

MESTRADO
EVIDÊNCIA E DECISÃO EM SAÚDE

Workplace Violence Against Healthcare Workers: A scoping review of reporting practices, barriers and institutional responses (2020-2025)

Ana Rafaela Ferreira Abreu

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"O tempo é a medida do movimento entre antes e o depois"

- Aristóteles

Hoje concluo um ciclo, um dos mais desafiantes e enriquecedores. À professora Inês Ribeiro, expressei o meu profundo agradecimento por me ter acompanhado ao longo desta jornada. A sua dedicação e empenho foram cruciais para superar cada obstáculo encontrado, ao qual guardo um profundo reconhecimento e admiração.

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A todos, o meu mais sincero OBRIGADA!

Sumário

Enquadramento: A violência contra profissionais de saúde é um problema global que tem atraído atenção nos últimos anos, com consequências significativas para o bem-estar e para a qualidade dos cuidados prestados. Apesar da existência de políticas públicas e plataformas digitais para a notificação de incidentes de violência, a subnotificação persiste, tornando-se um problema do presente. Barreiras individuais e organizacionais contribuem para uma cultura de silêncio. Para combater este fenómeno, é necessária uma ação coordenada entre as políticas nacionais e estratégias institucionais para prevenir a violência e promover a notificação. Este estudo teve como objetivo identificar as práticas atuais, barreiras institucionais e organizacionais e as lacunas existentes na notificação de incidentes de violência contra profissionais de saúde. É dado ênfase ao contexto Português, onde é descrita a principal resposta política e as plataformas digital de notificação existentes.

Métodos: A *scoping review* foi estruturada seguindo a metodologia originalmente proposta por Arksey & O'Malley (2005). Foi conduzida uma pesquisa exploratória da literatura científica nas bases de dados PubMed, Scopus e Web of Science, entre o período de 2020 a 2025.

Resultados: Mais de 50% dos episódios contra profissionais de saúde não são notificados. A violência verbal é o tipo de violência mais identificado e paradoxalmente, o menos notificado. A principal barreira individual mencionada foi a crença da inutilidade da notificação que "nada será feito", enquanto a barreira organizacional foi a ineficácia do sistema de notificação. Em Portugal, assim como na Itália, Suécia, Califórnia e Turquia, existe uma política publica de prevenção da violência apoiada por plataformas nacionais de notificação digital. Em 2014, foi criada em Portugal uma plataforma nacional chamada NOTIFICA para monitorizar e notificar episódios de violência, mas esta plataforma atualmente já não se destina a esse fim. Atualmente os incidentes de violência contra profissionais de saúde são apenas notificados em plataformas institucionais, como o SAGRIS e HER+. A estratégia mais eficaz descrita nos estudos para combater a violência e a subnotificação dentro das instituições de saúde foi a utilização combinada de formação e educação na prevenção com campanhas de sensibilização.

Conclusão: O combate à violência contra profissionais de saúde no setor da saúde, em Portugal, como no resto do mundo, requer vontade política, responsabilização institucional e mudança na cultura organizacional. Os esforços futuros devem centrar-se na integração de indicadores de violência em métricas de qualidade e segurança em todo o sistema de saúde.

Palavras-chave: Violência no local de trabalho; profissionais de saúde; sistemas de notificação digital; política de saúde contra a violência.

Abstract

Background: Violence against Healthcare Workers (HCWs) is a widespread global problem that has attracted attention in recent years, with significant consequences for their well-being and quality of care provided. Despite the existence of public policies and digital platforms for reporting incidents, underreporting persists, becoming an issue of the present. Individual and organizational barriers contribute to a culture of silence. To combat this phenomenon, coordinated action is needed between national policies and institutional strategies to prevent violence and promote reporting. This study aimed to identify current practices, institutional and organization barriers, and research gaps in reporting violent incidents against HCWs. Emphasis is placed on the Portuguese context, where the main policy response and existing digital reporting platforms are described.

Methods: The scoping review was structured following the methodological framework originally proposed by Arksey & O'Malley (2005). An exploratory scientific literature was conducted in PubMed, Scopus and Web of Science databases, covering the period 2020 to 2025.

Results: More than 50% of violence against healthcare workers episodes goes underreported. Verbal violence is the most identified type of violence and, paradoxically, the least reported. The main individual barrier mentioned was the belief in the uselessness of reporting, "*nothing will be done*" like the organizational barrier was ineffectiveness of reporting systems. In Portugal, as in Italy, Sweden, California and Turkey, there is a public policy to prevent violence supported by national digital reporting platforms. In 2014, a national platform called NOTIFICA was created in Portugal to monitor and to report this phenomenon of violence, but this situation no longer exists. Currently, incidents of violence against HCWs are only reported on institutional platforms such as SAGRIS and HER+. The most effective strategy described in the studies to combat violence and underreporting was the combined use of training and education in prevention with awareness campaigns.

Conclusion: Combating violence against healthcare workers in healthcare sector, in Portugal as in the rest of world, requires political will, institutional

accountability and change in organizational culture. Future efforts should focus on integrating violence indicators into quality and safety metrics across the system.

Keywords: Workplace violence; healthcare workers; digital reporting systems; health policy against violence.

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Acronyms and abbreviations

CalOSHA Occupational Safety and Health Administration

CDPH California Department of Public Health

DGS Direção Geral da Saúde

ED Emergency Department

EHR Electronic health record

HCWs Healthcare Workers

HER+ Health Event & Incident Management

ILO International Labour Organization

MPA Medical Protection Act

OSHA Occupational Safety and Health Administration

PAPVSS Action Plan for the Prevention of Violence in the Health Sector

PNSTT National Workers' Health Policy

PRISMA-ScR Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews

REDCap Research Electronic Data Capture

SB Senate Bill

SOAS-R Staff Observation Aggression Scale - Revised

SPMS Serviços Partilhados do Ministério da Saúde

WHO World Health Organization

WPV Workplace Violence

WVIRS Workplace Violence Incident Reporting System

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Thesis structure

This thesis is structured into nine chapters, organized in a way that allows for a logical and progressive reading. A brief description of the focus of each chapter is presented below:

1. Introduction

This chapter introduces the central theme of the thesis. It contextualizes the main topic of this thesis, explain its relevance and highlights the growing concern with the topic.

2. Objectives

This chapter defines the purpose of this thesis. It presents the main objective of the study and describes the secondary objectives that guided the different stages of the research.

3. State of the Art

This chapter described the current scientific evidence and theoretical background. Concepts are clarified, the most relevant findings in the field are discussed, and the bibliographic framework that supports the research is established.

4. Materials and Methods

This chapter explains how the study was conducted. It specifies the type of review chosen, the databases used for the literature search, and the criteria applied for inclusion and exclusion of studies. It also describes the data extraction and synthesis process.

5. Results

This chapter presents the main findings of the research. To facilitate understanding, the information is presented with the support of tables and figures, which help illustrate the patterns and trends observed.

6. Discussion

In this chapter, the results are interpreted and critically analysed. They are compared with the existing literature, and their implications for practice and policy are explored, with particular attention to both the international and Portuguese contexts.

7. Conclusions

This chapter summarizes the main findings of the thesis and contributions of this thesis.

8. Future Research

This chapter highlights the limitations identified in the study, which in turn open avenues for new research questions. It points out these gaps and suggests possible directions for future investigation.

9. Annexes

The annexes include complementary material such as supporting documents.

Scientific results and financial support

The authors aim to publish this study in a peer-reviewed and indexed in BioMed Central scientific journal.

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1. Introduction

Workplace Violence (WPV) against Healthcare Workers (HCWs) is a global reality. It is estimated that 62% of healthcare workers worldwide have experienced some form of workplace violence during their careers (*Violence Prevention Alliance Approach*, n.d.). The World Health Organization (WHO) defines violence as "*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, n.d.). Violence in the workplace affects HCWs, causing profound consequences such as anxiety, fear of retaliation, normalization of aggression as "part of the job", burnout, demotivation, decreased quality of care, and even absenteeism. However, despite the seriousness of the problem, underreporting remains a critical barrier, limiting the real understanding of its extent and hindering the creation of effective prevention and intervention strategies (Spencer et al., 2023). To tackle the phenomenon of violence against HCWs, several countries have invested in institutional policies and digital reporting systems that seek to monitor incidents of violence through records, but also to promote a culture of safety in the workplace. Examples include the Workplace Violence Incident Reporting System (WVIRS), managed by the California Department of Public Health (CDPH) in the United States (Odes et al., 2022), the NOTIFICA platform, managed by Direção Geral da Saúde (DGS) in Portugal (DGS, 2014, p.3), and Synergi, developed under the Swedish Patient Safety Act in Sweden (Wahlin et al., 2020). However, barriers remain at the individual level, many professionals believe that violence is inevitable in the clinical environment (Ikpae & Buowari, 2023); at the organizational level, there is a prevailing perception that reporting systems are insufficient or unresponsive (Towari & Bugis, 2020). The literature shows that no single solution is sufficient. Most studies point to a combination of robust institutional policies, continuing education programs, and awareness campaigns as the most promising response, capable of promoting cultural change in the healthcare sector (Zangão, Gemito et al., 2024). Minhat & Sahiran, 2023; Flores-Cohaila et al., 2025; Kumar et al., 2025; Alsmal et al., 2020).

2. Objectives

This thesis, presented in the format of a scoping review, aims to synthesize and map the existing scientific evidence on reporting strategies, platforms, public policies and barriers related to the reporting of incidents of violence against healthcare workers in the workplace. By systematically analysing studies published between 2020 and 2025, the review aims to identify current practices, institutional barriers, and research gaps in knowledge, with a special emphasis on the Portuguese context. The study was conducted in accordance with the PRISMA-ScR guidelines and pursued the following objectives.

The primary objective is to identify and describe existing platforms and public policies implemented to support the reporting of incidents of violence against healthcare workers. The secondary objectives are I) to characterise the most frequently reported types of violence against healthcare workers; II) to identify the underreporting rate mentioned III) to identify individual and organizational barriers that impede the reporting of violent episodes; IV) to map the gaps in existing research on workplace violence reporting, with particular attention to the Portuguese healthcare system.

3. State of the art

In this chapter, find the definition of violence given by World Health Organization (WHO), with a special focus on Workplace Violence (WPV) against Healthcare Workers (HCWs). It classifies WPV within a health sector as global phenomenon, based on comparative international data and evidence. The discussion focuses on the main forms of violence observed, as well as with strategies, platforms, interventions, and public policies that have been developed to support the reporting of these incidents. The analysis considers the negative effects of violence on healthcare workers and on healthcare institutions. Special attention is given to the Portuguese context, particularly to the current use of reporting systems, existing public policies, and persistent structural challenges.

3.1. Contextualization of Violence in Health Systems

3.1.1. Definition and Global Recognition

It is estimated that approximately 62% of healthcare workers worldwide have experienced some form of workplace violence (*Violence Prevention Alliance Approach*, n.d.). In recent decades, WPV against healthcare workers has taken on large proportions, leading the World Health Organization (WHO) recognized it as global problem. The WHO defines violence as "*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, n.d.) In 1996, the 49th World Health Assembly adopted Resolution WHA49.25, and recognized violence as a global public health priority and called for its documentation and prevention (WHO, 1996). Later in 2002, the WHO together with the International Labour Office, the International Council of Nurses, and Public Services International, published a document Framework Guidelines for Addressing WPV in the Health Sector. The historic document emphasizes the urgent need for coordinated action and outlines preventive measures in the health sector. (*Framework Guidelines for Addressing Workplace Violence in the Health Sector*, 2002). Subsequently, the World Report on Violence and Health added the vulnerability due to exposure to some healthcare workers, especially those working in high risk departments, such as emergency and psychiatric services. (*Framework Guidelines for Addressing Workplace*

Violence in the Health Sector, 2002). The report recognizes violence in the health sector as a systemic phenomenon that compromises the safety of professionals and the quality of care provided, calling for the implementation of effective institutional responses and the formulation of integrated prevention strategies, supported by public policies and organizational practices (Dahlberg & Krug, 2006).

