

Nurse Burnout and Patient Satisfaction With Nursing Care at Dialysis and Cardiac Care Units

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Abstract

Background: Since the quality of services provided in hospitals is often based on the patients' understanding of nursing care, it can be expected that job burnout in nurses adversely affects patient satisfaction.

Objectives: The present study aimed to investigate nurse burnout and its relationship with patient satisfaction with nursing care at dialysis and cardiac care units (CCU).

Patients and Methods: This descriptive-correlational study was conducted on 89 CCU and dialysis nurses using a convenience sampling method. In addition, 313 patients were randomly selected from the same hospital units as the nurses. Maslach burnout inventory and patient satisfaction instrument were used for data collection.

Results: The results showed an inverse correlation between patient satisfaction and nursing care, and burnout experienced by CCU and dialysis nurses ($r = -0.633$).

Conclusions: There was an inverse and significant relationship between nurse burnout and its dimensions, and patient satisfaction in cardiac care units and dialysis wards. In other words, patient satisfaction decreases by an increase in each dimension of burnout in nurses.

Keywords: Nurses, Patient Satisfaction, Burnout, Maslach Burnout Inventory, Patient Satisfaction Instrument

1. Background

Jobs are considered as the constituent elements of social identity and also the sources of supplying life needs for everyone. Besides, occupation is a major cause of tension; with tension increasing in occupations involving increased human contacts (1). According to the results of recent studies, health-care jobs have the highest rate of occupational injuries such as burnout (2). Burnout is a common cause of nurse turnover. The majority of nurses enter their profession with enthusiasm, but usually, after a while, they get exhausted and even wish to stop working or take an early retirement due to job pressure and work-related stress (3, 4).

Burnout is a syndrome of physical, mental and emotional exhaustion, which leads to negative self-image, negative attitude towards work and a lack of personal connection with clients and may sometimes cause a variety of health problems (1, 2, 5, 6). The prevalence of burnout has been reported differently across various studies (4). The results of a study (2014) on 5956 nurses working in 302 hospital wards in Singapore showed that 56% of nurses experienced high levels of job-related burnout (3). According to most studies, the prevalence of burnout among Iranian nurses is very high. The Irani-

an nursing organization has reported that 75% of nurses suffer from physical and mental disorders (7). According to a study conducted by Aziznejad, 68.6% of nurses working in hospitals affiliated to the Babol University of Medical Sciences (Mazandaran, Iran) were experiencing burnout (8). In a study on occupational burnout among nurses, Shakerinia and Mohammadpour (2010) demonstrated that 73.93% of nurses were experiencing severe burnout, which was found to be most commonly caused by low salary and benefits, lack of management support, insufficient job security, intense and long work hours (9). Factors such as shift work, heavy workload, conflict with colleagues, exposure to patients' suffering and death, high responsibility, and administrative burdens are the major work stressors in the nursing profession. These work-related causes of stress can lead to burnout in nurses (10).

In recent decades, job burnout has attracted the attention of researchers because of its significant correlation with psychosomatic diseases such as high blood pressure and digestive problems (11). Nurse burnout may have negative effects on quality of health care services, family and peer relationships, and social and personal life. The

other important consequences of burnout are absenteeism, job turnover, successive delays, various psychological complaints, personality conflicts, career change and interpersonal conflicts with colleagues (10, 12).

Patient satisfaction is an outcome of a complex set of elements and it is necessary to coordinate a variety of services, including nursing care, medical support and several parts of the organization with each other to achieve this goal; with full respect for patients' rights in all aspects, favorable conditions can be provided to develop and promote patient satisfaction (13). Patient satisfaction can be interpreted as a state that a patient not only feels she/he is receiving the necessary care during hospitalization, but feels satisfied with the circumstances and the health services provided by medical service providers and tends to refer back to the medical center, if necessary, and beyond that, recommends it to others (14).

In Iran, the results of research studies show that the professional performance of nurses in cardiac care units (CCU), intensive care units (ICU), and dialysis wards is below the national standard and most patients are not satisfied with the provided services (15). The results of a study by Akhtari-Zavare et al. (2011) indicates that most teaching hospitals in Tehran (Iran) do not comply with nursing care standards, and the nursing process is not used during provision of care for patients in these hospitals (16). Therefore, patients may primarily have to pay the cost of nurse burnout, because it can influence the quality of nursing care and patients' satisfaction with health care services (17). Nurses experiencing burnout provide low-quality care to patients; thus, eventually harming the health care organization (18).

