



Evaluation of Satisfaction, Burnout, Compassion, and Secondary Traumatic Stress and Related Factors among Residents Working in Training Hospitals

Fatemeh Jahanian^{*}, Forouzan Elyasi², Seyed Mohammad Hosseinejad¹, Azadeh Hajizaadeh,¹ Iraj Golykhatir^{1*}

¹Department of Emergency Medicine, Gut & Liver Research Center, Mazandaran University of Medical Sciences, Sari, Iran.

²Department of Neurology, Psychiatry and Behavioral Sciences Research Center, Addiction Research Institutes, Faculty of Medicine, Mazandaran University of Medical Sciences, Sari, Iran.

Background and Objective: Healthcare workers face a wide range of stressors due to the specific nature of these jobs. Aim of this study was evaluation of satisfaction, burnout, compassion, and secondary traumatic stress and related factors among residents working in training hospitals.

Methods: This descriptive-analytical, cross-sectional study was performed on medical residents working in Imam Khomeini Training Hospital in Sari, Iran, affiliated to Mazandaran University of Medical Sciences, in 2019. Data were collected using a demographic characteristics questionnaire and the professional quality of life scale (ProQOL). Data analysis was performed in SPSS version 24.

Result: Among 300 subjects evaluated, 134 were male (44.7%) and 166 were female (55.3%). In addition, the mean age of the residents was 29.24 ± 3.42 years. According to the results, the mean and standard deviation of satisfaction with compassion, occupational burnout, secondary stress at workplace and compassion fatigue were estimated at 21.99 ± 8.22 , 38.46 ± 4.17 , 28.30 ± 4.58 , and 33.38 ± 3.19 , respectively. There was a significant relationship only between satisfaction with compassion and gender ($P < 0.001$). Significant relationship was observed between the dimensions of satisfaction with compassion and job burnout ($P < 0.001$).

Conclusion: According to the results of the study, female residents had a higher level of satisfaction with compassion, compared to male residents. Among the evaluated dimensions, the residents at the pediatrics and internal wards had more compassion satisfaction, whereas the residents in surgery and emergency medicine wards had the highest rate of job burnout.

Keyword: satisfaction Burnout Compassion Traumatic Stress Residents

Background and Objective:

Healthcare workers face a wide range of stressors due to the specific nature of these jobs¹. These individuals know that an important part of their job is tolerating the suffering of clients². In other words, compassion and empathy are core requirements for patient care in healthcare jobs³. Caring is a compassionate profession and having compassion for others (in any form) requires self-compassion². In fact, self-care is one of the key components of psychological health and means care and kindness to oneself in dealing with hardships, problems, or insufficiencies and shortages⁴. Some studies have reported more balanced reactions to environmental stresses caused by self-compassion⁵. Higher self-compassion results in more satisfaction in life and less experience of anxiety in social situations⁶. Given the negative impact of workplace challenges (e.g., stress and depression, occupational dissatisfaction, workplace insecurity, impact on family life, and intention to leave the profession)⁷, the presence of an intermediary variable is necessary to reduce the effect of these variables.

*Corresponding Author: Fatemeh Jahanian

Email: drgolikhathir@gmail.com

Self-compassion helps these individuals deal with workplace incidents and experiences due to be a powerful source and the basis for compassionate care⁸. Moreover, self-compassion increases retrieval and compatibility, which leads to a sense of security, coherence, and emotional relaxation. These variables improve individuals' well-fare, making them able to separate clients from workplace fatigue and stress, which ultimately increases care quality. Several studies have reported an effective relationship between patient care quality and self-compassion^{9,10}. Compassion fatigue and frustration in patient care are defined as a change in the experience and feeling of helping others in careers due to observing destructive damages and diseases in patients, which results in self-frustration¹¹. There is a higher rate of compassion fatigue in patient care among healthcare personnel. In a report, the risk of aversion to help at a moderate-high rate was observed in more than 70% of nurses¹². While depression and stress are two key factors for this incident, often simple issues could be the cause of compassion fatigue, such as tiredness and need to rest¹³. If left untreated, this issue can cause mental problems, dysfunction, and a decline in care quality and outcome. Ultimately, the person becomes cold-hearted and indifferent to patients' conditions^{14,15}. Aim of this study was evaluation of satisfaction, burnout, compassion, and secondary traumatic stress and related factors among residents working in training hospitals.