3.1.2. Prevalence and Affected Professional Groups

The study conducted by Banga et al. (2023) with a sample of 5,405 HCWs, from 79 countries, concluded that the most frequently reported forms of violence were verbal aggression (72%), followed by emotional violence (41%), physical violence (30%), and sexual violence (8%). Nurses were the most affected professional group, followed by physicians, with a higher prevalence of cases among female professionals. The perpetrators were most often the patients or their families, followed by supervisors and colleagues.

In Portugal, data provided by the Direção Geral da Saúde DGS (Directorate-General of Health), are in line with international evidence. In 2023, a total of 1,036 episodes of violence against HCWs were officially notified. Among these, psychological violence was the most common form (67%), followed by physical violence (14%) and in a smaller number of incidents moral harassment (5%). The healthcare workers who reported the most incidents were nurses, followed by doctors (SPMS, 2025).

3.1.3. Impact on Professionals and Institutions

Workplace violence has profound effects on HCWs with significant repercussions at both individual and organizational levels. Individual repercussions include impacts on mental health, fear of retaliation, the normalization of violence as an acceptable behaviour, professional burnout and job dissatisfaction, while organizational repercussions include decreased quality of care provide and increased absenteeism among by HCWs (Minhat & Sahiran, 2023; Flores-Cohaila et al., 2025; Kumar et al., 2025; Alsmal et al., 2020).

3.2. Reporting and Institutional Responses

3.2.1. Strategies, Platforms and Public Policies

In response to the rising aggressiveness and frequency of workplace violence against HCW, the implementation of conventions, public policies and reporting systems has been strongly encouraged. The main objective is to prevent acts of violence, protect healthcare workers, and hold institutions accountable for workplace violence in the healthcare sector. The state of California in United States, the has taken a pioneering legislative approach to WPV. Since 2017, hospitals have been required to report incidents through the Workplace Violence Incident Reporting System (WVIRS), managed by the California Department of Public Health (CDPH) (Odes et al., 2022). More recently, the approval of Senate Bill 553 (SB553) in 2023, which came into effect on July 1, 2024, requires all private organizations to implement violence prevention plans, even outside the healthcare sector, reinforcing the role of employers in risk mitigation (Cal/OSHA & California, 2025).

In Europe, the International Labour Organization (ILO) Convention No. 190, adopted in 2019 and effective since 2021, represents a landmark in recognising the right to a workplace free from violence and harassment. This convention defines “*violence and harassment as behaviours, practices, or threats likely to cause physical, psychological, sexual, or economic harm in the course of professional activity*” (ILO, 2019). Italy ratified the convention in 2022, committing to incorporating its principles into national labour legislation (Civilotti et al., 2021).

In Latin America, Brazil has formally recognised violence as an occupational risk through the *National Workers' Health Policy* (PNSTI), established by Ordinance GM/MS No. 1,823/2012. This integration was a significant step forward in monitoring workers' health, but underreporting remains high, indicating weaknesses in the operationalization of regulatory provisions (Bordignon et al., 2021).

On the other hand, in Saudi Arabia, the prevalence of violence is high, resulting from poor awareness among professionals and a lack of accessible reporting mechanisms (Alsmael et al., 2020). Similarly, in Ethiopia, the absence of consistent public policies and formal institutional channels has contributed to the naturalization of violence as an inherent part of professional activity (Legesse et al., 2022).

3.2.2. The Portuguese context

Within the specific context of Portugal, the institutional response has developed in a more structured and integrated manner. The Action Plan for the Prevention of Violence in the Health Sector (PAPVSS), incorporated into the *National Program for the Prevention of Violence throughout the Life Cycle* of the Directorate-General for Health, defines strategic objectives to prevent, monitor, and mitigate the effects of violence in the health sector (Governo de Portugal, 2020). Eleven years ago, in 2014, the NOTIFIC@ platform was launched, as a voluntary, anonymous, and non-punitive national reporting system, designed to promote a culture of safety and generate structured data for corrective and training purposes (DGS, 214, p.3). More recently, March this year Law No. 26/2025 was formally approved, classified assaults against healthcare workers as a public crime, allowing authorities to intervene even in the absence of a formal complaint by the victim. This legal measure aims to strengthen the timeliness of institutional responses and reinforce a zero-tolerance culture in healthcare (Diário da República, 2025).

However, despite these advances, obstacles remain. The NOTIFICA system is no longer intended for reporting violent events, on the Serviços Partilhados do Ministério da Saúde (SPMS) website it is possible to read, “NOTIFICA - Patient Safety is a system for reporting and managing incidents that occur in the healthcare system, where citizens and healthcare workers can report incidents related to patient safety in the provision of healthcare (SPMS, 2025). These initiatives raise significant concerns regarding the operationalisation, and continuity of institutional mechanisms for violence reporting. Ultimately WPV against HCWs must be addressed as a systemic issue that requires coordinated responses, robust public policies, accessible reporting platforms, and a strong organizational commitment to prevention and accountability.

3.2.3. The Problem of Underreporting

International studies, as well as official Portuguese reports, consistently demonstrate that underreporting remains a persistent challenge. Underreporting compromises the development of effective organizational strategies and public policies to combat violence in the healthcare sector. A study conducted in Malaysia among 557 HCWs in hospitals found that only 21% to 50% of respondents formally reported violence incidents to their leaders or other designated officers, indicating underreporting of 50% or more (Minhat & Sahiran, 2023). In Portugal, data from the SPMS, indicate a similar situation. Despite the availability of the NOTIFICA system, underreporting continues to occur. Between early 2022 and June 2023, healthcare institutions recorded 3,024 incidents, yet only 1,632 incidents were logged on the platform, pointing to what

has been termed “computerized underreporting” (SPMS, 2025). This phenomenon, previously identified in national studies such as Antão et al., (2020), reveals a critical gap in the systematic monitoring of violent events in Portuguese healthcare. The result is a weakening of evidence-based prevention measures and perpetuation of a culture of institutional silence.

Despite notable institutional efforts, a systematic and comprehensive overview of the strategies to promote and monitor the reporting of healthcare violence is still lacking. This absence of systematization undermines the design of evidence-driven public policies and limits the responsiveness of health systems to the pervasive phenomenon of workplace violence (Spencer et al., 2023).

3.2.4. Reporting Barriers and Research Gaps

The main barriers to reporting incidents of violence by HCWs, include the perception that reporting is ineffective, lack of mandatory registration, limited knowledge of procedures, and the lack of an institutional culture of reporting (Babkair et al., 2024; Raczekevny-Deak & Besenyo, 2022; Almael et al., 2020; Legesse et al., 2022).

Nevertheless, some initiatives have demonstrated positive contributions. For example, the introduction of the "white code" in some hospitals (Calik et al., 2021), and The Joint Commission's requirement for documentation and training (OSHA, 2016), represented important steps toward embedding preventive strategies in the healthcare institutions.

In Portugal, Vilas Boas et al. (2023) propose that physical violence should be explicitly recognised as an occupational risk, advocating for its systematic classification as an occupational accident. This study emphasises the importance of institutional measures not only to prevent recurrence but also to mitigate the broader impact of violence on healthcare services.

Spelten et al., (2022) advance this argument even further by highlighting that sustainable solutions require more than individual coping strategies or isolated training initiatives. They call for a paradigm shift that recognizes violence as a systemic issue, which must be addressed at the organizational level and supported by public policies, the involvement of professional bodies, and an institutional culture of zero tolerance. Crucially, the lack of commitment from management and regulatory authorities is identified as a key factor for perpetuating underreporting and the negative impact of violence on the health and well-being of healthcare professionals. For this reason, institutionally legitimised and supported strategies are considered essential to combat the phenomenon in an effective and sustainable manner.

Against this backdrop, the present scoping review was conducted to map and synthesise the available evidence on strategies, platforms, barriers, and public policies concerning violence against HCWs. By focusing specifically on reporting, the review seeks not only to describe existing practices but also to identify critical gaps and opportunities to strengthen the institutional and policy response to workplace violence. It is guided by the central research question: What practices, barriers, platforms and public policies have been implemented to support the institutional reporting of violent incidents against healthcare workers in the workplace?

And explores secondary questions, namely:

1. What are the most frequently reported types of violence against healthcare workers?
2. What is the current rate of underreporting of violent incidents in healthcare settings?
3. Which individual and organizational barriers hinder the reporting of episodes of violence?
4. What gaps exist in research on violence reporting, especially in the Portuguese context?

3.3. Expected contributions

The findings of this scoping review may contribute to the design of future health policies, the development of more effective training interventions, the promotion of greater awareness, while also fostering an organizational culture that prioritises professional well-being and safety. Furthermore, the review is expected to provide a foundation for the formulation or revision of more robust public policies on violence prevention and reporting, encouraging a more coordinated and integrated regulatory approach within health systems. Such measures have the potential to strengthen organizational resilience and ensure safer, more sustainable working conditions in the healthcare sector.

4. Material and Methods

4.1. Study design

This study was conducted as a *scoping review*, following the methodological framework originally proposed by Arksey & O'Malley (2005), later refined by Levac et al., (2010), and further guided by PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) guidelines developed by Tricco et al., (2018). As stated in chapter 2, the study aims to map and synthesise the available evidence on strategies, platforms, barriers, and public policies to support the reporting of workplace violence against healthcare workers, while also identifying the most frequent types of violence reported, barriers and gaps in current research.

4.2. Eligibility criteria

Studies were eligible for inclusion if they were published between 2020 and 2025, in Portuguese, English or Spanish, and addressed one or more of the following themes:

- Digital platforms for reporting workplace violence against healthcare workers;
- Public policies or national reporting systems related to violence against healthcare workers;
- Barriers to reporting violence against healthcare workers;
- Populations composed of healthcare workers and/or the number of incidents reported by healthcare professionals through existing platforms related violence against healthcare workers.

The exclusion criteria were as follows:

- Studies focusing exclusively on violence directed at patients;
- Studies that made no reference to reporting platforms or public policies addressing violence against healthcare workers;
- Opinion papers or editorials without a scientific basis;

4.3. Information sources

The literature search was conducted across PubMed, Scopus and Web of Science. In addition, relevant institutional sources were consulted including the World Health Organization (WHO), the International Labour Organization (ILO), and the official websites of health ministries in selected countries. Given the particular emphasis of this review on the Portuguese context, institutional sources from Portugal, such as Direção Geral da Saúde (DGS) and Serviços Partilhados do Ministério da Saúde (SPMS), were also included. Their inclusion aimed to incorporate national policy documents and digital reporting platforms that are not indexed in international databases, ensuring a more comprehensive mapping of reporting practices.

4.4. Search Strategy

The search strategy combined controlled descriptors and free-text terms using Boolean operators. The main search string included:

- “Workplace violence” OR “occupational violence”
- AND “reporting” OR “notification” OR “underreporting”
- AND “healthcare workers” OR “health professionals”
- AND “strategies” OR “interventions” OR “public policies”

This strategy was adapted to the indexing systems and search functionalities of each database.