Due to differences in the quantity and quality of services provided in different hospitals, and since patients' satisfaction is influenced by their social and cultural context and personality characteristics, patient satisfaction is an essential tool for monitoring and evaluating hospital care quality (17, 19). Patients are the main customer of hospital services and their satisfaction levels may indicate the quality of health care services (20-22).

2. Objectives

Coronary care unit and dialysis nurses appear to be at an increased risk for burnout compared to nurses working in other hospital wards (23). Therefore, the present study aimed to investigate nurse burnout and its relationship with patient satisfaction with nursing care in cardiac care units and dialysis wards.

3. Patients and Methods

This descriptive-correlational study was performed to investigate nurse burnout and its relationship with patient satisfaction regarding nursing care in cardiac care units and dialysis wards. Ethical approval was obtained from the Medical Research and Ethical Committee of the Mazandaran University of Medical Sciences (MazUMS), Sari, Iran.

The sample consisted of all CCU and dialysis nurses and patients in the hospitals affiliated to the university.

Because of the limited population of nurses, they were recruited using the convenience sampling method. In total, 41 dialysis nurses and 48 CCU nurses participated in the study. The inclusion criteria for nurses were a minimum of one year of work experience (6), working at a hospital at the time of the study, and willingness to participate in the study. Each participating nurse was allocated a specific code to track them for every shift and to determine burnout levels in nurses per shift and in each CCU and dialysis ward individually.

The sample size of patients was calculated with a 95% confidence level, a 5% margin of error, and an alpha level of 0.05. A total sample size of 313 patients was calculated and the cases were then randomly recruited if they met the following inclusion criteria: willingness to participate in the study, being conscious, being 18 years old and over, having the ability to read and write in Persian, being hospitalized at the CCU for at least 24 hours (15) and having undergone dialysis for at least six months (24).

The data collection tool for burnout was a two-part questionnaire. The first part collected data on socio-demographic characteristics. The second part included 22 questions adapted from the Maslach burnout inventory (MBI). The MBI is composed of three subscales: Emotional exhaustion (EE, nine items), depersonalization (DP, five items), and personal accomplishment (PA, eight items). The MBI uses a seven-point Likert scale (0 = never, 1 = a few times a year or less, 2 = once a month or less, 3 = a few times a month, 4 = once a week, 5 = a few times a week, and 6 = every day). The total score for each burnout dimension was obtained by adding up the item values (6, 9). The final score for each dimension was categorized as high (EE = 27 or over; DP = 13 or over; PA = 0 - 31), moderate (EE = 17-26; DP = 7-12; PA = 32 - 38), and low (EE = 0-16; DP = 0-6; PA = 39 or over) (9). High scores of emotional exhaustion and depersonalization, and low score of personal accomplishment were indicative of burnout (6). The cut-off point for each subscale was ≥ 27 for EE, ≥ 10 for DP, and ≤ 33 for PA (6, 9). Furthermore, aggregated scores were coded as low, moderate, or high, according to cut-off points determined by Abdi (25).

Patient satisfaction with nursing care was measured using a patient satisfaction instrument (PSI) at the beginning of each nursing shift. The PSI has been adapted and validated into the Persian language by Aziznejad and Hosseini (8). The instrument contains 27 items, scored on a five-point Likert scale: 1. totally disagree; 2. disagree; 3. uncertain; 4. agree; 5. totally agree. A score below 78 indicates dissatisfaction, 78 - 104 shows average satisfaction, and 104 and higher is an indicator of satisfaction. The overall satisfaction for each patient was calculated by dividing the sum of scores to the number of responses (8).

The MBI has been shown to have acceptable validity, reliability and internal consistency (26-29). The validity and

reliability of the Persian-translated version of this instrument was assessed by Filian for the first time in 1993. According to Filian, the instrument had a test-retest reliability coefficient of 0.78 and its internal consistency, assessed with Cronbach's alpha, was 0.90 for the emotional exhaustion subscale, 0.79 for the depersonalization subscale, and 0.71 for the personal accomplishment subscale (30). To ensure the reliability of the MBI in this study, internal consistency was measured by Cronbach's alpha, which was 0.78 subsequent to the completion of the instrument by 15 nurses working at the dialysis unit of the hospital A.

