ORIGINAL ARTICLE

The Prevalence of Secondary Traumatic Stress among Nurses in Iran, Malayer: The Predicting Role of Mindfulness and Social Support

Saeed Ariapooran, PhD

Department of Psychology, Malayer University, Hamedan, Iran

Corresponding author:
Saeed Ariapooran, PhD; Department of Psychology, Malayer University, 4th Km of Arak Rood, P.O.Box: 65719-95863, Hamedan, Iran
Tel: +98 851 2245296; **Fax:** +98 851 3339884; **Email:** s.ariapooran@malayeru.ac.ir

Received: 25 May 2013 **Revised:** 6 July 2013 **Accepted:** 8 July 2013

Abstract

Background

Nurses are at risk for symptoms of Secondary Traumatic Stress (STS). The role of social support and mindfulness in predicting STS is important among nurses. This study was performed to determine the prevalence of the symptoms of STS and the role of mindfulness and social support in predicting the STS in Iranian nurses in Malayer.

Methods

Using a cross-sectional analytic research design, we selected 173 participants among the nurses working in public hospitals of Malayer, Iran. Secondary Traumatic Stress Scale (STSS), Freiburg Mindfulness Inventory-14 (FM I-14), and Multidimensional Scale of Perceived Social Support (MSPSS) were used for collecting the data.

Results

The obtained results indicated that 39.9% of the nurses had symptoms of STS and that the severity of symptoms in emergency nurses and non-emergency nurses was 41.5% and 37.9%, respectively. There was a negative correlation between mindfulness and social support (significant other, family and friends) with STS; social support (from family) negatively predicted the STS in hospital nurses.

Conclusion

Based on the obtained results, the relationship between mindfulness, social support and STS and the role of social support from family in predicting the STS in Malayer nurses were confirmed. Thus, it is necessary to develop support systems for nurses who are at risk for STS.

Keywords: Secondary traumatic stress; Mindfulness; Social support; Nurses

Please cite this article as: Ariapooran S. The Prevalence of Secondary Traumatic Stress among Nurses in Iran, Malayer: The Predicting Role of Mindfulness and Social Support. IJCBNM. 2013;1(3):156-164.

Introduction

A review on the existing literature strongly supports the idea that nursing is a highly stressful profession, because nurses provide help and support for people suffering from trauma, pain, disability, disease and even death. Stress in nurses is a serious problem which results in health problems in them and decreases their efficiency.[1] According to International Labor Organization Publication (1996), the nurses' environment has a limited atmosphere, full of time pressures, excessive noise or extreme silence, unpleasant sights and sounds, long working hours and lacks any promotion to excellent positions and a second opportunity.[1] The literature shows that nursing has a high risk of psychological stress.[2] Also, 54% of nurses showed a medium to high stressor capacity, and 22% were seen as extremely high stressors.[3] Other findings indicated that stress symptoms were experienced by all of the employed nurses.[4]

One of the problems related to nurses' health is Secondary Traumatic Stress (STS). STS has been defined as "the natural, consequential behaviors and emotions resulting from knowledge of a traumatizing event experienced by others and it results from helping or wanting to help a traumatized person".[5] Chrestman (1999) suggested that secondary traumatization has been hypothesized to include symptoms parallel to those observed in people directly exposed to trauma.[6] The symptoms of the STS includeintrusive imagery, avoidance, and arousal.[7] According to APA (1995), people with intrusive imagery are re-experiencing the traumatic event through recurrent memories of the events, distressing dreams, and feelings that the traumatic event is recurring. In avoidance responses, the person attempts to avoid thoughts, feelings, or conversations about the traumatic event; avoids activities, places, or people that remind him/her of the event; is unable to recall some aspects of the event; loses interest in some activities; feels detached from others; has a restricted range of affects; and feels a sense of a shortened future. Sleeping problems, extreme anger, difficulty in concentrating, vigilance, and a sententious startle response are observed in persons with physiological arousal symptoms.[8]

