Relationship between personality traits and burnout in oncology nurses

Shahram Molavynejad¹, Mahbubeh Babazadeh¹, Fariba Bereihi², Bahman Cheraghian³

¹Social Determinant of Health Research Center, Ahvaz Jundishapur University of Medical Sciences, ²Department of Nursing, Imam Hospital, ³Department of Epidemiology, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

ABSTRACT

Introduction: Nurses burnout is a serious problem which can affect their health, the quality of patient care, and health institutions. Personality traits affect level of nurse burnout, and burnout characteristics vary depending on nurses' personality traits. The present study assessed burnout levels in order to determine stages of burnout in oncology nurses and to analyze the relationship between burnout and demographic characteristics and personality traits. **Methodology:** This is a cross-sectional study performed on 106 oncology nurses working in Baghaei Hospital affiliated to Ahvaz Jundishapur University of Medical Sciences in Iran. The main personality traits were assessed using the NEO Five-Factor Inventory (NEO-FFI) and anxiety and depression employing a clinical educational questionnaire. The Maslach Burnout Inventory (MBI) was utilized to determine burnout levels, the *t*-test to compare the means, and Pearson correlation to evaluate correlations between personality traits and the different dimensions of the MBI. **Findings:** About 32.1% of the oncology nurses present in this study were in the most severe phase of burnout. Depersonalization and emotional exhaustion had a significant positive correlation with anxiety and depression, whereas personal accomplishment had a negative correlation with anxiety and depression. **Conclusion:** A significant number of the oncology nurses experienced the most severe stage of burnout. Given the effects of personality traits on burnout dimensions, they should be taken into account to prevent the burnout syndrome.

Keywords: Anxiety, burnout, depression, nursing, oncology, personality traits

Introduction

The term 'burnout' was first introduced by Freudenberger in 1974 to describe the conditions in which a person experiences physical and mental exhaustion caused by occupational stress.[1,2] Later, Maslach and Jackson (1981) defined burnout as a three-dimensional syndrome that consisted of depersonalization, emotional exhaustion, and low personal accomplishment.[3-5] Workload, lack of control, low income, injustice, and inability to understand society are recognized as important sources of

burnout.[6] Burnout is especially common in jobs that are directly related to people, especially in the case of healthcare professionals who provide patient care services and face more challenges including communication with patients and their relatives as well as interaction with colleagues in teams.[4]

Assessment of burnout prevalence in a number of public sector jobs using the MBI indicated a burnout rate of 13%-17%, whereas the corresponding rate in healthcare-related occupations, especially in the nursing profession, was 30%-50%.[2,6] Therefore, nurses are more likely to develop burnout in comparison with those in other occupations due to their workload, work shift duration, imbalance between work and personal life, and patients' complaints and requests.[6]

In assessing the level of nurse burnout, attention should be paid to the differences between the different hospital wards. However, most studies have focused on burnout in nurses in specific wards,[7] while the type of nursing activity, patient types, and degree of burnout can vary among nurses in the emergency, oncology, or other wards. Meanwhile, nurses in the oncology ward are more vulnerable to stress and burnout due to workplace conditions.[8,9] Oncology nurses manage complex injuries with poor prognoses. The results of various studies indicate that burnout can occur at high, moderate, and low levels.[10] Results of previous researches showed a high level of burnout among oncology nurses in all three dimensions of burnout.[10,11] Factors affecting burnout among oncology nurses include demographic variables such as age and marital status, occupational variables like work experience, workload, and work shift, and personality traits.[4,12] A significant relationship has been found between burnout dimensions and neuroticism, extroversion, agreeableness, conscientiousness, and openness to experience.[4,13]

Consequently, studying nurse burnout in different hospital wards, especially oncology wards, is important. Therefore, different dimensions of burnout and its relationship with effective factors should be evaluated in order to retain experienced nurses in oncology wards. The present study had three objectives: (1) to evaluate burnout dimensions including depersonalization, emotional exhaustion, and personal accomplishment, (2) to identify the global burnout phase, and (3) to investigate the relationships between burnout dimensions and personality traits and psychological disorders in oncology nurses.

Materials and Methods

The study population consisted of 106 oncology nurses working in Baghaei Hospital affiliated to Ahvaz Jundishapur University of Medical Sciences. They were selected from nurses working in the oncology wards in October and November 2018 using the convenience sampling method and considering the inclusion criteria (employment in the oncology ward, experience as oncology nurses, and no history of mental illnesses).

