENSS score was 66.74 ± 24.18 , ranging from 27 to 138. The three highest stressors were: interaction with patients/relatives (14.85 points), uncertainty concerning treatment (13.52 points), and death and dying situations (8.26 points). Regarding stress levels, 11.3% of nurses experienced very high stress, 47.1% moderate, and 41.6% low, indicating that nearly 60% were at least moderately stressed. Occupational stress was significantly associated with age, working position, number of night shifts, contract type, work experience, and income; it was highest among nurses under 25 years old and those working in Emergency/Intensive Care Units. Gender, education level, marital status, number of children, administrative position, and working hours were not statistically significant factors. **Conclusion:** The mean occupational stress score among nurses was 66.74 ± 24.18 . Clinical departments should focus on supporting younger nurses, rationalizing work schedules, improving the working environment, and strengthening training programs to reduce occupational stress and enhance mental health among healthcare workers.

Keywords: Occupational stress; Nurses; National Hospital of Endocrinology.

INTRODUCTION

Occupational stress is a state of feeling overloaded and anxious caused by negative influences from the working environment¹. It is a common issue in healthcare, particularly among nurses, who are the main workforce in patient care. Nurses often work under high professional demands, time pressure, and sensitive communication situations.

Occupational stress not only adversely affects the physical and mental health of individuals but also reduces work efficiency, increases turnover rates, and compromises the quality of patient care².

Occupational stress may have multiple adverse impacts at both individual and organizational levels. At the individual level, it may lead to physical and mental health

problems, while at the organizational level, it may result in considerable costs. Stress can also reduce job satisfaction and lead to absenteeism, staff turnover, and diminished quality of patient care. Over time, stress in healthcare organizations has become a serious concern. If not well managed, stress can hinder both individuals and organizations from achieving their goals.

The prevalence of occupational stress among nurses varies across countries, ranging from 17.5% to 78.4%³. In Vietnam, although several studies have addressed this issue, there is still a lack of in-depth research in specialized hospitals such as the National Hospital of Endocrinology⁴. Assessing the occupational stress and related factors is essential for developing timely interventions, improving the work environment, and enhancing the quality of care. Therefore, the study was conducted with the objective: *To describe the occupational stress among nurses and associated factors at the National Hospital of Endocrinology in 2025.*

PARTICIPANTS AND METHODS

Study participants: Nurses working in clinical departments at the National Hospital of Endocrinology.

Inclusion criteria: Nurses directly involved in patient care in clinical departments, who voluntarily participated and agreed to provide information for the study.

Exclusion criteria: Student nurses, nurses attending full-time training, or those on long-term leave or sick leave at the time of data collection.

Study setting and period:

Study period: From October 2024 to June 2025.

Setting: Two campuses of the National Hospital of Endocrinology.

Study design and sample

Design: A cross-sectional descriptive study.

Sample size: Calculated using the formula for estimating a single proportion:

$$n = Z_{(1-\alpha/2)}^2 \frac{p(1-p)}{d^2}$$

Where: n: Minimum required sample size. Z: Confidence level at 95%, Z = 1.96. p: Proportion of occupational stress among clinical nurses at the Vietnam Post Hospital in 2023 was 48.1%, according to Nguyen Thi Thuy Linh et al⁵. We selected p = 0.48. d: Desired precision, set at 0.05.

The minimum sample size required was 384. The total number of clinical nurses in the hospital was 402. Because the difference between the sample size and the population was not large, we recruited all eligible nurses in the clinical departments who met the inclusion and exclusion criteria. There were 3 nurses on maternity leave during data collection; therefore, the actual sample size was 399.

Data collection instruments: The quantitative questionnaire included three main parts:

- *Part A: Demographic and occupational characteristics:* Age, gender, and other work-related factors.

- *Part B: Expanded Nursing Stress Scale (ENSS):* In this study, occupational stress was assessed using the Expanded Nursing Stress Scale (ENSS), developed by Susan Elizabeth French in 2000. The ENSS was adapted from the Nursing Stress Scale (NSS) and has been widely used to measure occupational stress in nurses, focusing on two main aspects: psychological responses to work-related issues and communication.

The tool was translated into Vietnamese and previously validated, showing strong reliability: I-CVI=0.82–0.95, S-CVI=0.90, Cohen’s Kappa = 0.85–0.95, Cronbach’s Alpha for part 1 (5 factors) = 0.89, and part 2 (4 factors) = 0.86.