4.5. Selection Process

This selection process was conducted in two phases. First, two independent reviewers screened the titles and abstracts of all retrieved records. In the second phase, the full texts of potentially eligible studies were assessed for inclusion. In cases of disagreement, a third reviewer was consulted to reach consensus. The entire selection process was documented in accordance with PRISMA-ScR guidelines and illustrated in the flowchart presented in Figure 1.

4.6. Data Extraction and Analysis

A structured data extraction form was developed to ensure consistency and transparency in the collection process. The following variables were recorded for each included study:

- Author(s), year of publication and country;
- Study design;
- Study population;
- Type of violence addressed (verbal, physical and sexual);
- Rate of non-reporting;
- Reporting mechanism used;
- Location of reporting mentioned;
- Digital platforms cited;
- Public policies cited;
- Strategies for reporting identified;
- Individual and organizational barriers identified;
- Main conclusions.

The extracted data were synthesised descriptively, with thematic grouping applied to identified strategies and barriers to highlight common patterns and divergences across study.

5. Results

5.1. Characterisation of Studies

The database search retrieved a total 232 articles. After removing 127 duplicate articles, 105 articles remained for screening by title and abstract. Of these, 57 were excluded based on their title. The full texts of 48 articles were assessed for eligibility, of which 13 were excluded for not meeting the inclusion criteria. A total of 35 studies were therefore included in the final synthesis. The detailed selection process is illustrated in the PRISMA flowchart (Figure 1).

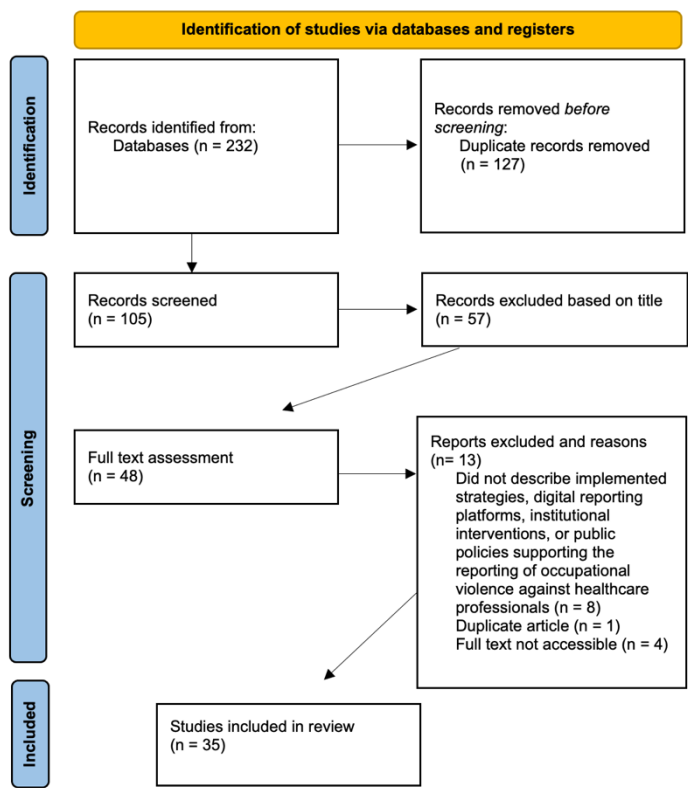


Figure 1- Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow chart.

The Table 1, presents the 35 studies that met the eligibility criteria after title and abstract screening, followed by full-text review of the 232 studies initially identified in the databases. The table is organized by author, year, country, study design, number of Healthcare Workers (HCWs) or notifications, healthcare settings and the reporting mechanism employed.

The included studies were published between 2020 and 2025, with the highest concentration in 2020 ($n = 9$), followed by 2023 ($n = 8$) and 2024 ($n = 8$). In the remaining years, four studies were published in 2022, four in 2021 and two in 2025. This temporal distribution indicates that workplace violence (WPV) against HCWs has attracted considerable attention in recent years, particularly at the beginning of the decade and especially in the post-pandemic period (Table 1).

Geographically, the studies covered 25 countries spread across five continents. Asia and the Middle East ($n = 17$) stood as the most representative, followed by Europe ($n = 10$), Africa ($n = 5$) and North America ($n = 2$). In addition, one multicontinental study was identified, as illustrated in Figure 2. Portugal was represented in three studies (Table 1).

Table 1 - Characteristics of the included studies (n = 35), including reference, country, study design, number of healthcare workers (HCWs) or incidents registered, healthcare settings, and reporting mechanisms.

Nº	Reference (Author, Year)	Country	Study Design	Nº HCWs / incidents register	Healthcare Settings	Reporting Mechanism
1	Zangão, Serra et al., 2024	Portugal	Qualitative exploratory descriptive study	140 HCWs	Health institutions in the Alentejo region, including hospital services and primary healthcare units	Semi-structured interviews
2	Zangão, Gemito et al., 2024	Portugal	Observational cross-sectional study	440 HCWs	Local Health Units (LHUs)	Online platform with structured questionnaire
3	Wahlin et al., 2020	Sweden	Retrospective quantitative descriptive study (based on incident reports)	1,702 HCWs	Swedish national healthcare system	Web-based institutional incident reporting system (IRS – Synergi)
4	Viottini et al., 2020	Italy	Retrospective observational study	10970 HCWs	Italian university hospital	Institutional Aggression Reporting Form (paper-based)
5	Veronesi et al., 2023	Italy	Quasi-experimental mixed-methods implementation study	400 HCWs	General hospital (unspecified level)	Self-administered questionnaire
6	Towari & Bugis, 2020	Saudi Arabia	Cross-sectional study	210 HCWs	Intensive Care Units (ICUs)	Self-administered questionnaire

Legend: HCWs - Healthcare Workers

(Continued)

Table 1 (Continued)

N°	Reference (Author, Year)	Country	Study Design	N° HCWs / incidents register	Healthcare Settings	Reporting Mechanism
7	Shahjalal et al., 2021	Bangladesh	Cross-sectional study	1081 HCWs	Public and private healthcare providers (primary, secondary, and tertiary levels) across eight administrative divisions in Bangladesh	Self-administered questionnaire
8	Seddik et al., 2023	Egypt (Cairo)	Cross-sectional study	183 HCWs	University Hospital	Self-administered questionnaire
9	Schosler et al., 2024	Denmark	Nationwide cross-sectional survey	584 HCWs	Danish prehospital emergency services	Cross-sectional questionnaire survey
10	Sari et al., 2023	Turkey	Retrospective observational descriptive study	10821HCWs	Tertiary-level hospital	Retrospective analysis of institutional WPV records
11	Pidada & Wahab, 2024	Indonesia	Cross-sectional study	482 HCWs	General hospitals (unspecified type)	Self-administered questionnaire
12	Odes et al., 2022	United States (California)	Mixed-methods study with explanatory sequential design	27,968 incidents WVIRS +6 interviews HCWs	General hospitals (unspecified type)	Mixed methods (document analysis + interviews)
13	Michael et al., 2020	Egypt	Cross-sectional study	194 HCWs	Emergency Care Unit	Structured interview and questionnaire

Legend: HCWs - Healthcare Workers

(Continued)

Table 1 (Continued)

N°	Reference (Author, Year)	Country	Study Design	N° HCWs / incidents register	Healthcare Settings	Reporting Mechanism
14	McGuire et al., 2021	United States (Midwest)	Prospective descriptive study	242 HCWs	Emergency department (ED)	Likert-type self-report survey + de-identified incident reports from Security Office
15	Kesavan et al., 2020	India	Descriptive cross- sectional study	440 HCWs	Medical and dental centre	Self-administered questionnaire
16	AlHassan et al. 2023a	Saudi Arabia	Cross-sectional study	7398 HCWs	All licensed healthcare providers in Saudi Arabia (government and private sectors, SCFHS-registered)	Self-administered questionnaire
17	Al-Sayaghi, 2023	Saudi Arabia	Cross-sectional study	250 HCWs	Emergency department (ED)	Cross-sectional questionnaire survey
18	Alsmael et al., 2020	Saudi Arabia	Cross-sectional study	360 HCWs	Primary Healthcare Centres	Self-administered questionnaire
19	Antão et al., 2020	Portugal	Single-centre observational cross- sectional study	28 HCWs	Public hospital in Lisbon – Emergency Department (ED)	Mixed methods (qualitative + quantitative survey)
20	Babkair et al., 2024	Saudi Arabia	Cross-sectional study	100 HCWs	Military and non-military hospitals in Jeddah	Electronic self- administered questionnaire
21	Banga et al., 2023	Multi- country	Cross-sectional study	5405 HCWs	Hub-and-spoke healthcare system with digital infrastructure	REDCap-based electronic survey
22	Benning et al., 2024	Germany	Retrospective single- centre cohort study	859 incidents	Tertiary German university emergency department (ED)	Structured observation form: SOAS-R (Revised Staff Observation Aggression Scale)

Legend: HCWs - Healthcare Workers

(Continued)

Table 1 (Continued)

N°	Reference (Author, Year)	Country	Study Design	N° HCWs / incidents register	Healthcare Settings	Reporting Mechanism
23	Bianco et al., 2025	Italy	Observational descriptive study with inferential analysis	209 HCWs	University hospital in Central Italy	Institutional reporting form (Regione Lazio Clinical Risk Center)
24	Çalik et al., 2021	Turkey	Retrospective data- based observational study	316 white code notifications	Gaziosmanpaşa Training and Research Hospital, Istanbul	White Code incident report forms
25	Chang et al., 2024	Hong Kong	Web-based cross- sectional survey	162 HCWs	Emergency department (ED)	Web-based self- administered survey
26	Di Prizio et al., 2022	Italy	Cross-sectional study	82 incidents	Paediatric hospital	Cross-sectional study
27	Elhadi et al., 2022	Sudan	Cross-sectional study	792 HCWs	Sudanese national health system – human resources context	Online self-administered questionnaire
28	Elsaid et al., 2022	Egypt	Cross-sectional study	405 HCWs	All frontline healthcare workers caring for COVID- 19 patients (physicians, pharmacists, nurses)	Cross-sectional questionnaire survey
29	Ghareeb et al., 2021	Jordan	Cross-sectional study	382 HCWs	Al-Karak Governmental Hospital (KGH), Jordan	Self-administered questionnaire
30	Hachimi et al., 2024	Moroccan	Cross-sectional study	480 HCWs	Moroccan university hospital	Self-administered questionnaire
31	Hamdan et al., 2025	Palestine and Turkey	Comparative cross- sectional study	377 HCWs	Emergency department (ED)	Self-administered questionnaire

Legend: HCWs - Healthcare Workers

(Continued)

Table 1 (Continued)

N°	Reference (Author, Year)	Country	Study Design	N° HCWs / incidents register	Healthcare Settings	Reporting Mechanism
32	Harthi et al., 2020	Saudi Arabia	Cross-sectional study	380 questionnaires distributed	Emergency departments of public hospitals	Self-administered questionnaire
33	Ikpae & Buowari, 2023	Nigeria	Cross-sectional study	56 HCWs	Emergency department of University of Port Harcourt Teaching Hospital	Self-administered questionnaire
34	Jia et al., 2020	China	Before-and-after quasi- experimental study	(S1) 345 HCWs (S2) 338 HCWs	Tertiary hospital	Self-administered questionnaire
35	AlHassan et al., 2023b	Saudi Arabia	Cross-sectional study	7398 HCWs	All licensed healthcare providers in Saudi Arabia (government and private sectors, SCFHS registered)	Self-administered questionnaire