Health-care workers are subject to significant stress and are vulnerable to STS.[9] Symptoms of the STS were reported in forensic, emergency department, oncology, pediatric, and hospice nurses.[10] Many researchers have studied the prevalence of the STS in nurses. The rate of experiencing secondary trauma among Japanese nurses was 90.3%.[11] The rate of the arousal, avoidance and intrusion symptoms in emergency nurses was 54%, 52% and 49%, respectively, and 85% of the nurses reported one symptom in the previous week.[12] Previous researches showed that 49% of trauma nurses have shown symptoms of STS.[13]

In the recent years, there have been a lot of studies on mindfulness. "Mindfulness can be defined as "a state of awareness that emerges through paying attention on purpose, at the present moment, and without any judgement to the unfolding of experience moment by moment".[14] Mindfulness predicts the well-being,[15] and non-judgmental attention to all things at the present moment leads to the improvement of psychological well-being.[16]

A few studies have been carried out about the relationship between mindfulness and STS. Mindfulness-based stress reduction program improved the stress and self-compassion of health care professionals working in clinical settings.[17] Mindfulness, specifically non-judgmental experiences, has accounted for a unique portion of the variance in post traumatic stress disorder (PTSD) avoidance symptoms.[18] Mindful individuals made more benign stress appraisals, reported less use of avoidant coping strategies and higher use of approach coping.[19] Accepting without Judgment was correlated to post-traumatic stress symptoms, and the acting with awareness was associated to re-experiencing symptoms of posttraumatic stress.[20]

Social support has been defined as "the

number of social relationships an individual has (structural support) and the quality of the resources that these relationships provide (functional support)".[21] Individuals with few social support resources are more vulnerable to stressors and tend to suffer from physical and psychological health problems.[22] Perceived social support from coworkers enhanced the level of job performance and decreased job stress in nurses.[23] Social support was negatively related to burnout and STS in nurses.[24] Also, perceived social support was significantly related to counselors' experiences of STS.[25] But, Hyman showed that there was no significant correlation between perceived social support and the STS symptoms.[26]

This study was conducted to determine the prevalence of symptoms of STS and the role of mindfulness and social support in predicting the STS in Iranian nurses. Research about the prevalence of the psychological problems and variables related to health of nurses is essential. According to new trainings based on mindfulness, predictive role of mindfulness in STS symptoms can play an important part in highlighting the trainings based on mindfulness for nurses who are at risk for STS. Social support systems in nurses are very important and its predictive role on STS can help researchers, psychologists, counselors and organizations to provide and improve the quality of social support systems in nurses.

Materials and Methods

Procedures

A cross-sectional analytic research was used to investigate the prevalence of STS in nurses (emergency and non-emergency). In the present study, mindfulness and social support were considered as predictive variables and the STS was the criterion one. This research lasted for three months starting from the beginning of 2013.

Participants

The research population of the present study were all nurses who worked in the hospitals of Malayer, Iran (N=286) and were selected using Krejcie and Morgan's formula:[27] $s=X^2NP\ (1-P)\div d^2\ (N-1)+X^2P(1-P)$. According to this formula ($s=3.841\times286\times0.5(0.5)\div0.0025(286-1)+3.841\times0.5(0.5)$, $S=274.63\div1.67$, $S=164.4$), the sample size representative of the nurses in this research is 164. First, 200 nurses were selected based on their availability among nurses in Malayer hospitals: Mehr (48%), Imam Hossein (27%) and Gharazi (25%). Finally, 27 nurses were excluded from the sample. They did not fill out the scales completely. Finally, our study sample consisted of 173 (61.3% male and 38.7% female) nurses. The participants signed the informed consent sheets, and filled the scales in nursing room; they spent approximately 25 to 35 minutes filling out the scales.

