

PHYSICAL VIOLENCE AGAINST HEALTH WORKERS: A META-ANALYSIS STUDY

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Abstract

Violence is an issue that is seen and examined in the health sector as in all sectors. According to the World Health Organization (WHO), approximately half a million people are killed by violence every year and millions of people are adversely affected by violence-related injuries. In this respect, healthcare workers need to work in a safe environment first and foremost in order to fulfill their duties well. Violence in healthcare institutions consists of all kinds of physical, verbal and sexual assaults by patients, their relatives or any other individual, which pose a risk to healthcare workers. In this context, studies investigating the incidents of physical violence experienced by healthcare workers between 2017 and 2022 were examined and the findings of 10 studies were discussed within the restrictions established. In this study, 10 studies selected according to the appropriate parameters related to violence against healthcare workers were examined with the Comprehensive Meta-Analysis Software (CMA) program. According to the findings of the research, it was concluded that the studies on physical violence against healthcare workers generally yielded common results and that the incidence of physical violence in healthcare services was significantly high in the 95% confidence interval. The results obtained in the context of the studies examined were determined to be at similar levels of exposure to physical violence in studies involving hospitals and all health institutions.

Keywords: Physical Violence, Health Services, Health Worker, Hospital, Meta Analysis.

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1. Introduction

Violence incidents have increased worldwide and especially in the health sector. This situation is seen as a public health problem as it causes serious negative damage in the health sector. Increasing incidents of violence day by day cause disruptions in health services, increase the incidents of work stoppage as a result of physical and mental effects on health workers and have negative consequences on the work efficiency of employees (Er et al., 2021).

The concept of violence is considered as a threat or use of force against oneself or other individuals that may cause injury, psychological damage and death (Başegmez, 2021). According to the World Health Organization (WHO), approximately half a million people are killed every year in the world due to violent incidents and millions of people are negatively affected by violence-related injuries. Violence incidents experienced by healthcare professionals is one of the professions on the agenda of the whole world (Temizkan & Akbaba, 2018). Because the health sector is the line of work where violence is the most intense. In the world and in Turkey, policies are being developed to prevent violent incidents. In terms of health institutions, violence is defined as the demonstration of risky behaviors towards health workers in the form of physical, verbal or sexual assault (Takak & Artantaş, 2018). The fact that the incidents of violence in the field of health constitute 25% of all violent incidents, that employees in the field of health are exposed to violence 16 times more than those working in other fields, and that health workers are exposed to violence more than police, bank officers and guards reveals the intensity of violent incidents in the field of health (Çamcı & Kutlu, 2011).

Healthcare workers generally experience violent incidents in emergency services and psychiatry areas in their work areas. When occupational groups are examined, nurses are most frequently exposed to violence (Yılmaz, 2017). Subsequently, general practitioners and other health workers are exposed to violence. According to studies, even if employees in health institutions are exposed to violence, the rate of reporting this situation to higher authorities is very low and only incidents of physical violence are perceived as violence, and incidents of psychological violence are not reported (Schablon et al., 2018).

In this study, by examining the studies on physical violence against healthcare workers, it is aimed to compare these studies and to reveal the extent of violence in the health sector through meta-analysis method.

PHYSICAL VIOLENCE

The health sector is the most common sector in which increasing incidents of violence are seen worldwide and it is becoming an increasingly important public health problem (Annagür, 2010). The concept of violence is classified according to different parameters. When the classification is made according to the groups exposed to violence, it can be grouped under subheadings such as violence against women, violence against the elderly, violence against children, violence between siblings,

violence between peers, violence against the disabled, violence against oneself, etc. On the other hand, when the classification is made according to the type of violence applied, emotional violence, sexual violence, economic violence and physical violence can be formed (Polat, 2016).

When the incidents of violence are analyzed, the most common type of violence is physical violence. In short, physical violence is a pessimistic behavior of an individual as a result of an event that may cause beating, beating, or even death (Gayır & Özçelik, 2021). From this perspective, physical violence is a negative behavior that can create dramatic consequences.

When many reasons come together, such as the fact that health services are provided 24/7, the number of health workers is not at the desired level or the workload of the existing health workers is high, the patient individuals and their relatives are stressed, the waiting times of the patients are high and they cannot benefit from health services at the desired level, the possibility of violence in health institutions may increase (Gayır & Özçelik, 2021). In addition, many factors such as working in an overcrowded work environment, lack of appropriate training for health workers in dealing with violence, and insufficient trust personnel within the institution are among the factors that increase violence in health institutions (Çamcı & Kutlu, 2011).

METHOD

Due to the increase in physical violence against healthcare workers in Turkey compared to the past, it is aimed to present a general perspective by bringing together retrospective studies. The fact that no meta-analysis study has been conducted on this subject in Turkey is important in terms of contributing to the existing literature.

