Original Article

Relationship between nursing stress and forgotten nursing care in the COVID-19 pandemic

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Abstract
Background and aims: Long-term stress can lead to forgetfulness of nursing care and reduce the quality of nursing care. Therefore, this study aimed to determine the relationship between nursing stresses and missed nursing care during the COVID-19 pandemic.
Methods: The present study was a cross-sectional study. This study included 268 nurses from various hospitals in 2022. Sampling was done by stratified quota method. Kalish and Williams' Forgotten Nursing Care and French's nursing stress questionnaires were used to collect data. Data were analyzed using Stata 14 at a significance level of 0.05.
Results: The study showed a significant relationship between the expression of nursing stress and forgotten nursing care ($P \leq 0.001$). Average stress scores for nursing care and forgotten nursing care were obtained as 137.90 ± 36.70 and 32.71 ± 8.72, respectively.
Conclusion: Most nurses reported much stress. Considering the positive correlation between nursing stress and forgotten nursing care, nursing managers are suggested to reduce missed nursing care with stress reduction workshops.
Keywords: Occupational stress, Nursing care, Nurses, COVID-19

Introduction
Nurses promote patients' and society's health as medical team members (1). In most countries, nurses face stress due to heavy workloads, working with sick patients, and responding to supervisors (2,3). Chinese nurses, Brazilian nurses, and Iranian nurses have experienced 32%-43%, 44%-66%, and 40%-46% of moderate to severe stress, respectively. (4). High workload, patient/companion stress, and supervisor tension increase nursing stress (3). Stress impacts nurses' health, the quality of care, and the ability to execute critical patient care (5).

During the COVID-19 pandemic, nurses worried about contracting coronavirus due to regular infection exposure, which heightened their mental stress and affected nursing care quality. Some nursing care is forgotten due to stress. This issue affects the quality of services provided to the patient (6). Forgotten or nursing care refers to delayed or omitted care, a nursing error (7). Despite nurse managers' best efforts, patient safety and care quality remain challenges. Forgotten nursing care is a crucial factor affecting the quality of care. Nursing care includes medication, instruction, position changes, bathing, oral care, dietary care, and vital signs. Unprovided care is forgotten nursing care (8).

Globally, 55%–98% of intensive care unit nurses forget to provide one or more patients' care (9). Nurses say human power, communication, and material resources are effective in forgotten nursing care (10). Forgotten nursing care reduces patient care quality, patient satisfaction, and nurses' job satisfaction; however, it increases side effects, hospital stays, and readmission (11). Sarafis et al found that nurses' exposure to patient deaths, relationships with patients and their families, confrontations with supervisors, and treatment uncertainty cause stress (12). Understanding forgotten nursing care might reveal its reason for the occurrence (13).

The quality of nursing care depends on many factors. Since nurses have heavy and exhausting responsibilities and face many critical situations, they suffer more stress. Also, stress affects their performance. Since there was little information on the relationship between missed nursing care and stress, this study aims to determine the relationship between nursing stress and missed nursing care during the COVID-19 pandemic.

Materials and Methods
Study design and setting
This cross-sectional study was conducted from December 2021 to June 2022.

Sample and sampling

A total of 268 nurses from educational hospitals affiliated with Hamadan University of Medical Sciences were selected through quota sampling. Inclusion criteria were having a bachelor's degree or higher in nursing, working for at least three months and working as a permanent employee of the same department, and consenting to participate. Uncompleted questionnaires and unwillingness to participate in the study were excluded as exclusion criteria.

Data collection instruments

Data was collected using demographic information form, Kalish and Williams's Forgotten Nursing Care, and French's nursing stress questionnaires.

Demographic data form includes age, gender, marital status, number of children, employment status, work shift, education, and position. Ten academic staff members of Hamadan University of Medical Sciences approved this form.