Measures

In the present study, the demographic information sheet obtained the information regarding age, gender, job experience, marital status, education level, and occupational status. STS was assessed through Secondary Traumatic Stress Scale.[7] The STSS is a 17-item Likert scale developed to measure STS symptoms associated with exposure to and working with traumatized participants.[8] The participants rated their STS based on how frequently they had experienced each symptom during the past 7 days, ranging from 1 (never) to 5 (very often). The range of possible scores was 17 to 85. Full scale and subscale scores can be obtained by summing the items assigned to each, with higher scores representing greater severity of symptoms.[7] A cutoff-point above 38 was proposed for STS scale.[28] The STSS is composed of three subscales: intrusion, avoidance, and arousal. Bride et al [7] assessed the psychometrics of the STSS with a sample of 287 social workers and reported that the Cronbach's alpha coefficients for the full STSS was 0.93, and it was 0.80, 0.87, and 0.83 for intrusion, avoidance and arousal

subscales, respectively. The Goodness of Fit Index was 0.90, the Comparative Fit Index 0.94, the Incremental Fit Index 0.94, and the root mean square error of approximation was 0.69.[7] In the STSS, the internal consistency reliabilities of 0.92, 0.92, 0.92 and 0.91 for intrusion, avoidance, arousal subscales, and total scale were reported respectively.[12] In the present study, the items were translated to Persian by forward & backward translation and Cronbach's alpha coefficients for the full STSS, intrusion, avoidance and arousal subscales were 0.90, 0.68, 0.81, and 0.78, respectively. Also, the test-retest reliability after two months was 0.66.

Mindfulness was assessed using the Freiburg Mindfulness Inventory-14.[29] FMI-14 is a one-dimensional 14 item short form which proved to be semantically independent from knowledge of a Buddhist or meditation context; each self-descriptive statement was evaluated using a four-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). The range of possible scores was 14 to 56. This version shows acceptable internal consistency (a=0.86). Walach et al.[29] showed that correlation with other relevant constructs (self-awareness, dissociation, global severity index, meditation experience in years) was significant in the medium to low range of correlations and lends construct validity to the scale. Principal Component Analysis suggests one common factor. Ariapooran [30] in his PhD dissertation showed that Cronbach's alpha coefficient of FMI-14 was 0.81 and test-retest reliability after 2 month was 0.565 in the Iranian sample. In the present research, Cronbach's alpha coefficient for the FMI-14 was 0.79.

Perceived social support was assessed using the Multidimensional Scale of Perceived Social Support (MSPSS).[31] The MSPSS is a 12-item self-report screening instrument designed to perceive social support from three sources of individuals' social lives: family, friends, and significant others. The MSPSS makes use of a 7-point Likert-type scale for its measurements, with ratings from "1=very strongly disagree" to "7=very strongly agree." The range of possible scores is 12 to 84. The MSPSS produces three scores. The Cronbach's coefficient alpha values were 0.91, 0.87, and 0.85 for significant other, family, and friends' subscales, respectively.[31] The Cronbach alpha values in the present study were 0.91, 0.83, and 0.86 for the significant other, family, and friend's subscales, respectively. For the scale used in the present study it was 0.88. After translation of this scale, Salimi and colleagues[32] recognized three dimensional scales (social support from family, friends and any significant person to them); the range of the Loadings was 0.71 to 0.85. Salimi and colleagues[32] indicated that the MSPSS was negatively related to Social-Emotional Loneliness Scale for Adults-Short form of Ditommaso and Spinner.

Data Analysis

All analyses were performed using SPSS, version 20. In this study, the mindfulness and social support were specified as predictive variables and STS as the criterion one. The Pearson correlation coefficient was conducted to examine the association between mindfulness, social support and STS, because we hypothesize that there is a negative linear relationship between predictive and criterion variables and our instruments (STSS, FMI-14**,** MSPSS) are measured by interval scale. Regression analysis with Enter method was used for predicting the STS by mindfulness and social support. P values of 0.05 or less were interpreted as statistically significant.

Results

In the present study, 54.3% of the nurses were emergency nurses. Among them, 83% were married and 17% single. 19% of them had Associate's degrees, 71% BA and 10% had MA degrees. Their mean age was 31.77 years old (SD=6.38) and the mean for job experience was 10.06 years (SD=4.55).