Ethical considerations

The research team explained the objectives and methodology of the study to the nurses and answered their questions. Since participation in the study was voluntary, the obtained data were used only after approval was obtained from the participants. The participants were assured that their demographic information would remain confidential, and the prepared questionnaires were distributed among them. The study protocol was approved by the Ethics Committee (IR.AJUMS.REC.1398.350) of the Jundishapur University of Medical Sciences, Ahvaz, Iran.

Maslach burnout inventory (MBI)

The standard Maslach Burnout Inventory was first developed by Maslach in 1996. This 22-item inventory is the most commonly used questionnaire for measuring burnout. The MBI was used to assess all three dimensions of burnout including emotional exhaustion (9 items: 1-3, 8, 13-16, and 20), depersonalization (5 items: 5, 6, 10, 11, and 23) and personal accomplishment (8 items: 4, 7, 9, 12, 17-19, and 21).

NEO five-factor inventory (NEO-FFI)

The short version of the NEO Personality Inventory (NEO-PI) was used in this study to assess personality traits. This inventory was first introduced by Costa and McCrae in 1992. It is made up of 60 items (12 items for each personality dimension), is scored on a five-point scale (strongly disagree, disagree, neither agree nor disagree [or neutral], agree, and strongly agree), and the five important personality traits of neuroticism, extroversion, agreeableness, conscientiousness, and openness to experience are assessed by it.[14,15]

Clinical educational questionnaire

The anxiety and depression levels based on the DSM-IV criteria were used to assess the symptoms of anxiety and depression. The questionnaire has 45 items (19 for anxiety and 26 for depression) that are scored based on a five-point Likert scale. The estimated Cronbach's alpha values were 0.88 for anxiety and 0.91 for depression.

Determination of burnout stages

The fuzzy model introduced by Golembiewski and Munzenrider (1988) was used to determine the total burnout stage or phase (1998). In this model, the score for each of the three burnout dimensions is classified into a low level and a high level and, considering the level of each dimension, the burnout is divided into eight phases.[16]

Data analysis

In order to describe the participants, the mean and the standard deviation were used for the continuous variables and frequency analysis for classification of the variables. The *t*-test was used for comparing the means and the Pearson correlation for evaluating the relationships between the quantitative variables and the different dimensions of the MBI. The data were analyzed using SPSS 20.0.

Results

The 106 oncology nurses included 67 females (63.2%) and 39 males (36.8%). About 71% of the participants were married and 29% single; 28.3% had no children and 18.9, 33, and 19.8% had 1, 2, and >2 children, respectively; and 73.5% worked rotating shifts. The mean nursing experience and workplace experience were 290.4 and 126.6 months, respectively [Table 1].

Personality traits, anxiety, and depression

The mean scores of personality traits were as follows: neuroticism (27.41 ± 5.51), extraversion (44.86 ± 5.81), agreeableness (43.65 ± 8.30), conscientiousness (46.48 ± 6.75), and openness to experience (41.43 ± 6.41). The scores of anxiety and

depression were (31.16 ± 11.32) and (43.02 ± 15.56), respectively. The highest and lowest scores of personality traits were those of neuroticism and conscientiousness, respectively [Table 2].

Burnout levels of nurses

The burnout dimensions were assessed using the MBI. As showed in Table 3, the scores of each burnout dimension are divided into the low, moderate, and high levels. Among the nurses, 44.3, 35.9, and 19.8% had low, moderate, and high levels of depersonalization, 44.7, 27.9, and 27.4% had low, moderate, and high levels of emotional exhaustion, and 43.7, 37.3, and 19% had low, moderate, and high levels of personal accomplishment.

Correlation between burnout dimensions and demographic characteristics

No significant relationships were found between burnout dimensions and demographic characteristics such as age,

marital status, and number of children. In addition, there was no significant correlation between burnout dimensions and work history and years of workplace experience. There was a significant relationship between work shift and depersonalization and emotional exhaustion dimensions at the levels of 5% and 1%, respectively.

Correlation between burnout dimensions and personality traits, anxiety, and depression

Table 4 shows correlations found between burnout dimensions and personality traits, anxiety, and depression using the Pearson correlation. There were significant correlations between all three dimensions of burnout and all personality traits and anxiety and depression.

