

ASSESSMENT OF VIOLENCE DIRECTED AT RESIDENT PHYSICIANS WORKING IN A UNIVERSITY HOSPITAL DURING COVID-19 PANDEMIC**COVID-19 PANDEMİ DÖNEMİNDE BİR ÜNİVERSİTE HASTANESİNDE ÇALIŞAN ASİSTAN HEKİMLERE YÖNELİK ŞİDDETİN DEĞERLENDİRİLMESİ**Ayşe GÖKÇE¹, Gülseda BOZ¹, Ali ÖZER¹, Fatma ÖZDEMİR²¹ Inonu University Faculty of Medicine, Department of Public Health, Malatya, Turkey² Inonu University Institute of Health Sciences, Malatya, Turkey**ABSTRACT****Objective:** This study intends to evaluate the violence committed against the resident physicians who worked in a university hospital during the COVID-19 outbreak.**Methods:** This cross-sectional descriptive study was conducted between September-October 2022. The required institutional permissions and ethics committee approval in order to conduct this study were obtained. The sample size of the research was calculated as 160 persons. This research was completed with these 163 persons who accepted to participate in it. With the questionnaire form prepared by the researchers of this study, the data of the research was gathered online. The chi-square test was used to assess the statistical analysis.**Results:** The average age of participants is 28 (24-52). The women make up 52.1 per cent of them. While the rate of physicians who had suffered from the violence was 40.5% this figure became 49.1% during COVID-19 outbreak. 93.8% of the physicians stated that they were exposed to verbal violence. 48% of the physicians expressed that they experienced violence for the first time, which respectively occurred in the emergency service (59.3%). 60% of women and 37.2% of men was subjected to violence during COVID-19. Therefore, the violence rate against female physicians is significantly higher than the rate for males (p=0.004).**Conclusion:** About half of the physicians participated in this research stated that they did not suffer from any violence either before or during COVID-19 outbreak. Almost all of the acts of violence occurred during the COVID-19 outbreak was verbal violence. The necessary measurements must be taken in emergency services where the acts of violence mostly happened in order to stop these incidents. As the physicians suffered highly from the violence during the COVID-19 outbreak and they largely suppose that the legal protection lacks to protect them against perpetrators, their professional motivation and psychological resilience may be badly affected.**Keywords:** COVID-19, Physicians, Pandemics, Violence.**ÖZET****Amaç:** Bu çalışmada pandemi döneminde bir üniversite hastanesinde çalışan asistan hekimlere yönelik şiddetin değerlendirilmesi amaçlanmaktadır.**Gereç ve Yöntem:** Tanımlayıcı tipte kesitsel bir çalışma olan bu çalışma, Eylül 2022 – Ekim 2022 tarihleri arasında yapılmıştır. Çalışmanın yapılabilmesi için gerekli kurum izni ve etik kurul onayı alınmıştır. Araştırmanın örneklem büyüklüğü 160 kişi hesaplanmış olup çalışmaya katılmayı kabul eden 163 kişi ile çalışma tamamlanmıştır. Çalışmanın verileri araştırmacılar tarafından hazırlanan anket formu ile çevrimiçi olarak toplanmıştır. İstatistiksel analizlerde Ki-Kare testi kullanılmıştır.**Bulgular:** Katılımcıların yaş ortancası 28(24-52) olup, %52.1'i kadındır. Pandemi öncesi şiddete uğrayan hekimlerin oranı %40.5 iken pandemi döneminde ise %49.1'dir. Hekimlerin %93.8'i sözel şiddete maruz kaldığını belirtmiştir. Hekimlerin %48.8'i 2-3 kez şiddet yaşadığını, bu olayların da en fazla sırasıyla acil servis (%59.3), polikliniklerde (%50.5) yaşandığını ifade etmişlerdir. Asistan hekimlerin %76.7'si sağlık çalışanı olarak kanunlarla korunmadıklarını ifade etmişlerdir. Kadınların %60'ı, erkeklerin %37.2'si pandemi döneminde şiddet yaşamış olup kadınların şiddet yaşamı oranı erkeklerle göre anlamlı olarak daha yüksektir (p=0.004).**Sonuç:** Araştırma grubundaki hekimlerin yaklaşık yarısı pandemi öncesinde ve pandemi döneminde herhangi bir şiddet olayı yaşadığını ifade etmiştir. Pandemi döneminde yaşanan şiddet olaylarının neredeyse tamamında sözlü şiddet vardır. Şiddet olaylarının en fazla yaşandığı acil servislerde bu olayları engellemek için gerekli önlemler alınmalıdır. Hekimlerin pandemi dönemlerinde yüksek oranlarda şiddet yaşamaması ve bu açıdan kanunlarla korunmadıkları düşüncesinin oldukça yaygın olması kişisel olarak mesleki motivasyon ve psikolojik sağlıklarını etkileyebilir.**Anahtar Kelimeler:** COVID-19, Doktorlar, Pandemi, Şiddete Maruz Kalma.**Sorumlu Yazar / Corresponding Author:** Ayşe GÖKÇE, İnönü University Faculty of Medicine, Department of Public Health, Malatya, Turkey. E-mail: abaran88@hotmail.com**Bu makaleye atf yapmak için / Cite this article:** Gökce A, Boz G, Özer A, Ozdemir F. (2023). Assessment of Violence Directed at Resident Physicians Working in a University Hospital During COVID-19 Pandemic. *Gevher Nesibe Journal of Medical & Health Sciences*, 8(1), 172-180. <http://doi.org/10.5281/zenodo.7601313>