The ENSS consists of 57 items divided into nine subscales:

A – Death and dying (items 1, 9, 17, 27, 37, 47, 53)

B – Conflict with other nurses (items 2, 10, 28, 38, 48)

C – Inadequate preparation (items 3, 11, 19)

D – Problems with peers (items 4, 12, 20, 21, 22, 50)

E – Problems with supervisors (items 5, 30, 31, 40, 46, 49, 54)

F – Workload (items 13, 23, 32, 41, 42, 45, 51, 55, 57)

G – Uncertainty concerning treatment (items 6, 14, 18, 24, 29, 33, 36, 39, 43)

H – Patients and their families (items 7, 15, 25, 34, 35, 44, 52, 56)

I – Discrimination (items 8, 16, 26)

Scoring: The stress level score for each nurse was calculated by summing the points from all 57 items. The scoring for each item was based on a 5-point Likert scale

measuring the frequency of experiencing stress, as follows:

1 - No stressful (scored as 0 points)

2 - Mildly stressful (scored as 1 point)

3 - Moderately stressful (scored as 2 points)

4 - Very stressful (scored as 3 points)

5 - Never experienced this situation (scored as 0 points)

Stress level classification:

Total score 0–57: Low stress;

Total score 58–114: Moderate stress

Total score 115–171: High stress

Data analysis: Data were entered, coded, and cleaned using SPSS version 25.0. Descriptive statistics were applied to summarize demographic characteristics and stress levels, presented as means, frequencies, and standard deviations.

Ethical considerations: Participation was voluntary, and information was used solely for research purposes with confidentiality guaranteed. The study was approved by the Institutional Ethics Committee in Biomedical Research of Nam Dinh University of Nursing (Certificate No. 573-GCN/HĐĐĐ, dated March 5, 2025) and authorized by the leadership of the National Hospital of Endocrinology.

RESULTS

Table 1. Demographic characteristics of nurses (n = 399)

| Characteristics | Group | Frequency (n) | Percentage (%) |
|-----------------|-----------|---------------|----------------|
| Age | < 25 | 19 | 4.8 |
| | 25 – 34 | 250 | 62.7 |
| | > 35 | 130 | 32.6 |
| | Mean ± SD | 34.3 ± 6.5 | |
| Gender | Male | 92 | 23.1 |
| | Female | 307 | 76.9 |

Table 1 shows that the mean age of nurses was 34.3 ± 6.5 years. The majority were in the 25–34 age group (62.7%), and females accounted for a higher proportion (76.9%).

Table 2. Total and subscale scores of occupational stress (n = 399)

| Subscale | Mean | SD | Min | Max |
|----------------------------------|-------|-------|-----|-----|
| Death and dying | 8.26 | 4.68 | 0 | 21 |
| Conflict with other nurses | 5.56 | 3.85 | 0 | 15 |
| Inadequate preparation | 3.27 | 2.42 | 0 | 9 |
| Problems with peers | 6.34 | 4.15 | 0 | 17 |
| Problems with supervisors | 6.45 | 4.41 | 0 | 21 |
| Workload | 7.07 | 5.09 | 0 | 24 |
| Uncertainty concerning treatment | 13.52 | 4.56 | 2 | 24 |
| Patients and their families | 14.85 | 4.22 | 0 | 24 |
| Discrimination | 1.43 | 1.64 | 0 | 8 |
| Total | 66.74 | 24.18 | 27 | 138 |

Table 2 shows that the aggregated subscale scores indicated that patients and their families (mean 14.85), uncertainty concerning treatment (13.52), and death and dying (8.26) were the three highest-scoring factors, reflecting greater sources of stress. In contrast, subscales such as discrimination (1.43) and inadequate preparation (3.27) had the lowest mean scores. The overall mean ENSS score was $66.74 (\pm 24.18)$, ranging from 27 to 138, reflecting a wide distribution of perceived stress levels among the surveyed nurses.

Table 3. Levels of occupational stress (n = 399)

| Stress level | Frequency (n) | Percentage (%) |
|-----------------|---------------|----------------|
| Low stress | 166 | 41.6 |
| Moderate stress | 188 | 47.1 |
| High stress | 45 | 11.3 |
| Total | 399 | 100 |

Table 3 shows the classification of occupational stress levels among 399 nurses using the ENSS scale. The majority were in the moderate stress group (47.1%), followed by the low stress group (41.6%). Nurses experiencing very high stress accounted for 11.3%.

Table 4. Factors associated with occupational stress among nurses

| Characteristic | Group | Low stress n (%) | Moderate stress n (%) | High stress n (%) | p-value |
|---------------------|-------------------|---------------------|--------------------------|----------------------|---------|
| Age group | < 25 | 4 (21.1) | 10 (52.6) | 5 (26.3) | 0.035 |
| | 25 – 34 | 101 (40.4) | 117 (46.8) | 32 (12.8) | |
| | > 35 | 61 (46.9) | 61 (46.9) | 8 (6.2) | |
| Working position | Internal ward | 96 (39.8) | 130 (53.9) | 15 (6.2) | 0 |
| | Surgical ward | 47 (47.5) | 38 (38.4) | 14 (14.1) | |
| | ER/ICU | 23 (39.0) | 20 (33.9) | 16 (27.1) | |
| Contract type | Contract | 24 (33.3) | 34 (47.2) | 14 (19.4) | 0.036 |
| | Permanent | 142 (43.4) | 154 (47.1) | 31 (9.5) | |
| Years of experience | < 5 years | 63 (37.1) | 83 (48.8) | 24 (14.1) | 0.037 |
| | 5 – <10 years | 76 (42.0) | 84 (46.4) | 21 (11.6) | |
| | ≥ 10 years | 27 (56.3) | 21 (43.8) | 0 (0.0) | |
| Night shifts/month | < 5 shifts | 123 (45.1) | 129 (47.3) | 21 (7.7) | 0.002 |
| | ≥ 5 shifts | 43 (34.1) | 59 (46.8) | 24 (19.0) | |
| Monthly income | < 10 million | 24 (33.3) | 34 (47.2) | 14 (19.4) | 0.033 |
| | 10 – < 20 million | 125 (42.2) | 140 (47.3) | 31 (10.5) | |
| | ≥ 20 million | 17 (54.8) | 14 (45.2) | 0 (0.0) | |

