

Level of Fatigue Among Staff Nurses in Selected Hospitals of Cauayan City, Isabela

Ailyn B. Salonga

University of La Salette, Inc., Santiago City, Philippines

aismayo28@yahoo.com

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ABSTRACT

This study determined the level of fatigue among staff nurses in selected private hospitals in Cauayan City, Isabela, and used the findings as the basis for a proposed fatigue management program. A descriptive research design was employed. The participants were 178 staff nurses drawn from a population of 329 through stratified random sampling across three hospitals. Data were collected using a two-part questionnaire that included the 40-item Functional Assessment of Chronic Illness Therapy-Fatigue (FACIT-F) Scale. Frequency and percentage distributions and FACIT-F summation scores described the respondents and their fatigue levels, while the Mann-Whitney U test, Kruskal-Wallis H test, and Dunn pairwise comparisons examined differences across profile variables. Most

respondents were 21-30 years old, female, single, college graduates, and had one to three years of nursing experience. Moderate fatigue was reported by 139 nurses (78.1%), whereas 34 (19.1%) experienced mild fatigue, three (1.7%) experienced severe fatigue, and two (1.1%) reported no or minimal fatigue. Significant differences were found according to age, civil status, and hospital affiliation, while sex, educational attainment, years of experience, work shift, weekly working hours, and unit assignment showed no significant differences. The findings indicate that fatigue is both a workforce-wide concern and a condition shaped by personal and institutional contexts. A proposed management program centered on early-career mentorship, institutional operational review, workplace social support, and organization-wide fatigue countermeasures was developed to strengthen nurse well-being and patient-care safety.

Keywords: *FACIT-F, fatigue management, hospital nurses, nurse fatigue, occupational health, private hospitals*

INTRODUCTION

Nursing requires sustained physical effort, continuous clinical judgment, and emotional engagement with patients and families. Staff nurses frequently manage heavy patient loads while serving as caregivers, educators, counselors, coordinators, and sources of psychosocial support. Extended working hours, irregular schedules, shift rotations, and inadequate recovery periods may therefore produce fatigue that affects both the caregiver and the care provided. Bae and Thompson (2024) emphasized that working-hour arrangements influence fatigue, job satisfaction, and patient-safety outcomes, while Cho and Steege (2021) identified nurse fatigue as a concern that extends beyond individual well-being to patient and organizational outcomes.

Occupational fatigue refers to physical, cognitive, and emotional exhaustion that reduces the capacity to perform work safely and effectively. It may involve persistent tiredness, diminished concentration, reduced motivation, slower responses, and lower physical endurance (Hasanpour et al., 2022). In hospital settings, these effects are especially important because nurses must make timely decisions, detect changes in patient conditions,

communicate accurately, and carry out interventions under pressure. Evidence also links long shifts and insufficient recovery with burnout and dissatisfaction among hospital nurses (Stimpfel et al., 2012).

The Job Demands-Resources Theory explains fatigue as a consequence of the balance between occupational demands and available resources. High demands, including workload, emotional strain, time pressure, and shift work, may deplete energy, whereas staffing support, supervisory assistance, teamwork, rest opportunities, and professional development can protect workers from exhaustion (Demerouti et al., 2001). This perspective positions nurse fatigue not merely as a personal weakness but as an organizational condition that can be addressed through appropriate management practices.

Although nurse fatigue has been examined internationally and in metropolitan hospital settings, localized evidence remains limited for private hospitals in Cauayan City, Isabela. Differences in staffing patterns, hospital capacity, work organization, and available support may create distinct experiences of fatigue. Local assessment is therefore necessary to identify the groups most affected, determine whether fatigue varies across demographic and institutional characteristics, and formulate management responses suited to participating hospitals.

This study determined the demographic profile and level of fatigue of staff nurses in selected private hospitals in Cauayan City, tested differences in fatigue according to profile variables, and developed a proposed fatigue management program based on the findings. The study contributes evidence that may guide nurse managers and hospital administrators in strengthening staff well-being, workforce sustainability, and the safety and quality of patient care.

Literature Review

Occupational Fatigue and Nursing Performance

Fatigue is a multidimensional condition involving physical weariness, cognitive depletion, and emotional exhaustion. Abdul Rahman et al. (2020) described fatigue as a subjective state that ranges from tiredness to exhaustion and can interfere with optimal physical and mental functioning. Among nurses, the condition is intensified by continuous patient monitoring, frequent interruptions, emotionally difficult encounters, and the need to maintain accuracy despite demanding schedules. Hasanpour et al. (2022) further distinguished acute and chronic forms of nurse fatigue and emphasized that persistent exposure can become structurally embedded in clinical work.

