Relationships between Compassion Fatigue, Burnout, and Turnover Intention in Korean Hospital Nurses

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Purpose: This study aimed to identify relationships between compassion fatigue, burnout, and turnover intention in Korean hospital nurses. **Methods:** In total, 142 hospital nurses were surveyed as part of data collection. Data related to compassion fatigue, burnout, and turnover intention were collected using a questionnaire between May 2011 and September 2011. The data analysis was performed using PASW 19.0 program, which included one-way ANOVA, independent t-tests, Pearson's correlation coefficient, and hierarchical regression analysis. **Results:** This study detected a positive correlation between compassion fatigue and burnout($r = .37$, $p < .001$), and turnover intention($r = .55$, $p < .001$). Compassion fatigue accounted for 29.6% of the variance for turnover intention among Korean hospital nurses. **Conclusion:** The results indicate that it is necessary to reduce compassion fatigue, and turnover intention among Korean hospital nurses.

Key words: Burnout; Fatigue; Nurses; Turnover

INTRODUCTION

While improvements in living standards and medical technology have increased the elderly population in Korea, there is also an increased incidence of chronic diseases. Thus, the demand for medical services has increased rapidly and the demand for nurses has also increased consistently. The nursing shortage is a serious problem in Korea, which has the lowest ratio of nurse active in the workforce per 1000 people of all 19 OECD countries (Kim, 2010). However, hospitals are not actively hiring more nurses despite the increasing patient numbers. The job satisfaction of the frontline nurses is much lower than that of other hospital professionals because of the irrational shift system (Kim et al., 2010). Furthermore, the workload of nurses has increased recently because of severe competition among hospitals, and the introduction of an evaluation system for medical institutions. Over the past 10 years, the turnover rate of nurses has been 15-20% (Kim). Turnover among nonsupervisory registered nurses comprised over 90% of nurses turnover, and more than 75% of the leaving nurses moved to nonclinical positions outside hospitals, which has resulted in a loss of medical human resources (Kim).

The turnover of hospital nurses is closely related to job stress (Meadors & Lamson, 2008; Yom, Ko, Kwon, Kwon, & Lee, 2009), which has many causes (Kim et al., 2010). In the present study, we investigated job stress among hospital nurses from the perspective of compassion fatigue. The concept of compassion fatigue was first introduced by Joinson (1992) to describe incidents where nurses collapsed because of an excessive workload in hospitals. Joinson studied the compassionate and sympathetic relationships between nurses and patients that resulted in the burnout of nurses, which was defined as compassion fatigue. Compassion fatigue is a stress caused by the activity of helping other people in need, or those experiencing trauma or pain, and it is a natural consequence of helping

people who are suffering extreme stress (Figley, 1995). Professionals such as nurses, doctors, social workers, fire fighters and police officers are repeatedly exposed to work-related traumatic events and their risk of developing posttraumatic stress disorder (PTSD) is high (Figley, 1995). Compassion fatigue was initially referred to as secondary traumatic stress, but this terminology may have attached a stigma to people suffering mental impairment, so the term compassion fatigue is now used widely (Figley, 1995, 2002). People with compassion fatigue are insensitive to fatigue, emotional lethargy, social withdrawal, and the emotions of passion and hope, and they experience physical and emotional problems, as well as problems with human relationships (Saakvitne, Gamble, Pearlman, & Lev, 2000). The symptoms of depression, anxiety, impulsive behavior, substance abuse and somatization, and burnout develop if compassion fatigue is cumulative (Yoder, 2010). The state of chronic burnout is detrimental to the personal lives of sufferers and it adversely affects the job performance of individuals and groups (Collins & Long, 2003; Meadors & Lamson, 2008). It may also be a factor that affects turnover (Collins & Long).

Previous studies of compassion fatigue in nurses include the following : a study in the nursing environment that used a hybrid qualitative and quantitative approach to understand the relationships between compassion fatigue, medication errors, and ethical conflicts among nurses (Maiden, 2009); a study of recognition, emotions, and experiences of emergency room nurses who helped hurricane victims (Frank & Adkinson, 2007); a study of a professional group that included doctors, nurses, behavioral scientists, and trauma workers who worked in a children's hospital in Philadelphia, USA (Meadors & Lamson, 2008); and a study of the prevalence of secondary traumatic stress in emergency room nurses (Dominguez-Gomez, 2009).

