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Workplace Support Needs Associated With Burnout Among Early-Career Nurses: A Cross-Sectional Study

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Research Article

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Abstract

Background

Burnout among early-career nurses may contribute to poor mental health, reduced workforce retention, and ongoing nursing shortages. Although organizational support is important for preventing burnout, the workplace support needs of early-career nurses experiencing burnout remain unclear. This study aimed to determine the prevalence of burnout among early-career nurses and examine associations between burnout and workplace support needs.

Methods

A cross-sectional survey was conducted in August 2024 among nurses younger than 35 years at a Japanese acute-care general hospital. Burnout was assessed using the Japanese version of the Maslach Burnout Inventory and defined according to the exhaustion-plus-one criterion. Participants also rated 35 investigator-developed workplace support-needs items. Exploratory factor analysis was used to examine the factor structure of these items. Associations between burnout and support needs were examined using chi-square tests and multivariable binary logistic regression adjusted for participant characteristics.

Results

Of 498 eligible nurses, 330 provided valid responses. Their mean age was 26.3 years, and mean nursing experience was 4.8 years. Overall, 84 participants (25.5%) met the study criteria for burnout. Exploratory factor analysis identified six factors comprising 30 items: organizational support, emotional support, interpersonal relationships, career development support, recovery and mental health support, and work-life balance. After adjustment, nurses meeting the burnout criteria were more likely to report needs for breaks away from the ward (adjusted odds ratio [OR] 4.87, 95% confidence interval [CI] 2.25–10.54), transfer to a unit without night shifts or exemption from night duty (OR 2.41, 95% CI 1.31–4.44), and sufficient availability of mental health professionals (OR 2.20, 95% CI 1.23–3.92). They were less likely to report needs for discussing work-related knowledge and nursing perspectives (OR 0.54, 95% CI 0.32–0.91) or for a supportive atmosphere in addressing difficult tasks (OR 0.54, 95% CI 0.30–0.96). After Bonferroni correction, only the need for breaks away from the ward remained significant in unadjusted comparisons.

Conclusions

Burnout was identified in one-quarter of the early-career nurses surveyed and was associated with several workplace support needs. Recovery-oriented support, particularly opportunities to take breaks away from ward demands, may be important for supporting early-career nurses experiencing burnout.

Background

Mental health problems are common among nurses and may negatively affect workforce retention. Even after the acute phase of the COVID-19 pandemic, nursing shortages remain a global issue. Burnout, which commonly occurs in interpersonal professions such as nursing and teaching, has become an important concern in nursing research and practice. Burnout is associated with nurse turnover [1, 2, 3]. A report by leaders of the International Council of Nurses emphasized that nurses are indispensable to rebuilding health systems and highlighted the large actual and potential extent of trauma and burnout in the nursing profession. Although nurse burnout has been reported in many studies, systematic responses by organizations and employers are often insufficient. The report also expressed concern that rebuilding after the pandemic may place additional burdens on individual nurses by demanding personal resilience [4].

The concept of burnout was first introduced by Freudenberger [5] in 1974 in an article entitled Staff Burn-Out. Since Maslach and colleagues developed the Maslach Burnout Inventory (MBI) in 1981, burnout has attracted sustained international attention. Maslach and Jackson [6] defined burnout as a syndrome primarily characterized by extreme fatigue and emotional exhaustion caused by prolonged excessive demands for psychological energy in the process of helping others, accompanied by self-devaluation, aversion to work, and loss of compassion. Although burnout has long been understood according to Maslach's definition, it is classified in ICD-11 as an occupational phenomenon under factors influencing health status or contact with health services rather than as a disease or medical condition. Diagnostic criteria therefore have not been firmly established. Burnout among nurses is associated with absenteeism, turnover, reduced work performance, decreased quality of care, compromised patient safety, adverse events, medication errors, infections, and patient falls [7].

A wide range of factors are associated with burnout and other mental health problems among nurses. These include genetic and biological characteristics, demographic factors, interpersonal relationships, medical history, personality traits, physical symptoms, lifestyle factors, organizational factors, and political and environmental influences [8]. Burnout has also been associated with personal characteristics, organizational factors, the quality of work relationships, and exposure to end-of-life care [9]. Among these factors, the work environment appears particularly important. Nurses working in hospitals with better workplace environments are significantly less likely to experience burnout or intend to leave their profession than those working in hospitals with poorer work environments [10]. These findings suggest that organizational support and workplace conditions are important determinants of nurse burnout.

Early-career nurses may be particularly vulnerable to burnout. Tanaka [11] reported that early-career nurses may be more prone to compassion fatigue and burnout than senior nurses and may experience burnout without recognizing it. Similarly, Rudman and Gustavsson [12] found that new graduate nurses are at increased risk of early-career burnout. Preventing and reducing burnout among early-career nurses may therefore contribute to workforce retention and help mitigate future nursing shortages.

Several approaches to preventing burnout have been reported, including staff development, management development, and interventions targeting individuals, work groups, and organizations. Organizationally based interventions are considered especially important because modifying managerial and work-group functioning is regarded as one of the most effective ways to reduce occupational stress [13]. In Japan, however, no previous study has clarified the workplace support needs of early-career nurses experiencing burnout. Data

from a national survey showed that among the reasons reported by nurse managers for newly graduated nurses leaving employment within the same fiscal year, health-related problems including mental disorders were most common (49.4%), followed by anxiety about aptitude as a nurse (45.5%) and anxiety regarding clinical nursing competence (40.5%) [14]. The same report found that latent nurses accounted for 13% of those younger than 25 years, 25% of those aged 25–29 and 30–34 years, and 34% of those aged 35–39 years, while employment rates among nurses aged 25–39 years were approximately 10% lower than those among Japanese women overall [14]. Furthermore, approximately 40% of nurses with previous work experience who were not currently employed reported having no intention of returning to nursing work [15]. These findings suggest that some unmet needs among nurses may not be addressed solely through improvements in physical working environments, such as expanding childcare facilities or hospital rest spaces.