Studies consistently associate nurse fatigue with reduced attention, impaired judgment, sick leave, turnover intentions, and threats to patient safety. Cho and Steege (2021), in a systematic review, found recurring links between fatigue and adverse nurse, patient, and organizational outcomes. Rainbow et al. (2021) likewise connected nurse health and work-environment conditions with presenteeism and patient safety. These findings show that even fatigue categorized as moderate deserves attention because cumulative cognitive and emotional effects may compromise sustained clinical performance.

Empirical studies also indicate that fatigue is common among hospital nurses. Menon and Abraham (2021) reported substantial severe and chronic fatigue among hospital nurses, while Zahran et al. (2022) found that a large proportion of nurses experienced moderate fatigue. Philippine evidence similarly associates occupational fatigue with burnout and turnover intentions among hospital staff nurses (Labrague et al., 2022). Together, these studies support routine assessment and early intervention rather than waiting until fatigue becomes severe.

Work Demands, Shifts, and the Hospital Environment

Workload, working hours, staffing adequacy, and recovery time are central conditions shaping nurse fatigue. Long or compressed shifts may disrupt sleep and limit opportunities for physiological recovery. Stimpfel et al. (2012) found that longer hospital shifts were associated with greater burnout and patient dissatisfaction, while Lee and Kim (2021) linked shift-work characteristics and sleep quality with fatigue among hospital nurses. High patient-to-nurse ratios and emotionally demanding cases further intensify the energy required to maintain safe care.

The work environment also affects how nurses manage occupational demands. Ruiz-Fernandez et al. (2020) associated burnout and fatigue with the quality of professional life among nursing personnel. Jang et al. (2021) identified physical and mental fatigue among female hospital nurses as outcomes influenced by occupational and personal conditions. In high-acuity and continuously operating settings, insufficient staffing, limited rest breaks, competing tasks, and non-nursing responsibilities may make fatigue pervasive across departments rather than restricted to a single clinical unit.

Organizational resources may buffer these demands. The Job Demands-Resources Theory proposes that supportive supervision, teamwork, adequate staffing, learning opportunities, and work autonomy reduce the harmful effects of demanding jobs (Demerouti et al., 2001). The World Health Organization (2021) and the International Council of Nurses (2021) similarly emphasize investment in nursing education, jobs, leadership, and healthy work environments. These resources are important foundations for fatigue-management programs because they shift intervention from individual coping alone toward shared organizational responsibility.

Demographic and Institutional Differences in Fatigue

Career stage may influence fatigue because younger and early-career nurses are still developing clinical confidence, routines, and coping strategies. Gomez-Urquiza et al. (2020) found that younger age and limited job experience were relevant to burnout among nurses, and Zhang et al. (2023) identified combinations of work hours, anxiety, and educational status as influential conditions associated with fatigue. Early-career nurses may therefore require structured onboarding, mentorship, and opportunities to learn effective recovery and time-management practices.

Sex, civil status, education, and unit assignment may also shape exposure and recovery, although findings vary across settings. Zhou et al. (2022) reported relationships between demographic factors, job characteristics, and burnout among female nurses, whereas other evidence suggests that fatigue may persist across diverse professional groups because common workplace pressures affect most staff. Social support is especially relevant: Labrague and De Los Santos (2021) showed that psychological distress and work satisfaction are connected with turnover-related outcomes among frontline nurses, while the broader literature indicates that supportive relationships can help workers recover from demanding clinical experiences.

Hospital affiliation represents an institutional context in which workload, staffing, leadership, scheduling, and employee-support systems converge. Differences among hospitals may therefore reflect organizational practices rather than individual characteristics alone. Examining institution-level variation allows administrators to identify comparatively effective practices and adapt them across facilities. This approach is consistent with the view that sustainable fatigue reduction requires both targeted support for vulnerable groups and hospital-wide structural measures.

Fatigue Assessment and Management Approaches

Reliable fatigue assessment is necessary for identifying severity and evaluating interventions. The Functional Assessment of Chronic Illness Therapy-Fatigue Scale provides a structured measure of fatigue-related well-being and functioning (Cella et al., 2002). Although originally developed in health-related quality-of-life research, its multidimensional items allow respondents to report energy, weakness, tiredness, activity limitations, emotional concerns, and functional effects. Standardized scoring supports comparisons across individuals and groups and provides an empirical basis for management planning.