Legend: HCWs - Healthcare Workers

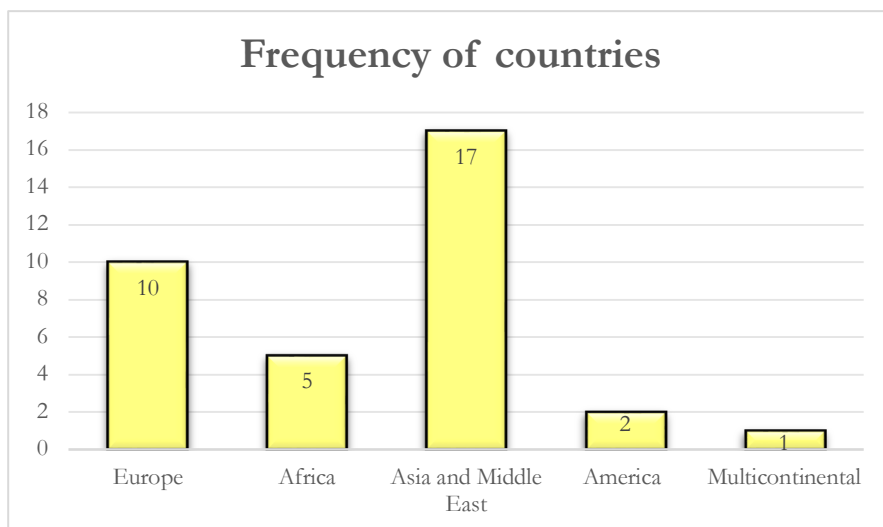


Figure 2 - Distribution of the included studies ($n = 35$) by geographical region.

All of the included studies focused on healthcare workers and encompassed a wide range of care settings, from primary through to secondary and tertiary care, in both public and private institutions. Among professional groups, physicians were most frequently identified as targets of WPV, followed by nurses and pharmacists, with other professionals also represented in the studies (Elsaid et al., 2022; Pidada & Wahab, 2024). In terms of gender, most reported incidents involved female professionals (Ghareeb et al., 2021; Harthi et al., 2020; Ikpa & Buowari, 2023; Jia et al., 2020; McGuire et al., 2021; Viottini et al., 2020; Veronesi et al., 2023; Seddik et al., 2023; Zangão, Gemito et al., 2024; Michael et al., 2020).

Among the 35 studies included (Table 1), there was a predominance of cross-sectional designs ($n = 24$), encompassing descriptive, observational, single-centre, comparative, national and web-based electronic surveys. This methodology, most used by the authors, demonstrates a reliance on cross-sectional approaches to capture the magnitude of WPV at specific points in time and across different contexts. Retrospective studies ($n = 5$) followed, primarily using institutional records, incident forms or databases to analyse reported episodes of violence. Two studies adopted mixed methods designs, combining document analysis, interviews, and questionnaires, allowing for a more comprehensive understanding of the phenomenon. Two other studies adopted a quasi-experimental design, focusing on evaluating the impact of interventions in hospital settings. Other methodological approaches included a qualitative study based on semi-structured interviews, a prospective descriptive study following professionals over time and a descriptive observational study with inferential analysis exploring statistical associations between variables. Regarding the

reporting mechanisms used, marked heterogeneity was observed across the studies. Most used ad hoc, self-administered questionnaires (n = 23), developed to collect perceptions, suggestions and experiences of violent episodes of violence, although many of these instruments lacked formal validation. Eight studies prioritised structured electronic platforms, such as online systems and institutional forms, with particular emphasis on the use of REDCap in multicentre settings. Four studies relied on institutional reporting tools, either paper-based or electronic, including the *Institutional Aggression Reporting Form*, the *White Code* incident report, the Clinical Risk Centres regional reporting system, and the IRS- Synergi system and the Workplace Violent Incident Reporting System (WVIRS), reflecting the dependence on local organizational structures. Only one study employed an internationally validated instrument the- *Staff Observation Aggression Scale - Revised* (SOAS-R). Complementary methods included semi-structured interviews and documentary analyses of administrative or security records, which added qualitative depth to predominantly quantitative data (Table 1).

This methodological and instrumental diversity illustrates the multiplicity of approaches to analysing the reports of workplace violence against HCWs, resulting in the absence of an international consensus on the use of standardized validated tools. This compromises the comparability of results across contexts and countries.

5.2. Prevalence by Type of Violence Reported

The studies included in this review identified three main categories of workplace violence affecting healthcare workers: verbal, physical and sexual violence. Table 2 summarises the absolute number and proportions of studies that reported each type.

Table 2 - Types of workplace violence reported in the included studies, with absolute numbers and percentages of affected healthcare workers.

Nº	Reference (Author, Year)	Violence verbal (n/%)	Violence physical (n/%)	Violence sexual (n/%)
1	Zangão, Serra et al., 2024	98 (70%)	-	-
2	Zangão, Gemito et al., 2024	143 (75.3%)	34 (17.9%)	-
3	Wählin et al., 2020	-	268 (18.6%)	-
4	Viottini et al., 2020	8436(76.9%)	2534(23,1%)	-
5	Veronesi et al., 2023	179 (90.7)	107 (54.3%)	14 (7.1%)
6	Towari & Bugis, 2020	55 (46%)	2 (1.70%)	-

Note: "-" indicates data no reported or not available in the original study.

Legend: S1- Survey 1 collected data for before article's intervention; S2- Survey 2 collected data for after article's intervention.

(Continued)

Table 2 (Continued)

N°	Reference (Author, Year)	Violence verbal (n/%)	Violence physical (n/%)	Violence sexual (n/%)
7	Shahjalal et al., 2021	914 (84.6%)	166 (15.4%)	-
8	Seddik et al., 2023	170 (93%)	78 (43%)	22 (12,5%)
9	Schosler et al., 2024	276 (47.4%)	150 (25.7%)	-
10	Sari et al., 2023	97 (71.9%)	(38) 28.1%	-
11	Pidada & Wahab, 2024	55 (11.4%)	3 (0.6%)	2 (0.4%)
12	Odes et al., 2022	-	-	-
13	Michael et al., 2020	170 (87.6%)	96 (49.5%)	24 (12.4%)
14	McGuire et al., 2021	208 (86%)	90 (37.2%)	-
15	Kesavan et al., 2020	256 (58,2%)	80 (18,2%)	-
16	AlHassan et al. 2023a	-	-	290 (3.9%)
17	Al-Sayaghi, 2023	76 (32,5%)	7 (3%)	-
18	Alsmael et al., 2020	324 (89.9%)	11 (3%)	-
19	Antão et al., 2020	27 (41%)	14 (41%)	-
20	Babkair et al., 2024	72 (72%)	18 (18%)	-
21	Banga et al., 2023	2751 (72%)	1157 (30%)	315 (8%)
22	Benning et al., 2024	737 (47.21%)	374 (23.96%)	-
23	Bianco et al., 2025	107 (51%)	25 (12%)	-
24	Çalik et al., 2021	125 (39.6%)	3 (0.9%)	-
25	Chang et al., 2024	104 (64.2%)	33 (20.4%)	-
26	Di Prizio et al., 2022	76 (92.7%)	21 (25.6%)	-
27	Elhadi et al., 2022	568 (91,6%)	310 (50%)	68 (11%)
28	Elsaid et al., 2022	356 (87,9%)	6 (1,6%)	-
29	Ghareeb et al., 2021	130 (52%)	40 (16%)	-
30	Hachimi et al., 2024	-	-	-
31	Hamdan et al., 2025	246 (65,3%)	106 (28,1%)	18 (4,8%)
32	Harthi et al., 2020	126 (52%)	45 (19%)	7 (3%)
33	Ikpae & Buowari, 2023	32 (86.5%)	5 (13.5%)	-
34	Jia et al., 2020	S1 214 (62.03%) S2 117 34.62%)	S1 13 (3.77%) S2 16 (4.73%)	-
35	AlHassan et al., 2023b	1969 (26.6%)	-	-

Note: "-" indicates data no reported or not available in the original study.

Legend: S1- Survey 1 collected data for before article's intervention; S2- Survey 2 collected data for after article's intervention.

Verbal violence, encompassing actions such as "*verbal abuse, bullying/mobbing, harassment and threats*" (WHO, 2002), emerged as the most frequently reported form, identified in 31 of the 35 studies included (Table 2). This category encompassed behaviours such as shouting, insults, threats, and other communicative forms of aggression. Several studies noted that verbal abuse is often perceived as an almost "normalised" element of professional practice, particularly in high-risk departments such as emergency departments (Harthi et al., 2020 Ikpae & Buowari, 2023).

Physical violence, encompassing actions such as "*beating, kicking, slapping, stabbing, shooting, pushing, biting and pinching*" (WHO, 2002), was similarly prevalent, being identified in 30 of the 35 studies (Table 2). The last type of violence analysed was sexual violence, encompassing actions such as "*behaviour of a sexual nature that is offensive to the person involved, and causes that person to feel threatened, humiliated or embarrassed*" (WHO, 2002), was less frequently reported, appearing in nine studies. Its underrepresentation may reflect not only lower incidence but also significant barriers to disclosure, including limited institutional support, cultural constraints, fear of retaliation, stigma and shame, all of which contribute to the silencing of such episodes (Michael et al., 2020; Harthi et al., 2020; AlHassan et al., 2023a; Seddik et al., 2023).

It is noteworthy that in many of the included studies, HCWs described episodes that combined multiple forms of violence within the same event, thereby amplifying the psychological and emotional burden on victims (Seddik et al., 2023).

The distribution of violence types is illustrated in Figure 3, which presents a bar chart depicting the percentage of studies reporting each form.

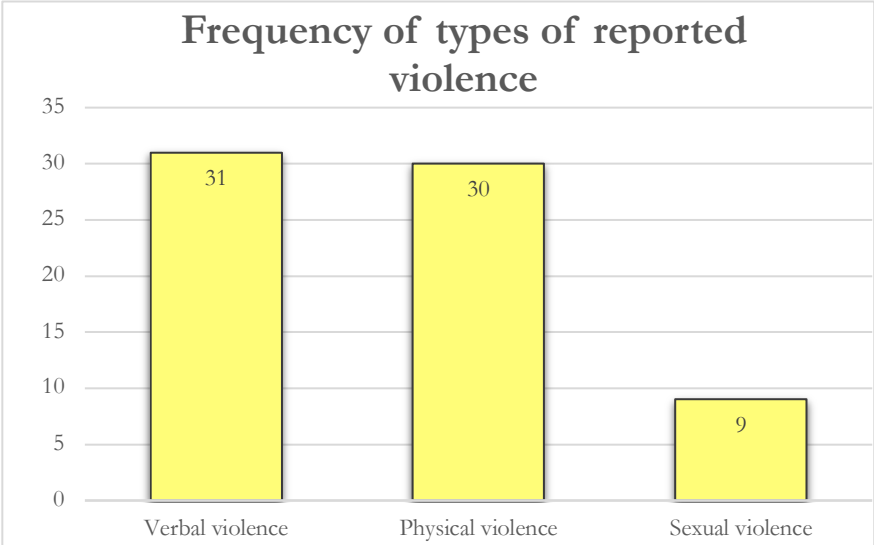


Figure 3 - Frequency of types of workplace violence reported across the included studies (n = 35).

