

# Factors related to Japanese nurses' desire to quit their jobs during the COVID-19 pandemic

## A cross-sectional study

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### Abstract

The purpose of this study was to investigate the factors related to Japanese nurses' desire to quit their jobs during the Omicron wave of the coronavirus disease 2019 pandemic. We distributed an original, self-administered questionnaire to nurses at 3 facilities that accepted patients with coronavirus disease 2019 in Ishikawa Prefecture, Japan. Of the 625 nurses, 152 responded (24.3%); after excluding 3 men to rule out the effects of sex, responses for 81 (53.3%) nurses were analyzed. In total, 49 (60.5%) nurses expressed a desire to quit their current job. After controlling for the effects of age and years of experience, factors related to the desire to quit the current job included having fewer than 2 years of experience (odds ratio [OR] 9.08, 95% confidence interval [CI] 1.69–48.87), feeling anxiety at work (OR 4.59, 95% CI 1.01–20.81), being afraid to go to work (OR 4.10, 95% CI 1.20–21.69), and experiencing difficulty talking to people (OR 10.26, 95% CI 1.48–70.99). Nurse managers should regularly screen nurses who have fewer than 2 years of experience, feel anxiety at work, are afraid to go to work, and find it difficult to talk to people. Early action may prevent the turnover of nurses during a public health emergency.

**Abbreviations:** CI = confidence interval, OR = odds ratio.

**Keywords:** COVID-19, job dissatisfaction, nurses

### 1. Introduction

In November 2021, the World Health Organization classified the SARS-CoV-2 strain B.1.1.529 as a variant of concern and designated it the Omicron variant. At that time, all countries were urged to strengthen their infectious disease monitoring systems.<sup>[1]</sup> Since the Omicron strain was first detected, it has spread rapidly around the world.<sup>[2]</sup> There is evidence that the Omicron strain has greater infectivity and immune evasion ability than previous mutant strains.<sup>[3]</sup> In Japan, the first Omicron infection was confirmed in December 2021, and infections subsequently spread rapidly throughout the country.<sup>[4]</sup> Hospitals that accept and care for patients with coronavirus disease 2019 (COVID-19) infection throughout Japan have therefore experienced heavy workloads since that time.

Since the first detection of SARS-CoV-2 in Wuhan, China and declaration of the global COVID-19 pandemic,<sup>[5]</sup> there have been many reports of psychological distress and anxiety among frontline health care professionals.<sup>[6]</sup> In particular, nurses have substantial direct contact with patients during the period from hospitalization to discharge, and anxiety and stress are high among medical staff.<sup>[7,8]</sup> In addition to uncertainty about the future owing to the COVID-19 pandemic, anxiety, depression, insomnia, and anger among health care staff are detrimental

to the provision of medical services.<sup>[9]</sup> The number of people infected with the Omicron strain has risen rapidly throughout Japan, and nurses in hospitals that care for patients with confirmed or suspected infection are under considerable stress. The Japanese Nursing Association has pointed out that the turnover rate of nurses is increasing because of the influence of the COVID-19 pandemic, and there is particular concern about the shortage of nurses in hospitals that accept patients with COVID-19.<sup>[10]</sup>

Since November 2019, reports have shown that the psychological distress and stress caused by the COVID-19 pandemic has affected turnover intention among nurses.<sup>[11–13]</sup> Therefore, addressing problems experienced by frontline nurses is an urgent issue. It is important to screen for signs of distress in frontline nurses and manage problems early before they affect job performance and turnover. Previous studies have identified risk factors, such as mental health status and job satisfaction, to screen staff in need of mental health services (p19).<sup>[14]</sup> Previous studies have conducted surveys to assess health care professionals' work and life satisfaction during the pandemic as well as turnover intention.<sup>[15]</sup> Research has also identified the prevalence and risk factors for insomnia among health care workers (p19),<sup>[16]</sup> examined factors that affect nurses' anxiety about COVID-19,<sup>[17]</sup> and investigated the relationship between depression prevalence and quality of life.

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All data generated or analyzed during this study are included in this published article [and its supplementary information files].

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The need for early treatment has also been reported.<sup>[18]</sup> However, there are no studies examining variables related to nurses' desire to quit their job during the COVID-19 pandemic. Continuing to work while having a latent desire to quit the current job can not only adversely affect physical and mental health but may also lead to turnover intention. Nurses who wish to quit their jobs should be identified and provided with support before they feel they have no choice but to leave their position.