In this study, 10 studies selected according to appropriate parameters related to violence against healthcare workers were examined by meta-analysis method. Meta-analysis method, one of the systematic review methods, was used in the study. Comprehensive Meta Analysis v3 (CMA) package program was used for the analysis of the studies. Analyses were made on the correlation values of the individual studies included in the study. With the data obtained, the size of the average effect and homogeneity conditions were determined. Ethics committee approval and informed consent form were not used in this study.

Mean and standard deviation values, sample sizes, pre-post tests and p values were used to obtain the meta-analysis results of the studies. These data were independently reviewed by the researchers. The effect size (Hedges' *g* and 95% confidence intervals [CI]) was calculated to represent the difference between the mean of the intervention group and the mean of the control group divided by the combined standard deviation. Hedges' *g* large [$d \geq 0.80$), medium ($0.20 < d < 0.80$) and small ($d \leq 0.20$)] coefficient has better statistical properties than Cohen's *d* coefficient for small groups (Cohen, 2013). Therefore, Hedge's *g* was used for effect size. For the heterogeneity test, I^2 [heterogeneity may not be significant: 0%-40%, moderate heterogeneity: 30%-60%, significant heterogeneity: 50%-90%, and substantial heterogeneity: 75%-100%] coefficient and Cochran's *Q* statistic ($p < 0.10$) were adopted (Higgins et al., 2022). Restrictions on the acceptance of the reviewed studies are presented in Table 1.

Table 1. Literature Review Table Used in the Study

Literature Review	Acceptance Criteria	Exclusion Criteria
Language Used in Studies	Studies published in Turkish and English	-
Level of Evidence	Research with the best evidence approach	-
Date Range of Publication of Studies	01.01.2017 – 01.06.2022	-
Databases	Cochrane, Pubmed, Google Scholar, YÖK National Thesis Center, Ulakbim National Database	Researches that cannot be accessed in the identified databases
Keywords	1. Violence 2. Physical Violence against Health Workers 3. Code White 4. Mobbing	Other employees
Field of Research	Health sector	All sectors except healthcare
Method	Survey Method	-
Statistical Data	To have the knowledge of the health worker who has been subjected to physical violence, which is necessary for the meta-analysis	No quantitative data available, failure to focus on violence against healthcare workers

FINDINGS

Within the scope of the meta-analysis study, 10 articles were examined. (Sun et al., 2017; Yang et al., 2018; Çalikoğlu et al., 2018; Schablon, 2018; Arnetz et al., 2018; Demirci & Ugurluoglu, 2020; Fawole et al., 2019; Lu et al., 2020; Jia et al., 2020; Shaikh et al., 2020). The stage of determining the included studies is shown in Figure 1. The samples of the studies included in the review are presented in Table 2. A small number of studies with very large samples were analyzed (19766 Health Workers).