5.3. Reporting Practices: Channels Reporting, Policies and Regulations, and Digital Reporting Systems

Table 3 summarises the reporting mechanisms most frequently described in the included studies, which can be grouped into three main categories: supervisors/ senior staff members, administrators and police/security offices. In addition several digital platforms and institutional or national policies structuring the reporting process were identified.

Table 3 - Reporting channels, digital platforms/systems, and institutional/regulations or national policies on workplace violence identified in the included studies (n = 35).

Nº	Reference (Author, Year)	Supervisor /senior staff member (%)	Administrators (%)	Police/ security office (%)	Policy/Regulation	Digital platform/System
1	Zangão, Serra et al., 2024	-	-	-	Portugal –National Programme for the Prevention of Violence in the Life Cycle (2020), including an Action Plan for the Prevention of Violence in the Health Sector. Reinforced in 2022 by the Portuguese Presidency of the Council of Ministers, the plan established Operational Groups (regional, institutional, local) coordinated by designated focal points to manage and prevent violence in healthcare settings.	NOTIFICA system
2	Zangão, Gemito et al., 2024	28.1%	-	33.3%	It is mentioned in the study that professionals were aware of the existence of an action plan for preventing violence in the health sector and the existence of a focal point in their institution to whom they can turn for clarification, exposure and notification of any situation, but it is not mentioned	NOTIFICA, SAGRIS, HER+ – National and internal digital platforms for incident reporting.
3	Wählin et al., 2020	-	-	-	Sweden – Reporting of workplace violence is integrated into mandatory patient safety frameworks, as established by the Swedish Patient Safety Act (SFS 2010:659, Chapter 6, §4).	Sweden – Synergi (national IRS)
4	Viottini et al., 2020	-	-	-	Italy (AOU) – A formal workplace violence prevention policy has been in place since 2014, aligned with Recommendation No. 8/2007 of the Ministry of Health. The policy includes unit-specific risk assessments, institutional safety protocols (e.g., presence of security personnel), and structured training programs to address both verbal and non-verbal aggression.	Anonymous Aggression Reporting Tool institutional-AOU

Note: "-" indicates data no reported or not available in the original study.

(Continued)

Table 3 (Continued)

N°	Reference (Author, Year)	Supervisor /senior staff member (%)	Administrators (%)	Police/ security office (%)	Policy/Regulation	Digital platform/System
5	Veronesi et al., 2023	-	-	-	Italy – Ratified the ILO convention on workplace violence through Law n. 4 of January 15, 2021, mandating standardized registration of WPV incidents involving healthcare workers. While this legal framework supports prevention and enforcement, current national data collection focuses mainly on severe cases, limiting its effectiveness for comprehensive prevention planning.	Internal digital platform for centralized incident reporting and risk management - not specified
6	Towari & Bugis, 2020	11.6%	-	-	Saudi Arabia – Ministry of Health implemented legal penalties in 2018, classifying verbal and physical abuse of healthcare workers as a criminal offense punishable by up to 10 years' imprisonment. A dedicated hotline (937) was also established to facilitate immediate reporting and response.	Electronic reporting systems - non specified
7	Shahjalal et al., 2021	-	-	It was mentioned that the report was made to the authorities	-	-
8	Seddik et al., 2023	It was mentioned that they reported to managers		It was mentioned that they reported to the police	-	-

Note: "-" indicates data not reported or not available in the original study.

Table 3 (Continued)

N°	Reference (Author, Year)	Supervisor /senior staff member (%)	Administrators (%)	Police/ security office (%)	Policy/Regulation	Digital platform/System
9	Schosler et al., 2024	-	It was mentioned that the notification was notified to employers	4,1%	Denmark – National occupational health and safety legislation mandates the appointment of local safety representatives in all prehospital services. These representatives are responsible for ensuring a safe work environment and assisting employees in reporting violent incidents to the police.	-
10	Sari et al., 2023	-	-	-	Turkey – The 'White Code' program (Ministry of Health, 2011) offers legal aid and emergency response to HCWs experiencing violence. Activation via code '1111' triggers immediate institutional and legal action. University hospital lawyers have been authorized to represent HCWs since 2022. The system also supports national violence prevention through data aggregation and root cause analysis.	-
11	Pidada & Wahab, 2024	-	-	-	Indonesia – Constitutional and legal protections include the 1945 Constitution (Art. 28D[2], 28G), Criminal Code (Art. 310), Labor Law No. 13/2003 (Art. 86), and Ministry of Health Regulation No. 66/2016 (K3RS policy), which mandate worker safety, dignity, and institutional responsibility for violence prevention.	-
12	Odes et al., 2022	-	-	-	USA (California) – Mandatory compliance with SB 1299 and CalOSHA regulations. Since 2017–2018, psychiatric and acute care hospitals must implement workplace violence prevention plans and report all incidents involving physical force within 72 hours via the WVIRS platform. Implementation and staff awareness vary across institutions.	Workplace Violent Incident Reporting System (WVIRS)

Note: "-" indicates data no reported or not available in the original study.

(Continued)

Table 3 (Continued)

Nº	Reference (Author, Year)	Supervisor /senior staff member (%)	Administrators (%)	Police/ security office (%)	Policy/Regulation	Digital platform/System
13	Michael et al., 2020	-	-	-	-	-
14	McGuire et al., 2021	-	-	-	Incident data are collected through institutional systems, including the Office of Security, which provides de-identified records on verbal and physical violence.	-
15	Kesavan et al., 2020	-	-	-	India – The Medical Protection Act (MPA), adopted by most states, criminalizes violence against healthcare workers and institutions, with penalties up to three years' imprisonment and fines. However, limited enforcement due to its exclusion from national penal and procedural codes, along with distrust in the justice system, undermines its effectiveness.	-
16	AlHassan et al. 2023a	19,8%	-	3,3%	This study mentioned that Hospital violence has reporting guidelines	-
17	Al-Sayaghi, 2023	16.7%	44.9 %	61.5%	-	The study mentions that there is a reporting procedure for WPV incidents
18	Alsmael et al., 2020	46,20%	-	6%	-	-
19	Antão et al., 2020	-	-	-	This study mentioned that exist the Interface available at their working terminals, the Health Event & Incident Management, HER+	Health Event & Incident Management, HER+ - digital platform institutional

Note: "-" indicates data no reported or not available in the original study.

Table 3 (Continued)

N°	Reference (Author, Year)	Supervisor /senior staff member (%)	Administrators (%)	Police/ security office (%)	Policy/Regulation	Digital platform/System
20	Babkair et al., 2024	-	-	-	-	-
21	Banga et al., 2023	-	-	-	National workplace violence prevention policies exist through OSHA regulations	Research Electronic Data Capture (REDCap)
22	Benning et al., 2024	-	-	-	-	Electronic health record (EHR)
23	Bianco et al., 2025	-	-	-	Italy – Institutional policies aligned with national health and safety laws have been implemented since 2018, including mandatory reporting protocols, structured training, and root cause analysis. High-risk units received operational reinforcements and improved environmental safety	Lazio's Regional Center of Clinical Risk (Centro Regionale Rischio Clinico—CRRC)
24	Çalik et al., 2021	-	-	-	Turkey – National 'Code White' framework established in 2011 for rapid institutional response to WPV, supported by a 24/7 call centre and mandatory hospital infrastructure, as part of the Tenth Development Plan (2014–2018).	White Code System
25	Chang et al. , 2024	Report 42.4% for physical violence and 25.0% for verbal abuse	-	-	Hong Kong – Occupational Safety and Health Ordinance (Cap. 509) and Hospital Authority protocols mandate WPV prevention, reporting procedures, legal enforcement, risk assessment, staff training, and post-incident interventions.	-

Note: "-" indicates data no reported or not available in the original study.

(Continued)

Table 3 (Continued)

N°	Reference (Author, Year)	Supervisor /senior staff member (%)	Administrators (%)	Police/ security office (%)	Policy/Regulation	Digital platform/System
26	Di Prizio et al., 2022	-	-	-	MWVaH Protocol: Institutional policy mandating WPV reporting, multidisciplinary follow-up, root cause analysis, and preventive measures using validated health assessment tools (MOAS, GHQ-12, SF-36).	Digital Sentinel Event Platform (MWVaH) – Internal digital platform with structured multidisciplinary review and root cause analysis.
27	Elhadi et al., 2022			-	Sudan – 2020 National Law: Criminalizes verbal/physical violence against HCWs, interference with care, and infrastructure damage; penalties up to 10 years' imprisonment.	-
28	Elsaid et al., 2022	-	-	-	-	-
29	Ghareeb et al., 2021	-	-	-	-	-
30	Hachimi et al., 2024	-	38%	10%	-	-
31	Hamdan et al., 2025	-	-	-	-	-
32	Harthi et al., 2020	It was mentioned that he reports were made the supervisor but has no data	It was mentioned that he reports to the duty director but has no data	It was mentioned that he reports to the police but has no data	-	The article mentioned the existence of a system for reporting violence, although it was not identified.
N°	Reference	Supervisor	Administrators	Police/	Policy/Regulation	Digital platform/System

Note: "-" indicates data not reported or not available in the original study.

(Continued)

Table 3 (Continued)

		staff member (%)		(%)		
33	Ikpae & Buowari, 2023	-	-	8.1%	-	-
34	Jia et al., 2020	-	-	-	China – National policies (2013, 2017): Reinforce institutional security and legal deterrents to reduce WPV, especially in high-risk hospital areas.	-
35	AlHassan et al., 2023b	22%	-	0,9%	This study mentioned that the hospital has violence reporting guidelines.	-

Note: "-" indicates data no reported or not available in the original study.

5.3.1. Reporting Channels

Regarding the reporting channels mentioned, 24 of the 35 studies analysed identified the main formal channels through which episodes of violence were reported. These channels included supervisors/ senior staff members, administrators, and police/security forces. This distribution illustrates the hierarchical pathways typically available within organizations for reporting violent incidents, as represented in Figure 4.

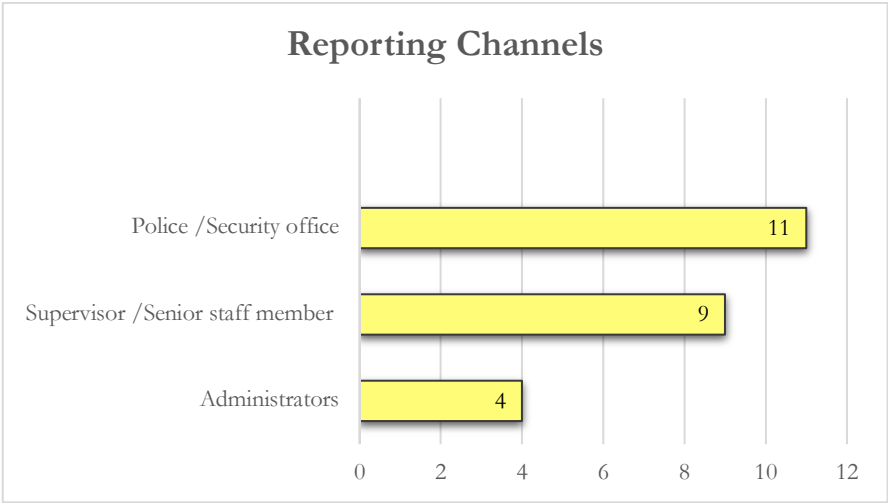


Figure 4 - Reporting channels of workplace violence incidents identified in the studies (n = 35).