Discussion

In this study, 44.3% of the subjects had a low level and 55.7% moderate and high levels of depersonalization. Furthermore, about 44.7% had a low level and 55.7% moderate and high levels of personal accomplishment, and 43.7% had a low level and 56.3% moderate and high levels of emotional exhaustion. These results are in line with those of studies conducted on oncology nurses in the United States, Italy, Sudan, and Spain in which depersonalization and emotional exhaustion were at low levels and personal accomplishment at a high level.[10,13,17,18] Low levels of depersonalization and emotional exhaustion of nurses in this study can be attributed to the coping strategy (spirituality and relationships with colleagues).[16] Consistent with studies by Wu *et al.* (2016) and Emilia *et al.* (2017), high prevalence of burnout was observed in the current study.[10,19] However, the results of this study contradict those of research on Italian[20] and Mexican[21] oncology nurses who reported low levels of burnout. This contradiction can be attributed to the differences in economic, occupational, and social support nurses in the healthcare system of each country receive. According to the results on burnout phases, about 32.1% of the nurses in this study experienced severe burnout syndrome. These results are completely consistent with those reported by Emilia *et al.* (2017).[10] In the oncology ward, nurses take care of patients with diseases that may lead to their death.[22,23] With the progression of the disease, nurses face the suffering and distress of patients and their relatives. In these conditions, patients with cancer and their relatives need sympathy. All these problems, coupled with medical constraints and the inability of the nurses to control the disease and prevent death, cause emotional exhaustion and reduce personal accomplishment.[18,24]

Table 1: Descriptive values of demographic variables (*n*=106)

Categorical variables		%(*n*)
Gender	Men	36.8 (39)
	Women	63.2 (67)
Marital status	Married	71 (75)
	Unmarried	29 (31)
Number of children	No children	28.3 (30)
	1 child	18.9 (20)
	2 children	33 (35)
	More than 2 children	19.8 (21)
Shift	Rotating	73.5 (78)
	Fixed	26.5 (29)
Continuous variables		Mean (±SD)
Job seniority		290/4 (±89/3)
Workplace seniority		126/6 (±123/7)

Table 2: Personality factors, anxiety and depression mean scores

Continuous variables	Mean (± SD)
Neuroticism	27.41 (± 5.51)
Agreeableness	43.65 (± 8.30)
Conscientiousness	46.28 (± 6.75)
Extraversion	44.86 (± 5.81)
Openness	41.43 (± 6.41)
Anxiety	34.16 (± 11.32)
Depression	43.02 (± 15.56)

SD=Standard deviation

Table 3: Burnout levels dimension for Emotional Exhaustion (EE), Depersonalization (D) and Personal Accomplishment (PA)

	D Low	Medium	High	PA Low	Medium	High	EE Low	Medium	High
%	44.3	35.9	19.8	44.7	27.9	27.4	43.7	37.3	19
Mean (± SD)	5.68 (± 4.68)			34.87 (± 4.51)			18.05 (± 10.40)		

Variable	Neuroticism	Agreeableness	Conscientiousness	Extraversion	Openness	Anxiety	Depression
Table 4: Correlation between burnout with personality factors, anxiety and depression							
D	0.30	−0.46	−0.52	−0.39	−0.24	0.32	0.39
	<0.05	<0.001	<0.001	<0.001	<0.05	<0.05	<0.001
PA	−0.27	0.54	0.57	0.44	0.29	−0.30	−0.36
	<0.05	<0.001	<0.001	<0.001	<0.05	<0.01	<0.001
EE	0.41	−0.47	−0.40	−0.32	−0.24	0.51	0.50
	<0.001	<0.001	<0.001	<0.01	<0.05	<0.001	<0.001

In the present study, there was a significant relationship between shift work and depersonalization and emotional exhaustion at the 5% and 1% levels, respectively. Levels of depersonalization and emotional exhaustion in nurses with rotating shifts were higher than those with fixed shifts. However, no relationship was found between shift work and personal accomplishment. In nursing professions, problems related to shift work are complex and multidimensional and can potentially affect the quality of patient care and health and safety of nurses.[25,26]