Previous studies of compassion fatigue or secondary traumatic stress in Korea include: a study of compassion fatigue and burnout in fire fighters (Choi, 2009); and a study of the recognition of compassion fatigue, burnout and compassion satisfaction among counselors working for child protection institutes (Shin, 2007). Most of the studies conducted since 2000 have been other than nursing science. A recent study of the relationships between compassion fatigue, burnout and compassion satisfaction in emergency room nurses was conducted by nursing scientists (Kim, 2011), but few other study results have been reported.

By contrast, studies of turnover intention, i.e., the intention to leave a job in the near future, which is recognized as a cognitive antecedent (Hayes et al., 2006) are relatively common because turnover intention is used as a variable to predict turnover (Jeong, Kim, & Kim, 2008; Park, 2006). Previous studies of turnover intention among nurses have shown that job stress and job satisfaction are important factors that affect turnover intention (Parry, 2008; Yom et al., 2009). Various studies have been conducted in Korea and, elsewhere to determine the factors that affect turnover, but the high turnover rate of nurses has not been. Previous studies have focused on job stress, which is considered to be a factor that affects turnover intention. By contrast, the relationship between turnover intention and compassion fatigue was investigated in the present study.

The investigation of compassion fatigue level is very important because of the influence of compassion fatigue on human performance and burnout (Shin, 2007). Untreated compassion fatigue can lead to burnout, so it is necessary to determine the level of compassion fatigue. The relationship between compassion fatigue and turnover intention among hospital nurses also needs to be understood.

From the perspective of compassion fatigue experienced by hospital nurses, the present study investigated relationships between compassion fatigue as a predictive variable for turnover intention.

PURPOSE

The purpose of the present study was to investigate the level of compassion fatigue in hospital nurses, and the relationships between compassion fatigue, burnout and turnover intention. Our detailed aims were as follows:

First, to investigate the levels of compassion fatigue, burnout and turnover intention in hospital nurses.

Second, to investigate the level of compassion fatigue according to general working conditions of hospital nurses.

Third, to investigate the relationships between compassion fatigue, burnout and turnover intention in hospital nurses.

METHODS

1. Design

The present study investigated the levels of compassion fatigue and burnout in hospital nurses, and the relationships between compassion fatigue, burnout and turnover intention.

2. Participants

A total of 142 nurses who worked for tertiary hospitals with 500 beds or more in D City (5 hospitals) and P City (3 hospitals) were recruited by sampling.

The sample sizes were determined based on a medium effect, $\alpha = .05$, power $(1-\beta) = .80$ after considering the significance and predictability of R^2, and maximum number of independent variables needed for the regression analysis of compassion fatigue, burnout, and turnover intention.

All participants signed on the written agreements before they participated in the present study, and they were assured that the information would never be used for any other purpose.

3. Instruments

1) Compassion fatigue

The Korean version modified by Shin (2007) of the Compassion Satisfaction/Fatigue Self-Test for Helpers produced by Figley and Stamm (1996) was used as a tool for investigating compassion fatigue. This tool includes compassion fatigue, burnout and compassion satisfaction, but only the compassion fatigue contents were used as a metric in the present study. Shin developed a compassion fatigue tool that was suitable for Korean counselors after a process of translation and reverse translation. The tool developed by Shin was aimed at counselors, so we changed 'clients' to 'patients' and 'counselors' to 'nurses.' After 10 nursing science professors and 20 hospital nurses completed an index of content validity (CVI) test, we selected 23 questions with a $CVI \geq .80$.

Each question has a scale that ranged from 'absolutely no' with a score of 0 to 'absolutely yes' with a score of 5. Thus the total points in the compassion fatigue questionnaire could range from 0 to 115. A score of ≤ 26 was considered very low, 27-30 was low, 31-35 was neutral, 36-40 was high, and ≥ 41 was considered very high (Figley & Stamm, 1996).

According to Shin (2007), the Cronbach's alpha score for compassion fatigue was .77, while that in the present study was .81.