Measured by Cronbach's alpha, the PSI was shown to have a strong internal consistency, with a value of 0.9. The Persian-translated version of this instrument has been widely used by Iranian researchers (31). The internal consistency of the PSI was measured through Cronbach's alpha of 15 dialysis patients at hospital A, with a value of 0.86.

All participants received an information sheet explaining the objectives of the study, the contact details of the researchers, the right to withdraw from the study without having to give a reason, and the confidentiality and anonymity of all personal information provided by participants. Written informed consent was obtained from each participant and they also received brief instructions on how to complete the questionnaires. To ensure anonymity and confidentiality, completed questionnaires were returned in a sealed box. The questionnaire was interpreted for illiterate patients. All data of nurses and patients were collected by the corresponding author of this paper. It should also be mentioned that none of the researchers were involved in the clinical care of the patients in the current study.

Data were analyzed using the SPSS version 20 software (SPSS, Inc., Chicago, IL, USA). Statistical analysis was performed by considering the tabulated descriptive statistics (mean, standard deviation, minimum and maximum) for quantitative data and frequency tables for qualitative data. Logistic regression analysis was used to explore the relationships between nurse burnout (including its three subscales) and patient satisfaction. In all tests, $P < 0.05$ was considered as statistically significant.

4. Results

Distribution of the nurses' workplace was as follows: 46.9% worked in dialysis units and 53.1% in cardiac care units. Moreover, 43.5% of the patients were dialysis patients and 56.5% were CCU patients (Table 1). The mean age of nurses was 33.86 ± 8.26 years (range 23 - 53 years), and 72 (80.2%) were female. Additionally, the mean age of patients was 53.88 ± 12.53 years (range 21 - 87 years), and the majority (56.2%, $n = 176$) were male. Tables 2 and 3 depict the most important socio-demographic characteristics of nurses and patients, respectively.

The results of this study showed that 83.2% of CCU and dialysis nurses experienced moderate-to-high levels of emotional exhaustion. More than half of our nurse participants (56.88%) experienced high levels of emotional exhaustion. Besides, a greater number of CCU nurses than dialysis nurses experienced emotional exhaustion. In other words, 69.27% of CCU nurses and 44.5% of dialysis nurses experienced high levels of emotional exhaustion. In addition, 39.4% of nurses reported moderate and high levels of depersonalization. The results also indicated that as many as 22.5% of nurses experienced high levels of depersonalization. Moreover, personal accomplishment was low in almost all nurses. Table 4 demonstrates levels of different subscales of burnout among CCU and dialysis nurses.

Almost all patients had moderate to high levels of satisfaction with nursing care (Table 5). More than half of the dialysis patients (56.64%) reported having moderate satisfaction with nursing care, while 42.76% of the dialysis patients were highly satisfied with the nursing care. With regards to CCU patients, most patients (70.5%) had moderate satisfaction with nursing care and almost one third (29.5%) of them were highly satisfied with nursing care.

The results of the logistic regression analysis showed that patient satisfaction with nursing care was significantly inversely associated with nurse burnout. In other words, the statistical analysis found a significant relationship between patient satisfaction with nursing care and nurse burnout so that increases in each burnout subscale led to a decrease in patient satisfaction with nursing care (Table 6).

Table 1. Frequency Distribution of Nurses and Patients^a

	Dialysis Hospital A	Dialysis Hospital B	Dialysis Hospital C	CCU Hospital C	CCU1 Hospital B	CCU 3 Hospital B	CCU 4, 5 Hospital B	Total
Nurses	15 (16.9)	16 (17.9)	9 (10.1)	14 (15.8)	11 (12.3)	14 (15.7)	10 (11.3)	89 (100)
Patients	56 (17.9)	47 (15.05)	33 (10.5)	44 (14.05)	45 (14.4)	54 (17.2)	34 (10.9)	313 (100)

^aValues are expressed as No. (%).

Table 2. Main Socio-Demographic Characteristics of the Nurses^a

Characteristics	Values ^a
Age, y	33.86 ± 8.26
Years of practice	9.43 ± 8.19
Gender	
Male	17 (19.1)
Female	72 (80.2)
Education	
Bachelor	87 (97.8)
Masters	2 (2.2)
Marital status	
Single	17 (19.1)
Married	71 (79.8)
Divorced	1 (1.1)

^aValues are expressed as No. (%) or mean ± SD.