Regarding the relationship between burnout dimensions and personality traits, anxiety, and depression, the results of this study showed statistically significant relationships between all three dimensions of burnout and neuroticism, extroversion, agreeableness, conscientiousness, openness to experience, anxiety, and depression. Neuroticism had a significant positive relationship with emotional exhaustion and depersonalization and a significant negative correlation with personal accomplishment. In line with these results, Brown and Wood (2009) attributed the relationship between neuroticism and emotional exhaustion to the emotional nature of working in the oncology ward, patient type, pathology, disease nature, and death.[27] The strong correlation between neuroticism and burnout dimensions in this study can be explained by the fact that neuroticism is a factor with high vulnerability potential that gives rise to negative emotions, maladjustment, and increased individual sensitivity to stress.[13] People with high scores of openness to experience tend to face and succeed in new vague conditions. People who openly embrace new experiences are keen on learning and see new challenges as opportunities for performing new tasks. Therefore, this process causes them to have more personal accomplishments and suffer less from emotional exhaustion. In other words, nurses with a high score of openness to experience are more flexible people who participate in more activities, which increase job satisfaction and reduce burnout.[8] Like people with openness to experience, individuals with agreeableness have high levels of flexibility and are responsible individuals who schedule their time and work well. Given the similarities between the results of this study and research that has been conducted in other countries, it can be concluded that this trait can reduce the probability of burnout and it is not culturally affected.[28] Conscientiousness is the most important and desirable trait in job performance. Conscientious people show great perseverance and are hard-working and thirsty for success. Therefore, they have a high level of personal accomplishment. These individuals actively use coping mechanisms and have low levels of emotional exhaustion and depersonalization. In this study, it seemed that nurses with high scores of conscientiousness had strong organizational skills. Indeed, nurses with high scores of conscientiousness tried to do their responsibilities as best as possible and this increased their personal accomplishment. These results are in line with those reported by Ang *et al.* (2016) and Cañadas-De la Fuentfe *et al.* (2015).[29,21]

In this study, anxiety and depression had significant positive relationships with the dimensions of emotional exhaustion and depersonalization and a negative correlation with personal accomplishment. In line with studies by Ostacoli *et al.* (2010) and Peters *et al.* (2013), the results of this study showed that anxiety and depression had negative effects on all dimensions of burnout.[22,30] Facing unpleasant events and death of patients can remind oncology nurses of their own deaths. This will raise their levels of anxiety and depression and, subsequently, will increase the risk for their burnout. The results of this study confirm the fact that increased anxiety and depression following the deaths of patients makes oncology nurses feel that they have performed their tasks unprofessionally and feel the lack of personal accomplishment.[20]

Conclusion

Findings of this study confirm the important role of personality traits in the development of burnout. Therefore, attention must be paid to personality traits as factors that can prevent burnout. In addition, these findings can help us in choosing nurses who can establish affable and friendly relationships with patients.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Freudenberger H. Staff burn-out. J Soc Issues 1974;30:159-65.
2. Lahana E, Papadopoulou K, Roumeliotou O, Tsounis A, Sarafis P, Niakas D. Burnout among nurses working in social welfare centers for the disabled. BMC Nurs 2017;16:15.
3. Maslach C, Jackson SE. The measurement of experienced burnout. J Organ Behav 1981;2:99-113.
4. Yao Y, Zhao S, Gao X, An Z, Wang S, Li H, *et al.* General self-efficacy modifies the effect of stress on burnout in nurses with different personality types. BMC Health Serv

Res 2018;18:667.

5. Pérez-Fuentes MdC, Molero Jurado MdM, Martos Martínez Á, Gázquez Linares JJ. Burnout and engagement: Personality profiles in nursing professionals. J Clin Med 2019;8:286.

6. Orsal O, Orsal O, Duru P, Unsal A, Barlas N. Evaluation of the factors associated with Burnout of nurses working at a state hospital in turkey. Nurs Pract Today 2017;4:21-34.

7. Quattrin R, Zanini A, Nascig E, Annunziata MA, Calligaris L, Brusaferro S, editors. Level of Burnout Among Nurses Working in Oncology in an Italian Region. Oncology Nursing Forum; 2006.

8. Yu H, Jiang A, Shen J. Prevalence and predictors of compassion fatigue, burnout and compassion satisfaction among oncology nurses: A cross-sectional survey. Int J Nurs Stud 2016;57:28-38.

9. Ezenwaji IO, Eseadi C, Okide CC, Nwosu NC, Ugwoke SC, Ololo KO, *et al.* Work-related stress, burnout, and related sociodemographic factors among nurses: Implications for administrators, research, and policy. Medicine 2019;98:e13889.

10. Emilia I, Gómez-Urquiza JL, Cañadas GR, Albendín-García L, Ortega-Campos E, Cañadas-De la Fuente GA. Burnout and its relationship with personality factors in oncology nurses. Eur J Oncol Nurs 2017;30:91-6.