The purpose of this study was to investigate the factors related to Japanese nurses' desire to quit their job during the Omicron wave of the COVID-19 pandemic. We evaluated factors such as pandemic-related changes in nurses' work, feelings during the pandemic, and motivation to work, with the aim to identify nurses with a latent desire to quit their job. Our study findings will provide evidence that will help in addressing problems among nurses at an early stage.

## 2. Methods

### 2.1. Data collection

We partnered with Kanazawa Medical University Hospital in Ishikawa, Japan to conduct a web-based online cross-sectional survey among 625 nurses from one designated medical institution of infectious diseases that accepts patients with COVID-19 and 2 medical institutions that were asked to accept patients with COVID-19 by the local government. This study used non-probabilistic sampling.

Designated infectious disease medical institutions admit patients with new infectious diseases or infectious diseases such as H1N1 influenza, as defined in the Act on the Prevention of Infectious Diseases and Medical Care for Patients with Infectious Diseases<sup>[19]</sup> of Japan. We created an original, anonymous self-report questionnaire by referring to research by Matsuo et al<sup>[20]</sup> (St Luke's International Hospital) and Awano et al<sup>[21]</sup> (Japanese Red Cross Medical Center). All survey questions were adapted to fit the context of our research. The web-based survey was generated using SurveyMonkey, a cloud-based survey development application. The study was conducted from November 19, 2021 to March 4, 2022.

### 2.2. Survey content

This survey assessed the following variables among nurses: basic attributes, years of experience, job position, department, working hours during the previous 7 days, and number of days not worked during the past 30 days. Age was categorized as 20s, 30s, 40s, 50s, or 60s; job position was categorized as nurse, chief nurse, or head nurse; and department was categorized as ward, outpatient department, operating room, intensive care unit, or other.

We asked about pandemic-related changes in work, nurses' current feelings during the pandemic, whether nurses' felt they had received unreasonable treatment, and nurses' motivation for work. Participants used a 4-point Likert scale (strongly disagree, disagree, agree, and strongly agree) to rate whether they had experienced pandemic-related work changes, changes in care, increased workload, and an expanded scope of work. Participants rated their feelings during the pandemic in terms of whether they felt anxious at work, whether they felt they were helpful, whether they felt that their work was meaningful, and whether they felt that their work was important. Nurses also rated whether they had received unreasonable treatment from a colleague, a patient, or from a patient's family. Motivation for work was rated in terms of being afraid to go to work, always feeling frustrated, finding it difficult to talk to people, and feeling easily fatigued.

### 2.3. Data analysis

Participants included in the analysis were those who answered all the items and who had been working as a nurse before the

start of the COVID-19 pandemic. The following items were divided into 2 categories for analysis. Age was classified as 20s and  $\geq 30$  years; it has been pointed out that turnover intention among nurses during the COVID-19 pandemic is higher among younger nurses.<sup>[22,23]</sup> Additionally, years of experience was classified into groups, with reference to Sadeeka et al,<sup>[24]</sup> as  $< 2$  years and  $\geq 2$  years,  $< 5$  years and  $\geq 5$  years,  $< 10$  years and  $\geq 10$  years. Job position was categorized as nurse and nurse manager (chief nurse or head nurse). Working hours for the past 7 days were grouped as  $< 40$  hours and  $\geq 40$  hours, and the number of days not worked during the past 30 days was categorized as  $< 10$  days and  $\geq 10$  days.

For variables of pandemic-related changes in work, current feelings during the pandemic, receipt of unreasonable treatment, and work motivation, the responses strongly agree/agree were collapsed into one category of "agree" and responses of disagree/strongly disagree were grouped into one category of "disagree."

To examine the relationship between an affirmative response to the statement "I would like to quit my job" and each item, the  $\chi^2$  test or Fisher exact test were used. Binomial logistic regression analysis was used to assess factors associated with the desire to quit the current job. Nurses' desire to quit their job was the dependent variable, age and sex were covariates, and all variables for which a statistically significant association ( $P < .05$ ) was found in the univariate analysis were modeled using the forced input method. All variables were entered after checking for multicollinearity (variance inflation factor  $\geq 10$ ). The significance level was set at 5%. IBM SPSS version 27 (IBM Corp., Armonk, NY) was used for all statistical analyses.