The prevalence of the STS symptoms is presented in Table 1. In the present study, self-reported scales were used as instruments for collecting the data. Cut-off point for selecting nurses who are at risk of STS symptoms was above 38 for STSS.[28] Therefore 39.3% of the nurses had symptoms of STS in the present study. Also, the prevalence of STS symptoms was 41.5% and 35.9% in emergency and non-emergency nurses.

Results of Pearson correlation indicated that there was a negative correlation between mindfulness and avoidance(r=-0.257; P=0.001), arousal (r=-0.161; P=0.035), and the STS symptoms (r=-0.194; P=0.011). Also, social support negatively correlated with intrusion (r=-0.197; P=0.009), avoidance(r=-0.348; P=0.001), arousal(r=-0.442; P=0.001), and STS (r=-0.366; P=0.001). Furthermore, social support from significant other negatively correlated with intrusion (r=-0.152; P<0.046), avoidance (r=-0.246; P=0.001), arousal (r=-0.345; P=0.001) and STS(r=-0.273; P=0.001); social support from family negatively correlated with intrusion (r=-0.208; P=0.006), avoidance (r=-0.409; P=0.001), arousal (r=-0.437; P=0.001) and STS (r=-0.394; P=0.001); social support from friends correlated with avoidance (r=-0.232; P=0.002), arousal (r=-0.334; P=0.001) and STS (r=-0.26; P=0.001).

The results of Enter regression are displayed in table 2. Multiple regression analysis by Enter method was used to test the role of mindfulness and social support dimensions in predicting the participants' scores of STS. The regression model was significant (F=8.55, P=0.001). According to Adjusted R Square in regression model, the model accounts for 14.9 of variance in STS. It was found that social support from family significantly predicted STS scores (β=0.351, P=0.001).

Discussion

The present study confirmed the prevalence of the STS symptoms in the sample of hospital nurses. According to the cut-off point above 38 for STS scale,[28] the data indicated that 39.9% of nurses, 41.5% of emergency and 37.9% of non-emergency nurses had the symptoms of STS. Previous research has indicated that nurses,[11] especially trauma nurses,[13] have the symptoms of STS. The prevalence of STS symptoms in emergency nurses in the present study is consistent with the findings of Dominguez-Gomez and Rutledge.[12] They showed that emergency nurses have arousal (54%), avoidance (52%), and intrusion (46%) symptoms of STS.

Table 1: Prevalence of STS in nurses (emergency and non-emergency)

Group	STS scores			
	Higher than 38		Lower than 38	
	n	%	n	%
Emergency nurses	39	41.4	55	58.5
Non-emergency nurses	30	37.9	49	62.1
All Nurses	69	39.9	104	60.1

Table 2: Summary of regression analysis with Enter method for STS scores by mindfulness and social support dimensions

Prediction variables	B	se	β	t	Sig.(p)
Mindfulness	-0.177	0.127	-0.102	-1.40	0.163
Social support					
From significant other	0.060	0.248	0.024	0.243	0.81
From family	-0.929	0.285	-0.351	3.264	0.001
From friends	-0.148	0.182	-0.067	-0.811	0.42
R^2=0.169 ; adjust.R^2=0.149					

P values lower than 0.05 are considered significant

STS is a problem that appears when an individual hears about the firsthand trauma experiences of another person. Accordingly, individuals affected by STS may find themselves re-experiencing personal trauma or increase in arousal and avoidance reactions related to the indirect trauma exposure. They may also experience changes in memory and perception; a depletion of personal resources; and disruption in their perceptions of safety, trust, and independence.[33] In other words, nurses experienced the workplace stressors, such as conflict with physicians, inadequate preparation, problems with peers and supervisor, discrimination, workload, uncertainty concerning treatment, dealing with death and dying patients, and their families.[34] Therefore, the prevalence of the STS symptoms is obvious in Iranian nurses in Malayer. The high levels of stress associated with the caring patients led to the symptoms of STS in nurses.