Methods

Study Design

This descriptive-analytical, cross-sectional study was performed on medical residents working in Imam Khomeini Training Hospital in Sari, Iran, affiliated to Mazandaran University of Medical Sciences, in 2019. In total, 300 residents in all disciplines were selected by census sampling.

Questionnaires

Data were collected using a demographic characteristics questionnaire and the professional quality of life scale (ProQOL), which was used after translation by the forward-backward

approach. The questionnaire encompasses three subscales, including satisfaction caused by occupational compassion, fatigue caused by occupational compassion, and secondary traumatic stress. However, each subscale is independent, and their scores cannot be added to yield a total score. The 30 items of the scale are scored based on a five-point Likert scale (never=one to always=five). Each subscale has 10 items, and the score of each subscale is obtained by adding the scores of all items. High scores of the job fatigue subscale were indicative of high risk for occupational compassion fatigue, whereas high scores of satisfactions with occupational compassion showed content with one's abilities to provide patient care. In addition, higher scores of secondary traumatic stresses indicate the possibility of the emergence of stress symptoms, such as disappointment and discomfort. The validity and reliability of the study were determined by content validity and Cronbach's alpha method, respectively, in research by Pashib¹⁶. In addition, reliability related to occupational compassion, occupational compassion fatigue and secondary traumatic stress was estimated at 0.82, 0.80, and 0.74, respectively.

Ethical Considerations

Sampling was started after receiving a license from the ethics committee of Mazandaran University of Medical Sciences (Code: IR.MAZUMS.REC.1398.1757), and the participants were ensured of the confidentiality terms regarding their personal information. Participation in the study was voluntary, and completing the questionnaires was interpreted as the subjects' consent. Each participant was recognized by the questionnaire's number assigned to it during printing. In case of a question by a subject, the researcher was obliged to properly provide all the necessary information that can affect the participant's decision-making. In this regard, the information includes the research title, objectives, and methodology, and the study's possible advantages and disadvantages. At the end of the study, anyone

who entered the study as a subject had the right to be informed about the results of the study. Researchers are required to publish their research results honestly, accurately and thoroughly. Results, whether negative or positive, as well as organizational dependency funding sources and conflicts of interest, if any, should be fully disclosed.

Statistical Analysis

Data analysis was performed in SPSS version 24 using central and dispersion indices to describe the data and t-test and Chi-square to compare the groups. P-value less than 0.05 was considered significant.

Results

Among 300 subjects evaluated, 134 were male (44.7%) and 166 were female (55.3%). In addition, the mean of the residents was 29.24 ± 3.42 years. In terms of marital status, half of the subjects were single, and the rest were married. Regarding disciplines of residents, the highest and lowest frequencies were related to family medicine (13%) and infectious and neurological specialists (1.3%), respectively.

According to the results, the mean and standard deviation of satisfaction with compassion, occupational burnout, secondary stress at workplace and compassion fatigue were estimated at 21.99 ± 8.22 , 38.46 ± 4.17 , 28.30 ± 4.58 , and 33.38 ± 3.19 , respectively.

According to the results, there was a significant relationship only between satisfaction with compassion and gender ($P < 0.001$) (Table 1). In this regard, female residents had greater compassion for patients, compared to men. However, age, marital status, number of children, work hours per month, years of performance as a general practitioner, and satisfaction with ward had no significant association in this respect ($P > 0.05$). According to the table, a significant relationship was observed between the dimensions of satisfaction with compassion and job burnout ($P < 0.001$). In this context, residents working in internal and pediatric wards had more satisfaction with compassion, whereas those working in surgery and emergency medicine wards had the most job burnout (Table 2).

Table 1. Frequency of satisfaction with compassion, job burnout, secondary traumatic stress at workplace, and compassion fatigue in residents based on gender

Dimensions			Gender		Total	P-value
			Male	Female		
Satisfaction with compassion	High	N	3	11	14	<0.001*
		%	21.4%	78.6%	100.0%	
	Moderate	N	28	68	96	
		%	29.2%	70.8%	100.0%	
	Low	N	103	87	190	
		%	54.2%	45.8%	100.0%	
Job burnout	High	N	27	41	68	0.406**
		%	39.7%	60.3%	100.0%	
	Moderate	N	107	125	232	
		%	46.1%	53.9%	100.0%	
Secondary trauma at workplace	Moderate	N	121	148	269	0.849**
		%	45.0%	55.0%	100.0%	
	low	N	13	18	31	
		%	41.9%	58.1%	100.0%	
Compassion fatigue	High	N	1	0	1	0.447**

