Aegean Journal of Obstetrics and Gynecology

Original Article

The risk of vicarious trauma among front-line and non-front-line midwives and nurses

Süleyman Cemil Oğlak [a, †], Mehmet Obut [b]

[a] *Department of Obstetrics and Gynecology, Health Sciences University Diyarbakır Gazi Yaşargil Training and Research Hospital, Diyarbakır, Turkey*

[b] *Department of Obstetrics and Gynecology, Etlik Zübeyde Hanım Training and Research Hospital, Ankara, Turkey*

A B S T R A C T

Objective: This study aimed to investigate the impact of caring with pandemic patients on healthcare workers who worked in the front line versus their colleagues from the same institution who remained in their usual hospital wards.
Material and methods: This prospective descriptive study was conducted during the Covid-19 pandemic from July 01, 2020, to July 05, 2020. A total of 107 licensed registered midwives and nurses enrolled in the study. Fifty-eight of them were front-line healthcare workers, and 49 of them were medical staff who remained in their usual wards. All participants evaluated by the vicarious traumatization (VT) evaluation scale.
Results: The VT scores of the front-line midwives and nurses were significantly higher than those of the non-front-line midwives and nurses (p<0.001). When the domains in the VT score were evaluated, it was seen that the psychological responses and physiological responses of the front-line medical workers were significantly higher compared to the non-front-line medical workers (p<0.001).
Conclusion: Medical staff working on the FL for Covid-19 patients had higher vicarious traumatization scores than medical staff serving in their usual wards. The challenges of prolonged care of Covid-19 patients will put pressure on these professionals. The leadership must emphasize the importance of medical staff mental health for the better control of the pandemic.
Keywords: Covid-19, medical staff, vicarious traumatization

Introduction

Severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) first identified in Wuhan City in Hubei Province, central China, was responsible for the Coronavirus Disease 2019 (Covid-19) in December 2019, and rapidly spread across the globe [1]. As of May 2020, more than 3 million patients globally had infected with Covid-19, and more than 200,000 deaths are associated with this virus [2]. Researchers reported that approximately 15% of patients infected with Covid-19 progress severe health complications, about 5-10% require intensive care unit due to the severe pneumonia type symptoms, and 3-5% of high mortality risk [3].

Some of the hospitals were converted to pandemic hospitals. In these hospitals, front-line (FL) healthcare workers are assigned for infected patients to manage and stop the spread of disease efficiently. Also, medical staff from different backgrounds have been recruited from their usual hospital wards [4]. The potentially overwhelming burden of disease that stresses health system capability and the adverse impacts of the virus on the health care workers, including the risk of infection, leads to pressure on the healthcare workforce [5]. Covid-19 is transmitted primarily by respiratory droplets and close contact [1]. Transmission frequently occurs via symptomatic patients.

However, there are reports of asymptomatic persons who transmitted the infection to the family members, friends, and healthcare workers. Also, the authors stated that Coronavirus lives on surfaces for hours or days [6]. Health care workers have an elevated risk for severe infection or death in the event of being infected with Covid-19 [5]. For these reasons, FL medical staff particularly affected by severe emotional distress [3]. The apprehension about the transmission of infection can cause hesitation to seek support from family or friends and reduce the capacity to be compassionate in the hospital [7].

In the case of an infectious disease epidemic, the living environment changes, and people feel anxious, worried, and unsafe [8]. Disease's spread, progression, and outcomes in outbreaks caused by a newly identified infectious agent are also unclear. This uncertainty and fear of the unknown causes close-minded attitudes and rumors and raises anxiety [9]. The impact on the mental health of healthcare workers is one of the anticipated adverse outcomes of the pandemic [8]. These mental health problems affect the medical workers' understanding, attention, and decision-making capacity, which might prevent the battle against Covid-19. Still, these problems could also have a permanent effect on their overall wellbeing. Protecting the health care workers' mental health is thus essential for controlling the pandemic and their long-term health [10].

Medical staff caring with trauma patients (e.g., pandemic, disaster) are exposed continuously both to traumatized and traumatic situations, which are very hard on the personal psyche and may lead to vicarious traumatization

[†] Corresponding author.
E-mail: sampson_21@hotmail.com
ORCID ID: 0000-0001-7634-3008

(VT) [11]. VT describes the differences in trauma workers (secondary victims of trauma) as a consequence of caring with trauma survivors (primary victims of trauma).