Kalish and Williams's Forgotten Nursing Care Questionnaire was last revised in 2009. The 24-item questionnaire has four Likert scale options: rarely missed (1), occasionally missed (2), frequently missed (3), and always missed (4). The score on the questionnaire ranged from 24 to 96. A higher score indicates more missed nursing care. This questionnaire includes nursing care such as drug evaluation, wound care, and patient education (14). Khajooee et al validated the validity and reliability of this questionnaire in Iran; Cronbach's alpha was 0.91 (15). In this study, Cronbach's alpha was 0.90.

The revised nursing stress scale French et al created consists of 57 items. It has nine subscales. These subscales consist of death and dying (7 items), conflict with physicians (5 items), inadequate emotional preparation (3 items), problems with peer support (6 items), issues with supervisors (7 items), workload (9 items), uncertainty concerning treatment (9 items), patients and families (8 items), and discrimination (3 items). A 5-point Likert scale is used in this questionnaire to calculate the following items: never stressful (1), sometimes stressful (2), often stressful (3), always stressful (4), and not applicable (5). The total score of a questionnaire is the sum of its questions. Scores range was 57-228. A score between 57-114, 115-171, and more than 171 indicates low, moderate, and high stress levels, respectively (16). Rezaee et al reported a Cronbach's alpha of 0.85 in Iran (17). In this study, Cronbach's alpha was 0.96.

Data analysis

Data was analyzed by frequency, frequency percentage, mean, standard deviation, independent samples t-test, one-way ANOVA, and Pearson correlation coefficients. Data was analyzed using Stata 14 at a significance level of 0.05.

Results

Nurses in this study were female (83.6%), married (70.1%), and had bachelor's degrees (82.5%); nurses averaged 38.92 ± 9.57 years old. Nursing stress correlated with employment type among demographic characteristics ($P < 0.001$; Table 1).

The nursing stress mean was moderate, 131.95 ± 35.21. The highest nursing stress field was treatment uncertainty 22.76 ± 6.71, while the lowest was insufficient emotional preparation 6.25 ± 2.10. The forgotten nursing care mean was 32.71 ± 8.72. The lowest score for forgotten nursing care measured vital signs per doctor's directions, and the highest was for participating in interdisciplinary patient care conferences. Nursing stress was moderate for most nurses (162 (60.45%) (Table 2).

Nursing stress and its dimensions significantly correlated with forgotten nursing care. As nursing stress increased in each dimension, forgotten nursing care increased ($P < 0.05$; Table 3).

The linear regression analysis showed that stress is associated with increased forgotten nursing care ($\beta = 0.09$, $P < 0.001$). Increasing the number of children increased the forgotten nursing care score. ($\beta = 5.59$, $P = 0.05$ in 3 children). However, the effect of age, sex, shift in marital status, and position on forgotten nursing care were not statistically significant ($P > 0.05$; Table 4).

Discussion

This study investigated the relationship between nursing stress and forgotten nursing care. In this study, increasing nursing stress caused an increase in forgotten nursing care. Nurses face high levels of occupational stress due to constant exposure to infections and the hospital environment, heavy duties, and the risk of harming patients (18). On the other hand, excessive supervision is one of the causes of stress in nursing (19). Current studies indicate moderate nursing stress. Approximately 72% of nurses were under moderate to high stress. Keykaleh et al reported nursing stress as moderate (20). In Maharaj and colleagues' study, 41.2% of Australian nurses experienced nursing stress, substantially lower than in the present study. Low nursing stress means calmer patient care (4). This difference may justify this study's finding that there is a correlation between nursing stress and employment type (Table 1). Nurses who are secure in their jobs are less stressed. According to Zhang et al, job insecurity predicts nurses' attendance behavior. This issue justifies the relationship between job insecurity and emotional exhaustion. Supervisor support moderated the relationship between nurses' presenteeism behavior and emotional exhaustion. Higher supervisor support weakens the relationship between nurses' presenteeism and emotional exhaustion (21). High nurses' stress levels are likely related to COVID-19 epidemics (3). Burnout is close to expectation; if this trend continues, it can hurt patient care (19).

