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RESEARCH ARTICLE

Secondary Traumatization Among NGO Humanitarian Workers in the Aftermath of the 2023 Türkiye Earthquakes: Implications for Disaster Management Plans

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ABSTRACT

Background: The global rise in disasters triggered by natural hazards has increased the urgency for effective and ethical disaster response. Volunteers are often the first to respond, providing critical support before formal aid systems are in place. This study investigates the phenomenon of secondary traumatization among NGO-affiliated humanitarian workers who responded to the 2023 earthquakes in Türkiye.

Methods: This cross-sectional study included 278 humanitarian workers; data were collected using a socio-demographic form and the Secondary Traumatic Stress Scale, and analyzed with parametric tests and multiple regression.

Results: Analysis identified significant predictors of secondary traumatic stress, including younger age, female gender, lack of disaster-specific training, and a self-reported need for psychological support ($p < 0.05$).

Conclusion: The findings emphasize the need to recognize and support vulnerable groups within the volunteer workforce. Structured training, supervision, and accessible mental health resources are vital for reducing the psychological burden on volunteers. As disasters become more frequent and severe, an urgent call to action is warranted: disaster management plans must prioritize volunteer protection and preparedness. Supporting volunteers' mental health strengthens individual resilience and enhances the overall effectiveness and sustainability of disaster response efforts.

Keywords: Türkiye earthquakes, volunteers, secondary traumatization, disaster response, mental health, public health preparedness

Introduction

Volunteering and humanitarian work play a vital role in disaster response and recovery, particularly when state mechanisms are overwhelmed. In large-scale disasters, such as earthquakes, volunteers often constitute the first line of support, delivering essential aid and psychosocial assistance to affected populations.[1] Their contributions can significantly reduce the impact of disasters on human life and wellbeing. However, despite the undeniable importance of volunteering, it must be emphasized that effective and ethical volunteer work requires structured coordination, appropriate training, and adherence to established guidelines. Without such frameworks, volunteer activities may inadvertently cause harm, create logistical challenges, or place both volunteers and survivors at greater risk.[2] Particularly in public health emergencies, volunteer actions must align with evidence-based principles and trauma-informed approaches to ensure that interventions support rather than undermine long-term recovery and mental health resilience.[3]

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Earthquakes are among the most impressive geological processes and remain one of the most unpredictable disasters triggered by natural hazards; they are profound social disruptors that reveal vulnerabilities in infrastructure, public health systems, and community resilience. Public health plays a crucial role in disaster management by focusing on prevention, preparedness, response, and recovery efforts. There has been increased recognition that social and economic circumstances affect people's mental health, and that natural and man-made disasters can also impact the resiliency of one's mental health.[4] Effective public health strategies are essential in mitigating the immediate impacts of disasters, such as injury and disease outbreaks, and in addressing long-term consequences, including mental health issues and disruptions to healthcare services. Furthermore, public health interventions aim to reduce vulnerability and enhance community resilience, ensuring that populations are better equipped to withstand and recover from the adverse effects of disasters. Therefore, a member of the public health team is a social worker. Public health social work is characterized by an emphasis on prevention and health promotion.[5]

Turkey is located on the highly seismic Anatolian plate and experiences frequent earthquakes, with at least one magnitude 5.0 or greater per year. Between 1900 and 2022, Turkey experienced 90 earthquakes that met the criteria of the International Disaster Database defined by the Centre for Research and Epidemiology of Disaster (EM-DAT).[6] The recent devastating earthquakes in February 2023 have been among the deadliest earthquakes in Türkiye's history.[7] These earthquakes affected an area of about 108,812 km² in 11 provinces, which is about 17% of the country's population. More than 48,000 people lost their lives and over half a million buildings were damaged. Communications and energy infrastructure were also affected, resulting in significant losses.[8] Evaluations conducted after the 6 February earthquake revealed that disaster preparedness plans had not been implemented in 11 provinces. Local, national and international non-governmental organizations (NGOs) played a crucial role, and volunteers were the first to reach the earthquake zone. The humanitarian response reached 5.4 million people, but basic needs such as access to shelter, water, education and health remain unmet.[9]

Experiencing an earthquake is likely to increase the propensity to develop mental and behavioural disorders by directly inducing fear or causing post-traumatic stress disorder.[10] The link between disasters triggered by natural hazards and mental health is thus complex, multi-dimensional, and, ultimately, an empirical question.[11] Earthquakes, as sudden and unpredictable, can have profound impacts on individuals' mental health including intense emotional, behavioural, physical and mental reactions in those who experience them directly, their relatives, witnesses and humanitarian workers.[12] Several factors can influence an individual's response, including age, gender, support systems, physical and mental health, access to services, meaning attached to the event, and sociocultural factors.[3] Additionally, the loss of loved ones, homes, and livelihoods can exacerbate these mental health issues, leading to prolonged psychological distress.