Table 3. Main Socio-Demographic Characteristics of the Patients

Characteristics	Values ^a
Age, y	53.88 ± 12.53
Duration of hospitalization, d	2.92 ± 3.05
Gender	
Male	176 (56.2)
Female	137 (43.8)
Level of education	
PhD	3 (1)
Masters	7 (2.2)
Bachelor	47 (15)
Under graduate	21 (6.7)
High school	123 (39.3)
Lower education degree	112 (35.8)
Marital status	
Single	15 (4.75)
Married	251 (80.25)
Divorced	11 (3.5)
Dead wife	4 (1.28)
Widow	32 (10.22)

^aValues are expressed as No. (%) or mean ± SD.

Table 4. Maslach Burnout Inventory Subscales Among Coronary Care Unit and Dialysis Nurses

Burnout Units	Emotional Exhaustion			Depersonalization			Personal Accomplishment		
	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
Dialysis hospital A	14 (63.3)	0	1 (6.7)	14 (63.3)	0	1 (6.7)	15 (100)	0	0
Dialysis hospital B	10 (62.5)	6 (35.7)	0	10 (62.5)	6 (35.7)	0	16 (100)	0	0
Dialysis hospital C	7 (77.8)	2 (22.2)	0	7 (77.8)	2 (22.2)	0 (0)	9 (100)	0	0
CCU hospital C	7 (50.0)	2 (14.3)	5 (35.7)	7 (50.0)	2 (14.3)	5 (35.7)	14 (100)	0	0
CCU1 hospital B	0	4 (36.4)	7 (63.6)	0	4 (36.4)	7 (63.6)	11 (100)	0	0
CCU3 hospital B	10 (71.4)	0 (0)	4 (28.6)	10 (71.4)	0	4 (28.6)	14 (100)	0	0
CCU4,5 hospital B	6 (60.0)	1 (10.0)	3 (30.0)	6 (60.0)	1 (10.0)	3 (30.0)	10 (100)	0	0

Table 5. Patient Satisfaction Level With Provided Nursing Services at the Coronary Care Unit and Dialysis Wards^a

Patient Satisfaction Level	CCUs	Dialysis Wards	Total
Dissatisfaction (below 79)	0	1 (0.6)	1 (0.3)
Moderate level of satisfaction (79 - 104)	128 (70.5)	75 (56.63)	203 (63.57)
High level of satisfaction (105 and above)	49 (29.5)	60 (42.77)	109 (36.1)

^aValues are expressed as No.(%).

Table 6. The Relationship Between Patient Satisfaction and Different Dimensions of Nurse Burnout

Variable	Emotional Exhaustion	Depersonalization	Personal Accomplishment	Nurses' Burnout
Patient satisfaction				
Correlation Coefficient	-0.593	-0.713	-0.516	-0.633
P value	0.011	0.032	0.036	0.027

5. Discussion

This study extends the available literature on nurse burnout and its relationship with patient satisfaction with nursing care. The majority (85.8%) of CCU and dialysis nurses experienced high levels of burnout. On the other hand, slightly more than one third (34.8%) of patients were satisfied with the nursing care they received. Nearly half of the nurses experienced (56.88%) emotional exhaustion, which reflects high levels of burnout among CCU and dialysis nurses. This study further presented an inverse correlation between patient satisfaction and nursing care and burnout experienced by CCU and dialysis nurses.

More CCU nurses than dialysis nurses suffered from emotional exhaustion. This finding concurred with data from previous studies. Di Iorio et al. (2008) from Italy found that CCU nurses, more than other nurses, were subjected to factors contributing to nursing burnout (32). Arikan et al. (2007) in Turkey found that dialysis nurses, less than other nurses, had evidence of decreased job stress and burnout, increased job satisfaction and intention to leave their profession less than nurses at other units (24).