Insufficient emotional preparation was the lowest aspect of nursing stress in the current study, similar to Andal's study. Nurses with less stress can take care

Table 1. Demographic characteristics and their relationship to nursing stress and forgotten nursing care (N=268)

Variables		n (%)	Nurse stress (Mean±SD)	P value	Forgotten nursing care (Mean±SD)	P value
Age	≤40	158(58.95%)	132.80±35.10	0.636*	32.90±8.77	0.677*
	>40	110(41.05%)	130.73±35.49		32.45±8.96	
Number of Children	0	106 (39.55%)	130.28±35.69	0.704**	32.20±8.24	0.277**
	1	61 (22.76%)	129.44±33.93		33.11±8.21	
	2	89 (33.21%)	135.20±37.80		32.82±9.93	
	3	12 (4.48%)	135.33±7.71		34.42±5.86	
Gender	Male	44 (16.42%)	130.73±26.60	0.756*	35.05±9.00	0.052*
	Female	224 (83.58%)	132.19±36.71		32.25±8.61	
Work Shift	Fix	87 (32.46%)	134.67±35.78	0.068*	32.70±8.46	0.964*
	Changing	181 (67.54%)	126.30±33.50		32.75±9.29	
Marital status	Single	80 (29.85%)	135.90±37.03	0.232*	33.70±9.81	0.228*
	Married	188 (70.15%)	130.27±34.34		32.29±8.21	
Education	Bachelor	221 (82.46%)	132.56±35.46	0.540*	32.80±8.81	0.734*
	Master	47 (17.54%)	129.09±34.25		32.32±8.37	
Position	Nurse	195 (72.76%)	130.77±36.25	0.370*	33.18±9.47	0.148*
	Head Nurse	73 (27.24%)	135.11±32.30		31.45±6.198	
Type of Employment	Official	208 (77.61%)	129.14±35.41	0.015*	32.23±9.07	0.089*
	Not official	60 (22.39%)	141.68±32.99		34.40±7.25	
Nursing stress	High	31(11.57%)				
	Moderate	162(60.45%)				
	Low	75(27.98%)				

* P value conducted from independent samples t-test. ** P value conducted from one-way ANOVA.

Table 2. Scales of nursing stress and forgotten nursing care questionnaires

Factors	No. items	Mean±SD	Min–Max
1. Forgotten nursing care	24	32.71±8.72	24–70
2. Nursing Stress	57	131.95±35.21	57–210
2.1 Death and dying	7	17.39±5.16	8–28
2.2 Conflict with physicians	5	12.13±3.77	5–23
2.3 Inadequate emotional preparation	3	6.25±2.10	3–13
2.4 Problems with peer supports	6	11.74±5.60	6–22
2.5 Problems with supervisors	7	17.43±5.60	7–29
2.6 Workload	9	20.17±5.93	9–34
2.7 Uncertainty concerning treatment	9	22.76±6.71	9–36
2.8 Patients and families	8	21.66±6.36	9–37
2.9 Discrimination	3	8.10±3.13	3–15

of better emotional conditions (22). Our study, unlike Milutinović and colleagues' study, had the highest level of nursing stress that was related to uncertainty in treatment, not death (23). According to Starc's study, workplace stress management is crucial to ensuring nurses' health and well-being. In stressful conditions, nurses have trouble concentrating, lack motivation, and argue with patients and colleagues (24). Millspaugh et al reported that 20% of new nurses left their jobs because of stress and job pressures (25). According to Hajiseyedrezaei and colleagues' study, the average nursing stress score in Tehran ICUs was medium, which matches our data.

In this study, the aspect of discrimination had the lowest nursing stress, contrary to our results. Due to the extensive communication between nurses in Tehran, this aspect has received the lowest score (26). In the Delirrooyfard et al study, emergency department nurses of Golestan and Imam Khomeini hospitals in Ahvaz exhibited low nursing stress. Patients and their families posed the most stress. This difference may be because emergency department patients' companions exhibit more stressful behaviors due to their condition (27). Our analysis indicated that forgotten nursing care was low. Alsubhi et al reported that 75% of nurses forgot nursing care in their prior shift, which is excessive and contradicts our findings. The number of personnel, type of shift, number of patients, and nurse's role affects forgotten nursing care (28).