In recent years, hospitals have increasingly provided information on mental health support systems and career development programs for nurses through their websites. Although support systems for both newly graduated and mid-career nurses appear extensive, the specific needs of early-career nurses experiencing burnout remain difficult to identify. Because burnout affects nurse turnover and is correlated with depression [16]. preventing burnout may also contribute to the prevention of depression. Previous studies have shown that early-career nurses with lower levels of psychological capital are more likely to experience burnout [17] and that younger age and shorter length of employment are associated with burnout [18]. However, much of the existing literature has focused on the prevalence, consequences, and risk factors of burnout among healthcare professionals. The specific workplace support needs of early-career nurses and their relationship with burnout have not been sufficiently examined.

Young nurses today may have unique needs shaped by changing social circumstances, cultures, and values. Understanding and responding to these needs may help prevent burnout and reduce turnover. Therefore, this study aimed to clarify the workplace support needs of early-career nurses experiencing burnout and to examine the association between these support needs and burnout.

Methods

Aim and Objectives

The aim of this study was to determine the prevalence of burnout among early-career nurses and examine associations between burnout and workplace support needs.

Definition of Technical Terms

Early-career nurses were defined as registered nurses younger than 35 years. Burnout was operationally defined using the exhaustion-plus-one criterion based on the Japanese version of the Maslach Burnout Inventory. This classification was screening based and was not intended as a clinical diagnosis. Workplace support needs referred to organizational, interpersonal, career-related, recovery-related, and work-life support that participants wanted their workplace to provide.

This was a cross-sectional study using an anonymous, self-administered questionnaire.

Demographic Characteristics

Demographic characteristics included age, sex, years of nursing experience, current department, years of experience in the current department, hospital size, marital status, cohabitation status, availability of someone to consult about problems, history of mental illness, and treatment history. Participants were also asked whom they would like to consult about work-related and private life problems.

Japanese Version of the Maslach Burnout Inventory

Burnout was assessed using the Japanese version of the MBI, originally developed by Maslach et al. [6] and translated into Japanese by Higashiguchi et al. [19]. The copyright is currently held by Mind Garden. The validity of the Japanese version has been confirmed. The scale consists of 22 items, including dummy items, and assesses three subscales: exhaustion, cynicism, and professional efficacy. Participants responded on a seven-point scale indicating the frequency of experiences during the previous year. Burnout was assessed using the Japanese version of the Maslach Burnout Inventory, originally developed by Maslach et al. and translated into Japanese by Higashiguchi et al. The validity and reliability of the Japanese version have been reported previously.

Burnout status was determined using the scoring method proposed by Kitaoka et al. [20]. Participants met the study criteria for burnout when they met the exhaustion-plus-one criterion: an exhaustion mean score of 4.00 or higher, corresponding to the 75th percentile cut-off for high scores, and either a cynicism mean score of 2.60 or higher or a professional efficacy mean score of 1.50 or lower. This study adopted these cut-off values for Japanese populations. However, because the clinical validity of these criteria has not been fully established, the results should be interpreted as screening-based findings. Interpretation of the cynicism scale also requires caution because dubious interval-level properties and a floor effect have been reported [21].

Workplace Support-Needs Items

Thirty-five original workplace support-needs items were developed based on previous studies on burnout scales and stress coping [22, 23, 24, 25, 26]. Responses were rated on a five-point scale ranging from strongly agree to disagree. The workplace support-needs items were not a previously validated scale. Their content and comprehensibility were reviewed during item development and pretesting. Exploratory factor analysis was conducted to examine their factor structure. For example, because Yukawa et al. [24] reported that mental health support programs are necessary in collaboration among internal and external workplace resources for return-to-work support for employees experiencing mental health problems, the item “I want a mental health support program in the workplace” was developed for this study. The questionnaire clarified that colleagues included peers and senior nurses, and that external resources referred to professionals, organizations, and community resources outside the ward.

The workplace support-needs items were designed to cover not only the work environment, but also hospital systems and relationships outside the hospital, thereby capturing the general needs of early-career nurses working in hospitals. During item development, seven nursing faculty members with clinical experience in

obstetrics, surgery, endocrinology and metabolism, and psychiatry reviewed content comprehensibility, definitions of terms, and ease of responding. Final approval was obtained from the academic supervisor.

The workplace support-needs items were developed for this exploratory study and were not a previously validated scale.

Open-Ended Question

An open-ended response section was provided for participants to describe any additional needs or requests not included in the questionnaire items.

Sampling and Participant Recruitment

Participants were nurses younger than 35 years working at a general hospital. In Japan, young workers are defined as those aged 15–34 years in the Basic Survey on Employment Structure; therefore, this study defined early-career nurses as those younger than 35 years. The target facility was an acute-care general hospital, and all eligible early-career nurses employed there were invited to participate.

The target facility was selected by convenience sampling. The researcher requested cooperation from facility administrators in writing and verbally and obtained their consent. Administrators counted the number of eligible nurses in each ward. A set consisting of an explanatory document, questionnaire, and return envelope was prepared for each eligible nurse and distributed through ward managers. The explanatory document described voluntary participation, study significance, purpose and use of data, survey items, protection of personal information, handling of collected questionnaires, and contact information. Completion and return of the questionnaire after the approximately two-week survey period in August 2024 were considered to indicate informed consent. Because the questionnaires were anonymous, participants were informed in writing that withdrawal and deletion of data would not be possible after collection.

Sample Size and Power

Before data collection, Pearson's chi-square tests and binary logistic regression analyses were planned. An a priori sample-size calculation was conducted for the chi-square analysis using G*Power version 3.1.9.7. Assuming a medium effect size of $w = 0.30$, a significance level of .05, statistical power of .95, and 1 degree of freedom, the minimum required sample size was estimated to be 145 participants. The study used total population sampling at the participating hospital; therefore, all 498 nurses who met the eligibility criteria were invited to participate.