The most frequently cited channel was direct communication with the police or security office, reported in 11 of 35 studies. Nine studies reported directly to supervisors or senior staff members. Four studies identified hospital administration or senior staff members as the main recipients of reports, generally in contexts characterised by more formalised organizational structures (Al-Sayaghi et al., 2023).

5.3.2. Institucional and National Policies

Of the 35 studies included, 22 reported the existence of institutional or national policies for the prevention and management of workplace violence against HCWs. These ranged from internal hospital regulations and regional protocols to comprehensive national legislation.

Europe

In Portugal, the National Programme for the Prevention of Violence in the Life Cycle (2020) was identified with a specific Action Plan for the Health Sector,

which established operational groups (regional, institutional and local) for the prevention and management of violence (Zangão, Serra et al., 2024).

In Italy, policies were identified at multiple levels. Since 2014, a university hospital has adopted a formal policy in line with Recommendation No. 8/2007 of the Ministry of Health, including unit-level risk assessments, institutional protocols and training against workplace violence (Viottini et al., 2020). At the national level, Italy ratified the ILO Convention on Violence and Harassment through Law No. 4/2021, requiring the standardized recording of incidents of violence and reinforcing institutional accountability for protecting HCWs (Veronesi et al., 2023). Additional mechanisms include the *MWVaH protocol*, requiring mandatory reporting for all incidents, multidisciplinary assessment, and psychological support for victims, supported by validated tools such as MOAS, GHQ-12 and SF-36 (Di Prinzio et al., 2022). Since 2018, additional institutional measures have introduced mandatory reporting protocols, root cause analysis and operational reinforcement in high-risk hospital units (Bianco et al., 2025). In Sweden, reporting workplace violence is integrated into mandatory patient safety requirements under the Patient Safety Act (SFS 2010:659, Chapter 6, §4) (Wahlin et al., 2020). In Denmark, legislation requires the appointment of local safety representatives in pre-hospital services, tasked with promoting safer environments and supporting police reporting (Schosler et al., 2024).

Asia

In Saudi Arabia, legislation introduced in 2018 imposed criminal penalties for physical or verbal assaults against HCWs, with sentences of up to 10 years in prison. A national hotline (937) was also created to enable immediate reporting (Towhari & Bugis, 2020). In Turkey, the "White Code" programme, introduced in 2011, provides legal support and immediate institutional response to violent incidents, activated through the code 1111. Since 2022, hospital lawyers have been authorized to represent professionals in court. This framework forms part of the *National Development Plan* (2014-2018) (Sari et al., 2023; Çalik et al., 2021). In Indonesia, legal protection is anchored in multiple instruments, including the 1945 Constitution (Art. 28D (2), 28G), the Penal Code (Art. 310), Labour Law No. 13/2003 (Art. 86), and Ministry of Health Regulation 66/2016 (K3RS), which place responsibility for violence prevention on institutions (Pidada & Wahab, 2024). In India, the *Medical Protection Act (MPA)*, adopted in several states, criminalises violence against HCWs and institutions. However, the absence of incorporation into national criminal codes, combined with distrust in the judicial system, limits its effectiveness (Kesavan et al., 2020). In Hong Kong, the *Occupational Safety and Health Order* (Cap.509) mandates the implementation of reporting procedures, training and post-incident interventions, coordinated through Hospital Authority protocols (Chang et al., 2024). In Sudan, a national law introduced in 2020 criminalises assaults on HCWs and interference with the

delivery of care, with penalties of up to 10 years in prison (Elhadi et al., 2022). In China, national policies introduced in 2013 and 2017 strengthened institutional security and legal deterrence measures, with a particular focus on high-risk hospital areas (Jia et al., 2020). Jia et al., (2020) analysed the period before and after implementation on this policy and concluded that most HCWs considered the measure effective, reducing anxiety and increasing their sense of safety in workplace. However, they warned that security professionals may face increased exposure to incidents of violence.

America

In the United States, state-level legislation in California has mandated compliance with SB 1299 and Cal/OSHA regulations, requiring all hospitals to establish workplace violence prevention plans since 2017-2018. These regulations also stipulate mandatory reporting within 72 hours via the *Workplace Violence Incident Reporting System* (WVIRS). Nevertheless, awareness and implementation of these requirements vary significantly across institutions (Odes et al., 2022).

Despite such advances, 14 of 35 studies reviewed made no reference to the existence of any formal policy, which may indicate either a lack of operational guidelines or insufficient internal dissemination. This absence was frequently linked to professionals' lack of knowledge about formal reporting procedures and a perceived lack of institutional support (Elsaid et al., 2022). Among the studies, three reported the existence of hospital guidelines for reporting incidents of violence involving HCWs but did not specify which ones. A multicontinental study highlights adherence to the standards of the United States Occupational Safety and Health Administration (OSHA) and the European Agency for Safety and Health at Work, reinforcing the importance of shared international standards.

5.3.3. Digital Reporting mechanisms

Regarding the existence of digital platforms for reporting incidents of violence, 15 of 35 studies reported the use of integrated electronic systems in institutions. These platforms included institutional and/or national reporting software.

In Portugal, the platforms most frequently mentioned were NOTIFICA (national platform), SAGRIS and HER+ (institutional platforms). However, their underutilization was consistently reported, attributed to the lack of organizational and political response, platform accessibility and lack of cohesive procedures and training (Antão et al., 2020; Zangão, Serra et al., 2024; Zangão,

Gemito et al., 2024). This reality compromises the ability of institutions to monitor the phenomenon and implement structured, evidence-based responses.

5.4. Underreporting and Reporting Barriers: Individual and Organizational Factors, and Strategies to Increase Reporting

Table 4 presents the reported underreporting rates, the strategies proposed to promote reporting, the barriers identified and the main findings.

The individual barriers to reporting were coded as:

- 1 - Fear of direct retaliation;
- 2 - Lack of knowledge of institutional reporting procedures;
- 3 - Perception that the incident was not a significant problem;
- 4 - Belief in the ineffectiveness of reporting mechanisms;
- 5 - Fear of repercussions on career progression.

The organizational barriers to reporting were coded as:

- 1 - Lack of institutional training;
- 2 - Ineffective reporting systems.

The strategies for increasing reporting were coded as follows:

- 1 - Training on reporting and prevention;
- 2 - Awareness campaigns;

Table 4 - Underreporting, individual and organizational barriers, preventive strategies, and main findings identified in the included studies (n = 35).

N°	Reference (Author, Year)	Under-reporting	Barriers of reporting individual	Barriers of reporting organizational	Strategies for promotion reporting	Main findings
1	Zangão, Serra et al., 2024	65%	1,3,4	1	-	Reporting must be normalized through awareness campaigns, communication training, emergency protocols, and improvements in institutional infrastructure.
2	Zangão, Gemito et al., 2024	48%	1,2,4	-	-	Widespread underreporting and dissatisfaction with institutional responses were noted; respondents recommended enhanced security, staff training, and legal accountability.
3	Wählin et al., 2020	-	-	-		The Synergi IRS system proved effective for identifying WPV patterns, particularly in psychiatric and emergency settings, despite underreporting.
4	Viottini et al., 2020	-	-	-	-	Nurses, especially women, were the most affected; cultural and personal factors influenced selective reporting despite the existence of robust systems.
5	Veronesi et al., 2023	73%	3,4	2	1	Key barriers included normalization and lack of support; structured protocols, training, and simplified reporting improved institutional commitment to prevention.
6	Towari & Bugis, 2020	44,60%	1,3	1,2	2	National legal reforms in Saudi Arabia improved safety perceptions; institutional systems remain insufficient and require clearer internal reporting.

Note: "-" indicates data not reported or not available in the original study.

Legend: **Barriers of reporting individual:** 1- Fear of direct retaliation; 2- Lack of knowledge of institutional reporting procedures; 3- Perception that the incident was not a significant problem; 4- Belief in the ineffectiveness of reporting mechanisms; 5 - Fear of repercussions on career progression / **Barriers of reporting organizational:** 1- Lack of institutional training; 2 - Ineffective reporting systems / **Strategies for promoting reporting:** 1 - Training on reporting and prevention; 2 - Awareness campaigns

(Continued)

Table 4 (Continued)

N°	Reference (Author, Year)	Under-reporting	Barriers of reporting individual	Barriers of reporting organizational	Strategies for promotion reporting	Main findings
7	Shahjalal et al., 2021	72.6%	1,2,3	-	1,2	WPV is prevalent in Bangladesh; limited legal protection and weak systems call for improvements in security, staffing, legal support, and infrastructure.
8	Seddik et al., 2023	-	-	-	1	During COVID-19, over half of HCWs at Cairo University Hospital experienced WPV; main barriers were weak reporting systems and institutional inaction
9	Schosler et al., 2024	75,20%	1,3,4	-	-	Nearly half of prehospital HCWs in Denmark faced WPV; mandatory reporting, staff support, and legal avenues were recommended.
10	Sari et al., 2023	Refers to underreporting, but does not present data	-	-	-	Based on White Code data, 1.2% of HCWs experienced WPV, mostly verbal abuse. Communication breakdowns and dissatisfaction contributed to incidents.
11	Pidada & Wahab, 2024	60,20%	-	-	-	WPV prevalence was low in Yogyakarta, but underreporting was high. Verbal abuse mainly targeted nurses and ED staff.
12	Odes et al., 2022	-	-	-	1	Underreporting may falsely indicate success; barriers included complexity, normalization, and institutional neglect. Simplified systems and leadership support are needed.
13	Michael et al., 2020	78%	1,3,4	2	-	At Alexandria University Hospitals, WPV was highly prevalent among nurses and women; the study recommends awareness, training, and infrastructure reform.

Note: "-" indicates data not reported or not available in the original study.

Legend: **Barriers of reporting individual:** 1- Fear of direct retaliation; 2- Lack of knowledge of institutional reporting procedures; 3- Perception that the incident was not a significant problem; 4- Belief in the ineffectiveness of reporting mechanisms; 5 - Fear of repercussions on career progression / **Barriers of reporting organizational:** 1- Lack of institutional training; 2 - Ineffective reporting systems / **Strategies for promoting reporting:** 1 - Training on reporting and prevention; 2 - Awareness campaigns

(Continued)

Table 4 (Continued)

N°	Reference (Author, Year)	Under-reporting	Barriers of reporting individual	Barriers of reporting organizational	Strategies for promotion reporting	Main findings
14	McGuire et al., 2021	≈90,9%	-	-	-	High WPV rates in the ED were mostly verbal. Reporting was minimal due to normalization, confusion, fear, and lack of support. Multidisciplinary strategies are required.
15	Kesavan et al., 2020	-	1,3,4	2	-	HCWs expressed dissatisfaction with current legislation and supported stricter laws. Media and lack of enforcement were seen as contributing factors.
16	AlHassan et al. 2023a	-	1,2,3,4	1,2	1,2	Sexual violence was underreported due to fear and stigma. The study calls for zero-tolerance policies, early education, and institutional reform.
17	Al-Sayaghi, 2023	55,10%	1,2,4	1,2	1,2	One-third of ED HCWs experienced WPV, mainly verbal and from patients' companions. Underreporting was due to fear and perceived futility.
18	Alsmael et al., 2020	46,70%	1,2,4,5	1,2	1	WPV affected nearly half of HCWs and was associated with overcrowding and poor enforcement. Underreporting stemmed from normalization and low confidence.
19	Antão et al., 2020	76,19%	1,2,4	1,2	-	WPV had serious psychological effects on HCWs. Underreporting was linked to lack of support and procedural knowledge. Stronger security and safety culture are needed.
20	Babkair et al., 2024	76,67%	1,2,4	1,2	-	WPV was prevalent among ED physicians in Jeddah; reporting was rare due to fear and weak institutional backing.
21	Banga et al., 2023	-	1,2,4	1,2	1,2	Despite procedures, most HCWs lacked training and felt unprepared. Job dissatisfaction and intent to leave were noted.
22	Benning et al., 2024	-	3,4	1,2	1,2	A ten-year study in a German ED recorded 859 WPV incidents; most were severe and involved nursing staff. DET training increased awareness but did not eliminate underreporting.