Table 4 shows that age group, working position, contract type, years of experience, number of night shifts, and monthly income were significantly associated with occupational stress levels ($p < 0.05$).

DISCUSSION

The results of the study at the National Hospital of Endocrinology in 2025 showed that the mean age of nurses was 34.3 ± 6.5 years, with the majority in the 25–34 age group (62.7%). This is a stage where nurses are both professionally competent and physically capable, but also vulnerable to occupational stress due to the burden of multiple social roles, which may lead to work–life imbalance. These findings are consistent with previous studies in Vietnam (Hoang Ngoc Khanh, 2023; Tran Thi Phuong

Ha, 2020; Le Thi Kim Anh, 2022), while some reported lower mean ages (Nguyen Thi Thuong, 2024), reflecting differences in workplace characteristics ^{6, 7, 8, 9}. Compared to international data, Vietnamese nurses are younger (mean age 41 years in Australia; in Greece, the 40–49 age group accounted for more than 52%), indicating disparities in retention policies and career longevity ^{10, 11}. This suggests the need for institutional policies supporting work–family balance for nurses aged 25–34 to reduce prolonged stress.

Regarding gender, females accounted for 76.9%, consistent with national and global trends in nursing. This predominance reflects cultural norms and professional expectations that associate nursing with meticulousness, patience, and emotional sensitivity. Other studies have also reported similarly high proportions of female nurses, ranging from 74–90% domestically and approximately 80% internationally ^{10, 11}. Flexible task arrangements, particularly for female nurses with young children, are needed to mitigate the dual pressures of work and family.

The ENSS findings identified patient and family interactions (mean score 14.85), uncertainty in treatment (13.52), and death and dying (8.26) as the three highest stressors. The overall ENSS mean score was 66.74 ± 24.18 , reflecting moderate stress levels, consistent with some domestic studies but lower than in certain hospitals. Patient-related demands and negative attitudes from relatives remain significant systemic stressors, also reported internationally. Meanwhile, low scores for discrimination and peer conflict suggest a relatively harmonious work environment, though sustaining a positive culture remains essential. Stress classification showed that 47.1% of nurses experienced moderate stress, 11.3% high stress, and 41.6% low stress, meaning nearly 60% reported at least moderate stress. This proportion is higher than in some provincial hospitals and highlights the pressures of working in a national specialty hospital with chronic patients, heavy workloads, and high professional demands.

Occupational stress was significantly associated with age, working position, contract type, years of experience, number of shifts, and income. Nurses under 25 years

had the highest proportion of high stress (26.3%), reflecting limited psychological maturity and professional experience. This finding is consistent with Nguyen Hoang Diep (2024), who reported that nurses under 30 had 3.1 times higher stress risk, and with international studies by Alomari et al. (2021) and Chatzianni et al. (2018). Nurses in Emergency/ICU reported the highest stress levels (27.1%), consistent with the high-pressure nature of these departments. Similarly, those with ≥ 5 night shifts/month had higher stress (19.0% vs. 7.7%), underscoring the impact of heavy workload and disrupted rest. Contract nurses also reported nearly double the rate of high stress compared with permanent staff (19.4% vs. 9.5%), reflecting employment insecurity. In addition, nurses with < 5 years of experience and those earning < 10 million VND/month were more likely to report high stress, highlighting the impact of professional inexperience and financial constraints.

These findings emphasize the need for targeted interventions, including workload reduction, fair scheduling, rotation, professional training, peer support, psychological counseling, and improved compensation to support retention and well-being.

LIMITATIONS: The cross-sectional design limited causal interpretation, and the study was conducted at a single national hospital, which constrains generalizability. Self-reported data may have introduced recall and social desirability bias. Furthermore, important factors such as job satisfaction, social support, and baseline mental health were not assessed, while international comparisons should be interpreted with caution given contextual differences in health systems and culture.

CONCLUSION

The mean occupational stress score among nurses, measured by the ENSS, was 66.74 ± 24.18 (ranging from 27 to 138). The main sources of stress included interactions with patients and their relatives, uncertainty in treatment, and situations related to death and dying. Approximately 58.4% of nurses experienced at least moderate stress. The findings also revealed that younger nurses, particularly those under 25 years of age, were at significantly higher risk of occupational stress. Therefore, psychological support and professional skill enhancement should be prioritized for this group.

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