2) Burnout

The burnout measurement tool that we used was the translated and reverse translated version produced by Lee and Yu (2010), which was based on the Maslach Burnout Inventory (MBI) developed by Maslach and Jackson (1981). The burnout tool used a total of 22 questions with 4 subcategories, which contained eight questions on emotional burnout, three on involvement, 3 on depersonalization of patients, and eight on a reduced individual sense of accomplishment. Each question had a scale of 5, where the scores ranged from 'absolutely no' (score = 1) to 'absolutely yes' (score = 5). A higher indicated more severe burnout. To ensure there was consistency in the burnout scores, reverse coding was applied to four questions. The Cronbach's alpha score was .91 in the study of Lee and Yu, while that in the present study was .84.

3) Turnover intention

Turnover intention is the intention to leave one's current job (Mobley, 1982). A Korean questionnaire produced by Kim (2007), which was based on the tool prepared by Mobley (1982), was used as the turnover intention measurement tool after modifying the vocabulary and the situation to fit a hospital environment, and after a content validity test was completed by experts. There were six questions with a Likert 5 scale that ranged from a score of 1 for 'absolutely no' to 5 for 'absolutely yes.' A higher score indicated a stronger turnover intention. The Cronbach's alpha score in the study of Kim was .76, while that in the present study was .81.

4. Procedure and data analysis

The data were collected between May 1, 2011 and September 30, 2011. The questionnaire was used to evaluated the work features, compassion fatigue, burnout and turnover intention when the participants were met face-to-face.

The data collected were analyzed using the PASW 19.0 program.

General features of hospital nurses were analyzed based on the frequency (%) and mean $\pm$ SD, while the compassion fatigue, burnout and turnover intention levels of hospital nurses were analyzed using the mean $\pm$ SD.

The relationships of compassion fatigue with the general features of hospital nurses were analyzed using a one-way ANOVA or independent t-tests. Correlations between compassion fatigue, burnout and turnover intention among hospital nurses were analyzed using Pearson's correlation coefficient.

Hierarchical regression analysis was conducted to determine whether compassion fatigue was a predictive variable for turnover intention among hospital nurses.

RESULTS

1. General features and the relationships of compassion fatigue

The general features of the subjects are shown in Table 1. The mean age was 29.63 years and the largest age group comprised those who were < 29 years of age, with 85 participants (59.9%). The number of nurses who practiced a religion was 94 (66.2%) which exceeded those who did not (n=48, 33.8%). In terms of the marital status, 91 were single (64.1%), which exceeded those who were married (n=51, 35.9%). In terms of educational level, the number diploma holders was 83 (58.5%), which comprised the largest group. The mean of total length of service was 7.1 years, but 48 (33.8%) nurses had < 3 years' service and they formed the largest group. The mean length of service in the current department was 3.9 years, while those who had served for < 2 years formed the largest group

(n=56, 39.5%). The nurse worked in the following departments: 43 nurses (30.3%) worked in general wards, 30 (21.1%) worked in hospice wards, and 27 (19.0%) worked in or emergency rooms. The majority were staff nurses (n=123, 86.6%). Remuneration was 99 (69.7%).

The tests to determine the relationships between compassion fatigue and the general features of subjects detected statistically significant differences in compassion fatigue with age ($p<.001$), total length of service ($p<.001$), length of service at the current work department ($p<.001$), current work department ($p<.001$) and satisfaction with remuneration ($p<.001$). A post-hoc test showed that the compassion fatigue scores for the 20-29 years of age group were higher than those of the ≥ 40 years age group. The compassion fatigue scores of the < 3 years of total length of service group were higher than those of the ≥ 3 years group. The group with < 2 years of length of service in the current work department had higher compassion fatigue scores than the group with ≥ 6 years current service. In terms the remuneration satisfaction, the 'not satisfied'

Table 1. Differences of Compassion Fatigue according to General Characteristics in Subjects ($N=142$)