Figure 1. Prisma Flow Diagram

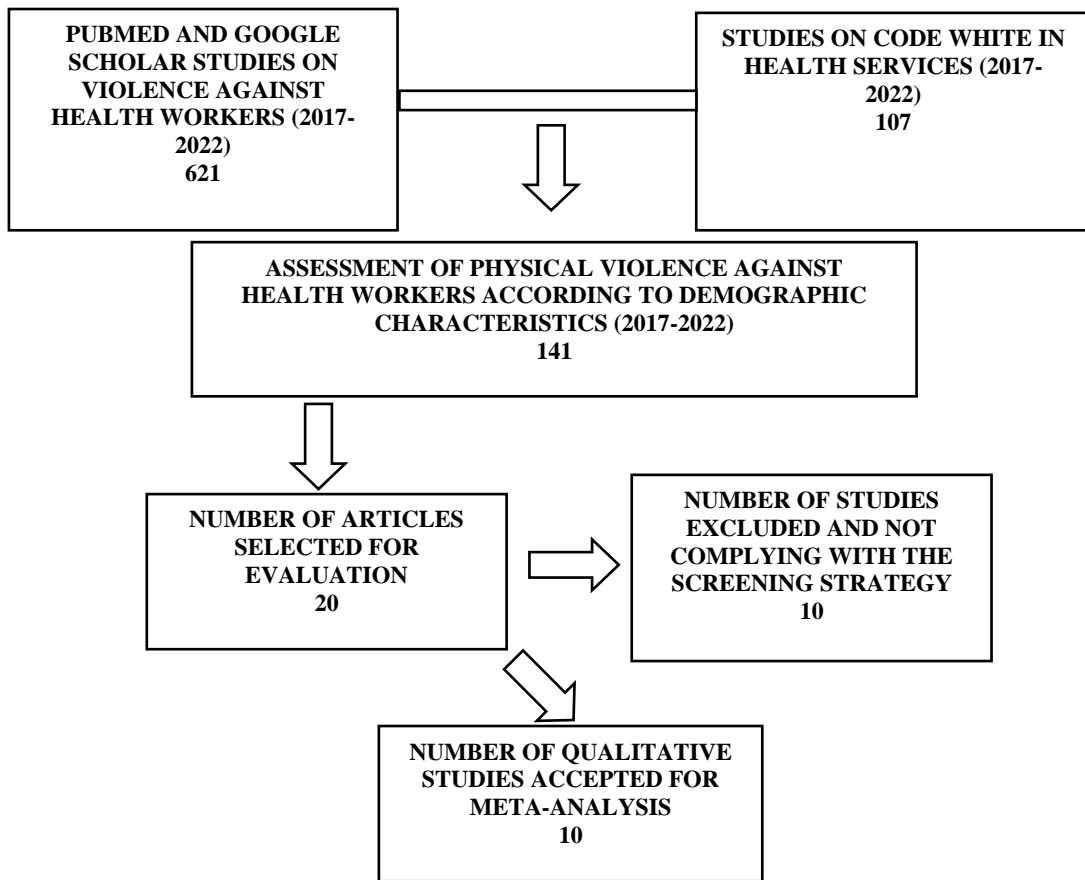


Table 2. List of Studies Meta-Analyzed

ROW NO	AUTHOR	NUMBER OF PARTICIPANTS
1	Sun, 2017	1899
2	Yang, 2017	244
3	Çalikoglu, 2018	370
4	Schablon, 2018	1984
5	Arnetz, 2018	2013
6	Demirci, 2019	347
7	Fawole, 2019	388
8	Lu, 2019	1906
9	Jia, 2020	2036
10	Shaikh, 2020	8579
TOTAL: 19766 HEALTH WORKERS		

Table 3. Heterogeneity Test Results

Heterogeneity			
Q-value	Df (Q)	P-value	I-squared
18,366	9	0,031	50,997

Looking at Table 3, the I^2 statistic value used to determine the level of heterogeneity was determined as 50,997. According to the results of the heterogeneity test, the incidence of physical violence in health services was found to be significant at 95% confidence interval ($p < 0.05$).

Forest plot is a graph that is widely used in meta-analysis and visually shows the effect sizes and measurement values of the outcome variables. The results of the meta-analysis of the studies included in the research are shown in Figure 2 with forest plot.

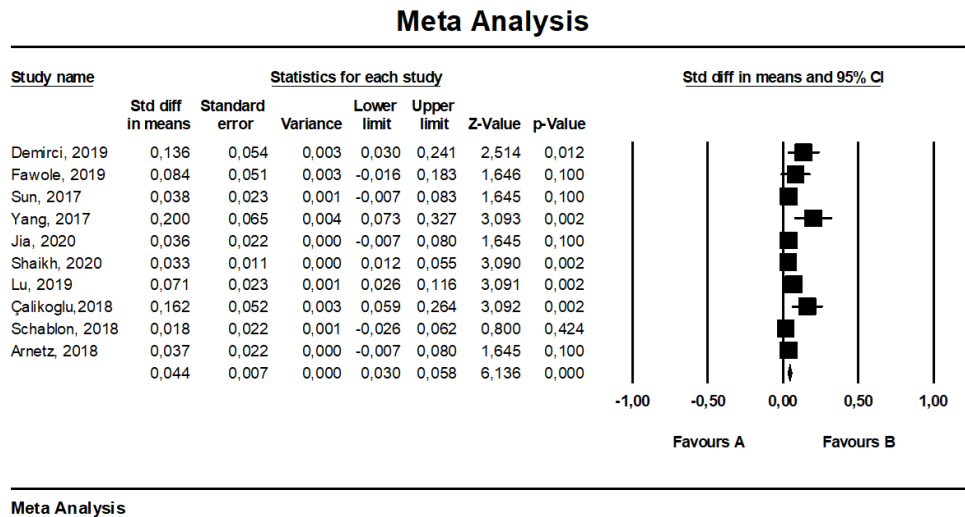


Figure 2. Meta-analysis Graphic Showing the Direction of Physical Violence Against Healthcare Workers

Figure 2 shows the 95% confidence interval values (CI) for correlation in the calculation of effect size for physical violence against health workers. When we look at the values, there is a high degree of significance. Although the sample numbers and rates of exposure to physical violence were different, similar forest values were observed in all studies on the graph. In addition, the fact that the point estimates and confidence intervals of the studies intersect close to each other shows that the studies present common results. The diamond-shaped part on the graph reflects the general effect and weighted averages of the studies (Dinçer, 2013). As seen in the figure, the diamond shape is at 0.044. This means that the general effect rate of physical violence against healthcare workers is 0.044. According to this result, it can be said that the studies on physical violence against healthcare workers generally give common results.