Quality Assurance and Bias Control

The researcher manually entered the questionnaire data and checked the entered data against the original questionnaires three times to identify and correct omissions or entry errors. Predetermined eligibility and data exclusion criteria were applied consistently. Bonferroni correction was used to account for multiple comparisons, and multivariable analyses were conducted to adjust for participant characteristics.

Data Abstraction

Data abstraction was not applicable because data were collected directly from participants using an anonymous questionnaire.

Population and Sample

The source population comprised nurses younger than 35 years employed at the participating acute-care general hospital. All 498 eligible nurses were invited, and 330 valid responses constituted the analytical sample.

Inclusion and Exclusion Criteria

Participants were eligible if they were nurses younger than 35 years, were actively employed at the participating hospital, were not on extended leave at the time of questionnaire distribution and were able to complete the questionnaire in Japanese.

Data Sources and Collection Methods

Data were collected in August 2024 using an anonymous, self-administered paper questionnaire comprising demographic characteristics, the Japanese Maslach Burnout Inventory, 35 workplace support-needs items, and an open-ended question. Distribution and return procedures are described in Section 4.3.

Data Handling

The researcher manually entered the questionnaire data and verified all entries against the original questionnaires three times to identify and correct omissions or entry errors. Questionnaires were excluded from the analysis if they contained missing responses, multiple responses where only one response was permitted, or identical responses across all items.

Data Analysis

Descriptive statistics were calculated for participant characteristics, scores on the Japanese version of the Maslach Burnout Inventory, and workplace support-needs items. All statistical tests were two-sided, and the significance level was set at 5%. Analyses were conducted using IBM SPSS Statistics for Windows, version 29.0 (IBM Corp., Armonk, NY, USA).

Exploratory factor analysis was conducted for the 35 workplace support-needs items using principal axis factoring with Promax rotation. Items with factor loadings below 0.45 were removed. Items with substantial loadings on two or more factors were also considered for removal to obtain a simple and interpretable factor structure. Items were removed sequentially, and the factor analysis was repeated after each removal. The internal consistency of the resulting factors was assessed using Cronbach’s alpha.

Pearson’s chi-square tests were used to examine associations between burnout status and participant characteristics and workplace support-needs items. Fisher’s exact test was used when expected cell counts were small. To account for multiple comparisons across the 35-workplace support-needs items, Bonferroni correction was applied, resulting in an adjusted significance threshold of $p < .00143$.

Binary logistic regression analysis was conducted to examine associations between burnout status and workplace support-needs items while adjusting for participant characteristics. Burnout status was entered as the dependent variable. Age, sex, years of nursing experience, marital status, cohabitation status, availability of someone to consult, and self-reported mental illness were entered as covariates. Adjusted odds ratios and 95% confidence intervals were calculated.

The researcher read all responses to the open-ended question repeatedly and extracted codes representing the meaning of each response. Codes with similar or closely related meanings were grouped, and category names were assigned to represent the overall content of each group. Coding and categorization were initially conducted by the researcher. Two academic supervisors and five graduate students reviewed the relationship between the original responses, codes, category groupings, and category names. All reviewers agreed that the final categories appropriately represented the included codes, and no disagreements required resolution.

Ethical Considerations

This study was approved by the Medical Ethics Committee of Kanazawa University (approval number: 111128-1). All researchers involved in this study read, understood, and complied with the Declaration of Helsinki and the Ethical Guidelines for Medical and Biological Research Involving Human Subjects issued by the relevant Japanese ministries. Because the survey was anonymous, questionnaires were anonymized at the time of collection and could not be used to identify individual participants. The researcher complied with applicable laws and regulations regarding protection of personal information. Questionnaires were stored in a locked cabinet at the university and strictly managed to prevent leakage, theft, or loss of data. Data entry was performed using a dedicated research computer not connected to the internet, and data were stored on a password-protected USB drive used exclusively for this study. Only study personnel had access to the data, and no data were disclosed to third parties. Data analysis was conducted in a locked room at the university. Research data will be stored in a locked cabinet for 10 years from the date of ethics approval.

Reporting Guideline

This study was reported in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement.

Trial and Protocol Registration

Trial registration was not applicable because this was a non-interventional, cross-sectional observational study. The study protocol was not prospectively registered.

Results

Questionnaires were distributed to 498 early-career nurses employed at the target facility at the time of survey distribution. A total of 360 questionnaires were returned (72.2%), and 330 valid responses were obtained (66.3%), meeting the required sample size within one facility. Participants had a mean age of 26.3 years (SD = 3.5) and included 313 women and 17 men. Their mean nursing experience was 4.8 years (SD = 3.5) (Table 1).

Screening results indicated that 265 participants (80.3%) exceeded the cut-off for at least one burnout subscale: exhaustion (n = 161, 48.8%), cynicism (n = 93, 28.2%), or reduced professional efficacy (n = 105, 31.8%). Overall, 84 participants (25.5%) met the study criteria for burnout.

Table 1
basic characteristics

basic attributes	N (330)	%	Mean	SD
Age (years)			26.3	3.5
22–24	131	39.7		
25–29	130	39.4		
30–34	69	20.9		
Gender				
Female	313	94.8		
Male	17	5.2		
Years of Professional Experience			4.8	3.5
1–4 years	201	60.9		
5–9 years	93	28.2		
10–14 years	36	10.9		
Marital Status				
Single	246	74.5		
Married	84	25.5		
Living Arrangement				
Living with others	164	49.7		
Living alone	166	50.3		
Availability of a Close Confidant/Advisor				
Yes	324	98.2		
No	6	1.8		
History of Mental Illness				
Yes	15	4.5		
No	315	95.5		
Work Setting				
Hospital ward	292	88.5		
Outpatient department	13	3.9		
Both ward and outpatient department	4	1.2		
Operating room	21	6.4		

Factor Structure and Reliability of Workplace Support Needs

Exploratory factor analysis was conducted for the 35-workplace support-needs items using principal axis factoring with Promax rotation. The Kaiser-Meyer-Olkin measure was 0.88, and Bartlett's test of sphericity was significant ($p < 0.001$), confirming that the data were suitable for factor analysis. After excluding five items with low factor loadings, a six-factor structure comprising 30 items was extracted. The cumulative contribution rate was 56.0%. The six factors were named organizational support, emotional support, interpersonal relationships, career development support, recovery and mental health support, and work-life balance. Cronbach's alpha coefficients ranged from 0.698 to 0.851. The five excluded items were minimal conversation in the workplace, taking a break away from the ward, an environment where help can be requested, an atmosphere where nurses do not have to be overly considerate of others, and casual conversation during breaks (Table 2,3).