Characteristics	Categories	n (%)	M ± SD	t or F (p)
Age (year)*	20-29	85 (59.9)	41.54 ± 10.94[a]	6.94 (<.001)
	30-39	43 (30.2)	36.35 ± 9.56[b]	a>c
	≥ 40	14 (9.9)	32.08 ± 8.93[c]	
			29.6 ± 6.14	
Religion	Yes	94 (66.2)	39.65 ± 11.28	0.74 (.391)
	No	48 (33.8)	38.00 ± 9.78	
Marital status	Unmarried	91 (64.1)	38.64 ± 9.91	0.45 (.505)
	Married	51 (35.9)	39.90 ± 12.28	
Educational level	College	83 (58.5)	38.86 ± 10.91	0.84 (.920)
	University	47 (33.0)	39.62 ± 11.15	
	Graduate school	12 (8.5)	38.67 ± 9.16	
Total length of service group as a RN (year)*	<3	48 (33.8)	45.88 ± 9.59[a]	13.61 (<.001)
	3-5	32 (22.5)	37.91 ± 9.88[b]	a>b,c,d
	6-8	26 (18.2)	36.35 ± 9.16[c]	
	≥ 9	36 (25.5)	33.08 ± 9.60[d]	
			7.12 ± 5.67	
Usual period of present work (year)*	<2	56 (39.5)	42.89 ± 11.63[a]	6.01 (<.001)
	2-3	23 (16.2)	36.75 ± 8.64[b]	a>d
	4-5	35 (24.6)	36.33 ± 6.48[c]	
	≥ 6	28 (19.7)	33.81 ± 11.47[d]	
			3.90 ± 3.08	
Work department	Intensive care unit	21 (14.8)	50.10 ± 7.89[a]	17.46 (<.001)
	Hospice ward	30 (21.1)	37.97 ± 6.17[b]	a>d
	Emergency room	27 (19.0)	44.22 ± 10.50[c]	
	General ward	43 (30.3)	31.91 ± 8.69[d]	
	Senile ward	21 (14.8)	37.81 ± 11.16[e]	
Position	Staff nurse	123 (86.6)	39.39 ± 11.01	1.45 (.238)
	Charge nurse	11 (7.8)	40.27 ± 9.35	
	Head nurse	8 (5.6)	32.88 ± 7.85	
Satisfaction of remuneration	Unsatisfaction	99 (69.7)	41.63 ± 10.20[a]	10.19 (<.001)
	Moderate	36 (25.4)	33.280 ± 10.42[b]	a>b, c
	Satisfaction	7 (4.9)	33.14 ± 9.37[c]	

*Scheffe; RN=Registered nurse.

group had higher compassion fatigue scores than the 'neutral' and 'satisfied' groups (Table 1).

2. Levels of compassion fatigue, burn out and turnover intention

Table 2 shows the compassion fatigue, burnout and turnover intention levels. The mean score was 50.58/115, which was 'very high,' while the score for burnout was 56.23/110, which was 'higher than the median score.' The mean turnover intention score was 13.90/30, which was 'higher than the median score.'

3. Relationships between among compassion fatigue, burnout, and turnover intention

Table 3 shows the analysis of the relationships between compassion fatigue, burnout, and turnover intention. There were positive correlations between compassion fatigue and burnout (r = .37, $p < .001$), between compassion fatigue and turnover intention (r = .55, $p < .001$), and between burnout and turnover intention (r = .54, $p < .001$).

A hierarchical multiple regression analysis was conducted to investigate whether compassion fatigue could be used as a predictive variable for turnover intention and the results are in Table 4.

Compassion fatigue and burnout were significantly correlated and they were tested as predictive variables for turnover intention. A multicollinearity test was conducted prior to the regression analysis. The correlation coefficient did not exceed .80, the tolerance limit was ≥ .1, and

the variance inflation factor (VIF) was ≤ 10, which showed that no variables exhibited multicollinearity. Thus, multicollinearity among independent variables was not an issue, so model 1 (F = 61.96, $p < .001$) and model 2 (F = 54.03, $p < .001$) were appropriate.

We found that 29.6% of the total variance accounted for by compassion fatigue alone (β = .55, $p < .001$) as a predictive variable that affected turnover intention, whereas compassion fatigue (β = .41, $p < .001$) and burnout (β = .39, $p < .001$) together accounted for 42.2% of the total variance.