* Bu çalışma 1 – 4 Aralık 2022 tarihleri arasında Antalya'da düzenlenen 6.Uluslararası ve 24. Ulusal Halk Sağlığı Kongresinde sözel bildiri olarak sunulmuştur.

INTRODUCTION

According to the World Health Organization (WHO) violence is the “intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation” (WHO, a). The workplace violence is defined as threat, attack or harassment directed toward the health, security and welfare of the workers in their workplace or while they come to or going out their workplace (ILO, 2002). The violence acts against the health care professionals, which occur in different number of incidences worldwide, are an important public health problem which may be prevented (Wen & Goodwin, 2016).

The health care workers usually experience violence acts in high numbers as the patients or the relatives of the patients threat or assault them verbally (WHO, b). The studies conducted about this subject state that 48 to 75% of the health care professionals are exposed to the violence during their professional life (Al Anazi et al, 2020; Özdamar Ünal et al, 2022; Verma et al, 2019).

The health care providers, who are an indispensable part of the health system, did not only fight against the COVID-19 outbreak in the front line but also faced some problems including risk of exposure, long working hours, psychological disorders, fatigue and occupational burnout (Chew et al, 2020). A report written up for workload that brings about occupational risks and professional liability states that the violent acts against the health care workers rose during the outbreak (Devi,2020).

The use of violence against the resident physicians who work in a university hospital providing tertiary health care services may result in their burnout, job dissatisfaction or leaving the job. These occurrences may also bring about a remarkable impairment of quality of health services provided as well as affecting the physicians psychologically and socially. Therefore, the act of violence resorted to the health care professionals must be evaluated in every aspect in order to find the required solutions.

This study intends to evaluate the violence committed against the resident physicians who worked in a university hospital during the COVID-19 pandemic.

MATERIALS AND METHODS

Place, Time and Type of Study

This descriptive cross-sectional study was conducted between September 2022 and October 2022. In order to conduct this study, a written permission has been obtained from the Chief Physician Office of Turgut Ozal Medical Centre. The Ethics Committee approval (dated 26.04.2022 under decision no. 2022/3463) has been obtained from the Health Sciences Non-Invasive Ethics Committee of Inonu University. In addition, the Scientific Research Coordination Unit of Inonu University has supported this study (No: TSA-2022-3019). 366 resident physicians who work as research fellows were included in this study while the physicians who do not care patients actively at the basic medical sciences departments were excluded from it. The sample size of the research was calculated as 160 persons as the rate of violence against the physicians is assumed to be 75.6 in the referred study. This study was completed with 163 persons who accepted to participate in it (Verma et al, 2019).