Table 2
EFA matrix

Item	F1 Organizational Support	F2 Emotional Support	F3 Interpersonal Relationships	F4 Career Development Support	F5 Recovery & Mental Health Support	F6 Work-Life Balance
12. I want to work at my own pace.	0.60					
13. I want to perform my duties while supporting and being supported by others.	0.65					
14. I want work to be assigned fairly.	0.85					
15. I want an environment where it's easy to take time off.	0.71					
16. I want to be treated in a way that respects my individual traits as a nurse.	0.65					
17. I want my supervisor to respect my opinions.	0.61					
18. I want help when dealing with difficult patients or their families.	0.75					
19. I want an environment where I can become immersed in my work.	0.50					
2. I want someone outside the workplace to give advice or		0.56				

Item	F1 Organizational Support	F2 Emotional Support	F3 Interpersonal Relationships	F4 Career Development Support	F5 Recovery & Mental Health Support	F6 Work-Life Balance
provide support.						
7. I want a space where I can speak my mind at work.		0.74				
10. I want encouragement to help me recover when I make a mistake.		0.74				
11. I want emotional support regardless of academic background, time since graduation, or job reassignment.		0.61				
1. I want colleagues I can also meet with privately.			0.78			
3. I want everyone to be treated equally.			0.48			
4. I want to communicate frequently with my colleagues.			0.82			
5. I want to communicate frequently with my supervisors.			0.72			
35. I want opportunities to interact with colleagues and peers.			0.50			
8. I want to discuss work-related knowledge and				0.70		

Item	F1 Organizational Support	F2 Emotional Support	F3 Interpersonal Relationships	F4 Career Development Support	F5 Recovery & Mental Health Support	F6 Work-Life Balance
perspectives on nursing.						
9. I want support to help me feel fulfilling in my work.				0.45		
23. I want support for career advancement.				0.56		
27. I want an atmosphere where I feel supported in tackling tasks I find difficult.				0.55		
32. I want an environment where I can actively participate in off-site training and academic conferences.				0.94		
21. I want to be transferred to a department without night shifts (or be exempted from night duty).					0.52	
22. I don’t want to talk about work during break time.					0.66	
24. I want access to mental health support programs in the workplace.					0.60	
25. I want clear information about leave policies and other					0.75	

Item	F1 Organizational Support	F2 Emotional Support	F3 Interpersonal Relationships	F4 Career Development Support	F5 Recovery & Mental Health Support	F6 Work-Life Balance
workplace systems.						
26. I want sufficient staffing of mental health professionals (e.g., occupational physicians, clinical psychologists).					0.67	
31. I want to attend study sessions and training programs during my work shift.						0.64
33. I want the option not to participate in training or study sessions.						0.77
34. I want unreasonable customs within the ward to be eliminated.						0.81

Table 3
Reliability

Factor	Number of Items	Cronbach alpha
Organizational Support	8	0.85
Emotional Support	4	0.75
Interpersonal Relationships	5	0.81
Career Development Support	5	0.75
Recovery and Mental Health Support	5	0.72
Work-Life Balance	3	0.70

Associations Between Participant Characteristics and Burnout

No significant associations were found between burnout status and age (p = 0.59), sex (p = 0.57), or years of experience (p = 0.16) in Pearson's chi-square tests. Significant associations were found between burnout status and marital status, cohabitation status, and availability of someone to consult.

Considerable differences were observed in the proportions of participants reporting needs across the workplace support-needs items. Eleven items were endorsed by 95% or more of participants, including wanting everyone to be treated equally (n = 318, 96.4%), wanting more communication with colleagues (n = 314, 95.2%), wanting to work at one's own pace (n = 323, 97.9%), wanting to work while helping one another (n = 328, 99.4%), wanting appropriate distribution of workload (n = 325, 98.5%), wanting an environment where taking leave is easy (n = 326, 98.8%), wanting support in dealing with difficult patients and family members (n = 318, 96.4%), wanting an environment where help can be requested (n = 314, 95.2%), wanting seminars and training to be scheduled during working days (n = 327, 99.1%), and wanting irrational ward customs to be eliminated (n = 318, 96.4%). In contrast, less than 40% endorsed wanting workplace conversations to be minimized (n = 108, 32.7%), wanting to transfer to a unit without night shifts or exemption from night-shift work (n = 89, 27.0%), and not wanting to talk about work during breaks (n = 81, 24.5%). Approximately half endorsed wanting career development support (n = 186, 56.4%) and wanting a workplace mental health support program (n = 195, 59.1%) (Fig. 1).