Management approaches identified in the literature include safer scheduling, adequate nurse-to-patient ratios, protected rest periods, improved break facilities, mental-health support, peer assistance, and leadership practices that recognize fatigue as a safety issue. The World Health Organization (2019) classified burnout as an occupational phenomenon, reinforcing the importance of workplace prevention. Programs that combine organizational redesign with individual resilience support are more consistent with the Job Demands-Resources perspective than interventions that place full responsibility on nurses themselves.

The present study adopted an Input-Process-Output framework. The input included the demographic profile and fatigue levels of staff nurses; the process involved questionnaire administration and statistical analysis;

and the output was the empirical basis for a proposed fatigue management program. Feedback connects the proposed program to continuing assessment and improvement. Figure 1 presents the original research paradigm used in the thesis.

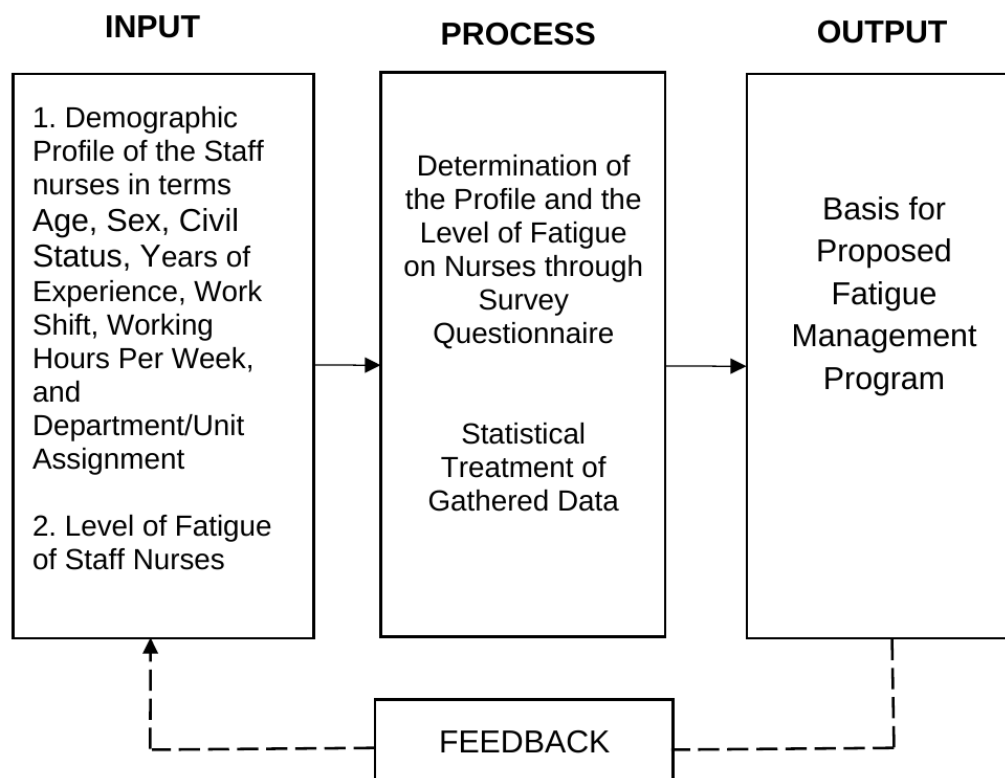


Figure 1. *Conceptual Framework*

METHODS

Research Design

The study used a descriptive quantitative research design to present the demographic characteristics and fatigue levels of staff nurses without manipulating the study variables. The design was appropriate because the investigation described existing conditions and examined differences in fatigue across naturally occurring respondent groups (Polit & Beck, 2020; Creswell & Creswell, 2023). The findings were subsequently used to formulate a proposed fatigue management program.

Research Locale

The study was conducted in three selected private hospitals in Cauayan City, Isabela. Hospital A had a 100-bed capacity and 177 staff nurses, Hospital B had a 70-bed capacity and 112 staff nurses, and Hospital C had a 50-bed capacity and 40 staff nurses. The hospitals were identified in the thesis using letter designations to protect institutional confidentiality while allowing comparison of fatigue across facilities.