DISCUSSION

In the present study, we investigated the levels of compassion fatigue among hospital nurses, and tested for correlations between compassion fatigue, burnout, and turnover intention. The mean level of compassion fatigue in the subjects was 50.58, which was 'very high' according to the evaluation standard produced by Figley and Stamm (1996). This result was similar to those reported by Mangoulia, Alevizopoulos, Fildissis, Katostaras, and Koukia (2011) who detected a high level of compassion fatigue in ICU nurses, and by Shin (2007), who reported a high level of compassion fatigue in more than half of the counselors in child protection institutions. By contrast, Frank and Karioth (2006) did not detect a high level of compassion fatigue in their study of nurses who cared for hurricane victims. The results of the present study were also different from those reported by Kim (2011) who detected 'neutral' compassion fatigue in emergency room nurses. The present study included 23 questions where the scores ranged from 0 to 5, whereas Kim used 10 questions with a 5 score scale. The reason of discrepancy between the results

Table 2. Degree of Compassion Fatigue, Burnout, and Turn-over Intention in Subjects (N = 142)

Variables	M ± SD	Possible range	Observed range
Compassion fatigue	50.58 ± 10.29	0-115	29-78
Burnout	56.23 ± 13.82	22-110	20-94
Turnover intention	13.90 ± 5.65	6-30	6-30

Table 3. Correlations between Burnout and Other Variables in Subjects (N = 142)

Variables	Compassion fatigue r (p)	Burnout r (p)
Burnout	.37 (< .001)	
Turnover intention	.55 (< .001)	.54 (< .001)

Table 4. Variables Predicting Turnover Intention in Subjects (N = 142)

	Variables	ß	t	p
Stage 1	(Constant)		-0.68	.498
	Compassion fatigue	.55	7.87	< .001
	Adj. R² = .30, F = 61.96, $p < .001$			
Stage 2	(Constant)		-3.17	.002
	Compassion fatigue	.41	5.99	< .001
	Burnout	.39	5.70	< .001
	Adj. R² = .42, F = 54.03, $p < .001$			

of the present study and that of Frank and Karioth may have been because the nurses who participated in the latter study were aged ≥40, and they worked for a short period of 2 weeks with hurricane victims. In the studies of Hooper, Craig, Janvrin, Wetsel and Reimels (2010), the level of compassion fatigue in emergency room nurses was higher than that of nurses working in other departments, although the difference was not statistically significant. However, Kim detected a lower level of compassion fatigue in emergency room nurses compared with the present study. Thus, the level of compassion fatigue in nurses may be related to the work department or the patients.

In the present study, the tests of the relationships between the compassion fatigue scores and the of nurses detected high scores in young nurses aged 20-29 years, nurses with <3 years of total length of service, nurses with <2 years of current service in their department, and nurses who were not satisfied with their remuneration. According to the study of ICU nurses by Mangoulia et al. (2011), nurses who were female, married, and who had master's degrees had high compassion fatigue scores. According to the study of counselors in child protection institutions conducted by Shin (2007), female and single subjects had higher compassion fatigue scores. A study of nurses who cared for cancer patients, which was conducted by Potter et al. (2010), reported higher compassion fatigue scores for nurses who cared for inpatients, nurses with 11-20 years' service or service in the current department, and nurses aged 36-50 years, although theses results did not agree with the present study. The result of present study showed that nurses with a shorter duration of service experienced more compassion fatigue, which agreed with studies of middle-aged nurses conducted by Frank and Adkinson (2007) and Kim et al. (2010). The overall duration of service is a variable that affects compassion fatigue (Potter et al.), and it also affects the levels of other experiences. Highly experienced nurses cope with critical situations or trauma stress using various methods (Potter et al.). A shorter overall duration of service or duration of current service in a department, increases the pressure nurses experience at work, their stress and levels, and compassion fatigue, and they may have difficulty adapting to situations (Kim et al.). The level of experience may affect ability to cope with difficulties, so emotional support programs are required for less experienced nurses. Initially, there should be opportunities for sharing indirect experiences with co-workers and senior nurses in the same department. The ability to cope with compassion fatigue may improve if an intervention is provided in the form of an emotional support program.