Data Collection Tool

The data of this study were gathered by an online questionnaire form prepared via Google Docs. The questionnaire form prepared by the researchers consists of 24 questions. The first section of the questionnaire includes some socio-demographic questions. The second chapter contains questions on the violent incidents the physicians faced before and during the outbreak, the form of violence they suffered from and the probable causes of these acts. No preliminary information was given to the participants in the questions about violence in health. Participants were asked to choose the type of violence they experienced according to their own perceptions. The level of concern of the physicians who were exposed to the violence was asked to them with the question read out “how much are you worried about the violence in your current status?” and they were requested to reply to it “1= I am not worried at all 5=I am very worried, which would be assessed with 5-Point Likert Scale. The independent variables of this study are age, gender, term of employment in profession (number of years worked), the average number of patients treated per day and the various questions about violence while

the dependent variables are possibility to be exposed to the violence during the COVID-19 outbreak and the anxiety score for violence.

Statistical Analysis

The data obtained is assessed using Statistical Package for Social Science program (SPSS) 22.0. The descriptive data is defined as number (n) and percentage (%). With Kolmogorov-Smirnov Test for Normality applied to the variables that include quantitative data, it is found out that the anxiety score did not comply with the normal distribution ($p < 0.05$). The chi-square test is used to assess the statistical analysis of this research. The significance level is accepted as $p < 0.05$.

RESULTS

The socio-demographic characteristics of the resident physicians who participated in this study is shown in Table 1. The average age of the participants is 28 (24-52) in which the women make up 52.1% of them. %83.4 of the resident physicians work at the departments of internal medicine while 16.6% work at the surgery departments. When the term of employment in profession is considered, 42% of them has been working for 2 years or less, 37.4% for 3 to 5 years, 20.2% 5 years or more. 36.2% of the physicians stated that they cared for approximately more than 50 patients (Table 1).

Table 1. Distribution of Socio-Demographic Characteristics of Resident Physicians Included in Study Group

Socio-Demographic Characteristics	n	%
Gender		
Male	78	47.9
Female	85	52.1
Working Department		
Internal medicine departments	136	83.4
Surgery departments	27	16.6
Term of Employment in Profession		
2 years or less	69	42.3
3 to 5 years	61	37.4
5 years or more	33	20.3
Term of employment in department she/he currently works for		
1 year or less	85	52.1
2 years or more	78	47.9
Number of patients treated per day		
Less than 10	24	14.7
10 to 20	24	14.7
20 to 30	23	14.1
30 to 40	18	11
40 to 50	15	9.2
More than 50	59	36.3
Age (Min-Med-Max)	24-28-52	
Violence Anxiety Score (Min-Med-Max)	1-4-5	

The distribution of the answers of the resident physicians who participated in the study is shown in Table 2. The 76.1% of them stated that the act of violence directed at the physician increased during the pandemic. 72.4% of the resident physicians stated that there is not any procedure at the workplace to report the violence while 80.4% of them expressed that there is not any special application to put in practice after the violence takes place. When the participants are asked whether “they are satisfied with handling of the acts of violence by the administrators,” 68.7% of them responded saying No. 76.7% of the resident physicians believed that they are not protected by laws against violence. 40.5% of them said that they were subjected to the one type of the violence before pandemic (Table 2).

Table 2. The distribution of the answers given by the resident physicians in study group regarding violence

Questions	n	%
Do you agree that the acts of violence against physicians increased during pandemic		
Yes	124	76.1
No	12	7.4
Undecided	27	16.5
Is there any procedure to inform about violence at the workplace?		
Yes	118	72.4
No	45	27.6
Is there any special procedure applied at workplace after violence occurs?		
Yes	32	19.6
No	131	80.4
Are you satisfied with handling of the acts of violence by the administrators?		
Yes	8	4.9
No	112	68.7
Undecided	43	26.4
Do you think that you the health care professionals have a legal protection?		
Yes	4	2.4
No	125	76.7
Undecided	34	20.9
Were you subjected to any form of violence before pandemic?		
Yes	66	40.5
No	97	59.5

49.1% of the resident physicians included in the study group stated that they were subjected to any type of act of violence during the COVID-19 outbreak. 93.8% of the physicians were exposed to verbal violence, 42.5% of them to psychological violence and 18.8% of them to physical violence, they said. 48.8% of the physicians suffered from violence twice to three times. They stated that the acts of violence were mostly occurred in the emergency service (60.8%), polyclinics (51.9%) and intensive care units (13.9%). 89.9% of the physicians stated that they felt rage or disappointment after the violence occurred while 68.4% of them felt grief and 65.8% felt anger. 1.3% of the physicians disclosed that they received psychiatric treatment/support after the act of violence he/she suffered from (Table 3).