Table 4. Relationship between basic attributes and burnout

Table 4
Data are presented as n (% of the total sample)

		Burnout			
		Y	N	p-value	
Gender				0.57	
	Female	83(25.2)	230(69.7)		
	Male	1(0.3)	16(4.8)		
Marital status				0.03	*
	Married	14(4.2)	70(21.2)		
	Unmarried	70(21.2)	176(53.3)		
Cohabitation				0.01	*
	Yes	32(9.7)	132(40.0)		
	No	52(15.8)	114(34.5)		
Has someone to consult				0.02	*
	Yes	80(24.2)	244(73.9)		
	No	4(1.2)	2(0.6)		
Department				0.09	
	Ward	79(23.9)	213(64.5)		
	Outpatient	1(0.3)	12(3.6)		
	Ward and outpatient	2(0.6)	2(0.6)		
	Operating room	2(0.6)	19(5.8)		
Mental illness Diagnosis				0.62	
	Yes	3(0.9)	12(3.6)		
	No	81(24.5)	234(70.9)		

Associations Between Burnout and Workplace Support Needs

In chi-square tests, significant differences according to burnout status were observed for items 8, 13, 20, 21, 23, 26, 27, 32, and 33(Table 5). After Bonferroni correction, only the item wanting opportunities to take breaks away from the ward retained statistical significance. Binary logistic regression analysis was conducted for items that showed significant differences in chi-square tests. After adjustment for age, sex, years of experience, marital status, cohabitation status, availability of someone to consult, and history of mental illness, items 8, 20, 21, 26, and 27 remained significantly associated with burnout status.

Compared with nurses who did not meet the criteria for burnout, those who met the criteria were significantly more likely to report a need for opportunities to take breaks away from the ward (OR = 4.871; 95% CI, 2.25–10.54), transfer to a unit without night shifts or exemption from night-shift work (OR = 2.408; 95% CI, 1.31–4.44), and sufficient availability of mental health professionals, such as occupational physicians and psychologists (OR = 2.198; 95% CI, 1.23–3.92) (Table 6). In contrast, nurses who met the criteria for burnout were significantly less likely to report a need for opportunities to discuss work-related knowledge and nursing values (OR = 0.539; 95% CI, 0.32–0.91) and an atmosphere that encouraged them to address their weaknesses (OR = 0.538; 95% CI, 0.30–0.96).

Table 5
Relationship between burnout and needs

Table 5.

Item	Workplace support need	Did not meet burnout criteria	Met burnout criteria	p value
		(n = 246), n (%)	(n = 84), n (%)	
8	Opportunities to discuss work-related knowledge and perspectives on nursing	163 (66.3)	41 (48.8)	0.004
13	Performing duties while supporting and being supported by others	246 (100.0)	82 (97.6)	0.015
20	Opportunities to take breaks away from the ward	163 (66.3)	75 (89.3)	< .001*
21	Transfer to a department without night shifts or exemption from night-shift work	59 (24.0)	30 (35.7)	0.036
23	Support for career advancement	148 (60.2)	38 (45.2)	0.017
26	Sufficient availability of mental health professionals, such as occupational physicians and clinical psychologists	144 (58.5)	62 (73.8)	0.013
27	A supportive atmosphere for addressing difficult tasks	201 (81.7)	58 (69.0)	0.015
32	Opportunities to participate in off-site training and academic conferences	167 (67.9)	46 (54.8)	0.030
33	The option not to participate in training or study sessions	224 (91.1)	82 (97.6)	0.046

Note. Only items with $p < .05$ in the unadjusted analyses are shown.

Data are presented as n (%), indicating participants who reported that the workplace support need was present.

Percentages were calculated within each burnout-status group.

p values were calculated using Pearson's chi-square tests. Items 13 and 33 included small expected cell counts and should be interpreted cautiously.

*Statistically significant after Bonferroni correction for 35 comparisons (adjusted threshold, $p < .00143$).

Burnout status was defined using the exhaustion-plus-one criterion.

Table 6
Relationship between burnout and needs

Needs					95% Confidence interval	
		p-value		Odds ratio	Lower	Upper
8	I want to discuss work-related knowledge and perspectives on nursing.	0.02	*	0.54	0.32	0.91
20	I want to take breaks away from the hospital ward.	< 0.01	*	4.87	2.25	10.54
21	I want to be transferred to a department without night shifts (or be exempted from night duty).	0.01	*	2.41	1.31	4.44
26	I want sufficient staffing of mental health professionals (e.g., occupational physicians, clinical psychologists).	< 0.01	*	2.20	1.23	3.92
27	I want an atmosphere where I feel supported in tackling tasks I find difficult.	0.03	*	0.54	0.30	0.96

Open-Ended Responses

Thirty participants provided open-ended responses. 61 codes were extracted and integrated into 24 codes, which were classified into five major categories: working conditions, career development, welfare benefits, management, and workplace climate. Several comments concerned supervisors and organizations, whereas no requests related to patients or patients' families were identified.

Working Conditions

This category reflected needs related to unpaid pre-shift overtime, work for committees or ward roles outside working hours, and dissatisfaction with salary systems. Participants perceived that base salaries were not commensurate with workload, particularly when salaries for new graduate nurses increased annually while those for mid-career nurses did not increase accordingly.

I constantly feel that the differences in salary are unfair despite doing similar work (No. 84). I dislike an environment in which overtime is taken for granted. Work starts at 8:30, but I must come early to gather information, and pre-shift overtime is burdensome. I want overtime pay. (No. 228)

Base salaries for new graduates and young nurses keep increasing, but those for mid-careers and older nurses do not change. (No. 256)

Career Development

This category reflected needs to avoid the burden of career-related self-development activities, such as research and training sessions, that were encouraged outside working hours. Participants described burdens related to leadership roles, preceptorship, safety roles, committee work, and ward responsibilities, particularly among nurses around their fifth to tenth year of experience.

Few nurses around their fifth to tenth year seemed to remain because they were expected to begin leader duties, supervise junior nurses, participate in committees, and take charge of ward roles in addition to daily work. I had heard junior nurses say that they wanted to leave the hospital before taking on such responsibilities, partly because these activities often had to be done outside working hours. (No. 54)

Welfare Benefits

This category reflected diverse needs for improved welfare benefits, including access to consultation for nurses considering resignation, concerns about compulsory participation in hospital events or academic activities, and the desire to use annual leave more freely.