### 2.4. Ethical considerations

This research was conducted in accordance with the Declaration of Helsinki, 1995 (as revised in Seoul, 2008) and carried out with the approval of the university medical research ethics review committees at the authors' universities (No. I673). A letter of informed consent was distributed to participants via email, which explained the purpose and importance of the study, the survey methodology, that participation was voluntary, that their responses would be anonymous, and that no individuals would be identified by completing the survey. Completion of the questionnaire implied participants' consent.

## 3. Results

Of the 625 nurses, 152 responded (24.3%); after excluding 3 men to rule out the effects of sex, responses for 81 (53.3%) nurses were analyzed. Twenty-four (29.6%) nurses were in their 20s and 57 (69.0%) were aged  $\geq 30$  years. The mean (standard deviation) years of experience as a nurse was 14.8 (10.7) years. By category, 31 respondents (38.3%) had less than 2 years of experience and 50 (61.7%) had more than 2 years; 65 respondents (80.2%) had less than 5 years of experience and 16 (19.8%) had more than 5 years; and 42 participants (55.6%) had less than 10 years of experience and 36 (44.4%) had more than 10 years. A total of 49 nurses (60.5%) reported that they wanted to quit their current job. Table 1 shows the results of the univariate analysis.

The following variables were significantly associated with nurses' desire to quit their current job: having less than 2 years of nursing experience ( $n = 36$ , 72.0%;  $P = .007$ ); feeling anxious at work ( $n = 44$ , 75.9%;  $P = < .001$ ); not finding work meaningful ( $n = 15$ , 83.3%;  $P = .025$ ); being afraid to go to work ( $n = 30$ , 88.2%;  $P < .001$ ); always feeling frustrated ( $n = 30$ , 76.9%;  $P = .004$ ); and having difficulty talking to people ( $n = 26$ , 92.9%;  $P = < .001$ ) (Table 1).

Table 2 shows the results of binomial logistic regression analysis, with nurses' desire to quit their current job as the dependent

**Table 1**  
**Cross-tabulation of nurses' desire to quit their job during the COVID-19 pandemic and independent variables (n = 81).**