Secondary traumatic stress (STS) is defined as stress symptoms experienced by people who come into contact with people who have experienced traumatic events and learn the details of the event.[13,14] STS can affect the quality of services provided and amplify the burden of mental illness.[15–18] In addition to

hindering access to and uptake of services, the avoidance behaviour of helpers, which is a symptom of STS, may exacerbate mental health morbidity when listening is considered as one of the steps of psychological first aid. It is possible that the worker may be unresponsive to requests for help due to avoidance symptoms, resulting in a delay in service provision. This may be due to a reluctance to engage with others, a sense of hopelessness about the future, sleeplessness caused by intense arousal, irritability, sudden anger, or a reluctance to provide access to help due to negative communication. On the other hand, it is important to consider the physiological reactions of disaster workers, such as pain, diarrhea and increased blood pressure, which are symptoms of STS. These reactions can increase the burden on health services and prevent those in real need from receiving the care they need. Therefore, ensuring the health and safety program of those working in disasters is an ethical principle that is critical to public health. Research has shown that workers' cognitive empathy, social support, professional competence, experience and self-care protect against STS and increase resilience.[16,17,19–21] In this context, social work plays a crucial role in mitigating STS among frontline responders. By enhancing workers' cognitive empathy, fostering strong support networks, promoting professional competence, and advocating for effective self-care strategies, social services can bolster resilience and mitigate the adverse impact of STS. However, the aim of this study was to investigate the phenomenon of secondary traumatization and its associated factors among humanitarian workers involved in disaster management in the context of the 6 February 2023 earthquakes in Turkey. By highlighting the role of social work in enhancing community resilience and promoting holistic recovery, this study seeks to contribute to the ongoing discourse on disaster management within the realm of social work in public health.

Methods

The study population consisted of approximately 800 humanitarian workers affiliated with a NGO operating in 11 earthquake-affected provinces. In this cross-sectional study, the optimal sample size was determined to be 286 individuals. A total of 278 participants responded (response rate = 97.02%). The research was approved by the Ethics Committee of the University of X on 12/05/2023 (Project No: 2023-20507-080). Participants received forms via online platforms and data were collected between the 60th and 80th day after the earthquake. Participants were provided with an 'informed consent form' before taking part in the survey, and only proceeded after giving their consent. All questions were mandatory and were answered on the online platform

Data Collection Tools

Socio-demographic information form and the Secondary Traumatic Stress Scale were used in order to measure the traumatic stress levels and related factors.

Socio-Demographic Information Form

The form included variables such as age, sex, marital status, education, cohabiting partner, educational background, field of education, employment status, duration and field of work with the NGO, number of days in the field during this disaster and the assigned task, city of assignment, status of disaster training, history of psychiatric illness, and need for psychological support. The language used is clear, concise and objective, without bias or embellishment. Technical terms are explained the first time they are used and sentence structure is simple and logical.

Secondary Traumatic Stress Scale

The purpose of this scale is to assess the level of traumatic stress experienced by people who work with people exposed to traumatic events, as well as the frequency of symptoms related to post-traumatic stress disorder (PTSD). The scale consists of 17 items rated on a 5-point Likert scale and assesses reactions experienced within the last seven days. The scale consists of three subscales: Intrusion, Avoidance and Arousal. The internal consistency coefficient of the scale was found to be 0.94.[22] The scale was shown to be valid and reliable in the psychometric evaluations conducted in Türkiye.[23]

Statistical Analysis

As the skewness and kurtosis values of the subtests and total scores of the Secondary Traumatic Stress Scale were between 1.5 and -1.5, parametric methods were used. To identify predictors of secondary traumatic stress, multiple regression analysis was performed to control for confounding factors. This was done following bivariate analyses (t-test, one-way analysis of variance, Pearson correlation analysis).