Chegini reported a 61.68 % incidence rate of forgotten nursing care in Tabriz hospitals, which is not low. Tabriz hospitals may have fewer nurses per patient than the hospitals in our study, leading to more forgotten nursing care (29). Labrague and De Los Santos found that patient monitoring is one of the most neglected aspects of nursing care. Only 52.5 % of nurses believed in the adequacy of nurses and nursing care. Nurses' displacement from one department to another can also cause problems (30).

According to the study of Ebadi et al, the least forgotten care occurred when nurses controlled vital signs according to instructions. This result follows the results of the present study. Because nurses understand the

Table 3. Pearson correlations coefficients (PSS) among the factors and sub-factors

Factors & sub-factors	(1)	(2)	(2-1)	(2-2)	(2-3)	(2-4)	(2-5)	(2-6)	(2-7)	(2-8)	(2-9)
1. Forgotten nursing care	1										
2. Nursing Stress	0.370*	1									
2-1. Death and dying	0.322*	0.880*	1								
2-2. Conflict with physicians	0.356*	0.862*	0.709*	1							
2-3. Inadequate emotional preparation	0.307*	0.711*	0.603*	0.564*	1						
2-4. Problems with peer support	0.354*	0.730*	0.537*	0.562*	0.709*	1					
2-5. Problems with supervisors	0.301*	0.842*	0.711*	0.669*	0.525*	0.574*	1				
2-6. Workload	0.283*	0.883*	0.750*	0.714*	0.549*	0.639*	0.681*	1			
2-7. Uncertainty concerning treatment	0.284*	0.913*	0.792*	0.806*	0.664*	0.536*	0.772*	0.765*	1		
2-8. Patients and families	0.313*	0.909*	0.803*	0.796*	0.552*	0.590*	0.699*	0.808*	0.778*	1	
2-9. Discrimination	0.295*	0.781*	0.675*	0.667*	0.514*	0.500*	0.578*	0.640*	0.716*	0.783*	1

* Correlation is significant at the 0.01 level (2-tailed).

Table 4. Predictors of forgotten nursing care using multivariate linear regression model

Variable	β	95% CI	*P* value
Nursing stress	0.09	0.06, 0.12	<0.001
Age (year)	-0.12	-0.26, 0.03	0.12
Gender	-2.26	-4.98, 0.46	0.1
Number of Children			
1	2.95	-0.28, 6.17	0.07
2	3	-0.1, 6.11	0.06
3	5.59	-0.01, 11.2	0.05
Work Shift	1.82	-0.4, 4.04	0.11
Marital status	-1.13	-4.22, 1.59	0.17
Position	1.84	-4.44, 0.76	0.16

importance of controlling vital signs, this care has a low rate of forgetfulness. A high workload, a large number of patients, an imbalance in the distribution of nursing staff, and defective drugs and equipment can all contribute to failure to control vital signs (31). According to Blackman and colleagues' study, eight primary elements affect neglected nursing care: shift type, resource allocation, health professional communication, workload intensity, workload predictability, and nurses' job satisfaction. Nurses and managers are well-planned if they receive the cause of forgetting nursing care (32). Piscotty and Kalisch suggested electronic reminders to reduce forgotten nursing care. The researchers' nursing care reminded staff of timely interventions. There is a correlation between staffing and forgotten nursing care (33).

Limitations
One of the limitations of this research was the large number of questions in the questionnaires, so we tried to give nurses more time to complete the questionnaires.

Conclusion
The study showed that nursing stress is significantly related to forgotten nursing care. Also, most nurses reported much stress. Considering the positive correlation between nursing stress and forgotten nursing care, nursing managers are suggested to reduce missed nursing care with stress reduction workshops.

Authors' Contribution
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Competing Interests
The authors declare that there is no conflict of interest.

Ethical Approval
This article presents the result of a student research project entitled "The relationship between nursing stress and forgotten nursing care of nurses in hospitals affiliated to Hamadan University of Medical Sciences during the Covid-19 Epidemic, 2021," approved by Hamadan University of Medical Sciences with the code of ethics No. 140009167621 and IR.UMSHA.REC.1400.644.