Participants and Sampling Technique

The study population consisted of 329 regular staff nurses from the three hospitals. A sample-size calculator using a 95% confidence level and a 5% margin of error produced a required sample of 178 nurses. Stratified random sampling was used to allocate participants across the hospitals: 96 nurses from Hospital A, 58 from Hospital B, and 24 from Hospital C. Staff nurses were appropriate participants because they were directly exposed to clinical workload, shift schedules, patient-care demands, and the working conditions associated with occupational fatigue.

Research Instrument

Data were collected through a two-part survey questionnaire. Part I obtained age, sex, civil status, highest educational attainment, years of experience, work shift, weekly working hours, department or unit assignment, and hospital affiliation. Part II adopted the 40-item Functional Assessment of Chronic Illness Therapy-Fatigue Scale (FACIT-F) associated with Cella et al. (2002). The instrument covered physical, social or family, emotional, functional, and fatigue-related concerns. Responses were rated from 0 (not at all) to 4 (very much), with negatively worded items reverse-scored. Total scores ranged from 0 to 140, and lower scores indicated greater fatigue. The thesis used the following classifications: 0-40, severe fatigue; 41-80, moderate fatigue; 81-120, mild fatigue; and 121-140, no or minimal fatigue. The instrument was reported to have high internal consistency, with Cronbach alpha values generally ranging from .90 to .95.

Data Gathering Procedure

Before questionnaire administration, the researcher submitted formal requests to the heads of the selected hospitals through their chief nurses. Data collection proceeded after written permission was obtained. Participants received information about the purpose and procedures of the study and provided informed consent. Questionnaires were administered during free or vacant periods to minimize disruption to hospital operations, and respondents were given sufficient time to answer without pressure. Completed questionnaires were collected, organized, tallied, and prepared for analysis.

Data Analysis

Frequency and percentage distributions described the respondents and the categories of fatigue. FACIT-F summation scores were used to determine fatigue severity. The Mann-Whitney U test examined differences for profile variables with two groups, while the Kruskal-Wallis H test examined variables with three or more groups. Dunn pairwise comparisons were used after significant Kruskal-Wallis results to identify specific group differences. All hypotheses were tested at the .05 level of significance.

Ethical Consideration

Formal institutional permission and voluntary informed consent were secured before data collection. Respondents were informed of the study objectives, procedures, and their right to refuse or withdraw without penalty. No personal identifiers were required, and responses were treated anonymously and confidentially. The thesis reported no anticipated risks, adverse events, or harmful effects arising from participation. Hospital names were presented as Hospitals A, B, and C to protect institutional identity.

RESULTS AND DISCUSSION

Profile of the Staff Nurses

The 178 respondents represented a predominantly young and early-career workforce. Most were 21-30 years old (73.0%), female (73.6%), single (72.5%), and college graduates (93.8%). More than half had one to three years of experience (51.1%), while 28.7% had less than one year. Morning-shift nurses comprised 60.1% of the sample. The largest weekly-hour categories were 32-42 hours (42.1%) and 42-60 hours (31.5%). The ward accounted for the largest department group (37.1%), followed by the emergency room (20.8%) and operating room (18.0%). Hospital A contributed 53.9% of the respondents.

The concentration of younger and less-experienced nurses suggests substantial need for transition support, mentoring, and continued professional development. Gomez-Urquiza et al. (2020) noted that age and job experience are relevant to burnout vulnerability, while the World Health Organization (2021) emphasized investments in education and leadership to strengthen nursing workforces. The distribution across working hours and high-demand departments also indicates that many respondents were exposed to sustained clinical demands even though later inferential tests showed that fatigue was not statistically differentiated by all workload categories.

Table 1. *Demographic and Work Profile of the Staff Nurses (N = 178)*

Profile variable	Distribution, n (%)
Age	21-30: 130 (73.0%); 31-40: 38 (21.3%); 41-50: 7 (3.9%); 51 and above: 3 (1.7%)
Sex	Female: 131 (73.6%); Male: 47 (26.4%)
Civil status	Single: 129 (72.5%); Married: 46 (25.8%); Separated: 2 (1.1%); Widow: 1 (0.6%)
Educational attainment	College: 167 (93.8%); Master's: 6 (3.4%); Doctorate: 5 (2.8%)
Years of experience	Below 1 year: 51 (28.7%); 1-3 years: 91 (51.1%); 4-6 years: 12 (6.7%); 7 and above: 24 (13.5%)
Work shift	AM: 107 (60.1%); PM: 71 (39.9%)
Working hours per week	8-16: 20 (11.2%); 16-24: 10 (5.6%); 24-32: 17 (9.6%); 32-42: 75 (42.1%); 42-60: 56 (31.5%)
Department/unit	Ward: 66 (37.1%); ER: 37 (20.8%); OR: 32 (18.0%); ICU: 26 (14.6%); Dialysis: 17 (9.6%)
Hospital affiliation	Hospital A: 96 (53.9%); Hospital B: 58 (32.6%); Hospital C: 24 (13.5%)