Results

Participation

As shown in Table 1, a total of 278 participants were included in the study, with 40.6% identifying as male and 59.4% as female. The majority of participants (49.3%) were aged between 26 and 34 years. A significant proportion of participants (71.9%) were single, while approximately 90% had a university degree. Table 1 shows that 54% of participants had not received any training in disaster preparedness. In terms of living arrangements, 37.8% of participants lived with their parents, 7.6% lived with roommates, 19.1% lived with their partner/spouse, and the remainder lived alone. A survey of participants revealed that

Tablo 1. Socio-demographic characteristics of participants

Variables	n	%
Gender		
Male	113	40.6
Female	165	59.4
Age groups		
18-25	86	30.9
26-34	137	49.3
35-44	34	12.2
45-55	18	6.5
56 and above	3	1.1
Marital status		
Married	59	21.2
Single	200	71.9
Widow	5	1.8
Divorced	14	5.0
Educational status		
Primary school	2	0.7
High school	27	9.7
Associate degree	42	15.1
Bachelor's degree	177	63.7
Master's degree	30	10.8
Total	278	100.0
Pre-disaster training status		
No training	150	54.0
Rescue and logistics	110	39.6
Only psychological first	49	17.6
Psychological first aid	18	6.5

12.2% had a history of psychiatric illness and 5.1% were currently taking psychiatric medication. When asked about the need for psychological support, 46.8% responded 'I did not feel it at all', 38.5% responded 'I felt it in the first few days' and 14.7% responded 'I have felt it more recently'. Seventeen-point six percent of

Table 2. Secondary Traumatic Stress Scale Descriptive Statistics

Variables	Mean	SD	Range (Min-Max Score)	Total score/n of item±Sd
Avoidance Score	14.51	5.38	6.00-30.00	2.42±0.9
Arousal Score	12.67	5.67	5.00-25.00	2.53±1.13
Intrusion Score	14.98	5.50	6.00-30.00	2.50±0.92
Total	42.17	15.39	17.00-85.00	

participants said they had experience of working in earthquake zones, while eighteen-point three percent had experience of other types of disaster such as fire and flood. On average, participants had worked for NGOs for 3.82±3.51 years and spent an average of 28.54±22.65 days working in earthquake zones.

Table 2 shows the scores obtained from the Secondary Traumatic Stress Scale. After removing the effect of the number of items in each subscale, it was observed that the highest score was recorded for the Arousal subscale, followed by the Intrusion and Avoidance scores ($p < 0.05$).

Predictors of Secondary Traumatic Stress

Bivariate analyses were conducted to determine if there were any differences in STS scores based on socio-demographic variables. Mean STS scores were significantly higher ($p<0.05$) for females, those under the age of 25, those who had not received disaster training, and those who reported needing psychological support. In addition, a statistically significant difference in mean avoidance subscale scores was found between those living with roommates and those living alone ($p<0.05$). However, no significant differences in STS scores were observed based on marital status, educational attainment, paid/unpaid work

Table 3. Results of Multiple Regression Analysis on Socio-demographic Factors Explaining the Avoidance Sub-Scale of Secondary Traumatic Stress Scores

Independent variables	B	Std. Er	β	t	p
Female	2,382	0,591	0,218	4,029	0,001
Under 25 years old	1,203	0,604	0,103	1,993	0,047
No training	0,916	0,564	0,085	1,624	1,006
Need of psychological support	4,000	0,575	0,371	6,956	0,001
Living with roommate	3,242	1,086	0,156	2,986	0,003
R=0,532 R^2=0,284; Durbin Watson= 1,943					

Table 4. Results of Multiple Regression Analysis on Socio-demographic Factors Explaining the Total Secondary Traumatic Stress Scores

Independent variables	B	Std. Er	β	t	p
Female	7,436	1,606	0,237	4,631	0,001
Under 25 years old	4,823	1,642	0,145	2,937	0,004
No training	3,334	1,541	0,108	2,164	0,031
Need of psychological support	13,005	1,574	0,422	8,262	0,001
R=0,584 R^2=0,341; Durbin Watson= 1,809					

status, work experience in the previous disaster area, history of psychiatric illness or use of psychiatric medication, and number of days worked in the earthquake area and STS score ($p>0.05$).

The multiple regression analysis included independent variables that showed a significant difference in the STS subscales and total score in the bivariate analyses. Table 3 shows that being female, living with a roommate rather than alone, being younger than 25, feeling the need for psychological support during fieldwork, and not having received disaster training independently increased the STS avoidance score ($p<0.05$).