References

1. Kemppainen V, Tossavainen K, Turunen H. Nurses' roles in health promotion practice: an integrative review. Health Promot Int. 2013;28(4):490-501. doi: 10.1093/heapro/das034.

2. Laal M, Aliramaie N. Nursing and coping with stress. Int J Collab Res Intern Med Public Health. 2010;2(5):168-81.

3. Lee EK, Kim JS. Nursing stress factors affecting turnover intention among hospital nurses. Int J Nurs Pract. 2020;26(6):e12819. doi: 10.1111/ijn.12819.

4. Maharaj S, Lees T, Lal S. Prevalence and risk factors of depression, anxiety, and stress in a cohort of Australian nurses. Int J Environ Res Public Health. 2018;16(1):61. doi: 10.3390/ijerph16010061.

5. Farquharson B, Bell C, Johnston D, Jones M, Schofield P, Allan J, et al. Nursing stress and patient care: real-time investigation of the effect of nursing tasks and demands on psychological stress, physiological stress, and job performance: study protocol. J Adv Nurs. 2013;69(10):2327-35. doi: 10.1111/jan.12090.

6. Dehghan-Nayeri N, Shali M, Navabi N, Ghaffari F. Perspectives of oncology unit nurse managers on missed nursing care: a qualitative study. Asia Pac J Oncol Nurs. 2018;5(3):327-36. doi: 10.4103/apjon.apjon_6_18.

7. Kalisch BJ, Landstrom GL, Hinshaw AS. Missed nursing care: a concept analysis. J Adv Nurs. 2009;65(7):1509-17. doi: 10.1111/j.1365-2648.2009.05027.x.

8. Moreno-Monsiváis MG, Moreno-Rodríguez C, Interial-Guzmán MG. Missed nursing care in hospitalized patients. Aquichan. 2015;15(3):318-28. doi: 10.5294/aqui.2015.15.3.2.

9. Jones TL, Hamilton P, Murry N. Unfinished nursing care, missed care, and implicitly rationed care: state of the science review. Int J Nurs Stud. 2015;52(6):1121-37. doi: 10.1016/j.ijnurstu.2015.02.012.

10. Hernández-Cruz R, Moreno-Monsiváis MG, Cheverría-Rivera S, Díaz-Oviedo A. Factors influencing the missed nursing care in patients from a private hospital. Rev Lat Am Enfermagem. 2017;25:e2877. doi: 10.1590/1518-8345.1227.2877.

11. Chaboyer W, Harbeck E, Lee BO, Grealish L. Missed nursing care: an overview of reviews. Kaohsiung J Med Sci. 2021;37(2):82-91. doi: 10.1002/kjm2.12308.

12. Sarafis P, Rousaki E, Tsounis A, Malliarou M, Lahana L, Bamidis P, et al. The impact of occupational stress on nurses' caring behaviors and their health related quality of life. BMC Nurs. 2016;15:56. doi: 10.1186/s12912-016-0178-y.

13. Gabr H, El-Shaer A. Factors affecting missed nursing care and its relation to nurses' work flow in general medical and surgical units. IOSR J Nurs Health Scie. 2020;9(3):21-31. doi: 10.9790/1959-0903052131.

14. Kalisch BJ, Williams RA. Development and psychometric testing of a tool to measure missed nursing care. J Nurs Adm. 2009;39(5):211-9. doi: 10.1097/NNA.0b013e3181a23cf5.

15. Khajooee R, Bagherian B, Dehghan M, Azizzadeh Forouzi M. Missed nursing care and its related factors from the points of view of nurses affiliated to Kerman University of Medical Sciences in 2017. J Hayat. 2019;25(1):11-24. [Persian].

16. French SE, Lenton R, Walters V, Eyles J. An empirical evaluation of an expanded Nursing Stress Scale. J Nurs Meas. 2000;8(2):161-78.

17. Rezaee N, Behbahani N, Najaf Yarandi A, Hosseini F. Correlation between occupational stress and social support among nurses. Iran Journal of Nursing. 2006;19(46):71-8. [Persian].

