Short Communication

Relationship between Turnover and Burnout among Japanese Hospital Nurses

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Burnout is construed as a phenomenon occurring among professionals who work with people[1, 2], and as a result raises serious problems for human service workers, especially hospital nurses. Nurses' burnout, known to be related to age and working years[3], can have an adverse impact on nurses' development and the quality of care in medical institutes[4, 5].

In the Maslach Burnout Inventory—General Survey (MBI-GS) which measures burnout in general professions, burnout consists of three factors: exhaustion, cynicism, and reduced professional efficacy[1]. Exhaustion refers to fatigue, cynicism refers to indifference or a distant attitude toward work, professional efficacy refers to both social and non-social accomplishment at work.

Tao and Kudo, in a cross-sectional study, suggested that nurses' burnout would result in their intention of leaving[6]. A few other studies which have investigated Japanese nurses' turnover by cross-sectional study have indicated that the reasons for their turnover were low supervisory support, health problems, inadequate career development, low job satisfaction, familial issues, poor working conditions, low job control, high job demand, and depressive status[7–10].

We have investigated the factors associated with nurses' turnover in order to understand the factors contributing to the turnover of high-skilled nurses with the objective of maintaining the quality of nursing in medical institutes. With reference to the indication of Tao *et al.*, we hypothesized that Japanese nurses' turnover was associated with burnout, and we explored the relationship between turnover and burnout by a follow-up study in order to certify our hypothesis.

Materials and Methods

The subjects were 385 registered nurses at a Japanese private hospital with about four hundred beds and fourteen

units. Before starting this study, we explained its purpose and content and then obtained the subjects' consent.

In November, 2002, we delivered questionnaire with questions on gender, age group (20–29-yr-old, 30–39-yr-old, 40–49-yr-old, 50–59-yr-old), working years as a nurse (working years), and the Japanese version of the MBI-GS[11]. The completed questionnaires were returned by the end of November, 2002. We obtained data on their turnover from November, 2002 to October, 2003 with agreement of the hospital, although we were unable to collect the reasons for their turnover because of the protection of privacy. We were able to follow-up 277 female nurses (72%) for one year and collect sufficient data for analysis. We decided that they were eligible subjects for analysis, except for male nurses because of their small sample size (n=5).

We compared working years, exhaustion, cynicism, or professional efficacy of the nurses who had left with those of the others by Student's t-test, respectively. A higher score of exhaustion, cynicism, or professional efficacy on MBI-GS denotes higher exhaustion, cynicism, or professional efficacy.

We categorized working years into three groups (1–5 yr, 6–11 yr, 11<yr, as tertiles) because of a significantly high Spearman's correlation between age group and working years (r=.84, $p<.01$). We also categorized exhaustion, cynicism, and professional efficacy into three groups (low, medium, high, as tertiles). By the Cox proportional hazard model[12], we calculated the relative risks (RRs) of the incidence of nurses' turnover, before and after adjusting for working years, exhaustion, cynicism, and professional efficacy. We performed the analysis by using two models because of the significantly high correlation between exhaustion and cynicism[11] to prevent multiple collinearity. The calculations were performed with SPSS 11.0J.

Results

The mean working year (SD) of the subjects eligible for analysis was 9.1 (7.0). Their mean (SD) exhaustion, cynicism, and professional efficacy was 15.6 (6.8), 9.5 (6.3), and 12.6 (6.6), respectively (Table 1). During the observation period, eighteen nurses left. The product of the total observation period was 3,204 person*month, and the incidence of nurses' turnover was 0.6 (/100 person*month).

The mean working years of the nurses who left was significantly less than that of the others, and their mean exhaustion was significantly more than that of the others (Table 2).

After adjusting by working years, exhaustion, cynicism, and professional efficacy, the nurses with working years of between 6–11 yr had significantly higher RR of the incidence of turnover than that of the nurses with working years of more than 11 yr. The nurses with low exhaustion

Table 1. Characteristics of the respondents (n=277)

Mean (SD)	
Working years as a nurse	9.1 (7.0)
Exhaustion	15.6 (6.8)
Cynicism	9.5 (6.3)
Professional Efficacy	12.6 (6.6)
Age group (%)	
20–29	58.8
30–39	26.7
40–49	12.6
50–59	1.8

Table 2. Relationship between turnover and burnout among Japanese hospital nurses

		Turnover	Others
n		18	259
Mean (SD)			
Working years as a nurse		6.8 (3.2)**	9.4 (7.2)
Exhaustion		19.1 (6.2)*	15.4 (6.8)
Cynicism		10.9 (6.9)	9.4 (6.3)
Professional Efficacy		13.3 (7.6)	12.6 (6.5)
Percentage			
Age group	20–29	14 (8.6%)	149 (91.4%)
	30–39	4 (5.4%)	70 (94.6%)
	40–49	0 (0%)	35 (100%)
	50–59	0 (0%)	5 (100%)