Table 3. Violence the resident physicians in study group were subjected to and the distribution of features of violent acts

Violence and Features of Violence	n	%
Were you exposed to any type of violence during pandemic?(n=163)		
Yes	80	49.1
No	83	50.9
Type of violence exposed*		
Verbal Violence	75	93.8
Physical Violence	15	18.8
Psychological Violence	34	42.5
Violence in numbers*		
Once	16	20.0
Twice or three times	39	48.8
Four times or more	25	31.3
Was arm or knife used during violence?(n=56)		
Yes	4	7.1
No	52	92.9
Venue where violence occurred*		
Emergency service	48	60.8
Polyclinic	41	51.9
Intensive care	11	13.9
Waiting room	10	12.7
On-call room	10	12.7

Outside workplace	3	3.8
How did you feel after violence you were subjected to*		
Rage or disappointment	71	89.9
Grief	54	68.4
Anger	52	65.8
Fear or stress	44	55.7
Headache and fatigue	35	44.3
Suicidal ideas	5	6.3
Were you treated after act of violence you were subjected to (n=79)		
I did not receive treatment	78	98.7
I received psychiatric treatment/support	1	1.3

*More than one option has been ticked.

The Table 4 compares the violent incidents occurred according to the socio-demographic and various variables during the COVID-19 outbreak. 60% of women and 37.2% of men were exposed to the violence. The rate of violence for women is significantly higher than the rate for men ($p=0,004$). There is no significant difference between the groups ($p=0.343$) as 50.7% of the resident physicians working at the internal medicine departments and 40.7% of the resident physicians working at the surgery services were subjected to the violence during the pandemic. 80.3% of the resident physicians who had been subjected to any form of violence and 27.8% of the physicians who had not subjected to violence before the pandemic were exposed to the violence during it. Therefore, the rate of those who faced violence before the pandemic is significantly higher ($p=0,001$).

Term of employment in profession, working hours, non-existence of the procedure to report about the violence in the workplace during or after it does not significantly affect the incidence of being exposed to the violence (Table 4) ($p>0.05$).

Table 4. Comparison of Violence The Resident Physicians in The Study Group Were Exposed To During Pandemic According to Different Variables

Variables	Exposure to violence during pandemic				p
	Yes		No		
	n	%	n	%	
Gender					
Male	29	37.2	49	62.8	0.004
Female	51	60.0	34	40.0	
Term of employment in profession					
2 years and less	35	50.7	34	49.3	
3 to 5 years	28	45.9	33	54.1	0.819
6 years and more	17	51.5	16	48.5	
Working Department					
Internal medicine departments	69	50.7	67	49.3	0.343
Surgery departments	11	40.7	16	59.3	
Working shifts					
Daytime	12	41.4	17	58.6	
Night	0	0	1	100	0.361
Both of them	68	51.1	65	48.9	
Number of patients treated					
10 or less	15	62.5	9	37.5	
10 to 20	9	37.5	15	62.5	
20 to 30	10	43.5	13	56.5	0.451
30 to 40	11	61.1	7	38.9	
40 to 50	8	53.3	7	46.7	
50 or more	27	45.8	32	54.2	
Were you exposed to any form of violence before pandemic?					
Yes	53	80.3	13	19.7	0.001
No	27	27.8	70	72.2	

Is there any procedure to report the violence in workplace?

Yes	55	30.4	126	69.6	0.280
No	25	38.5	40	61.5	

Is there any special procedure in workplace following violence?