Dimensions			Gender		Total	P-value
			%	.0%	100.0%	
	Moderate		N	166	299	
		%	44.5%	55.5%	100.0%	

*Chi-Square Tests

**Fisher's Exact Test

Table 2. Frequency of satisfaction with compassion, job burnout, secondary traumatic stress at workplace, and compassion fatigue in residents based on field of study

		Field of study and place of residency															Total	P-value	
		Neurosurgery	Orthopedics	Internal medicine	Infectious diseases	Anesthesiology	Sports Medicine	General surgery	Radiology	Psychology	Gynecology and Obstetrics	Cardiology	Pediatrics	Pathology	Emergency medicine	Neurology			Family medicine
Satisfaction with compassion	High	0	·	5 (35.7)	·	·	·	·	·	·	0	9(64.3)	·	0	·	·	14 (100.0)	<0.001*	
	Moderate	3 (3.1)	0	26(27.1)	2(2.1)	4 (4.2)	1 (1)	3(3.1)	3(3.1)	5(5.2)	10(10.4)	3(3.1)	15(15.6)	7(7.3)	6(6.2)	2(2.1)	6(6.2)		96 (100)
	Low	12(6.3)	9(4.7)	0	2(1.1)	19(10)	5(2.6)	13(6.8)	23(12.1)	19(10)	10(5.3)	17(8.9)	0	5(2.6)	21(11.1)	2(1.1)	33(17.4)		190 (100)
Job burnout	High	4(5.9)	0	0	1(1.5)	2(2.9)	0	14(20.6)	2(2.9)	5(7.4)	7(10.3)	2(2.9)	0	1(1.5)	24(35.3)	1(1.5)	5(7.4)	68(100)	< *
	Moderate	11(4.7)	9(3.9)	31(13.4)	3(1.3)	21(9.1)	6(2.6)	2(0.9)	24(10.3)	19(8.2)	13(5.6)	18(7.8)	24(10.3)	11(4.7)	3(1.3)	3(1.3)	34(14.7)	232(100)	
Secondary traumatic stress at workplace	Moderate	15(5.6)	7(2.6)	28(10.4)	4(1.5)	20(7.4)	5(1.9)	16(5.9)	21(7.8)	22(8.2)	18(6.7)	18(6.7)	23(8.6)	10(3.7)	24(8.9)	4(1.5)	34(12.6)	269(100)	0.791*
	Low	0	2(6.5)	3(9.7)	0	3(9.7)	1(3.2)	0	5(16.1)	2(6.5)	2(6.5)	2(6.5)	1(3.2)	2(6.5)	3(9.7)	0	5(16.1)	31(100)	
Compassion fatigue	High	0	0	0	0	0	0	1(100)	0	0	0	0	0	0	0	0	0	1(100)	0.273*
	Moderate	15(5)	9(3)	31(10.4)	4(1.3)	23(7.7)	6(2)	15(5)	26(8.7)	24(8)	20(6.7)	20(6.7)	24(8)	12(4)	27(9)	4(1.3)	39(13)	299(100)	
Total (%)		60(20)	9(3)	31(10.3)	4(1.3)	23(7.7)	6(2)	16(5.3)	26(8.7)	24(8)	20(6.7)	20(6.7)	24(8)	12(4)	27(9)	4(1.3)	39(13)	300(100)	

Chi-Square Test

Discussion

According to the results of the study, there was a significant relationship only between satisfaction with compassion and the variable of gender, in a way that female residents had more compassion, compared to men. In addition, a significant correlation was observed between the dimensions of satisfaction with compassion and job burnout, in a way that the highest level of satisfaction with compassion was observed in pediatrics and internal wards, whereas the highest rate of job burnout was detected in the surgery and emergency medicine wards. However, no significant relationship was found between age, marital status, number of children, years of residency, work hours per month, years of performance of general practitioners, satisfaction with ward and history of mental diseases in residents.

The results were indicative of a moderate level of compassion fatigue toward patients in the residents. In a study by Maytum et al. (2004)¹⁷, a moderate level of compassion fatigue was reported in the participants. In addition, the mentioned scholars considered work conditions to play an important role in this area, showing that an increase in work condition quality can reduce compassion fatigue. In another study, Meyer et al. Meyer and Klaristenfeld¹⁸ found a high level of compassion fatigue in treatment groups, reporting familiarization with this phenomenon and improvement of work conditions the necessary mechanisms to adjust to compassion fatigue. In 2014, Hinderer et al¹⁴ evaluated compassion fatigue in nurses in the traumatic wards, reporting a moderate level of this variable, which is consistent with our findings. In another study in 2013, there was a high level of compassion fatigue, which is incongruent with Kim¹⁵ findings.