I want someone to listen to and advise nurses who are thinking about resigning. (No. 3)

There is an atmosphere that young nurses should participate in conferences and nursing department events, which is very distressing. It is unreasonable to be forced to participate in activities outside working hours or activities that require personal expenses. (No. 69)

I want to be able to use annual leave more freely. (No. 232)

Management

This category included not only emotional support for early-career nurses, such as willingness to listen and accept consultation, but also needs related to management in the workplace, such as treating all staff consistently and distributing work appropriately.

Managers should have an attitude of staying close to new and early-career nurses. Regardless of whether they agree with what young nurses say, they should first listen. Simply being listened to can make people feel better. (No. 324)

Regarding relationships with supervisors and head nurses, I want them not to change their attitudes depending on the person. I do not want to work to be pushed onto young nurses. (No. 356)

Workplace Climate

This category reflected needs to resolve staff shortages, restore psychological capacity, and improve work-life balance. Participants described busy wards where support for mid-career nurses' life events was insufficient, where responsibilities such as committees and ward roles were difficult to refuse, and where nurses lacked the emotional energy to be kind to patients or junior staff.

The nursing department tells us to care for patients and care assistants, but who will protect exhausted nurses like us? (No. 10)

I want a greater understanding of fertility treatment. There is an atmosphere where career advancement and nursing research cannot be refused. (No. 274)

I want the differences in busyness across departments to be reduced and workload to be more equal. Busy departments should have more staff assigned. (No. 337)

Discussion

This study aimed to clarify burnout and workplace support needs among early-career nurses. The findings showed that Nurses experiencing burnout reported particular needs for recovery-oriented workplace support. The need for opportunities to take breaks away from the ward remained significant after Bonferroni correction, suggesting that restorative workplace environments may be especially important for early-career nurses experiencing burnout. The findings may inform the development of workplace support strategies that address the recovery and mental health needs of early-career nurses.

Interpretation of the Findings

The prevalence of burnout identified in this study was 25.5%. Previous studies have reported a global prevalence of nurse burnout of 11.23% [27], whereas the prevalence of burnout among nurses working in general wards and intensive care units in European acute-care hospitals has been reported as 30.3% and 27.1%, respectively [28]. Burnout prevalence varies by region, work environment, and measurement tool. The absence of a significant association between age and burnout in this study may reflect the relatively narrow age range of early-career nurses. From a nursing management perspective, these findings indicate that burnout prevention should not rely solely on age-based assumptions but should instead focus on workplace conditions and support systems that are relevant across the early-career stage.

Participants who were married, lived with others, or had someone to consult were less likely to experience burnout. This finding is consistent with reports that single individuals have lower psychological quality of life than those living as couples, and that individuals who are single or not in marital relationships have lower professional well-being than those in marital relationships [29]. Burnout has also been shown to be inversely correlated with resilience [30], and private support has been identified as a factor constituting resilience [31]. Thus, the absence of private support from a spouse, cohabitant, or consultation partner may contribute to feelings of emptiness and promote burnout.

Regarding associations between burnout and workplace support needs, items 8, 20, 21, 26, and 27 remained significant in logistic regression analyses. The needs to take a break away from the ward, to be assigned to a unit without night shifts, and to have sufficient mental health professionals available may reflect a desire for an environment that helps nurses maintain their mental health. Long and irregular shifts, including shifts of 12 hours or longer, are known factors associated with burnout [32]. For nurses experiencing burnout-related exhaustion, taking time away from the ward may reflect an expectation that the quality of rest would improve, while reducing night-shift work may help alleviate fatigue. Accordingly, the need to be exempted from night shifts may be important for preventing and reducing burnout.

In contrast, nurses who met the criteria for burnout were less likely to want opportunities to discuss work-related knowledge and nursing values, or an atmosphere that encouraged them to address their weaknesses. These findings may reflect reduced work engagement and motivation. In this study, 4.5% of participants self-reported some form of mental illness. Depression is related to burnout, and loss of interest or pleasure is

strongly associated with reduced enthusiasm for work [33]. Therefore, undiagnosed depression may have contributed to decreased enthusiasm for work among nurses who met the criteria for burnout.

A lack of consultation partners regarding work or interpersonal relationships may affect nurse burnout, and counseling has been recognized by nurses themselves as necessary mental health support [34]. Therefore, ensuring access to mental health professionals, as reflected in item 26, may be an important organizational strategy for supporting early-career nurses. For nurse managers, these findings highlight the need to establish visible, accessible, and timely psychological support pathways within workplace well-being systems.

Responses to the open-ended question indicated that early-career nurses had needs related to working conditions, career development, welfare benefits, management, and workplace climate. These themes broadly corresponded to the factor structure obtained through exploratory factor analysis and are directly relevant to nursing management. Although none of the participants who described needs related to working conditions in the open-ended responses met the study criteria for burnout, salary, unpaid overtime, annual leave, and task allocation may affect motivation to continue working. For nurses with families, flexible working hours and supervisor support are important for balancing work and family life [35]. Regardless of whether nurses have children, workplaces should facilitate leaving work on time and taking leave as needed. Hospital administrators and nurse managers should recognize that organizational support, job satisfaction, and retention are mutually reinforcing, and that reflecting nurses' needs in workplace policies may help reduce burnout and prevent turnover.

Implications for Profession and/or Patient Care

The implications of this study relate primarily to support for the nursing workforce because patient outcomes were not assessed.

The present findings have several implications for nursing management. First, recovery opportunities appear to be more salient than professional-development opportunities among early-career nurses experiencing burnout. Nurse managers should therefore recognize that staff affected by burnout may be unable to benefit fully from educational or career-development interventions unless adequate recovery resources are available. Restorative break spaces away from direct ward demands should be considered part of a psychologically healthy workplace rather than an optional benefit.

Second, flexible approaches to night-shift allocation may reduce fatigue and support retention among vulnerable staff. Because most respondents did not request exemption from night-shift work, individualized discussion is preferable to uniform policy. Managers should assess each nurse's preferences, health status, and workload when considering night-shift arrangements.