Level of Fatigue Among Staff Nurses

Moderate fatigue was the dominant category, reported by 139 nurses (78.1%). Mild fatigue was reported by 34 nurses (19.1%), severe fatigue by three (1.7%), and no or minimal fatigue by two (1.1%). Thus, almost the entire sample experienced at least some degree of fatigue, and approximately four out of every five nurses were in the moderate category. Although severe fatigue was uncommon, moderate fatigue is still meaningful because it may reduce alertness, slow reactions, and weaken emotional stability during clinical work.

The predominance of moderate fatigue is consistent with evidence that occupational fatigue is widespread in nursing. Cho and Steege (2021) linked fatigue with nurse performance, patient safety, and organizational outcomes, while Zahran et al. (2022) reported moderate fatigue among a substantial proportion of nurses. Mild fatigue should also be treated as an early warning rather than a negligible condition. Hospital action is warranted before mild or moderate fatigue progresses into more serious exhaustion, absenteeism, burnout, or turnover.

Table 2. *Distribution of Staff Nurses According to Fatigue Level*

Fatigue category	Frequency	Percentage
No or minimal fatigue	2	1.1
Mild fatigue	34	19.1
Moderate fatigue	139	78.1
Severe fatigue	3	1.7
Total	178	100.0

Differences in Fatigue According to Profile Variables

Fatigue differed significantly according to age, $H(3) = 9.728$, $p = .021$. Dunn comparison showed a significant difference between nurses aged 21-30 and those aged 31-40 (mean-rank difference = 25.786, $p = .007$). The 21-30 group contained 109 respondents with moderate fatigue and two with severe fatigue, indicating that early-career nurses represented the largest concentration of fatigue. This finding supports targeted mentoring and resilience support for younger nurses, consistent with research describing the vulnerability of early-career staff to demanding clinical transitions (Gomez-Urquiza et al., 2020; Zhang et al., 2023).

Civil status also produced a significant difference, $H(3) = 8.036$, $p = .045$. Pairwise analysis indicated that single nurses had significantly higher fatigue than married nurses (mean-rank difference = 19.274, $p = .029$). Single respondents accounted for 105 of the moderate-fatigue cases and two of the three severe-fatigue cases. The pattern does not establish that marital status directly causes fatigue, but it suggests that social support, shift allocation, recovery routines, and life circumstances may be relevant when designing equitable wellness and scheduling policies.

Hospital affiliation showed the strongest group difference, $H(2) = 16.983$, $p < .001$. Hospital C had a lower mean rank (52.52) than Hospital B (86.52) and Hospital A (100.55). Dunn comparisons confirmed significant differences between Hospitals C and B ($p = .007$) and between Hospitals C and A ($p = .001$). Institutional conditions such as staffing, workload allocation, management support, scheduling, and recovery

facilities may therefore affect fatigue. The result supports an operational review of the hospitals with higher fatigue and examination of practices used in Hospital C.

No significant differences were found according to sex, educational attainment, years of experience, work shift, weekly working hours, or department assignment. This pattern indicates that fatigue was not limited to a single sex, schedule, educational group, or clinical unit. The absence of statistical differences does not mean that these conditions are unimportant; rather, it suggests that common organizational pressures may affect nurses broadly. Consequently, targeted interventions for younger and single nurses should be accompanied by hospital-wide fatigue countermeasures.

Table 3. *Tests of Differences in Fatigue According to Profile Variables*

Profile variable	Test	Statistic	p-value	Decision
Age	Kruskal-Wallis H	9.728	.021	Significant
Sex	Mann-Whitney U	2968.500	.720	Not significant
Civil status	Kruskal-Wallis H	8.036	.045	Significant
Educational attainment	Kruskal-Wallis H	0.803	.670	Not significant
Years of experience	Kruskal-Wallis H	6.642	.080	Not significant
Work shift	Mann-Whitney U	3291.000	.130	Not significant
Working hours per week	Kruskal-Wallis H	4.751	.310	Not significant
Department/unit	Kruskal-Wallis H	2.386	.670	Not significant
Hospital affiliation	Kruskal-Wallis H	16.983	<.001	Significant