Yes	14	28.0	36	72.0	
No	66	33.7	130	66.3	0.445

DISCUSSION

The act of violence directed at the health care providers is rife. The violence, which is indeed preventable, affects them physically and psychologically after it occurs. Therefore, it is a critical issue to be taken into consideration (Alhamad et al, 2021; Celik et al, 2007; Nowrouzi-Kia et al, 2019). A nationwide study which assessed the violence against the health care workers in Turkey cites that 40.7% of physicians and 34.3% of midwives-nurses-emergency medical technicians were exposed to the physical violence. The same study states that 94.6% of the physicians and 85.4% of midwives-nurses-emergency medical technicians experienced verbal abuse (Hamzaoglu & Türk, 2019). A systematic analysis and the meta-analysis which examined the violence toward the physicians found that the rate for being exposed to the violence in the workplace is 69% (Nowrouzi-Kia et al, 2019). 40.5% of the physicians who participated in our study stated that they were exposed to one form of violence before the pandemic. A study which examined the violence against the health care workers found that 61.1% of them were subjected to it during their professional life. The rate of violence they experienced in last one year is 39.3% (Er et al, 2021).

Another study determined that the rate of violence they faced is 36.9% (Alhamad et al, 2021). By examining the white code data, a study, which assessed the relationship between the violence directed toward the health care workers found that the rate of violence occurred during the COVID-10 outbreak was 29.7% (Aygün & Metin, 2022). In a study assessed the violence directed at the clinicians working in the front line during the pandemic found that 18.5% of them suffered from violence (Yang et al, 2021). In our study, the rate of violence for last two years was found to be 49.1% when the physicians were asked about the violence they experienced during the pandemic. This rate might have been found to be higher as our study inquired retroactive violence against the physicians in last two years not the incidences of violence took place. Most of the studies we examined pointed out that the verbal violence took place almost in all forms of the violence just as our study concluded (Alhamad et al, 2021; Er et al, 2021; Hamzaoglu & Türk, 2019). When the distribution of the types of violence is checked, it is found that some studies states that verbal violence is followed by physical violence (Aygün & Metin, 2022; Yang et al, 2021) while some other studies determined that verbal violence is followed by psychological violence as our study found as well (Bayram et al, 2017). A study, which examined the physical and verbal violence against the physicians, states that 36.7% of the participants disclosed that they were subjected to physical violence and 88.8% of them were exposed to verbal violence at least once in their lifetime (Hamzaoglu & Türk, 2019).

When the distribution of violence forms is examined according to the departments where the violence happens, it is seen that it occurs mostly in the emergency services and the clinics (Li et al, 2019; Liu et al, 2019; Zafar et al, 2016). A study that examined the violence occurred in the workplace against the health care providers in Jordan during the COVID-19 outbreak points out that the psychological health of 84% of health care providers and the work performance of 76% of them was affected following the violence (Alhamad et al, 2021). Our study revealed that 89.9% of the physicians felt rage or disappointment while 68.4% of them felt grief and 65.8% of them felt anger after the violence they experienced. %1.3 of the physicians stated that they received psychiatric treatment/support after they were subjected to the violence.

76.1% of the physicians in our study group stated that the incidences of violence directed at them during the pandemic rose. Moreover, the average anxiety score of the physicians was found to be high. The acts of violence may have increased because of use of the public hospitals more increasingly and more intensely during the pandemic, the psychological impacts that had an impact on both the physicians, the patients, their relatives, rising numbers of Covid cases for certain periods and intense

referrals to the emergency services. These incidences may have increased the anxiety scores of the physicians.

A cross-sectional study which assessed the violence against the physicians cites that those who said that there were procedures to report the violence in the workplace, those who stated that there was a local policy against the violence in the workplace, those who are satisfied with the handling of the violence in the workplace by the administrators and those who believe that the laws protect them against the violence have been subjected to the low-level violence significantly within last one year (Alhamad et al, 2021). Our study distinctively shows that there is no significant difference between whether there is a procedure to report about the violence in the workplace when it happens and whether there is a special procedure applied after it occurs. Most of the participants participated in our research stated that a general procedure is applied but not a special procedure after the act of violence occurs, they are not satisfied with the handling of the violence by the administrators, and they do not think they do have legal protection against the violence as health care professionals. According to a cross-sectional study conducted at the emergency services in Turkey, the physicians suggested that the penalties must be increased as a first measure to overcome the violence against the health care workers and secondly the attitude of the administrators in violent incidents must change (Bayram et al, 2017). In the study group, the women were subjected to the violence significantly more than men were. Several studies demonstrated that the women were subjected to the violence more in comparison to the men while the nurses were exposed to it more in comparison to the physicians (Abed et al, 2016; Demirci & Uğurluoğlu, 2020; Honarvar et al, 2019; Park et al, 2015). The resident physicians, who had been subjected to the violence before the pandemic, stated that they were subjected to the violence significantly during it as well. It is demonstrated that the health care professionals, who providing direct health care to the people, are under elevated risk of being subjected to the violence (Pompeii et al, 2015). A cross-sectional study, which was made in a foreign country, demonstrates that the health care professionals who are young and whose term of employment is shorter are more likely to be subjected to the act of violence (Sachdeva et al, 2015). The emergency services staff are usually subjected to the violence during the night shift while the rest of the employees faced a form of violence during all the working shifts (Rafeea et al, 2017). Our study distinctly determined that there is no significant difference between the term of employment in profession and the working hours in terms of being exposed to the act of violence.