Item	Category	Total N (%)	Desire to quit the current job		P value
			Yes N (%)	No N (%)	
Background characteristics					
Age group	20s	24 (29.6)	17 (70.8)	7 (29.2)	.217*
	30 yrs or older	57 (70.4)	32 (56.1)	25 (43.9)	
	30s	28 (34.6)	17 (60.7)	11 (39.3)	
	40s	17 (21.0)	11 (64.7)	6 (35.3)	
	50s	7 (8.6)	1 (14.3)	6 (85.7)	
	60s	5 (6.2)	3 (60.0)	2 (40.0)	
Years of experience	Mean (standard deviation)	14.8 (10.7)			.007*
	Less than 2 yrs	50 (61.7)	36 (72.0)	14 (28.0)	
	2 yrs or more	31 (38.3)	13 (41.9)	18 (58.1)	
	Less than 5 yrs	16 (19.8)	12 (75.0)	4 (25.0)	
	5 yrs or more	65 (80.2)	37 (56.9)	28 (43.1)	
	Less than 10 yrs	36 (44.4)	26 (72.2)	10 (27.8)	
Position	10 yrs or more	45 (55.6)	23 (51.1)	22 (48.9)	.185*
	Nurse manager	19 (23.5)	9 (47.4)	10 (52.6)	
Department	Nurse	62 (76.5)	40 (64.5)	22 (35.5)	.181*
	Ward	66 (81.5)	39 (59.1)	27 (40.9)	
Working h and number of d off	Other	15 (18.5)	10 (66.7)	5 (33.3)	.588*
	Working h in the past 7 d				
Working h in the past 7 d	Less than 40 h	47 (58.0)	26 (55.3)	21 (44.7)	.263*
	40 h or more	34 (42.0)	23 (67.6)	11 (32.4)	
Number of d not worked during the past 30 d	Less than 10 d	65 (80.2)	41 (63.1)	24 (36.9)	.338*
	10 d or more	16 (19.8)	8 (50.0)	8 (50.0)	
Pandemic-related changes in work					
Work changes	Agree	79 (97.5)	48 (60.8)	31 (39.2)	1.000†
	Disagree	2 (2.5)	1 (50.0)	1 (50.0)	
Changes in care	Agree	56 (69.1)	37 (66.1)	19 (33.9)	.124*
	Disagree	25 (30.9)	12 (48.0)	13 (52.0)	
Increased workload	Agree	77 (95.1)	48 (62.3)	29 (37.7)	.295†
	Disagree	4 (4.9)	1 (25.0)	3 (75.0)	
Expanded work range	Agree	74 (91.4)	47 (63.5)	27 (36.5)	.107†
	Disagree	7 (8.6)	2 (28.6)	5 (71.4)	
Current feelings during the pandemic					
I feel anxious at work	Agree	58 (71.6)	44 (75.9)	14 (24.1)	<.001*
	Disagree	23 (28.4)	5 (21.7)	18 (78.3)	
I feel helpful	Agree	50 (61.7)	27 (54.0)	23 (46.0)	.129*
	Disagree	31 (38.3)	22 (71.0)	9 (29.0)	
I feel my work is meaningful	Agree	63 (77.8)	34 (54.0)	29 (46.0)	.025*
	Disagree	18 (22.2)	15 (83.3)	3 (16.7)	
I feel my work is important	Agree	74 (91.4)	43 (58.1)	31 (41.9)	.235†
	Disagree	7 (8.6)	6 (85.7)	1 (14.3)	
Receipt of unreasonable treatment					
I have received unreasonable treatment from a colleague	Agree	21 (25.9)	16 (76.2)	5 (23.8)	.087*
	Disagree	60 (74.1)	33 (55.0)	27 (45.0)	
I have received unreasonable treatment from a patient	Agree	50 (61.7)	34 (68.0)	16 (32.0)	.079*
	Disagree	31 (38.3)	15 (48.4)	16 (51.6)	
I have received unreasonable treatment from a patient's family	Agree	33 (40.7)	23 (69.7)	10 (30.3)	.160*
	Disagree	48 (59.3)	26 (54.2)	22 (45.8)	
Motivation for work					
I am afraid to go to work	Agree	34 (42.0)	30 (88.2)	4 (11.8)	<.001*
	Disagree	47 (58.0)	19 (40.4)	28 (59.6)	
I am always frustrated	Agree	39 (48.1)	30 (76.9)	9 (23.1)	.004*
	Disagree	42 (51.9)	19 (45.2)	23 (54.8)	
I find it difficult to talk to people	Agree	28 (34.6)	26 (92.9)	2 (7.1)	<.001*
	Disagree	53 (65.4)	23 (43.4)	30 (56.6)	
I am easily fatigued	Agree	73 (90.1)	44 (60.3)	29 (39.7)	1.000†
	Disagree	8 (9.9)	5 (62.5)	3 (37.5)	

\* $\chi^2$  test.

†Fisher exact test.

variable. After controlling for the effects of age and years of experience, the odds of wanting to quit the current job were 9.08 times greater for nurses with less than 2 years of experience versus those with 2 years' experience or more (odds ratio [OR] 9.08, 95% confidence interval [CI] 1.69–48.87). Nurses who wanted to quit

their job were 4.59 times more likely to feel anxious at work (OR 4.59, 95% CI 1.01–20.81), 5.10 times more likely to be afraid to go to work (OR 5.10, 95% CI 1.20–21.69), and 10.26 times more likely to find it difficult to talk to people (OR 10.26, 95% CI 1.48–70.99), in comparison with their counterparts (Table 2).

Table 2

Factors related to nurses' desire to quit their job during the COVID-19 pandemic (n = 81).

Item	Category	OR*	95% CI		P value
			Lower limit	Upper limit	
Age group	20s/30 yrs or older	0.536	0.105	2.73	.452
Yrs of experience	Less than 2 yrs/2 yrs or more	9.08	1.69	48.87	.010
I feel anxious at work	Agree/disagree	4.59	1.01	20.81	.048
I feel my work is meaningful	Disagree/agree	2.64	0.44	15.70	.287
I am afraid to go to work	Agree/disagree	5.10	1.20	21.69	.027
I am always frustrated	Agree/disagree	1.20	0.28	5.12	.802
I find it difficult to talk to people	Agree/disagree	10.26	1.48	70.99	.018

Cox–Snell R<sup>2</sup>: 0.452; Nagelkerke R<sup>2</sup>: 0.611.