Note: "-" indicates data not reported or not available in the original study.

Legend: **Barriers of reporting individual:** 1- Fear of direct retaliation; 2- Lack of knowledge of institutional reporting procedures; 3- Perception that the incident was not a significant problem; 4- Belief in the ineffectiveness of reporting mechanisms; 5 - Fear of repercussions on career progression / **Barriers of reporting organizational:** 1- Lack of institutional training; 2 - Ineffective reporting systems / **Strategies for promoting reporting:** 1 - Training on reporting and prevention; 2 - Awareness campaigns

(Continued)

Table 4 (Continued)

N°	Reference (Author, Year)	Under-reporting	Barriers of reporting individual	Barriers of reporting organizational	Strategies for promotion reporting	Main findings
23	Bianco et al., 2025	-	-	-	1,2	In Central Italy, promoting a reporting culture reduced WPV through structural changes and psychological support.
24	Çalik et al., 2021	-	3,4	1,2	1,2	A rise in White Code activations mainly affected doctors and female staff. The study calls for training and simplified reporting.
25	Chang et al., 2024	≈86,1%	2,3,4	1,2	1,2	WPV affected 66.7% of doctors and nurses, leadership support improved reporting. Structured protocols and a supportive culture were essential.
26	Di Prizio et al., 2022	-	-	-	1,2	Verbal WPV was common in paediatric hospitals. Despite digital tools, underreporting remained high. Structured training and effective responses are needed.
27	Elhadi et al., 2022	50,30%	2,3,4	1,2	1,2	Over 78% of Sudanese HCWs faced WPV during COVID-19. Weak systems and institutional distrust were key challenges.
28	Elsaid et al., 2022	90,60%	2,3,4	1,2	1	63.2% of HCWs experienced WPV; 90.6% did not report due to perceived ineffectiveness or lack of knowledge.
29	Ghareeb et al., 2021	-	2,3,5	2	1,2	65.5% of HCWs experienced WPV. Underreporting stemmed from stigma, normalization, and lack of trust in reporting systems. Prevention policies are essential.
30	Hachimi et al., 2024	62%	1,2,3,4	1,2	1,2	Among 364 HCWs, the study highlights the need to prioritize reporting, safety protocols, and de-escalation training.
31	Hamdan et al., 2025	80,10%	1,2,3,4,5	1,2	1,2	WPV prevalence was high in Palestine due to lack of training and reporting systems. Türkiye showed stronger institutional support via legal frameworks.

Note: "-" indicates data no reported or not available in the original study.

Legend: **Barriers of reporting individual:** 1- Fear of direct retaliation; 2- Lack of knowledge of institutional reporting procedures; 3- Perception that the incident was not a significant problem; 4- Belief in the ineffectiveness of reporting mechanisms; 5 - Fear of repercussions on career progression / **Barriers of reporting organizational:** 1- Lack of institutional training; 2 - Ineffective reporting systems / **Strategies for promoting reporting:** 1 - Training on reporting and prevention; 2 - Awareness campaigns

(Continued)

N°	Reference (Author, Year)	Under- reporting	Barriers of reporting individual	Barriers of reporting organizational	Strategies for promotion reporting	Main findings
32	Harthi et al., 2020	66.7 %	4	2	2	WPV in EDs included verbal abuse, physical assaults, bullying, and harassment. Contributing factors: lack of penalties, poor security, and staff shortages.
33	Ikpae & Buowari, 2023	86.5%	1,2,3	2	1	WPV in EDs was highly prevalent and recurrent. Nurses were most affected, with underreporting due to lack of systems and normalization.
34	Jia et al., 2020	-	5	2	-	Restricted access policy in a Chinese hospital reduced psychological and physical violence but led to new challenges for security staff and visitor relations.
35	AlHassan et al., 2023b	-	1,2,3,4	1,2	1,2	Workplace bullying affected 26.6% of HCWs, most often perpetrated by managers/supervisors, with inaction common among victims; facilities with reporting guidelines showed lower bullying prevalence."

Note: "-" indicates data no reported or not available in the original study.

Legend: **Barriers of reporting individual:** 1- Fear of direct retaliation; 2- Lack of knowledge of institutional reporting procedures; 3- Perception that the incident was not a significant problem; 4- Belief in the ineffectiveness of reporting mechanisms; 5 - Fear of repercussions on career progression / **Barriers of reporting organizational:** 1- Lack of institutional training; 2 - Ineffective reporting systems / **Strategies for promoting reporting:** 1 - Training on reporting and prevention; 2 - Awareness campaigns

5.4.1. Underreporting

The underreporting of violence against HCWs emerged as a consistent and concerning trend across the studies reviewed. Of the 35 studies included, 20 reported high levels of underreporting, frequently exceeding 50% of incidents. This severely compromises institutions' capacity to access the true scope of the phenomenon and to design evidence-based strategies for prevention and mitigation (Veronesi et al., 2023; Zangão, Serra et al., 2024). Qualitative and quantitative analyses revealed that the factors contributing to underreporting can be grouped into two broad domains: individual barriers and organizational barriers. These domains were systematically coded in the included studies and are summarised in Table 4.

5.4.2. Individual Barriers

Individual barriers were identified in 26 of 35 studies. Analysis of the codes revealed the following most frequent obstacles to formally reporting incidents of violence (Table 4).

1 - Fear of direct retaliation, identified in 17 studies, this barrier refers to the fear reprisals from aggressors, colleagues or superiors after reporting.

2 - Lack of knowledge of institutional reporting procedures, identified in 16 studies, this indicates a lack of training, clarity or internal communication on how to report and who to contact

3 - Perception that the incident was not a significant problem, identified in 18 studies, this reflects a tendency to normalise violence, particularly verbal violence, perceived as "*part of the job*".

4 - Belief in the ineffectiveness of reporting mechanisms, identified in 21 studies, this reflects the perception that "*nothing will be done*" after reporting.

5 - Fear of repercussions on career progression, identified in 4 studies; this represents the fear that reporting may affect one's professional life.

Figure 5 illustrates that underreporting is associated not only with the lack of formal channels, but also with perception that reporting may bring negative consequences or be socially discouraging (Zangão, Gemito et al., 2024; Veronesi et al., 2023; Alsmal et al., 2020; Babkair et al., 2024; Ghareeb et al., 2021; Harthi et al., 2020; Ikpae & Buowari, 2023).

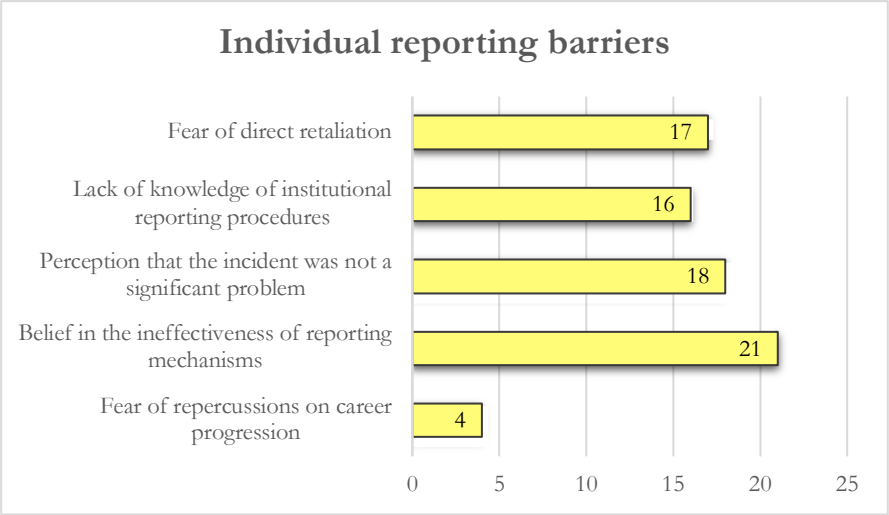


Figure 5 - Individual barriers to reporting workplace violence identified across studies (n = 35).

5.4.3. Organizational Barriers

Organizational barriers were identified in 23 of the 35 studies included and refer to institutional limitations that hinder or discourage the reporting of workplace violence. The most frequently reported barriers were as follows (Table 4).

- 1- Lack of institutional training, identified in 16 studies, reflecting the absence of structured programmes on reporting procedures, incident management, and appropriate use of reporting tools.
- 2 - Ineffective reporting systems, identified in 22 studies, encompassing outdated, bureaucratic or poorly functioning channels that often lack guarantees of anonymity, traceability or adequate institutional responses.

The combination of individual and organizational barriers results in a culture of institutional silence, which reinforces the cycle of tolerance and impunity. The lack of reporting prevents the true quantification of the phenomenon, weakening the role of public and institutional policies. Furthermore, it entails significant health costs, such as anxiety, demotivation, exhaustion, absenteeism, and intention to leave the profession (Schosler et al., 2024; Towhari & Bugis, 2020; Viottini et al., 2020; Antão et al., 2020).

Evidence suggests that a significant proportion of violent incidents could be avoided. Studies by Alhassan et al., (2023) and Shahjalal (2021), for example, indicate that more than 60% of episodes of violence against healthcare workers were potentially preventable.

5.4.4. Strategies for Promotion Reporting

Strategies for promoting reporting were identified in 23 of the 35 studies analysed. These studies proposed strategies to improve reporting rates, which can be grouped into two main categories, as presented in Table 4.

1 - Training on reporting and prevention, identified in 19 studies. This strategy encompassed structured and continuous training programmes on conflict management, crisis communication, workers' rights, and the use of reporting platforms.

2 - Awareness campaigns, identified in 16 studies. This strategy included institutional communication campaigns, dissemination of positive cases studies, engagement of clinical leaders and the promotion of a zero-tolerance culture towards violence against healthcare workers.

The literature suggests that the combination of these two strategies is most effective when integrated into organized and systematic institutional action plans (Zangão, Gemito et al., 2024; Veronesi et al., 2023; Ghareeb et al., 2021; Shahjalal et al., 2021; Hachimi et al., 2024; Hamdan et al., 2025; Ikpa & Buowari, 2023; McGuire et al., 2021; Odes et al., 2022; Sari et al., 2023).

5.5. Main Conclusions

As a whole, the studies show that the phenomenon of violence against HCWs in workplace is accompanied by high underreporting, driven by individual and organizational barriers. Although policies and digital platforms are mentioned in some contexts, implementation is heterogeneous and often lacks active leadership and operational protocols. The most promising strategies involved training combined with awareness campaigns, which increased the likelihood of reporting.

6. Discussion

This scoping review highlights the global extent of Workplace Violence (WPV) against Healthcare Workers (HCWs), demonstrating the weaknesses of healthcare systems across diverse social, political and geographic contexts. Thirty-five studies published between 2020 and 2025 makes it clear that violence in the healthcare sector remains a pressing concern and that its underreporting continues to obscure its true extent. The analysis identified the most frequent forms of violence, barriers to reporting, existing institutional responses, and strategies for prevention and mitigation of violence against HCWs, with particular attention to the Portuguese context.