CONCLUSION

About half of the physicians in the study group stated that they were exposed to the violence before or during the pandemic. Though almost all forms of the violence occurred during the pandemic is verbal one, other violence forms were experienced as well. The half of the physicians who were subjected to the violence suffered from it twice to three times. This is a remarkably high figure. The required measures must be taken at the emergency services and the polyclinics where the acts of violence mostly occurred. The physicians largely think that they are subjected to the violence more during the COVID-19 outbreak as they did not have sufficient legal protections against it. These issues may have an impact on their professional motivation and psychological resilience.

Limitations

The limitations of this study are that it has been conducted with the resident physicians in a university hospital, the data are based on the verbal statements and the memory factor may have an impact to remember to tell by the participants what has exactly happened in the past.

Author Contributions

Plan, design: AG, AÖ, GB, FÖ; **Material, methods and data collection:** AG, GB, FÖ; **Data analysis and comments:** AG;AÖ; **Writing and corrections:**AG,GB,AÖ, FÖ.

Conflict of interest

There is no conflict of interests between the authors of this study or between them and any financial institutions.

Funding

This study has been supported by the Scientific Research Coordination Unit of Inonu University (No: TSA-2022-3019).

REFERENCES

- Al Anazi, R. B., AlQahtani, S. M., Mohamad, A. E., Hammad, S. M., Khleif, H. (2020). Violence against Health-Care Workers in Governmental Health Facilities in Arar City, Saudi Arabia. *The Scientific World Journal*, 6380281.
- Abed, M., Morris, E., Sobers-Grannum N. (2016) Workplace violence against medical staff in healthcare facilities in Barbados. *Occup Med*, 66(7),580–583.
- Alhamad, R., Suleiman, A., Bsisu, I., Santarisi, A., Al Owaidat, A., Sabri, A., ... & Mahseeri, M. (2021). Violence against physicians in Jordan: an analytical cross-sectional study. *PLoS one*, 16(1), e0245192
- Aygün, H., Metin, S. (2022). Sağlık Çalışanlarına Yönelik Şiddetin Pandemi ile İlişkisi. *Anatolian Journal of Emergency Medicine*, 5(1), 7-12.
- Bayram, B., Çetin, M., Oray, N. Ç., Can, İ. Ö. (2017). Workplace violence against physicians in Turkey's emergency departments: a cross-sectional survey. *BMJ open*, 7(6), e013568.
- Celik S, Celik Y, Ağırbaş İ, Uğurluoğlu O. (2007) . Verbal and physical abuse against nurses in Turkey. *Int Nurs Rev*,54(4),359–66.
- Chew, N. W., Lee, G. K., Tan, B. Y., Jing, M., Goh, Y., Ngiam, N. J.,& Sharma, V. K. (2020). A multinational, multicentre study on the psychological outcomes and associated physical symptoms amongst healthcare workers during COVID-19 outbreak. *Brain Behav Immun*, 88, 559-565.
- Demirci, Ş., Uğurluoğlu, Ö. (2020) An evaluation of verbal, physical, and sexual violence against healthcare workers in Ankara, Turkey. *J Forensic Nurs*, 16(4),33-41
- Devi S. (2020). COVID-19 exacerbates violence against health workers. *Lancet*, 396(10252), 658.
- Er, T. , Ayoğlu, F. Açıkgoz, B. (2021). Sağlık çalışanına yönelik şiddet: Risk faktörleri, etkileri, değerlendirilmesi ve önlenmesi. *Turk J Public Health*,19(1), 69-78.
- Hamzaoglu, N., Türk, B.(2019). Prevalence of Physical and Verbal Violence Against Health Care Workers in Turkey. *Int J Health Serv*,49(4),844-861.