11. Papadatou D, Anagnostopoulos F, Monos D. Factors contributing to the development of burnout in oncology nursing. Br J Med Psychol 1994;67:187-99.

12. Shimizutani M, Odagiri Y, Ohya Y, Shimomitsu T, Kristensen TS, Maruta T, *et al.* Relationship of nurse burnout with personality characteristics and coping behaviors. Ind Health 2008;46:326-35.

13. Grigorescu S, Cazan A-M, Grigorescu OD, Rogozea LM. The role of the personality traits and work characteristics in the prediction of the burnout syndrome among nurses—A new approach within predictive, preventive, and personalized medicine concept. EPMA J 2018;9:355-65.

14. Geuens N, Van Bogaert P, Franck E. Vulnerability to burnout within the nursing workforce—The role of personality and interpersonal behaviour. J Clin Nurs 2017;26:4622-33.

15. Chen YP, Tsai JM, Lu MH, Lin LM, Lu CH, Wang KWK. The influence of personality traits and socio-demographic characteristics on paediatric nurses' compassion satisfaction and fatigue. J Adv Nurs 2018;74:1180-8.

16. Golembiewski RT, Munzenrider RF. Phases of Burnout: Developments in Concepts and Applications. New York, Praeger Publishers; 1988.

17. Davis S, Lind BK, Sorensen C, editors. A Comparison of Burnout Among Oncology Nurses Working in Adult and Pediatric Inpatient and Outpatient Settings. Oncology Nursing Forum; 2013.

18. Lagerlund M, Sharp L, Lindqvist R, Runesdotter S, Tishelman C. Intention to leave the workplace among nurses working with cancer patients in acute care hospitals in Sweden. Eur J Oncol Nurs 2015;19:629-37.

19. Wu S, Singh-Carlson S, Odell A, Reynolds G, Su Y, editors. Compassion Fatigue, Burnout, and Compassion Satisfaction Among Oncology Nurses in the United States and Canada. Oncology Nursing Forum; 2016.

20. Ostacoli L, Cavallo M, Zuffranieri M, Negro M, Sguazzotti E, Picci RL, *et al.* Comparison of experienced burnout symptoms in specialist oncology nurses working in hospital oncology units or in hospices. Palliat Support Care 2010;8:427-32.

21. Gallegos M, Parra M, Castillo R, Murillo E. Síndrome de burnout y factores psicosociales del personal de enfermería al cuidado del paciente oncológico. Rev Conamed 2009;14:28-33.

22. Ecie MT. Relationships Among Nursing Burnout, the Big Five Personality Factors, and Overall Self-Concept: The Impact of Assessing Common Method Variance. University of Tennessee at Chattanooga; 2013.

23. Gómez-Urquiza JL, Emilia I, Albendín-García L, Vargas-Pecino C, Ortega-Campos EM, Cañadas-De la Fuente GA. Prevalence of burnout syndrome in emergency nurses: A meta-analysis. Crit Care Nurs 2017;37:e1-9.

24. Cañadas-De la Fuente GA, Gómez-Urquiza JL, Ortega-Campos EM, Cañadas GR, Albendín-García L, De la Fuente-Solana EI. Prevalence of burnout syndrome in oncology nursing: A meta-analytic study. Psychooncology 2018;27:1426-33.

25. Shamali M, Shahriari M, Babaii A, Abbasinia M. Comparative study of job burnout among critical care nurses with fixed and rotating shift schedules. Nurs Midwifery Stud 2015;4:e27766.

26. Shahriari M, Shamali M, Yazdannik A. The relationship between fixed and rotating shifts with job burnout in nurses working in critical care areas. Iran J Nurs Midwifery Res 2014;19:360-5.

27. Brown C, Wood A. Oncology nurses' grief: A literature review. Clin J Oncol Nurs 2009;13:625-7.

28. Ganjeh SJ, Arjenaki NO, Nori A, Oreyzi HR. The relationship of personality characteristics and burnout among nurses. IJNMR 2009;14:190-4.

29. Ang SY, Dhaliwal SS, Ayre TC, Uthaman T, Fong KY, Tien CE, *et al.* Demographics and personality factors associated with burnout among nurses in a Singapore tertiary hospital. BioMed Res Int 2016;2016:6960184. doi: 10.1155/2016/6960184.

30. Peters L, Cant R, Payne S, O'Connor M, McDermott F, Hood K, *et al.* How death anxiety impacts nurses' caring for patients at the end of life: A review of literature. Open Nurs J 2013;7:14-21.