The results of the analyses conducted to explain the total STS score (Table 4) indicate that being female, being under 25 years of age, not having received training in areas such as research-rescue, psychological first aid, physical first aid, and logistics management, and feeling the need for psychological support during field work all significantly increase individual STS scores ($P<0.05$). These factors explain approximately 34% of the scores.

Discussion

This study investigates secondary traumatization and its associated factors among humanitarian aid workers affiliated with a NGO. It focuses on the aftermath of the February 2023 earthquakes in Turkey, specifically within the 60th to 80th day post-disaster period. The findings offer essential insights for structuring evidence-based interventions at all phases of disaster management—pre-, during-, and post-disaster—within the broader scope of public health.

The mean STS score of 42.2 ± 15.4 among participants aligns with findings reported in prior research involving trauma-exposed professionals[22,24,25] underlining the considerable psychological burden carried by those responding in disaster settings. Notably, no significant relationship was found between the duration of field deployment and STS scores, indicating that secondary stress responses such as avoidance and hyperarousal can persist over time, regardless of exposure length. This underscores the importance of sustained, high-quality psychosocial support and the ongoing supervision of volunteer

workers operating in high-stress environments.

Social Determinants and STS

The results demonstrate significant associations between STS scores and both gender and age, with female and younger workers (<25 years) exhibiting elevated levels of stress. These findings are consistent with existing literature that identifies women as more emotionally attuned to the distress of others[26,27] and young adults as more vulnerable due to incomplete neurodevelopment, particularly of the prefrontal cortex[28–30] These developmental factors contribute to emotional dysregulation and diminished cognitive coping capacities under extreme stress. In light of this evidence, disaster preparedness planning should explicitly recommend against the immediate deployment of individuals younger than 25 into disaster settings without comprehensive training, supervision, and psychosocial support systems. Instead, their participation should be gradually phased through structured, supervised roles prioritizing learning, emotional safety, and long-term capacity-building. This preventive approach aligns with public health principles and reflects a commitment to safeguarding the well-being of young volunteers and the integrity of humanitarian response efforts in disaster zones.

There was no statistically significant difference in STS scores based on socio-demographic variables such as education level, marital status, educational status, and field of education. Kahil's study also found no statistically significant relationship between education level and secondary traumatic stress.[23] Ewer *et al.*, found that undergraduates had higher levels of secondary traumatic stress than high school and secondary school graduates.[31] This may be due to recent studies and the fact that the majority of participants in this study had at least a bachelor's degree.

A comparison of the findings with the people's living arrangements revealed that those living with a roommate exhibited higher STS scores than those living alone. In the multiple regression analyses conducted on the avoidance subscale, it was observed that living alone versus living with a roommate independently increased STS scores. No research was identified in the literature that addressed this difference. It would be beneficial to conduct research on this subject with a sufficiently large sample size and qualitative studies.

Volunteer Engagement: Selection, Training, and Supervision

A central implication of this research pertains to the structured involvement of volunteers in disaster response. Given that volunteers often comprise the majority of first responders, their appropriate selection, training, and supervision are paramount for ensuring both ethical practice and responder well-being. The study found that participants who had not received any pre-disaster training scored significantly higher on the STS scale. Although training content did not show significant variance in effect, the presence of any form of disaster-related preparation emerged as a protective factor. This supports the energy depletion theory, which posits that inadequate resources lead to faster emotional exhaustion.[17] Moreover, lack of cognitive empathy training may heighten emotional over-identification with trauma victims, exacerbating secondary stress. These findings reinforce the need for standardized volunteer selection protocols that consider psychosocial readiness and developmental maturity. Recruitment processes should prioritize emotional resilience, prior exposure to high-stress

settings, and reflective capacity. Furthermore, comprehensive training programs, including modules on psychological first aid, trauma-informed care, cultural competence, and ethical engagement, are indispensable in preparing volunteers for fieldwork. Supervision structures, including peer support systems and clinical oversight, must also be integrated as part of post-deployment protocols to ensure long-term psychological safety. Consequently, individuals experiencing secondary traumatization frequently require psychological assistance to manage their symptoms and maintain their well-being. With regard to disaster management, it is postulated that the implementation of support groups and peer supervision for the control of secondary traumatization within the scope of employee health and safety, as well as training to enhance the resilience of aid workers in disaster preparedness programs, will be beneficial.