In the current study, the prevalence of STS was higher in emergency nurses. This is probably due to the "emotional contagion" in emergency nurses. According to "Trauma Transmission Model",[5] emotional contagion is an important aspect defined as "experiencing the feelings of the sufferer as a function of exposure to the sufferer".[5] Thus emergency nurses, who are directly in contact with injured and damaged patients, dealing with disastrous situations, experiencing the impact of direct trauma exposure, and feelings emotional contagion, are more likely to show the STS symptoms. In other words, emergency nurses are exposed to emotional shocking images of suffering people. Thus, these images will lead to emotional responses, such as stress and STS.

The results indicated that there is an inverse relationship between mindfulness and avoidance, arousal and STS. Prior to this study, the relationship between mindfulness and STS had not received necessary attention. Similar research has shown that mindfulness, specifically non-judgment of experiences predicted the PTSD avoidance symptoms.[18] Also, acceptance without judgment was associated with post-traumatic stress symptoms, and awareness was associated with post-traumatic stress related re-experiencing symptoms.[20] Therefore, the results of the present study are similar to those of previous studies.[18,20]

One of the important aspects of mindfulness is sensitivity to others and a range of positive feelings, such as sense of trust in life, compassion, and sense of profound love.[35] Therefore, sensitivity and compassion to others are increased in mindful nurses. They would be more aware of their work as a nurse. This awareness allows them to help their patients without being affected by their symptoms. Studies in health professionals have shown that mindfulness can lead to mental clarity, better problem solving, increase in empathy, and overall psychological well-being.[36] In other words, mindful nurses accept the present moment's experience, and are aware of the physical, emotional, and mental dimensions of being.

According to the results of the study, there is an inverse relationship between social support (significant other, family, and friends) and intrusion, avoidance, arousal, and STS. These findings are consistent with previous findings,[24,25] which indicated that social support was negatively related to STS in professional chaplains and trauma counselors.

Social support was identified as a key variable in determining an individual's response to exposure to traumatic situations.[37] Therefore, social support is an important variable that plays an important role in reducing the symptoms of STS. Social support can reduce the feelings of loneliness and hopelessness, help the person recognize and evaluate stressors, and identify solutions to overcome stress in the long-term.[38] While, in the short-term, it can help individuals by providing solutions about and distractions from the stress or reducing the perceived importance of a problem, decreasing maladaptive behavioral responses, buffering the effects of psychological distress,

depression, and anxiety, and appropriate physiological responses to stressful situations.[39] In other words, people with friends and family who provide psychological resources are healthier than those with fewer supportive social contacts.[40]

The results of the current study seem to contradict Heyman's findings[26] which indicated that perceived social support did not correlate with symptoms of STS. Such a contradiction is probably due to three reasons. First, participants in Heyman study[26] were Israeli Police forensic technicians, whereas participants in the present study were Iranian nurses in Malayer. It is expected that the quality of social support systems is different in Israeli police forensic technicians and Iranian nurses. Second, the contradiction may also be attributable to the sample size used in the two studies. In Heyman's study,[26] the samples were ninety technicians but in our study one hundred and seventy-three nurses participated. It can be concluded that large sample size affected the correlation coefficients in the current study. Third, the contradiction may also be attributable to the cultural differences between Israel, and Iran and the results should be interpreted with caution.

According to regression analysis with Enter method, mindfulness was not a significant predictor of STS among Malayer nurses. It does not mean that mindfulness cannot definitely predict the STS in nurses. Because in previous research, the role of mindfulness and its dimensions in stress and post-traumatic stress symptoms has been established.[17,18,20] The reason may be related to the sample size. It can be concluded that large sample size affected the regression results.

One of the important results of the current study is that the social support from family was a significant predictor of STS symptoms in Malayer nurses. In the previous findings, social support from family correlated with buffer to stress[41] and well-being.[42] Therefore, it may be noted that family members have an important role in psychological problems of nurses who work in hospitals. Because family members offer emotional support like esteem, trust, concern, and listening, and these effects can play an important role in reducing the symptoms of STS in nurses.