In the current research, there was a significant relationship only between satisfaction with compassion and gender since female residents had more compassion, compared to men. In this respect, our findings are not in line with the results of previous studies. In research by Mohammadi et al., compassion fatigue was

evaluated in nurses in special wards of Kerman, Iran. In the end, the results were indicative of higher compassion fatigue in female personnel, compared to men, which is not consistent with our findings¹⁹. In research by Sheppard et al. (2015)²⁰, the level of this phenomenon was higher in women, compared to men, which is not congruent with our findings. Abendroth et al¹². Abendroth and Flannery¹² also reported a higher level of compassion fatigue in women, compared to men. Moreover, Yu et al^{20,21}. conducted a study on the staff in the oncology ward, reporting a higher level of satisfaction with compassion in women.

Compassion fatigue could be due to the different characteristic structures of women, compared to men. In addition, women's condition may be more affected in sympathizing with patients; therefore, there is a higher possibility of patient care fatigue in these individuals. To justify these results and their lack of consistency with our findings, it can be said that most of the studies were performed in target populations of a particular ward such as intensive care or emergency department, and given the work condition in each ward, the amount of compassion fatigue was higher in women, compared to men. However, the present study was extensively performed in all wards, which is one of its strengths. Therefore, compassion fatigue might be different in female and male personnel in various wards, which might have led to a similar level of compassion among men and women. Regarding satisfaction with a work shift, since women are more affected by emotional conditions of patients, compared to men, helping to improve patients' conditions might create more satisfaction in women, compared to men. In addition, the recovery of patients causes satisfaction in healthcare staff and residents and more compassion satisfaction in female personnel, compared to male residents.

On the other hand, there was a significant level of compassion satisfaction, which was higher in the pediatric ward. Therefore, the majority of the residents might have been female, which have affected the results. According to our findings,

there was a significant relationship between job burnout and workplace, in a way that the highest rates of job burnout were related to surgery and emergency medicine wards. In this regard, our findings are congruent with the results of studies performed on job burnout in various hospital wards. In a study by Toubaei et al.²², nurses in internal medicine, surgery, psychology and burn wards were compared in terms of job burnout. According to the results, the highest job burnout rates were observed in psychology and burn wards due to high mental pressure at the workplace. Therefore, special attention must be paid to nurses working in these wards. In addition, male nurses and those working at night shift had more potential for job burnout. Moreover, job burnout of nurses in the emergency ward has reported being higher than other wards in various studies. In 2005, Silvia et al. reported a high level of job burnout in nurses in the emergency ward in the dimensions of emotional fatigue and character metamorphosis and a low level in the personal efficiency dimension^{23,24}. Zootek et al. reported higher levels of occupational stress in nurses in the emergency ward, compared to other departments²⁵. In addition to enduring physical and psychological pressures, emergency department nurses face certain stressors such as time urgency and critical patient status, which in turn leads to negative emotions²⁶⁻²⁹. However, despite high work pressure, emergency department nurses have a high sense of efficiency and mastery. Furthermore, in the emotional fatigue dimension, nurses' burnout scores were higher in the men's internal ward and operating rooms after the emergency ward. Patients' status is one of the factors that causes stress in nurses in the men's internal ward as there is ample evidence that patients admitted to the men's internal ward are more depressed and anxious due to the chronic nature of their illness, which can increase the vulnerability of nurses working in these wards²⁴. In the present study, there was a significant relationship between satisfaction with compassion and workplace, in a way that the highest rates of compassion satisfaction were related to the

pediatrics and internal wards. In research by Brennan et al.³⁰, there was a significant relationship between compassion satisfaction and ward. However, the type of ward was not pointed out in detail, which is consistent with our findings. In another study by Mohammadi et al., 30 questions related to compassion satisfaction, lack of satisfaction with compassion and job burnout were asked, and the highest and lowest scores were related to compassion satisfaction and compassion fatigue, respectively. Similar results were obtained by Stamm & Bush^{31,32}.