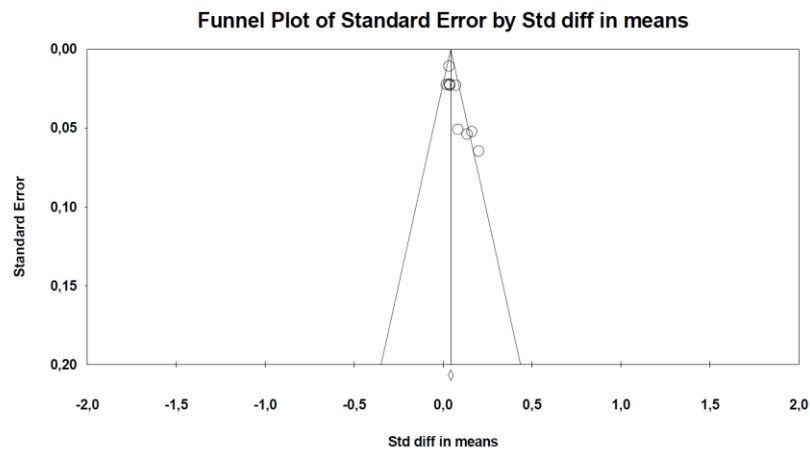


Figure 3. Funnel Scatter Plot

The funnel plot in Figure 3 is a visual graphic that determines whether the studies included in the analysis have publication bias. The bubbles shown in the figure symbolize the studies and their presence in the funnel plot indicates that there is no publication bias.

When there is no publication bias in meta-analysis studies, the studies are spread symmetrically on both sides of the vertical line on the graph and at the top of the funnel. According to the funnel plot, almost all of the studies included in the research are shown close to the desired effect size and are located at the top of the graph.

DISCUSSION

While the health sector is one of the areas where violence is seen most intensely, health workers can often be exposed to different types of violence. When the working environment and working conditions of healthcare workers are considered, the fact that they work in a chaotic environment such as hospitals, which can immediately turn into a crisis, and the long working hours put healthcare workers in more difficult situations with the incidents of violence. Especially in these difficult situations, the fact that they have problems in communicating with patients and that they are in the sector where violence is experienced the most reveals the necessity of taking some measures regarding violence against healthcare workers (Sun et al., 2017).

In their 2019 systematic review, Liu et al. found a higher prevalence of physical violence against healthcare professionals among nurses and doctors in psychiatric and emergency department settings, especially in Asian and North American countries (Liu, 2019). In this respect, there is a need for governments, policy makers and health institutions to take action and measures to address workplace violence against health professionals globally.

According to Lu et al. (2020), physical violence against healthcare professionals has been a major concern in China, but no meta-analysis has been published in the country. A total of 47 studies covering 81,771 healthcare professionals were included in the analysis. With the available data from 44 studies, the overall prevalence of physical violence was 62.4%. Men were found to be more likely to experience physical violence than women. As a result, it was reported that physical violence against



health professionals is seen as a significant problem in China and that adequate education, training and support should be provided to staff to implement violence management policies to ensure safety in the workplace (Lu et al., 2019).

Binmadi and Alblowi (2019) aimed to assess the prevalence of violence among oral health professionals and associated workplace policies. The increasing incidence of occupational violence against oral health workers indicates the need for the implementation of better protective measures to create a safe working environment for dentists (Binmadi, 2019). There is a current need to increase awareness of workplace violence policies and the detection and reporting of aggression and violence in dental facilities. When the studies in the literature are examined, it is determined that physical violence is seen as an important problem in health services.

CONCLUSION

In this study, it was aimed to combine the results of the meta-analysis method by determining the studies in the literature on the subject of physical violence, which is frequently seen in health services, according to certain criteria. Between 01.01.2017 - 01.06.2022, 10 studies analyzing the physical violence experienced by employees in health institutions were included in the study. Statistical significance was found in all 10 studies included in the meta-analysis. The presence of publication bias among the studies included in the study was checked with a funnel plot and no publication bias was found. Considering the results obtained in the context of the studies examined; it was determined that the levels of exposure of healthcare workers to physical violence generally gave common results according to the contents of the studies in the literature. According to the findings of this study, it was seen that the results in the forest plot of the studies in the literature on physical violence against healthcare workers and the studies examined generally gave the same results. For this reason, health managers should take effective measures regarding such negative situations that health workers are exposed to, keep the motivation of health workers high and contribute to the safe operation of the organization.

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