One of the limitations of the current study was the sample size that was limited to hospitals of Malayer, Iran. This suggests that the results should be interpreted with caution and further research with different samples is required in order to generalize the results beyond a sample of nurses in Malayer. The important limitation of the current study was the self-reported questionnaires used in this study, especially for the prevalence of the STS symptoms. Due to lack of time and high workload of nurses, diagnostic interview was not used to determine the prevalence of the symptoms of STS. Thus, the diagnostic interview to assess the prevalence of STS is important in future studies and the results should be interpreted with caution.

Conclusion

The results support the prevalence of symptoms of STS and the role of perceived social support (from family) in predicting the STS in Malayer nurses. Therefore, it is suggested that attention to STS symptoms in Iranian nurses in Malayer and related problems is very important for researchers, psychologists and counselors. Also, it is necessary to develop support systems from family for Iranian nurses in Malayer who are at risk of STS.

Conflict of interest: None declared

References

1 Kane PP. Stress causing psychosomatic illness among nurses. Indian J Occup Environ Med. 2009;13:28-32.
2 Murgia C, Sansoni J. Stress and nursing: study to evaluation the level of satisfaction in nurses. Prof Inferm. 2011;64:33-44.
3 de Carvalho EC, Muller M, de Carvalho PB, de Souza Melo A. Stress in the professional practice of oncology nurses.

Cancer Nurs. 2005;28:187-92.
4 Raja Lexshimi RG, Tahir T, Santhna LP, Nizam J. Prevalence of Stress and Coping Mechanism among Staff Nurses in the Intensive Care Unit. Med & Health. 2007;2:146-53.
5 Figley CR. Compassion fatigue: Coping with secondary traumatic stress disorder in those who treat the traumatized. 1st ed. New York: Brunner Mazel; 1995.
6 McCann IL, Pearlmann LA. Vicarious traumatization: A framework for understanding the psychological effects of working with victims. J Trauma Stress. 1990;3:131-49.
7 Bride BE, Robinson MM, Yegidis BY, Figle, CR. Development and Validation of the Secondary Traumatic Stress Scale. Res Soc Work Pract 2004;14:27-35.
8 Gates DM, Gillespie GL. Secondary Traumatic Stress in Nurses Who Care for Traumatized Women. J Obstet Gynecol Neonatal Nurs. 2008;37:243-9.
9 Collins S, Long A. Working with the psychological effects of trauma: Consequences for mental health-care workers- a literature review. J Psychiatr Ment Health Nurs. 2003;10:417-24.
10 Beck CT. Secondary Traumatic Stress in Nurses: A Systematic Review. Arch Psychiatr Nurs. 2011;25:1-10.
11 Komachi MH, Kamibeppu K, Nishi D, Matsuoka Y. Secondary traumatic stress and associated factors among Japanese nurses working in hospitals. Int J Nurs Pract. 2012;18:155-63.
12 Dominguez-Gomez E, Rutledge DN. Prevalence of Secondary Traumatic Stress among Emergency Nurses. J Emerg Nurs. 2009;35:199-204.
13 Von Rueden KT, Hinderer KA, McQuillan KA, etal.Secondarytraumaticstressintrauma nurses: prevalence and exposure, coping, and personal/environmental characteristics. J Trauma Nurs. 2010;17:191-200.
14 Ostafin BD, Chawla N, Bowen S, et al. Intensive Mindfulness Training and the Reduction of Psychological Distress: A Preliminary Study. Cogn Behav Pract. 2006;13:191-7.
15 Howell AJ, Digdon NL, Buro K. Mindfulness predicts sleep-related self-regulation and well-being. Pers Individ Dif. 2010;48:419-24.
16 Nykliček I, Vingerhoets AD, Zeelenberg M. Emotion Regulation and Well-Being. 1st ed. New York: Dordrecht Heidelberg London; 2011.
17 Shapiro SL, Astin JA, Bishop SR, & Cordova M. Mindfulness-based stress reduction for health care professionals: Results from a randomized trial. Int J Stress Manag. 2005;12:164-76.
18 Thompson BL, Waltz J. Mindfulness and experiential avoidance as predictors of posttraumatic stress disorder avoidance symptom severity. J Anxiety Disord. 2010;24:409-15.
19 Weinstein N, Brown KW, Ryan RM. A multi-method examination of the effects of mindfulness on stress attribution, coping, and emotional well-being. J Res Pers. 2009;43:374-85.
20 Vujanovic AA, Youngwirth NE, Johnson KA, Zvolensky MJ. Mindfulness-based acceptance and posttraumatic stress symptoms among trauma-exposed adults without axis I psychopathology. J Anxiety Disord. 2009;23:297-303.
21 Helgeson VS. Social support and quality of life. Qual Life Res. 2003;12:25-31.
22 Boscarino JA. Post-traumatic stress and associated disorders among Vietnam veterans: the significance of combat exposure and social support. J Trauma Stress. 1995;8:317-36.
23 AbuAlRub RF. Job stress, job performance, and social support among hospital nurses. J Nurs Scholarsh. 2004;36:73-8.
24 Galek K, Flannelly KJ, Greene PB, Kudler T. Burnout, Secondary Traumatic Stress, and Social Support. Pastoral Psychol. 2011;60:633-49.
25 Ortlep K, Friedman M. Prevalence and correlates of secondary traumatic stress in workplace lay trauma counselors.