1) *: $p<.05$, **: $p<.01$ by the t-test

Table 3. Factors contributing to turnover among Japanese hospital nurses

		n	Unadjusted RR	(95%CI)	Model 1 Adjusted RR	(95%CI)	Model 2 Adjusted RR	(95%CI)
Working years as a nurse								
	1–5	116	2.3	(0.5–11)	2.0	(0.4–9.7)	2.3	(0.5–11)
	6–11	74	5.9	(1.3–27)	5.3	(1.1–25)	5.6	(1.2–26)
	11<	87	Reference		Reference		Reference	
Exhaustion	Low	93	0.1	(0.0–0.8)	0.1	(0.0–0.9)		
	Medium	100	0.7	(0.3–1.9)	0.9	(0.4–2.5)		
	High	84	Reference		Reference			
Cynicism	Low	110	0.6	(0.2–1.8)			0.6	(0.2–1.8)
	Medium	81	0.9	(0.3–2.7)			0.8	(0.3–2.5)
	High	86	Reference				Reference	
Professional Efficacy								
	Low	102	0.9	(0.3–3.1)	0.9	(0.3–3.3)	0.9	(0.2–3.0)
	Medium	83	1.8	(0.6–5.4)	1.4	(0.4–4.3)	1.6	(0.5–4.8)
	High	92	Reference		Reference		Reference	

1) RR: Relative risk, 95%CI: 95% Confidential Interval, 2) Unadjusted: Using the univariate Cox proportional hazard model,
3) Adjusted: adjusted for working years as a nurse, exhaustion, and professional efficacy, or for working years as a nurse, cynicism, and professional efficacy, using the multivariate Cox proportional hazard model

had significantly lower RR of the incidence than the nurses with high exhaustion (Table 3).

Discussion

This study is the first investigation in Japan to examine the relationship between nurses' turnover and burnout by a follow-up study.

Our results found that nurses' turnover was associated with their working years as a nurse. This finding was compatible with a previous study[13] which suggested that nurses who had been working for six years or more were likely to have escape-type coping style for human relationships and tended to give up work even when desirable work conditions existed. Their tendency to leave their job was thought to be prompted by private triggers such as marriage, childbirth, and childcare. Inoshita[14] indicated that nurses turnover, especially young nurses' turnover, concealed dissatisfaction with the work environment, low skill discretion, low commitment to the workplace, and a gap between intention of exhibiting ability and practice in hospitals, although the reasons for their turnover were ostensibly private issues.

We found that nurses' turnover was related to burnout, especially exhaustion. This corresponds with the

suggestion of Tao *et al.*[6], that the nurses with burnout tended to have an intention of leaving. Nurses with low exhaustion are considered to have a health status compatible with continuing work. This might show that there is a need to support hospital nurses in workplaces, especially middle-class nurses with 6–11 working years, in order to decrease their exhaustion and thereby to prevent a decrease in the number of highly skilled nurses.

In our results, nurses' turnover was not associated with cynicism or professional efficacy. This is in disagreement with previous studies[1, 2, 11], which indicate that professional efficacy is affected by decision authority and skill discretion and might be associated with the reasons for turnover, that is, low job control and inadequate career development[7–10]. Further studies should investigate the relationship between nurses' turnover and professional efficacy by a well-designed method.

The present study had five limitations. First, the limitation of generalization; it was performed at only one Japanese hospital. Further studies should investigate the relationship between turnover and burnout by a well-designed method using a large sample of Japanese hospitals. Second, we were unable to collect the reasons for the subjects' turnover during the observed period. We recognize that all the turnover might not be related to nurses' burnout in our study. Further studies should explore the relationship between turnover and burnout, while collecting the reasons for turnover with subjects' consent. Third, the design of our study; the time of the questionnaires overlapped with a part of the follow-up period. Further studies should investigate the relationship between them by a well-design method with reference to our results. Fourth, we did not investigate the psychological status before turnover precisely. Our present study was unable to investigate the psychological process from burnout to turnover. Finally, we did not study the relationships between burnout and the factors related to turnover, such as low skill discretion, low work satisfaction, familial issues, poor mental or physical health, and career development. Further studies should investigate the relationship between burnout and turnover among hospital nurses, considering the above factors.

In conclusion, our results imply the possibility of associations between nurses' turnover, working years as a nurse, and nurses' burnout, especially with regard to nurses' exhaustion.

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