Third, accessible psychological support should be integrated into organizational well-being initiatives. The findings suggest that occupational physicians, psychologists, supervisors, and nursing administrators need to work collaboratively to identify early signs of burnout and provide timely support. Recovery-oriented organizational support may represent an important management strategy for maintaining the well-being and retention of early-career nurses and for sustaining the future nursing workforce.

Strengths and Limitations

A strength of this study was its examination of specific workplace support needs in relation to burnout among 330 early-career nurses, supported by quantitative analyses and supplementary open-ended responses.

This study used a self-administered questionnaire with an open-ended question; therefore, it could not obtain detailed needs to the same extent as interviews. Participants could describe additional needs and opinions not included in the questionnaire, but some may not have written responses because of the time required to complete the questionnaire or limitations of the writing space. Some participants wrote beyond the available space. Thus, not all needs may have been fully expressed. In addition, questionnaires with any missing item in burnout or demographic characteristics were excluded, accounting for 8.3% of responses.

Because multiple workplace support-needs items were tested, the possibility of type I error due to multiple comparisons cannot be excluded. When Bonferroni correction was applied, only the need to take a break away from the ward retained significance among the items that were significant in chi-square tests. Therefore, given the exploratory nature of the study and the use of investigator-developed workplace support-needs items, the findings should be interpreted as preliminary. Finally, participants were recruited from a single acute-care general hospital, limiting the generalizability of the findings.

Recommendations for Future Research

Future multicenter and longitudinal studies should confirm the observed associations and examine whether recovery-oriented workplace support is associated with subsequent changes in burnout, well-being, intention to leave, or actual turnover. The workplace support-needs items should also undergo further psychometric evaluation, including confirmatory factor analysis in an independent sample. Intervention studies are needed to evaluate restorative break arrangements, individualized night-shift options, and accessible psychological support.

Conclusion

Among 330 early-career nurses, 25.5% met the study criteria for burnout. Nurses meeting these criteria reported distinct workplace support needs, particularly opportunities to take breaks away from the ward, adjustments to night-shift duties, and access to mental health professionals. Notably, the need for breaks away from the ward remained statistically significant after Bonferroni correction in unadjusted comparisons. These findings suggest that nursing administrators should consider recovery-oriented workplace support alongside conventional educational and career-development initiatives. Providing opportunities for restorative breaks, considering individualized night-shift arrangements, and improving access to psychological support may help address the needs of early-career nurses experiencing burnout. Further multicenter and longitudinal studies are needed to confirm these associations and evaluate the effectiveness of such support strategies.

Declarations

Ethics approval and consent to participate

This study was approved by the Medical Ethics Committee of Kanazawa University (approval number: 111128-1). All researchers involved in this study read, understood, and complied with the Declaration of Helsinki and the Ethical Guidelines for Medical and Biological Research Involving Human Subjects issued by the relevant Japanese ministries. Because the survey was anonymous, questionnaires were anonymized at the time of collection and could not be used to identify individual participants. The researcher complied with applicable laws and regulations regarding protection of personal information. Questionnaires were stored in a locked cabinet at the university and strictly managed to prevent leakage, theft, or loss of data. Data entry was performed using a dedicated research computer not connected to the internet, and data were stored on a password-protected USB drive used exclusively for this study. Only study personnel had access to the data, and no data were disclosed to third parties. Data analysis was conducted in a locked room at the university. Research data will be stored in a locked cabinet for 10 years from the date of ethics approval.

Consent for publication

The information sheet accompanied by the questionnaire stated that the study findings might be published in scientific journals and presented at academic conferences. Informed consent was obtained from participants through the completion and return of the questionnaire.

Competing interests

The author declares that they have no competing interests.

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Author Contribution

The author was responsible for conceptualization, methodology, investigation, data curation, formal analysis, interpretation, and preparation and revision of the manuscript. The author approved the final manuscript.

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Availability of data and materials

The data supporting the findings of this study are not publicly available and cannot be shared upon request because participants were informed during the consent process that the research data would not be disclosed to anyone other than the researcher. Sharing the data with third parties would therefore be inconsistent with the conditions of informed consent.

References

1. Matsutani H, Suzuki E, Shiomi N. Factors related to intention to leave the present employment for nurses working in a pediatric hospital. J Jpn Health Med Assoc. 2022;30:407–18. Japanese.
2. Vandenbroeck S, Van Gerven E, De Witte H, et al. Burnout in Belgian physicians and nurses. Occup Med (Lond). 2017;67:546–54.
3. Yu M, Lee H. Impact of resilience and job involvement on turnover intention of new graduate nurses using structural equation modeling. Jpn J Nurs Sci. 2018;15:351–62.
4. Buchan J, Cotton H. Recover to rebuild: investing in the nursing workforce for health system effectiveness [Internet]. Geneva: International Council of Nurses; 2023 [cited 2024 Dec 2]. Available from: https://www.icn.ch/sites/default/files/2023-07/ICN_Recover-to-Rebuild_report_EN.pdf
5. Freudenberger HJ. Staff burn-out. J Soc Issues. 1974;30:159–65.
6. Maslach C, Jackson SE. The measurement of experienced burnout. J Occup Behav. 1981;2:99–113.
7. Dall'Ora C, Ball J, Reinius M, et al. Burnout in nursing: a theoretical review. Hum Resour Health. 2020;18:41.
8. Yang J, Chen Y, Tian Y, et al. Risk factors and consequences of mental health problems in nurses: a scoping review of cohort studies. Int J Ment Health Nurs. 2024;33:1197–211.
9. Moss M, Good VS, Gozal D, et al. An official Critical Care Societies Collaborative statement: burnout syndrome in critical care health-care professionals: a call for action. Chest. 2016;150:17–26.
10. Bruyneel A, Bouckaert N, de Maerten C, et al. Association of burnout and intention-to-leave the profession with work environment: a nationwide cross-sectional study among Belgian intensive care nurses after two years of pandemic. Int J Nurs Stud. 2023;137:104385.
11. Tanaka K. Temperament and professional quality of life among Japanese nurses. Nurs Open. 2020;7:700.
12. Rudman A, Gustavsson JP. Early-career burnout among new graduate nurses: a prospective observational study of intra-individual change trajectories. Int J Nurs Stud. 2011;48:292–306.
13. World Health Organization. Guidelines for the primary prevention of mental, neurological and psychosocial disorders. 5: Staff burnout [Internet]. Geneva: WHO. 1994 [cited 2024 Dec 2]. Available from: https://www.who.int/publications/i/item/WHO_MNH_MND_94.21
14. Kobayashi M, Igarashi A, Ikeda T. Research project on influencing factors and evidence verification for nursing staff demand projections corresponding to new work styles for nursing staff, FY2020 Shared Research Report 1 [Internet]. Tokyo: Kosei Rodo Kagaku Kenkyu Seika Database; 2022 [cited 2024 Dec 2]. Available from: https://mhlw-grants.niph.go.jp/system/files/report_pdf/202022038A-buntan1.pdf. Japanese.