In terms of the relationship between compassion fatigue and burnout,

most of the studies including the present study, have reported that higher compassion fatigue scores are associated with the higher level of burnout (Frank & Karioth, 2006; Hooper et al., 2010; Kim et al., 2010; Shin, 2007). Compassion fatigue is a variable that affects burnout (Hooper et al.; Joinson, 1992), and which is induced by caring for patients who have experienced traumatic events (Figley, 2002; Potter et al., 2010). Burnout is a form of physical, emotional and mental exhaustion that results from unrealistic and excessive demands (Maslach & Jackson, 1981). Nurses with burnout experience various physical symptoms and lethargy, and they become indifferent to their patients (Kim et al.). Burnout and compassion fatigue are similar in terms of the symptoms of lethargy, despair, anxiety and depression (Lee & Yu, 2010). Joinson described compassion fatigue for the first time and explained that it affects professionals who care for people, such as nurses, psychologists and pastors. However, while burnout results from chronic and excessive job-related stress (Yoder, 2010), compassion fatigue may result from even a single exposure to posttraumatic stress (Figley). Eventually, prolonged compassion fatigue can lead to burnout, which confirms the close relationship between them.

Nurses experience traumatic events while caring for patients and compassion stress arises because of factors such as loss of control, a feeling of being overwhelmed, frustration and adverse environments (Kim et al., 2010). Compassion fatigue arises if compassion stress is not properly managed and emotional, physical, and emotional deviations may develop in the worst cases. If nurses continue to work under these psychological and emotional burdens, they experience burnout with physical and mental exhaustion (Shin, 2007). In particular, job-related burnout can reduce the productivity and efficiency of teams and a nurse may eventually leave the team (Collins & Long, 2003). Various intervention modalities should be explored to find solutions. For example, Choi (2009) suggested that fire fighters should be provided with appropriate remuneration to reduce their levels of compassion fatigue and burnout. Compassion fatigue and burnout may increase if nurses who have experienced compassion fatigue or burnout allocated to the same environment. Therefore, employment placement is important for nurses (Frank & Karioth, 2006). In addition, the levels of compassion fatigue and burnout should be used as an evaluation tool for the employment placement of hospital nurses, because the employment placement may accelerate the turnover intention of nurses (Frank & Karioth).

In the present study, hierarchical regression analysis was conducted only variables for compassion fatigue and burnout variables, whereas we

ignored other control variables in order to investigate whether compassion fatigue and burnout were predictive variables for turnover intention. Compassion fatigue accounted for 29.6% of the variance for turnover intention, while compassion fatigue and burnout accounted for 42.2% of the variance.

Changes in the working environment caused by the turnover of nurses can increase the workload and stress for the remaining nurses. This affects the anxiety levels of patients because the quantity and quality of nursing services are reduced and the safety of patients is also affected adversely. The hospital incurs additional costs recruiting and training nurses (Liou, 2009). The turnover of nurses is an adverse factor that affects medical environments which are required to provide good quality of nursing services (Liou). Turnover intention is recognized as a cognitive antecedent (Hayes et al., 2006), and it has been used widely for predicting turnover in many studies in Korea and elsewhere (Jeong et al., 2008; Park, 2006). The turnover intention of nurses is associated with job stress and job dissatisfaction (Parry, 2008; Yom et al., 2009) and burnout (Kim et al., 2010).

Individual efforts are required to control adverse factors in order to reduce compassion fatigue among hospital nurses. There should be opportunities to produce an increased sense of satisfaction such as exercise, leisure activities, sleep, proper nutrition, and spending time with loved ones, and psychotherapy could be used if necessary (Badger, 2001). From an organizational point of view, stress is accelerated by compassion fatigue, so opportunities should be provided for taking a break, while nurses experiencing high tension and stress should be observed and supported (Potter et al., 2010). Compassion fatigue in hospital nurses is associated with burnout and turnover intention, so a strategy should be established to reduce the levels of compassion fatigue and burnout in hospital nurses, which may lower the turnover intention.

A limitations of the present study was that the samples were not collected and randomly so any generalization of the results is limited. Control variables were not included in the hierarchical regression analysis. Future work needs random sampling, comparison and analysis of nurses in different work departments, and human resources management to reduce compassion fatigue, burnout, and turnover intention.

CONCLUSION

This study showed that the level of compassion fatigue in hospital nurses was high, particularly in young nurses with short length of service. Therefore it is necessary to reduce compassion fatigue in young nurses, which may also reduce the turnover intention among Korean hospital nurses.

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