These differences include disruptions in health care workers' self and professional identity, worldview, spirituality, skills, and cognitive faiths, especially in the areas of safety, esteem, control, intimacy, and trust [12]. In other words, VT is derived from sympathy for survivors of trauma and is describes the cost of caring for professionals [13].

While many studies examine the mental health impacts in critical health care workers, studies investigating the VT on these workers are lacking. In this study, we aimed to investigate the impact of caring with pandemic patients on health care workers who worked in the front line versus their colleagues from the same institution who remained in their usual hospital wards.

Material and methods

This prospective descriptive study was conducted at the Maternity Department of Gazi Yaşargil Training and Research Hospital, during the Covid-19 pandemic from July 01, 2020, to July 05, 2020. A total of 107 licensed registered midwives and nurses enrolled in the study. Fifty-eight of them were front-line healthcare workers, and 49 of them were medical staff who remained in their usual wards. All participants evaluated by the VT evaluation scale. Since the study was carried out during the pandemic, midwives and nurses filled out the VT scale face-to-face with a social distancing. Front-line midwives and nurses are employed in the process of providing care for patients with Covid-19 in the emergency unit, delivery unit, and Covid-19 unit of a maternity department. The Ethics Committee of Gazi Yaşargil and Research Hospital approved the study (2020/496). We obtained informed consent forms from all participants.

Demographic characteristics including age, gender, marriage status, duration of working life, educational background, and marital status were questioned. Front-line midwives and nurses were defined as the medical workers who have been working in the emergency unit, labor unit, critical care medicine, and surgery room. These units are clinics where the patients were first diagnosed with Covid-19, or Covid-19 patients were treated; that is, the healthcare workers were in direct contact with these patients. The VT questionnaire used in this study has a total of 38 items [14]. These items are composed of physiological responses (11 items) and psychological responses (27 items). Psychological responses are as follows: cognitive responses (five items), life beliefs (six items), behavioral responses (seven items), and emotional responses (nine items). The higher the score, the more severe the VT.

Statistical analysis

IBM SPSS 21.0 for Windows (SPSS Inc., Chicago, IL, USA) statistical package program was used for statistical evaluation of our research data. Measured variables with normal distribution were presented as mean ± standard deviation (std), measured variables with abnormal distribution were presented as a median and interquartile range, and categorical variables were presented as numbers and percentages (%). Kolmogorov-Smirnov test was used to determine whether the numerical data matched the normality distribution. Mann-Whitney U test was used to compare the non-normally distributed data. A Chi-square test was used to compare qualitative variables. P-value <0.05 was considered statistically significant.

Results

During the study period, a total of 107 medical staff were included in the study. Fifty-eight of them were front-line midwives and nurses, and 49 of them were non-front-line midwives and nurses.

The general characteristics of the participants were summarized in Table 1. There were no statistically significant differences between the two groups in terms of age, gender, marriage status, duration of working life, educational background, and marital status.

Table 1. The general characteristics of the participants

	Front-line midwives and nurses (n, 58)	Non-front-line midwives and nurses (n, 49)	P-value
Age, years	29.2±7.4	28.8±7.6	>0.05
Female gender, n (%)	56 (96.5%)	49 (100%)	>0.05
Duration of working life, years	9.2±4.1	8.8±5.3	>0.05
Educational background, n (%)			>0.05
Collage degree	14 (24.1%)	12 (24.4%)	
Bachelor's degree	44 (75.9%)	37 (75.6%)	
Marital status, n (%)			>0.05
Married	31 (53.4%)	25 (51.0%)	
Unmarried	23 (39.7%)	21 (42.9%)	
Divorced	4 (6.9%)	3 (6.1%)	

We summarized the VT severity of the individuals in Table 2. The VT scores of the front-line midwives and nurses were significantly higher than those of the non-front-line midwives and nurses (p<0.001). When the domains in the VT score were evaluated, it was seen that the psychological responses and physiological responses of the front-line medical workers were significantly higher compared to the non-front-line medical workers (p<0.001).

Discussion

This study indicates that both front-line and non-front-line midwives and nurses suffer from VT. The VT of front-line medical staff who experienced close contact with Covid-19 patients is more severe than that of non-front-line medical staff.