In this regard, it can be noted that medical care such as nursing and medicine are inherently auxiliary professions, and most clients refer to clinics with poor physical and mental health conditions. In this regard, it can be pointed out that helping others itself is an enjoyable process, but sometimes situations may provide the basis for burnout. Regarding compassion fatigue, it is notable that this phenomenon may differently emerge in healthcare staff under specific work conditions and individual features. Since nurses work with children in the pediatric ward, they have a very pleasant feeling in their work. Therefore, it could be concluded that compassion satisfaction can be due to emotional relations with children.

Limitations

One of the major drawbacks of the present study was data collection by self-report. In this regard, some of the residents might not have truthfully answered the questions, which is very important in understanding these individuals' problems. It is recommended that clinical diagnosis and interviews be used in future studies to evaluate the variables and provide a more suitable analysis. Another limitation of the present study was its cross-sectional nature since it often relied on the recalling ability of the participants. Meanwhile, making efforts to attain all reactions in the most relaxed time possible with the request of the participants was one of the strengths of the study. Another advantage of the present study was the evaluation of various dimensions of compassion. In addition, the assessment was carried out in

different hospital wards, which is not observed in most studies.

Conclusion

According to the results of the study, female residents had a higher level of satisfaction with compassion, compared to male residents. Among the evaluated dimensions, the residents at the pediatrics and internal wards had more compassion satisfaction, whereas the residents in surgery and emergency medicine wards had the highest rate of job burnout.

Recommendations

It is recommended that welfare and motivational strategies be used to reduce job burnout in densely populated wards. In addition, the application of methods that increase compassion satisfaction in some wards can improve the level of this phenomenon in other wards. The average level of compassion fatigue and its possible negative effects on residents implies the need for measures and strategies such as training residents and examining and removing its causes regarding the specific circumstances of the ward.

Conflicts of Interest:

The author declares that, there is no conflict of interest.

References

1. MacBeth A, Gumley A. Exploring compassion: A meta-analysis of the association between self-compassion and psychopathology. *Clinical psychology review*. 2012;32(6):545-52.
2. Mohammadi S, Borhani F, Roshanzadeh L, Roshanzadeh M. Moral distress and compassion fatigue in patient care: a correlational study on nurses. *Iranian Journal of Medical Ethics and History of Medicine*. 2014;7(2).
3. Raab K. Mindfulness, self-compassion, and empathy among health care professionals: a review of the literature. *Journal of health care chaplaincy*. 2014;20(3):95-108.
4. Van Dam NT, Sheppard SC, Forsyth JP, Earleywine M. Self-compassion is a better predictor than mindfulness of symptom severity and quality of life in mixed anxiety and depression. *Journal of anxiety disorders*. 2011;25(1):123-30.
5. Arch JJ, Brown KW, Dean DJ, Landy LN, Brown KD, Laudenslager ML. Self-compassion training modulates alpha-amylase, heart rate variability, and subjective responses to social evaluative threat in women. *Psychoneuroendocrinology*. 2014;42:49-58.
6. Basharpour S, Khosravinia D, Atadokht A, Daneshvar S, Narimani M, Massah O. The role of self-compassion, cognitive self-control, and illness perception in predicting craving in people with substance dependency. *Practice in clinical psychology*. 2014;2(3):155-64.
7. Abbaszadeh A, Nakhaei N, Borhani F, Roshanzadeh M. The relationship between moral distress and retention in nurses in Birjand teaching hospitals. *Iranian Journal of Medical Ethics and History of Medicine*. 2013;6(2):57-66.
8. Shapiro SL, Astin JA, Bishop SR, Cordova M. Mindfulness-based stress reduction for health care professionals: results from a randomized trial. *International journal of stress management*. 2005;12(2):164.
9. Kret DD. The qualities of a compassionate nurse according to the perceptions of medical-surgical patients. *Medsurg Nursing*. 2011;20(1):29.
10. Breines JG, Chen S. Self-compassion increases self-improvement motivation. *Personality and Social Psychology Bulletin*. 2012;38(9):1133-43.
11. Figley CR. Compassion fatigue: Psychotherapists' chronic lack of self care. *Journal of clinical psychology*. 2002;58(11):1433-41.
12. Abendroth M, Flannery J. Predicting the risk of compassion fatigue: A study of hospice nurses. *Journal of Hospice & Palliative Nursing*. 2006;8(6):346-56.
13. Mendes A. Recognising and combating compassion fatigue in nursing. *British Journal of Nursing*. 2014;23(21):1146.-
14. Hinderer KA, VonRueden KT, Friedmann E, McQuillan KA, Gilmore R, Kramer B, et al.