In this study, slightly more than one-fifth (22.5%) of all nurses suffered from high levels of depersonalization, which is an indication of burnout among our nurse participants. Depersonalization “points to the development of negative, callous and cynical attitudes towards the recipients of one’s services” (p.314) (33) and “is an attempt to put distance between oneself and service recipients by actively ignoring the qualities that make them unique and engaging people” (p.403) (34). In depersonalization, others may seem suspicious and be regarded as objects. Depersonalization is an unfeeling or impersonal response toward recipients of one’s service, care, treatment, or instruction (3). According to our findings, most nurses (68.6%) had a low level of depersonalization, which is in agreement with the findings of Bakker et al. (2000) (35). However, this finding is in contrary with the findings of Khazaei (2006), who found that 54.2% of nurses had a high level of depersonalization (36). The low level of depersonalization in our nurse respondents may indicate

a positive interpersonal relationship among nurses at their workplace. It may also be related to appropriate encouragement and consistency in nursing policy and strategy.

Similar to this study, earlier studies (9, 10, 25) found low levels of personal accomplishment among nurses. However, this finding contradicts the results provided by Bakker et al. (2000), who found in their research that most nurses (86%) had experienced high levels of personal accomplishment (35). The low levels of personal accomplishment can be attributed to nurses’ failure to demonstrate their competency at the workplace. Moreover, the low levels of personal accomplishment may be an indication of job dissatisfaction among hospital nurses and nurses’ negative attitude toward the nursing profession.

Job burnout in health care providers may lead to absenteeism (8), mental and physical exhaustion, decreased work productivity (4), decreased quality patient care and the consequent patients’ dissatisfaction with medical services (25). According to Rafii et al. (2011), nurses reduced depersonalization is associated with their positive attitude toward patient care (7). Since nurse burnout is linked to poor nursing care, it would be helpful to identify and prevent factors contributing to job burnout among nurses in order to improve nurses’ mental health and quality of patient care, thereby increasing patient satisfaction (37).

The present study revealed that increased nurse burnout is correlated with decreased patient satisfaction, which is congruent with the findings of Vahey et al. (2004), who examined the effect of work environment on burnout among nurses, and the impact of work environment and nurse burnout on patient satisfaction with nursing care in 20 hospitals across the United States (38). Another study conducted by Habibi et al. (2012) showed that job satisfaction and burnout among nurses has a negative effect on patient satisfaction with nursing care (39). Due to the expanded role of nurses in the health system and the establishment of community health, which requires motivated, committed and satisfied nurses, it

would be important for managers to know about the different dimensions of burnout among nurses working at intensive care to put the support program of nurses to good account, decrease the number of nurses quitting their job, and increase productivity and job satisfaction, and ultimately increase the satisfaction of patients admitted to intensive care units (39-41).

Nursing education authorities need to increase students' awareness about the stressful nature of the nursing profession to prevent early emotional exhaustion and lack of incentives in future nurses. Due to high emotional analysis and lack of personal information in the field of health services, to identify stressful sources at the workplace, to prevent and decrease emotional analysis for nurses and also adopt specified measures to facilitate and enhance the experience for all nurses. Furthermore, training hospital staff, particularly nurses, and motivating them to actively participate in patient satisfaction should be among the priorities of the hospital management policies. It should be noted that in a competitive market of health care services, an institute will be more successful if they focus their agenda on recipients' satisfaction.

Here, it is necessary to mention the potential limitations of the study. This study was conducted at public government hospitals offering lower quality services compared with private hospitals. Also, patients admitted to public government hospitals in Iran are at lower socio-economic levels and basically this group of patients may not be a good representative sample. The obtained results may be affected by the type of hospital and socio-economic level of patients, which somehow limit the generalizability of the results. Despite these limitations, our findings are of considerable significance for healthcare managers and policy makers. To the best of our knowledge, this is the first study on nurse burnout and patient satisfaction with nursing care in dialysis and cardiac care units. As a result, our findings set the foundation for future studies to further investigate nurse burnout and patient satisfaction with nursing care at dialysis and cardiac care units.

5.1. Conclusion

There was an inverse association between burnout and its dimensions in dialysis and CCU nurses and the patient satisfaction in these hospital units. In other words, an increase of burnout or increase in each of its dimensions reduces patient satisfaction.

Future studies should focus on factors affecting job satisfaction and burnout among nurses in dialysis wards and CCU to determine the factors influencing patient satisfaction. Future studies should also compare the nurse burnout and its relationship with patient satisfaction at private and public government hospitals.

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