Due to the rapid spread of Covid-19 worldwide, an increasing number of health care workers were required to control the outbreak. Also, healthcare workers from different past experiences were forwarded to the front-line to care for infected patients. Previous studies reported that healthcare workers experience various psychological problems, such as anxiety and depression, due to the Covid-19 outbreak [4,8]. The instant condition has created a variety of stressors that could adversely impact the medical staff. These stressors encircling Covid-19, including the overall level of concern in the society, the doubt of state of affairs of the pandemic, inadequate safety equipment,

delayed testing, the easy transmission of the virus, absence of immunization among the population increase the pressure on the health system [3]. Also, healthcare workers visually and emotionally confront with patients who have been harmed and traumatized in the pandemic. The medical staff feel, hear, and see the effect of pandemic daily. Professionals are individuals who experience, understand, and negotiate interpersonal connections with the same sensations as other people do. Professional impartiality does not preserve them from VT [12].

Table 2. The vicarious traumatization severity of the participants

	Front-line midwives and nurses (n,58)	Non-front-line midwives and nurses (n,49)	P-value
Psychological responses	57 (46-68)	46 (37-52)	<0.001
Cognitive responses	9 (7-11)	7 (5-8)	<0.001
Life beliefs	14 (12-17)	11 (9-12)	<0.001
Behavioral responses	15 (11-18)	13 (11-15)	<0.001
Emotional responses	19 (16-22)	15 (12-17)	<0.001
Physiological responses	19 (14-24)	17 (13-22)	<0.001
Vicarious traumatization	76 (60-92)	63 (50-74)	<0.001

In a recent study, Li et al. reported that the non-front-line and front-line nurses both experience VT due to the Covid-19 pandemic [14]. However, the severity of VT in the non-front-line nurses was significantly higher than that of the front-line nurses. They stated that front-line nurses' psychological resistance was more robust, whereas non-front-line nurses were more likely to suffer from mental problems. This finding was related to the fact that front-line nurses were selected voluntarily among the experienced staff, and they underwent adequate psychological preparation and epidemic information before being forwarded to the front line of the care. Also, non-front-line nurses endure sympathy and worry both for patients with Covid-19 and front-line co-workers. Wu et al. observed that front-line medical staff had a significantly lower frequency of burnout than the non-front-line medical staff during the Covid-19 outbreak [15]. Furthermore, the front-line medical staff was less concerned about becoming infected despite caring directly with Covid-19 patients. They explained this result with the fact that front-line workers could better control of their condition. They stated that the control in the workplace is the primary factor of action and essential for preventing burnout. Also, front-line medical staff reaches the information about the outbreak more appropriately and correctly. However, non-front-line workers were concerned that the virus could infect them at any time regardless of the protection policies.

In contrast with these studies, our study's results suggest that front-line medical workers' welfare is more adversely affected by the outbreak than the non-front-line medical workers, meriting of ultimate care and further research. In our hospital, due to the increasing patient volumes, healthcare workers who are not trained in infectious disease assist the front line and

may feel even higher pressure while caring for Covid-19 patients. Craigie et al. reported that trait-negative effect was a more critical factor in terms of its contribution to burnout and VT [16]. Front-line nurses witness daily to patients with severe symptoms, physical and psychological suffering, and predicted poor outcomes [3,17]. Witnessing the misery of Covid-19 patients leads to sympathy for these patients in front-line nurses. The VT is typically stemmed from this sympathy. VT has severe symptoms, including sleep disorders, fear, irritability, inattention, fatigue, and despair [14]. Once a person experiences VT, it may spill over to co-workers, friends, and family. Because VT can disrupt physical, psychological, emotional, and cognitive schemas in people, it can potentially influence their cooperation with other individuals in an adverse manner [18]. These adverse effects will also hinder the fight against Covid-19 [4]. Most healthcare workers have introduced relatively few training in delivering mental health care during such pandemics. Policymakers and hospital administrations develop and implement mental healthcare training as part of professional improvement projects [19].

The strength of this study is that few studies in the literature focus on the psychological status, primarily VT of medical staff assisting in the Covid-19 pandemic. Also, this study highlights the implications of hospital administrations and policymakers. They need to realize the influence of the outbreak on medical staff and put in place strategies to increase awareness and educate those workers adversely affected by the outbreak.