This study highlights a strong association between perceived need for psychological support and elevated STS levels, reinforcing the argument for integrated mental health services in disaster contexts. Within the framework of disaster management plans must expand its preventive and trauma-informed practices to encompass not only affected populations but also the well-being of humanitarian aid workers. Institutionalizing volunteer management strategies—including the careful selection, structured training, and ongoing supervision of humanitarian workers—is essential to reduce the risk of secondary traumatization and enhance the sustainability of disaster response systems. From a disaster risk reduction (DRR) perspective, unaddressed STS among volunteers not only jeopardizes their well-being but also threatens the sustainability of community-based disaster response. If humanitarian workers experience burnout, withdrawal, or reduced capacity, the resilience of disaster-affected communities is compromised. Thus, mitigating STS should be recognized as a core component of disaster risk management.

Policy and Practice Implications

1. Volunteer Selection and Screening: Introduce psychosocial screening protocols during recruitment; assign high-risk groups (e.g., <25 years) to supervised, phased roles rather than independent deployments.

2. Mandatory Pre-Deployment Training: Provide standardized training packages including disaster response basics, psychological first aid, and trauma-informed principles; use modular formats for rapid dissemination.

3. Supervision and Peer Support Systems: Establish structured supervision by trained social workers or psychologists; integrate peer-support groups to normalize stress reactions.

4. Accessible Psychosocial Services: Embed routine mental health check-ins and referral systems within disaster operations; ensure both immediate and long-term support.

5. Institutional Integration: Incorporate psychosocial protection measures into national disaster management frameworks (e.g., TAMP, TARAP); align NGO practices with global standards (Sphere, IASC).

Implications for Practice

The findings highlight the urgent need to institutionalize structured volunteer management in disaster response. Targeted pre-disaster training, trauma-informed supervision, and integrated psychosocial support should be core components of disaster management plans. Special attention should be given to younger and female responders, as well as to those expressing unmet

psychological needs. Policy makers and NGOs should adopt preventive strategies, such as phased deployment of young volunteers, regular mental health screenings, and peer support systems to reduce the risk of secondary traumatization. Embedding these practices within national disaster frameworks will strengthen both responder well-being and the resilience of affected communities.

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REFERENCES

1. Whittaker J, McLennan B, Handmer J. A review of informal volunteerism in emergencies and disasters: Definition, opportunities and challenges. Int J Disaster Risk Reduct. 2015;13:358-368. doi:10.1016/j.ijdrr.2015.07.010
2. Twigg J, Mosel I. Emergent groups and spontaneous volunteers in urban disaster response. Environ Urban. 2017;29(2):443-458. doi:10.1177/0956247817721413
3. Substance Abuse and Mental Health Services Administration (SAMHSA). Crisis Counseling Assistance and Training Program (CCP): Supplemental Instructions. Substance Abuse and Mental Health Services Administration; 2014.
4. Mao W, Agyapong VIO. The Role of Social Determinants in Mental Health and Resilience After Disasters: Implications for Public Health Policy and Practice. Front Public Health. 2021;9:658528. doi:10.3389/fpubh.2021.658528
5. Ruth BJ, Sisco S, Marshall JW. Public Health Social Work. In: Gehlert S, Browne T, eds. Handbook of Health Social Work. John Wiley & Sons, Inc.; 2019:93-118.
6. EM-DAT. The OFDA/CRED International Disaster Database. Published online 2023. www.emdat.be
7. Centre for Research on the Epidemiology of Disasters (CRED). Earthquakes in Türkiye; A Review from 1900 to Today. Issue No:72- CRED Crunch. CRED; 2023. https://files.emdat.be/2023/09/CredCrunch72.pdf
8. The Republic of Türkiye M of I The Disaster and Emergency Management Presidency. About AFAD. n . https://www.afad.gov.tr/afad-hakkinda
9. United Nations Office for the Coordination of Humanitarian Affairs. Türkiye Earthquake 2023 Humanitarian Response Overview, 30 June 2023.; 2023. https://reliefweb.int/report/turkiye/turkiye-earthquake-2023-humanitarian-response-overview-30-june-2023-entr
10. Galea S, Nandi A, Vlahov D. The epidemiology of post-traumatic stress disorder after disasters. Epidemiol Rev. 2005;27(1):78-91.
11. Bertinelli L, Mahé C, Strobl E. Earthquakes and mental health. World Dev. 2023;169:Article 106283.
12. Bonanno GA. Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events. Am Psychol. 2004;59:2-28.
13. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. (4, ed.). American Psychiatric Association; 1994.
14. Figley CR. Compassion fatigue as secondary traumatic stress disorder: An overview. In: Figley CR, ed. Compassion Fatigue: Coping with Secondary Traumatic Stress Disorder in Those Who Treat Traumatized. Routledge; 1995:1-20. https://www.researchgate.net/publication/245720535_Compassion_fatigue_as_secondary_traumatic_stress_disorder_An_overview
15. Choi GY. Secondary traumatic stress and empowerment among social workers working with family violence or sexual assault survivors. J Soc Work. 2017;17(3):358-378. doi:10.1177/1468017316640194
16. Lerias D, Byrne MK. Vicarious traumatization: Symptoms and predictors. Stress Health. 2003;19(3):129-138. doi:10.1002/smi.969
17. Ludick M, Figley CR. Toward a mechanism for secondary trauma induction and reduction: Reimagining a theory of secondary traumatic stress. Traumatology. 2016;23(1):112-123. doi:10.1037/trm0000096
18. Patwary MdM, Ashraf A, Swed S, et al. Natural disaster and mental health of emergency rescue workers: Lessons learned from Turkey-Syria earthquake. Ann Work Expo Health. 2023;67(8):1018-1021. doi:10.1093/annweh/wxad043