- Burnout, compassion fatigue, compassion satisfaction, and secondary traumatic stress in trauma nurses. *Journal of Trauma Nursing*. 2014;21(4):160-9.
15. Kim S. Compassion fatigue in liver and kidney transplant nurse coordinators: A descriptive research study. *Progress in Transplantation*. 2013;23(4):329-35.
16. Abbaspour S, Tadayyon H, Khalafi A. Quality of professional life among nurses of hospitals in Torbat Heydariyeh city in 2016. *Journal of Torbat Heydariyeh University of Medical Sciences*. 2016;4(1):36-41.
17. Mathieu F. Running on empty: Compassion fatigue in health professionals. *Rehab & Community Care Medicine*. 2007;4:1-7.
18. Meyer RM, Li A, Klaristenfeld J, Gold JI. Pediatric novice nurses: examining compassion fatigue as a mediator between stress exposure and compassion satisfaction, burnout, and job satisfaction. *Journal of pediatric nursing*. 2015;30(1):174-83.
19. Mohamadi J, Azizi A, Dehghan Manshadi S. The Relationship between Moral Sensitivity Quality of Nursing Work Life in the City of Tabriz in 2014. *Community Health Journal*. 2017;9(4):9-17.
20. Sheppard K. Compassion fatigue among registered nurses: Connecting theory and research. *Applied Nursing Research*. 2015;28(1):57-9.
21. Yu H, Jiang A, Shen J. Prevalence and predictors of compassion fatigue, burnout and compassion satisfaction among oncology nurses: A cross-sectional survey. *International Journal of Nursing Studies*. 2016;57:28-38.
22. Toubaei S, Sahraeian A. Burnout and job satisfaction of nurses working in internal, surgery, psychiatry burn and burn wards. *The Horizon of Medical Sciences*. 2007;12(4):40-5.
23. Gutiérrez LSC, Rojas PL, Tovar SS, Tirado JGO, Cotoñieto IAM, García LH. Burnout syndrome among Mexican hospital nursery staff. *Revista Médica del Instituto Mexicano del Seguro Social*. 2005;43(1):11-5.
24. Hooper C, Craig J, Janvrin DR, Wetsel MA, Reimels E. Compassion satisfaction, burnout, and compassion fatigue among emergency nurses compared with nurses in other selected inpatient specialties. *Journal of emergency nursing*. 2010;36(5):420-7.
25. Zautcke JL, Neylan VD, Hart RG. Stress in the emergency department clerical staff. *The Journal of emergency medicine*. 1996;14(2):247-9.
26. othschild B. Help for the helper: The psychophysiology of compassion fatigue and vicarious trauma: WW Norton & Co; 2006.
27. Spooner-Lane R, Patton W. Determinants of burnout among public hospital nurses. *Australian Journal of Advanced Nursing, The*. 2007;25(1):8.
28. Van Bogaert P, Clarke S, Wouters K, Franck E, Willems R, Mondelaers M. Impacts of unit-level nurse practice environment, workload and burnout on nurse-reported outcomes in psychiatric hospitals: a multilevel modelling approach. *International journal of nursing studies*. 2013;50(3):357-65.
29. Wiklund Gustin L, Wagner L. The butterfly effect of caring-clinical nursing teachers' understanding of self-compassion as a source to compassionate care. *Scandinavian Journal of Caring Sciences*. 2013;27(1):175-83.
30. Brennan C. Compassion Fatigue: Strategies for Minimizing Impact on Aesthetic Medical Providers. *Plastic Surgical Nursing*. 2015;35(4):177-9.
31. Bush NJ, editor *Compassion fatigue: Are you at risk?* Oncology nursing forum; 2009: Oncology Nursing Society.
32. Stamm BH. *The ProQOL manual: The professional quality of life scale: Compassion satisfaction, burnout & compassion fatigue/secondary trauma scales*. Baltimore, MD: Sidran. 2005.

Please cite this article as:

Fatemeh Jahanian, Forouzan Elyasi, Seyed Mohammad Hajizaadeh, Azadeh Hosseinejad Iraj Golykhatir. Evaluation of Satisfaction, Burnout, Compassion, and Secondary Traumatic Stress and Related Factors among Residents Working in Training Hospitals. *Int J Hosp Res*. 2020;9 (1).