CI = confidence interval, OR = odds ratio.

\*Binomial logistic regression analysis.

#### 4. Discussion

The psychological burden of continuing to work while having the wish to quit one's job may lead to future turnover among nurses. It is difficult to convince a nurse to remain once they have decided to leave their job. Therefore, it is important to address nurses' problems before they decide to quit. Generally, nurses with long tenure are less likely to have the intention to quit<sup>[25]</sup> whereas those with short tenure are more likely to quit.<sup>[26]</sup> A study conducted during the COVID-19 pandemic reported that nurses with a tenure of 5 to 10 years were more likely to have a turnover intention.<sup>[27]</sup> In our study, univariate analysis showed a significant trend of nurses with fewer than 10 years' experience wishing to quit their job. Our finding that nurses with less than 2 years of experience are willing to leave is consistent with previous research on younger nurses being more likely to leave.<sup>[12,22,23]</sup> Short professional tenure is considered an important variable associated with future turnover intention among nurses working during the pandemic.

In China and the Philippines, nurses have experienced substantial anxiety and fear during the COVID-19 pandemic.<sup>[28,29]</sup> Previous studies have shown that longer time spent working as a frontline nurse is associated with higher levels of anxiety and the prevalence of depression.<sup>[30]</sup> Furthermore, there is evidence that fear reduces job satisfaction and increases the motivation to quit.<sup>[31]</sup> The present findings showed that nurses who felt anxious and afraid were significantly more likely to want to quit their jobs than those who did not have these feelings. This suggests that anxiety and fear are important variables for which nurse managers should regularly screen during the COVID-19 pandemic. Because increased anxiety and fear owing to uncertainty as a result of the pandemic can impair mental health, nurses should not work continuously on COVID-19 cases without appropriate support. A safe working environment in the hospital is necessary to reduce fear levels among nurses.<sup>[30]</sup> Training in COVID-19 treatment guidelines, patient care management, sample collection and handling, quarantine measures, and the use of personal protective equipment reduces nurses' fear level and improves their ability to manage patient care.<sup>[31]</sup> Because anxiety and fear may affect nurses' desire to quit their job, timely measures to reduce these negative feelings should be implemented. For example, it is important to provide sufficient supplies and personnel during the pandemic and to coordinate job rotation and COVID-19-related tasks.

Our study findings showed that a significantly greater proportion of nurses who experienced difficulty talking to people wished to quit their jobs. Exposure to stress, psychological distress, and emotional exhaustion reduce work efficiency and processing capacity.<sup>[32]</sup> Nursing involves interpersonal care relationships, so difficulty talking to people adversely affects the quality of patient care. In this survey, we examined nurses' current feelings in comparison with those before the start of the

COVID-19 pandemic. However, it is possible that nurses who previously wished to quit their jobs also had difficulty talking to people, indicating that they were already experiencing considerable psychological distress. Therefore, difficulty talking to people may be an important early symptom of turnover intention.

This study had several limitations. The research was restricted to nurses in general hospitals in a limited area. Furthermore, the response rate was low at 24.3%, and data were analyzed for only 13.4% of the original sample. This study was conducted to address the urgent problem of nurses quitting their job owing to the COVID-19 pandemic. Therefore, no sample size calculation was performed, and the survey timing may have influenced the findings of this study. Additionally, confounding factors for nurses' desire to quit their job include educational level, salary, internal transfer intention, and the intention to quit, but these were not investigated. Because the request to participate in this survey was only sent once through the director of nursing, it is possible that many nurses who completed the survey had the desire to quit. In future research, it is necessary to take this possibility into consideration and systematically issue requests to participate using additional emails and phone calls. We sampled nurses from hospitals that accepted COVID-19 cases, but did not consider the number of patients with COVID-19 or the content of care in each hospital. This was a cross-sectional study; therefore, it was not possible to establish causal relationships between the variables under investigation.

#### 5. Conclusions

The fact that approximately 60% of nurses working during the COVID-19 pandemic have wanted to quit their job is a serious concern in terms of future turnover. Nurses who wish to quit their current job should be identified early and their problems addressed. During a public health emergency, it is recommended that nurse managers screen and support nurses with fewer than 2 years of experience, those who feel anxious at work or are afraid to go to work, and those who experience difficulty talking to people.

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