15. Ministry of Health, Labour and Welfare. Examination committee on supply and demand of medical personnel: nursing staff supply and demand subcommittee interim report (summary) [Internet]. Tokyo: Ministry of Health, Labour and Welfare. 2019 [cited 2024 Dec 2]. Available from: https://www.mhlw.go.jp/content/10805000/000567573.pdf. Japanese.
16. Chen C, Meier ST. Burnout and depression in nurses: a systematic review and meta-analysis. Int J Nurs Stud. 2021;124:104099.
17. Zhang X, Chen S, Zheng Z, et al. The relationship between psychological capital, burnout and perceived stress in junior nurses: a latent profile analysis. Front Public Health. 2024;12:1374941.
18. Chen G, Ogata Y, Sasaki M. Factors associated with burnout among internationally educated nurses: a scoping review. Int Nurs Rev. 2025;72:e13073.
19. Higashiguchi K, Morikawa Y, Miura K, et al. The development of the Japanese version of the Maslach Burnout Inventory and the examination of the factor structure. Nihon Eisei Gaku Zasshi. 1998;53:447–55. Japanese.
20. Kitaoka K, Masuda S. Classification of burnout according to the Maslach Burnout Inventory-General Survey: five classifications according to the exhaustion + 1 criterion. J Soc Nurs Pract. 2016;28:5–15.
21. Mukherjee S, Tennant A, Beresford B. Measuring burnout in pediatric oncology staff: should we be using the Maslach Burnout Inventory? J Pediatr Hematol Oncol Nurs. 2019;37:55–64.
22. Kubo M. The psychology of burnout: what is burnout syndrome? Selected Papers in Social Psychology. Volume 23. Tokyo: Saiensu Sha; 2004. pp. 179–96.
23. Adachi H, Inoue M, Inaba R. Stress management among hospital nurses: application to nurses of Stress & Stress-Coping Scale (SSCQ). J Occup Health. 2005;47:1–10. Japanese.
24. Yukawa H, Hasegawa T, Kamohara M, et al. The role of occupational health nurses in return-to-work support for mental health patients and cooperation in utilizing resources within and outside the workplace. J Jpn Health Med Assoc. 2015;24:138–44. Japanese.
25. Nishioka K, Kusahara M, Ido T. Fact-finding survey on the worries and support of new nurses in the third month after employment. J Jpn Hosp Assoc. 2010;57:459–62. Japanese.
26. Minami A, Akiba K, Kanno M, et al. Difficulties experienced by new nurses and support requested at 1 and 6 months after employment. Asahikawa Kosei Byoin Ishi. 2010;20:117–21.
27. Woo T, Ho R, Tang A, et al. Global prevalence of burnout symptoms among nurses: a systematic review and meta-analysis. J Psychiatr Res. 2020;123:9–20.
28. Bruyneel A, Dello S, Dauvergne JE, et al. Prevalence and risk for burnout, missed nursing care, and intention-to-leave the job among intensive care unit and general ward nurses: a cross-sectional study across six European countries in the COVID-19 era. Intensive Crit Care Nurs. 2025;86:103885.
29. Jubin J, Martin L, Kabwiku N, et al. Protective factors of nurses' mental health and professional wellbeing during the COVID-19 pandemic: a multicenter longitudinal study. Int J Public Health. 2024;69:1607449.
30. Castillo-Gonzalez A, Velando-Soriano A, De La Fuente-Solana EI, et al. Relation and effect of resilience on burnout in nurses: a literature review and meta-analysis. Int Nurs Rev. 2024;71:160–67.
31. Li M, Wei J, Yang Y, et al. Relationships among perceived social support, mindful self-care, and resilience among a sample of nurses in three provinces in China: a cross-sectional study. Front Public Health. 2024.

10.3389/fpubh.2024.1334699.
32. Oner B, Cokelek F, Caliskan N, et al. Risks posed by nurses' working hours in the intensive care unit: a systematic review. BMC Nurs. 2025;24:1319.
33. Bianchi R, Verkuilen J, Schonfeld IS, et al. Is burnout a depressive condition? A 14-sample meta-analytic and bifactor analytic study. Clin Psychol Sci. 2021. 10.1177/2167702620979597.
34. Gresham AD, Paun O, Heyland M. Mental health needs of inpatient psychiatric nurses during the COVID-19 pandemic. J Am Psychiatr Nurses Assoc. 2024 Sep;5. 10.1177/10783903241272324. Epub ahead of print.
35. Dousin O, Wei CX, Balakrishnan BKPD, et al. Exploring the mediating role of flexible working hours in the relationship of supervisor support, job and life satisfaction: a study of female nurses in China. Nurs Open. 2021;8(6):2962–72.

Figures



Figure 1

Aggregation of needs