This study has several limitations. Firstly, this study explores the impact of VT, mainly on midwives and nurses of a single institution. Secondly, even though all healthcare workers encounter difficulty with the nature of the business, not all experience VT. This result suggests that several variables may reduce the development of VT. Further studies should be aimed at other medical staff groups to investigate the well-being of healthcare workers in the Covid-19 outbreak.

Conclusion

Medical staff working on the FL for Covid-19 patients had higher scores of vicarious traumatization compared to medical staff serving in their usual wards. The challenges of prolonged care of Covid-19 patients will put pressure on these professionals, and the leadership must emphasize the importance of medical staff mental health for the better control of the pandemic.

Disclosure

Authors have no potential conflicts of interest to disclose.

References

[1] Koh D. Occupational risks for COVID-19 infection. Occup Med (Lond) 2020;70:3-5.
[2] WHO Coronavirus disease 2019 (COVID-19). Situation Report-111. May 10, 2020.
[3] Alharbi J, Jackson D, Usher K. The potential for COVID-19 to contribute to compassion fatigue in critical care nurses. J Clin Nurses 2020;29:2762-4.
[4] Chen Q, Liang M, Li Y, Guo J, Fei D, Wang L, et al. Mental health care for medical staff in China during the COVID-19 outbreak. Lancet Psychiatry 2020;7:e15-e16.
[5] Adams JG, Walls RM. Supporting the health care workforce during the COVID-19 global epidemic. JAMA. 2020;323:1439-40.
[6] Ong SWX, Tan YK, Chia PY, Lee TH, Ng OT, Wong MSY, et al. Air, surface environmental, and personal protective equipment contamination by severe acute respiratory

syndrome coronavirus 2 (Sars-CoV-2) from a symptomatic patient. JAMA 2020;323:1610-2.

[7] Wallace CL, Wladkowski SP, Gibson A, White P. Grief During the COVID-19 Pandemic: Considerations for Palliative Care Providers. J Pain Symptom Manage 2020;60;e70-e76.

[8] Usher K, Durkin J, Bhullar N. The COVID-19 pandemic and mental health impacts. Int J Ment Health Nurs 2020;29:315-8.

[9] Ren SY, Gao RD, Chen YL. Fear can be more harmful than the severe acute respiratory syndrome coronavirus 2 in controlling the corona virus disease 2019 epidemic. World J Clin Cases 2020;8:652-7.

[10] Kang L, Li Y, Hu S, Chen M, Yang C, Yang BX, et al. The mental health of medical workers in Wuhan, China dealing with the 2019 novel coronavirus. Lancet Psych 2020;7:e14

[11] Waegemakers Schiff J, Lane AM. PTSD Symptoms, Vicarious Traumatization and Burnout in Front Line Workers in the Homeless Sector. Community Ment Health J 2019;55:454-62.

[12] Vrklevski LP, Franklin J. Vicarious Trauma: The Impact on Solicitors of Exposure to Traumatic Material. Traumatology 2008;14:106-18.

[13] Sinclair HA, Hamill C. Does vicarious traumatisation affect oncology nurses? A literature review. Eur J Oncol Nurs 2007;11:348-56.

[14] Li Z, Ge J, Yang M, Feng J, Qiao M, Jiang R, et al. Vicarious traumatization in the general public, members, and non-members of medical teams aiding in COVID-19 control. Brain Behav Immun 2020;88;916-9.

[15] Wu Y, Wang J, Luo C, Hu S, Lin X, Anderson AE, et al. A Comparison of Burnout Frequency Among Oncology Physicians and Nurses Working on the Frontline and Usual Wards During the COVID-19 Epidemic in Wuhan, China. J Pain Symptom Manage 2020;60:e60-e65.

[16] Craigie M, Osseiran-Moisson R, Hemsworth D, Aoun S, Francis K, Brown J, et al. The influence of trait-negative affect and compassion satisfaction on compassion fatigue in Australian nurses. Psychol Trauma 2016;8:88-97.

[17] Taylor J, Bradbury-Jones C, Breckenridge JP, Jones C, Herber OR. Risk of vicarious trauma in nursing research: a focused mapping review and synthesis. J Clin Nurs 2016;25:2768-77.

[18] Tabor PD. Vicarious traumatization: concept analysis. J Forensic Nurs 2011;7:203-8.

[19] Xiang YT, Yang Y, Li W, Zhang L, Zhang Q, Cheung T, et al. Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. Lancet Psychiatry 2020;7:228-229.