19. Bride B. Secondary traumatic stress. In: Figley CR, ed. Encyclopedia of Trauma: An Interdisciplinary Guide. Sage; 2012:600-602. https://www.researchgate.net/profile/Carol-Tosone/publication/277020410_Shared_Trauma/links/555f6e7008ae9963a118b245/Shared-Trauma.pdf
20. Lamothe ME, Boujut F, Zenasni F, Sultan S. To be or not to be empathic: The combined role of empathic concern and perspective taking in understanding burnout in general practice. BMC Fam Pract. 2014;15:15-15.
21. Nelson-McEvers JA. Measurement of Self-Care Agency in a Noninstitutionalized Elderly Population. Unpublished master's thesis. Grand Valley State University; 1995. https://scholarworks.gvsu.edu/cgi/viewcontent.cgi?article=1239&context=theses
22. Bride BE, Robinson MM, Yegidis B, Figley CR. Development and validation of the Secondary Traumatic Stress Scale. Res Soc Work Pract. 2004;14(1):27-35. doi:10.1177/1049731503254106
23. Kahil A. An Assessment of Secondary Traumatic Stress in Those Who Engage in a Helping Behavior with People Who Have Traumatic Life Events. Master's thesis. 2016. https://www.researchgate.net/publication/314177548_Travmatik_Yasantilari_Olan_Bireylere_Yardim_Davranisinda_Bulunan_Profesyonel_ve_Gonullulerin_Ikincil_Travmatik_Stres_Duzeylerinin_Incelenmesi
24. Gökçe G, Yılmaz B. Relief workers in disasters: Secondary traumatic stress and coping. Türkiye Klin Psychol - Spec Top. 2017;2(3):198-204.
25. Lamothe J, Couvrette A, Lebrun G, et al. Violence against child protection workers: A study of workers' experiences, attributions, and coping strategies. Child Abuse Negl. 2018;81:308-321. doi:10.1016/j.chiabu.2018.04.027
26. Oral M, Tuncay T. Effectiveness of interpersonal psychotherapy based group social work intervention on depression and social problem solving levels of women diagnosed with major depression in Turkey: A mixed method research. Soc Soc Work. 2018;29(2):114-143.
27. Ushiro R, Nakayama K. Gender role attitudes of hospital nurses in Japan: their relation to burnout, perceptions of physician-nurse collaboration, evaluation of care, and intent to continue working. Jpn J Nurs Sci JJNS. 2010;7(1):55-64. doi:10.1111/j.1742-7924.2010.00138.x
28. Bahia VS, Takada LT, Caixeta L, et al. Prefrontal damage in childhood and changes in the development of personality: A case report. Dement Neuropsychol. 2013;7(1):132-135.
29. Miller BL, Cummings JL. The Human Frontal Lobes: Functions and Disorders. (Miller BL, Cummings JL, eds.). Guilford Press; 2007. https://psycnet.apa.org/record/2006-23347-000
30. Stuss DT, Knight RT. Principles of Frontal Lobe Function. (Stuss DT, Knight RT, eds.). Oxford University Press; 2007. doi:10.1093/med/9780199837755.001.0001
31. Woods SW. Chlorpromazine equivalent doses for the newer atypical antipsychotics. J Clin Psychiatry. 2003;64(6):663-667. doi:10.4088/jcp.v64n0607