- Honarvar, B., Ghazanfari, N., Shahraki, H.R., Rostami, S., Lankarani, K.B. (2019) Violence against nurses: a neglected and health-threatening epidemic in the university affiliated public hospitals in shiraz, Iran. *Int J Occupational Environ Med*, 10(3),111–123.
- ILO. (2002). International Labour Office/International Council of Nurses/World Health Organization/Public Services, International Framework Guidelines for Addressing Workplace Violence in the Health Sector Geneva, International Labour Office, s.3.
- Li, N., Zhang, L., Xiao, G., Chen, J., Lu, Q. (2019). The relationship between workplace violence, job satisfaction and turnover intention in emergency nurses. *Int Emerg Nurs*, 45,50–55.
- Liu, J., Gan, Y., Jiang, H., Li, L., Dwyer, R., Lu, K., ...Lu, Z.(2019). Prevalence of workplace violence against healthcare workers: a systematic review and meta-analysis. *Occup Environ Med*,76(12),927-937.
- Nowrouzi-Kia, B., Chai, E., Usaba, K., Nowrouzi-Kia, B., & Casole, J. (2019). Prevalence of Type II and Type III Workplace Violence against Physicians: A Systematic Review and Meta-analysis. *Int J Occup Environ Med*, 10(3), 99-110.
- Park, M., Cho, S.H., Hong, H.J. (2015) Prevalence and perpetrators of workplace violence by nursing unit and the relationship between violence and the perceived work environment. *J Nurs Scholarsh*, 47(1),87–95.
- Pompeii, L.A., Schoenfisch, A.L., Lipscomb, H.J., Dement, J.M., Smith, C.D., Upadhyaya, M. (2015). Physical assault, physical threat, and verbal abuse perpetrated against hospital workers by patients or visitors in six U.S. Hospitals *Am J Indust Med*, 58(11),1194–1204.
- Rafeea, F., Al Ansari, A., Abbas, E.M., Elmusharaf ,K., Abu Zeid, M.S. (2017). Violence toward health Workers in Bahrain Defense Force Royal Medical Services' emergency department. *OAEM*, 9,113–121.
- Sachdeva, S., Jamshed, N., Aggarwal, P., Kashyap, S.R. (2019). Perception of workplace violence in the emergency department. *J Emerg Trauma, Shock* 12(3):179–184.
- Özdamar Ünal, G., İşcan, G., & Ünal, O. (2022). The occurrence and consequences of violence against healthcare workers in Turkey: before and during the COVID-19 pandemic. *Family practice*, 39(6),1001-1008.
- Verma, R., Bhalla, K., Dhaka, R., Agrawal, G., Dhankar, M., Singh, A., Kumar, G (2019).Violence against Doctor is a Threat in India: A Study in a Tertiary Care Institution. *Indian Journal of Public Health Research & Development*, 10(8),472-477.
- Wen, L. S., Goodwin, K. E. (2016). Violence Is a Public Health Issue. *Journal of public health management and practice : JPHMP*, 22(6), 503–505.
- WHOa. The VPA Approach. Available at: <https://www.who.int/groups/violence-prevention-alliance/approach>. Accessed Date:12.10.2022

- WHO. Preventing violence against health workers. . Available at: <https://www.who.int/activities/preventing-violence-against-health-workers> Accessed Date:12.10.2022.
- Yang Y, Li Y, An Y, Zhao YJ, Zhang L, Cheung T, Hall BJ, Ungvari GS, An FR, Xiang YT.(2021) Workplace Violence Against Chinese Frontline Clinicians During the COVID-19 Pandemic and Its Associations With Demographic and Clinical Characteristics and Quality of Life: A Structural Equation Modeling Investigation. *Front Psychiatry*, 15;12:649989.
- Zafar, W., Khan, UR., Siddiqui, SA., Jamali, S., Razzak, JA.(2016). Workplace violence and self-reported psychological health: Coping with post-traumatic stress, mental distress, and burnout among physicians working in the emergency departments compared to other specialties in Pakistan. *J Emerg Med*,50,167–77e1.