Table 4. *Significant Dunn Pairwise Comparisons*

Variable	Comparison	Mean-rank difference	p-value	Decision
Age	31-40 vs. 21-30	25.786	.007	Significant
Civil status	Married vs. single	19.274	.029	Significant
Hospital	Hospital C vs. Hospital B	33.996	.007	Significant
Hospital	Hospital C vs. Hospital A	48.026	.001	Significant

Proposed Fatigue Management Program

The proposed program integrates targeted and organization-wide responses. It addresses the significant findings for age, civil status, and hospital affiliation while recognizing that fatigue was prevalent across the workforce. The four components are early-career mentorship and resiliency, institutional operational review, holistic social support and workplace wellness, and organization-wide fatigue countermeasures. The program follows the Job Demands-Resources approach by reducing excessive demands and strengthening resources that support recovery, professional adjustment, and safe patient care.

Table 5. *Proposed Fatigue Management Program*

Program component	Empirical basis/target	Key strategies	Expected outcomes
Early-career mentorship and resiliency	Nurses aged 21-30 and those with 1-3 years of experience; younger nurses showed significantly higher fatigue.	Pair new nurses with experienced mentors; conduct workshops on cognitive resilience, micro-rest, clinical time management, and help-seeking.	Lower fatigue scores among early-career nurses and improved first- and second-year retention.
Institutional operational review	Hospitals A and B had significantly higher fatigue than Hospital C.	Audit patient-to-nurse ratios, overtime distribution, administrative burden, schedules, and recovery resources; benchmark applicable practices from Hospital C.	More balanced staffing and workload, and reduced fatigue mean ranks across participating hospitals.
Social support and workplace wellness	Single nurses reported significantly higher fatigue than married nurses.	Establish nurse support groups and counselor-led debriefing; ensure equitable weekend and holiday	Improved psychological safety, social support, and

Organization-wide fatigue countermeasures	Fatigue was predominantly moderate and did not differ by sex, shift, hours, education, experience, or department.	scheduling; expand access to psychological support. Protect 15–20-minute micro-rest breaks; create quiet recharge spaces; prevent unsafe back-to-back shifts; conduct periodic FACIT-F monitoring.	emotional recovery among staff nurses. Reduction of severe fatigue and movement of the workforce baseline from moderate toward mild or minimal fatigue.
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CONCLUSION

The staff-nurse workforce in the selected private hospitals was predominantly young, female, single, college educated, and in the early years of professional practice. Moderate fatigue affected 78.1% of respondents, demonstrating that fatigue was not an isolated concern but a prevalent occupational condition with implications for attention, emotional stability, decision-making, staff well-being, and patient-care safety.

Age, civil status, and hospital affiliation significantly differentiated fatigue levels. Younger nurses, single nurses, and nurses in Hospitals A and B showed comparatively greater fatigue, whereas sex, educational attainment, years of experience, work shift, weekly working hours, and unit assignment did not produce significant differences. The findings indicate that fatigue reflects both vulnerable personal contexts and broader organizational conditions. Accordingly, the proposed management program combines focused support for early-career and single nurses with hospital-level review and universal fatigue-prevention measures. Its practical contribution lies in translating local evidence into a structured basis for safer scheduling, stronger support systems, improved recovery opportunities, and continuing fatigue monitoring.

Recommendation

Hospital administrators and nurse managers should implement structured onboarding, mentorship, and resiliency development for younger and early-career nurses. Peer mentors should assist new staff in clinical adjustment, workload organization, help-seeking, and the use of safe recovery practices.

Participating hospitals should review staffing ratios, overtime allocation, non-nursing workload, rest opportunities, break facilities, and scheduling practices. Hospitals A and B should examine contextually appropriate practices associated with the lower fatigue level observed in Hospital C while protecting institutional confidentiality and operational differences.

Hospitals should establish equitable social-support and wellness mechanisms, including confidential counseling, nurse-support groups, debriefing opportunities, protected rest breaks, quiet recovery spaces, and safeguards against unsafe back-to-back shifts. Periodic FACIT-F assessment may be incorporated into occupational-health monitoring to identify worsening fatigue and evaluate program outcomes.

Future studies should include public hospitals and other localities, examine staffing ratios, sleep quality, workload intensity, and organizational support as explanatory variables, and evaluate the proposed management program through longitudinal or intervention research. Qualitative inquiry may also clarify how nurses experience fatigue and which institutional practices most effectively support recovery.

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