18. Sharma P, Davey A, Davey S, Shukla A, Shrivastava K, Bansal R. Occupational stress among staff nurses: controlling the risk to health. Indian J Occup Environ Med. 2014;18(2):52-6. doi: 10.4103/0019-5278.146890.

19. Martin P, Lizarondo L, Kumar S, Snowdon D. Impact of clinical supervision on healthcare organisational outcomes: a mixed methods systematic review. PLoS One. 2021;16(11):e0260156. doi: 10.1371/journal.pone.0260156.

20. Keykaleh MS, Safarpour H, Yousefian S, Faghisolouk F, Mohammadi E, Ghomian Z. The relationship between nurse's job stress and patient safety. Open Access Maced J Med Sci. 2018;6(11):2228-32. doi: 10.3889/oamjms.2018.351.

21. Zhang J, Wang S, Wang W, Shan G, Guo S, Li Y. Nurses' job insecurity and emotional exhaustion: the mediating effect of presenteeism and the moderating effect of supervisor support. Front Psychol. 2020;11:2239. doi: 10.3389/fpsyg.2020.02239.

22. Andal EM. Pilot study quantifying Filipino nurses' perception of stress. Calif J Health Promot. 2006;4(4):88-95. doi: 10.32398/cjhp.v4i4.1990.

23. Milutinović D, Golubović B, Brkić N, Prokeš B. Professional stress and health among critical care nurses in Serbia. Arh Hig Rada Toksikol. 2012;63(2):171-80. doi: 10.2478/10004-1254-63-2012-2140.

24. Starc J. Stress factors among nurses at the primary and secondary level of public sector health care: the case of Slovenia. Open Access Maced J Med Sci. 2018;6(2):416-22. doi: 10.3889/oamjms.2018.100.

25. Millspaugh J, Errico C, Mortimer S, Kowalski MO, Chiu S, Reifsnyder C. Jin Shin Jyutsu® self-help reduces nurse stress: a randomized controlled study. J Holist Nurs. 2021;39(1):4-15. doi: 10.1177/0898010120938922.

26. Hajiseyedrezaei SR, Alaee N, Zayeri F. Survey of status stress among nurses that working in critical care units at hospitals of Tehran city, 2019. Nurs Midwifery J. 2020;18(1):1-10. [Persian].

27. Delirrooyfard A, Masoumi K, Forouzan A. Occupational stress among emergency department nurses of Golestan and Emam Khomeini hospitals in Ahvaz. Jundishapur Sci Med J. 2015;14(3):296-300. [Persian].

28. Alsubhi H, Meskell P, Shea DO, Doody O. Missed nursing care and nurses' intention to leave: an integrative review. J Nurs Manag. 2020;28(8):1830-40. doi: 10.1111/jonm.13069.

29. Chegini Z, Jafari-Koshki T, Kheiri M, Behforoz A, Aliyari S, Mitra U, et al. Missed nursing care and related factors in Iranian hospitals: a cross-sectional survey. J Nurs Manag. 2020;28(8):2205-15. doi: 10.1111/jonm.13055.

30. Labrague LJ, De Los Santos JAA. COVID-19 anxiety among front-line nurses: predictive role of organisational support, personal resilience and social support. J Nurs Manag. 2020;28(7):1653-61. doi: 10.1111/jonm.13121.

31. Ebadi J, Najafi E, Aghamohammadi V, Saeeidi S, Nasiri K. Missed nursing care and its related factors in Ardabil and Khalkhal educational and medical centers in 2020. J Health Care. 2021;23(1):78-87. doi: 10.52547/jhc.23.1.78. [Persian].

32. Blackman I, Henderson J, Willis E, Hamilton P, Toffoli L, Verrall C, et al. Factors influencing why nursing care is missed. J Clin Nurs. 2015;24(1-2):47-56. doi: 10.1111/jocn.12688.

33. Piscotty RJ Jr, Kalisch B. The relationship between electronic nursing care reminders and missed nursing care. Comput Inform Nurs. 2014;32(10):475-81. doi: 10.1097/cin.0000000000000092.