J Trauma Stress. 2002;15:213-22.
26 Hyman O. Perceived Social Support and Secondary Traumatic Stress Symptoms in Emergency Responders. J Trauma Stress. 2004;17:149-56.
27 Krejcie RV, Morgan DW. Determining sample size for research activities. Educ Psychol Meas. 1970; 30:607-10.
28 Bride B E. Prevalence of secondary traumatic stress among social workers. Soc Work. 2007;52:63-70.
29 Walach H, Buchheld N, Buttenmüller V, et al. Measuring mindfulness-The Freiburg mindfulness inventory (FMI). Pers Individ Dif. 2006;40:1543-55.
30 Ariapooran S. Effectiveness of Mindfulness and Emotion Regulation Training on the Psychological Well-being and Resilience in Chemical Weapon Victims. Ardabil: University of Mohaghegh Ardabili; 2011.
31 Zimet GD, Dahlem NW, Zimet SG, Farley GK. The multidimensional scale of perceived social support. J Pers Assess. 1988;52:30-41.
32 Salimi A, Javkar B, Nikpoor R. Internet connections in life: The role of perceived social support and loneliness in Internet Use. Iranian Journal of Psychological Studies. 2008;5:81-102.[In Persian]
33 Van Dernoot Lipsky L. Trauma Stewardship: An everyday guide to caring for self while caring for others. 1st ed. San Francisco: Berrett-Koehler; 2009.
34 French SE, Lenton R, Walters V, Eyles J. Empirical evaluations of an expanded nursing stress scale. J Nurs Meas. 2000;8:161-78.
35 Mace C. Mindfulness and Mental Health (Therapy, theory and science. 1st ed. USA and Canada: Rutledge; 2008.
36 Kabat-Zinn J. Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness.1st ed. New York: Delacourt; 1990.
37 Flannery RB. Social Support and Psychological Trauma: A Methodological Review. J Trauma Stress. 1999;3:593-610.
38 Orth-Gomer K. Stress and social support in relation to cardiovascular health. In M. Philip, Schneiderman, N, Field, T. & Wellens, R. A (Eds.), Stress, coping, and cardiovascular disease. Mahwah NJ: Lawrence Erlbaum Associates; 2000. p. 229-40.
39 Cohen S. Social Relationships and Health. American Psychologist. 2004; 59:676-84.
40 Cohen S, Wills T. Stress, social support, and the buffering hypothesis. Psychol Bull. 1985;98:310-57.
41 Adewuya AO, Ologun YA, Ibigbami OS. Post-traumatic stress disorders after childbirth in Nigerian women: Prevalence and risk factors. BJOG 2006;113:284-8.
42 Heather R, Walen HR, Lachman ME. Social support and strain from partner, family, and friends: Costs and benefits for men and women in adulthood. J Soc Pers Relat. 2000;17:5-30.