6.1. A Global Reality: Persistent Violence Against Healthcare Professionals

The evidence found reveals that violence in healthcare is a frequent occurrence, affecting approximately 68% of HCWs across the included studies. In about 80% of the studies analyzed, the most common form documented is verbal followed by physical aggression (Zangão, Gemito et al., 2024; Viottini et al., 2020; Veronesi et al., 2023; Towhari & Bugis, 2020; Shahjalal et al., 2021; Seddik et al., 2023; Schösler et al., 2024; Sari et al., 2023; Pidada & Wahab, 2024; Michael et al., 2020; McGuire et al., 2021; Kesavan et al., 2020; Al-Sayaghi et al. 2023; Alsmael et al., 2020; Antão et al., 2020; Babkair et al., 2024; Banga et al., 2023; Benning et al., 2024; Bianco et al., 2025; Çalik et al., 2021; Chang et al., 2024; Di Prizio et al., 2023; Elhadi et al., 2022; Elsaid et al., 2022; Ghareeb et al., 2021; Hamdan et al., 2025; Harthi et al., 2020; Ikpae & Buowari, 2023; Jia et al., 2020). These episodes not only compromise professionals' safety but also deteriorate the quality of care and the trust placed in healthcare institutions. Sexual violence, despite being the least reported, is a particularly worrying issue. Its effect on the well-being of HCWs is often silenced due to cultural, institutional or personal beliefs/factors (Veronesi et al., 2023; Seddik et al., 2023; Pidada & Wahab, 2024; Michael et al., 2020; AlHassan et al. 2023a; Banga et al., 2023; Elhadi et al., 2022; Hamdan et al., 2025; Harthi et al., 2020). Despite the magnitude of this problem, only one study used a standardized and validated tool, the Staff Observation Aggression Scale- Revised (Benning et al., 2024). The majority, 24 of the 35 studies relied on ad hoc instruments, without formal validation (Veronesi et al. 2023; Towhari & Bugis, 2020; Shahjalal et al. 2021; Seddik et al. 2023;; Pidada & Wahab 2024; Michael et al. 2020; McGuire et al., 2021; Kesavan et al., 2020;

AlHassan et al. 2023a; Alsmael et al. 2020; Antão et al. 2020; Babkair et al. 2024; Banga et al. 2023, Chang et al. 2024, Elsaid et al., 2022; Ghareeb et al., 2021; Hachimi et al. 2024; Harthi et al., 2020; Ikpa & Buowari 2022, Jia et al. 2020; AlHassan et al. 2023b), which compromises data comparability and the construction of a solid and reproducible evidence base. This methodological limitation is cross-cutting and deserves priority attention in the design of future studies on violence against HCWs. This finding serves as a starting point for reflecting on the real visibility of the phenomenon of violence in healthcare systems, an issue explored in more detail in the following section.

6.2. Underreporting: Persistent Barriers and the Culture of Silence

More than half of the 35 studies reported underreporting levels exceeding 50% (Zangão, Serra et al., 2024; Veronesi et al., 2023; Shahjalal et al., 2021; Schösler et al., 2024; Pidada & Wahab, 2024; Michael et al., 2020; McGuire et al., 2021; Al-Sayaghi et al. 2023; Antão et al., 2020; Babkair et al., 2024; Chang et al., 2024; Elhadi et al., 2022; Elsaid et al., 2022; Hachimi A. et al., 2024; Hamdan et al., 2025; Harthi et al., 2020; Ikpa & Buowari, 2023), indicating that the majority of violent incidents are never formally documented. This phenomenon is reflected in existing individual and organizational barriers, generating an institutional culture of implicit tolerance for violence (Hamdan et al., 2025).

Among the individual barriers, three stand out, the widespread belief that reporting is ineffective, with the argument that "*nothing will be done*" frequently mentioned by HCWs; the assumption that incidents of violence are not a significant problem, perceived as "*part of the job*" particularly verbal abuse, was also frequently mentioned, and the fear of direct retaliation from aggressors, colleagues or superiors (Zangão et al., 2024; Shahjalal et al., 2021; Schösler et al., 2024; Michael et al., 2020; Kesavan et al., 2020; AlHassan et al., 2023a; Hachimi et al., 2024; Hamdan et al., 2025; Ikpa & Buowari, 2023; AlHassan et al., 2023b). The organizational barrier most mentioned was, the ineffectiveness of reporting systems. These include outdated or inaccessible platforms, a lack of anonymity, absence of feedback after reporting (Veronesi et al., 2023; Towhari & Bugis, 2020; Michael et al., 2020; Kesavan et al., 2020; AlHassan et al. 2023a; Al-Sayaghi et al. 2023; Alsmael et al., 2020; Antão et al., 2020 ; Babkair et al., 2024; Banga et al., 2023; Benning et al., 2024; Çalik et al., 2021; Chang et al., 2024; Elhadi et al., 2022; Elsaid et al., 2022; Ghareeb N. et al., 2021; Hachimi A. et al., 2024; Hamdan et al., 2025; Harthi et al., 2020; Ikpa & Buowari, 2023; Jia et al., 2020; AlHassan A et al., 2023b). Altogether, these barriers created a cycle of impunity, lack of accountability while exacerbating professional burnout, as demonstrated

by Sari et al., (2023). The authors identified systematic failures such as protracted legal processes, the absence of effective sanctions, and preventable organizational shortcomings, which further reinforce the persistence of episodes of violence and underreporting.

6.3. The Middle East in the Spotlight: Scientific Contribution and Critical Interpretation

There is significant representation of studies originating from the Middle East, which may be indicative of institutional efforts to address the problem as well the existence of supportive policies focused on the international projection of health systems (Towhari & Bugis, 2020; Kesavan et al., 2020; Chang et al., 2024; Jia et al., 2020). Initiatives such as the "White Code" (Sari et al., 2023; Çalik et al., 2021) and the formal criminalization of violence against health professionals (Towhari & Bugis, 2020; Pidada & Wahab, 2024; Kesavan et al., 2020; Elhadi et al., 2022) reinforce the desire to promote an organizational culture that supports zero tolerance of violence against health professionals.

However, it is important to note that most studies used descriptive quantitative methodologies, without delving into the real effectiveness of innovative measures or their effects on clinical practice. This serves as a limitation to understanding professionals' experiences and the effective functioning of institutional policies.

6.4. Institutional Policies and Digital Plataforms: Advances and Challenges

Approximately 63% of studies reported the existence of public policies or institutional regulations to address violence against HCWs (Zangão, Serra et al., 2024; Zangão, Gemito et al., 2024; Wählin et al., 2020; Viottini et al., 2020; Veronesi et al., 2023; Towhari & Bugis, 2020; Schösler et al., 2024; Sari et al., 2023; Pidada & Wahab, 2024; Odes et al., 2022; McGuire et al., 2021; Kesavan et al., 2020; AlHassan et al. 2023a; Antão et al., 2020; Banga et al., 2023; Bianco et al., 2025; Çalik et al., 2021; Chang et al., 2024; Di Prizio et al., 2023; Elhadi et al., 2022; Jia et al., 2020; AlHassan et al., 2023b). Countries such as Sweden (Wahlin et al., 2020), Italy (Viottini et al., 2020, California (Odes et al., 2022) and Indonesia (Pidada & Wahab, 2024), stand out for implementing structured

systems that include standard norms, ongoing training, and integration of reported data into comprehensive monitoring systems.

However, in many other countries, policies remain fragmented or poorly communicated to professionals. Studies such as those by Seddik et al., (2023) and Shahjalal et al., (2021) show that professionals are often unaware of existing regulations or lack the tools and resources to implement them.

The use of digital platforms for reporting incidents of violence was mentioned in 46% of the studies included. While these tools are promising in theory, their practical use is often hampered by barriers, namely limited knowledge about how to use them, or lack of traceability in reported incidents.

The Portuguese context illustrates these limitations. Platforms such as NOTIFICA, a national platform or a SAGRIS and HER+, the institutional platforms, exists but remain underutilized, largely due to usability issues, insufficient training, and a lack of consistent institutional feedback (Antão et al., 2020; Zangão, Serra et al., 2024; Zangão, Gemito et al., 2024).

The studies conclude that digital platforms are important, but they cannot operate in isolation. To be effective, they must be incorporated into mandatory institutional policies, reinforced by systematic training, management accountability, and organizational cultures that encourage reporting, fostering a culture of zero tolerance toward violence.

6.5. The Portuguese Case: Between Normative Intent and Structural Weakness

The three studies conducted in Portugal Antão et al., (2020); Zangão, Serra et al., (2024); Zangão, Gemito et al., (2024), reveal a scenario marked by the formal recognition of WPV as a problem, yet also by significant shortcomings in institutional responses. Although a national programme and digital reporting platforms were available at the time the studies were undertaken, these tools remain consistently underutilised. The most frequently reported reasons include a lack of training, absence of institutional feedback, the undervaluation of reports and absence of standardized and interoperable national reporting system. This situation contributes to a serious problem in monitoring incidents and taking effective action by the health system (Zangão, Serra et al., 2024; Zangão, Gemito et al., 2024; Antão et al., 2020).

These findings highlight the urgent need for a systematic and coordinated response that integrates mechanisms and organizational culture ensuring that formal recognition of the problem is matched by effective institutional action.

6.6. Pathways to Change: Training, Culture and Functional Systems

Nearly 69% of the studies analysed identified strategies to increase reporting rates, namely training on reporting and prevention of violent incidents and awareness campaigns. The literature suggested that these initiatives are most effective when inserted into broader institutional strategies. These include clear protocols, national policies, enhanced security measures and investment in physical resources. All of these measures are essential to reducing the incidence of violence in healthcare settings Veronesi et al., 2023; Towhari & Bugis, 2020; Shahjalal et al., 2021; Seddik et al., 2023; Shahjalal et al., 2021; Odes et al., 2022; AlHassan et al. 2023a; Al-Sayaghi et al. 2023; Alsmael et al., 2020; Banga et al., 2023; Benning et al., 2024; Bianco et al., 2025; Çalik et al., 2021; Chang et al., 2024; Di Prizio et al., 2023; Elhadi et al., 2022; Elsaid et al., 2022; Ghareeb et al., 2021; Hachimi et al., 2024; Hamdan et al., 2025; Harthi et al., 2020; Ikpa & Buowari, 2023; AlHassan et al. 2023b). The studies by Odes et al., (2022) in the California by Bianco et al., (2025) in the Italy and by Çalik et al., (2021) in Turkey, both strongly regulated by policies public and digital reporting systems implemented in healthcare institutions, concluded it's necessary to combine a culture to promote reporting within institutions. They also emphasize that organizations with clinical risk management make a positive contribution to reducing the phenomenon of violence, enabling incident analysis, the identification of relevant interventions, and fostering shared responsibility for violence prevention. Bianco et al, (2025) also highlights the importance of psychological service after a violent incident suffered by professionals' workers, which can be integrated into a risk management and still contribute positively to changing the paradigm.

Consequently, significant change requires more than technical tools or public policies, it necessarily demands cultural transformation, political support and accountability at all levels of the institutional hierarchy.

6.7. Scientific Contribution of this Scoping Review

This scoping review makes a positive contribution by systematizing the evidence on workplace violence in the healthcare sector. It offers a comparative and critical perspective on reporting strategies, barriers and institutional responses, integrating results from 35 studies conducted in 25 countries. By mapping methodological and structural gaps, along with identifying potential interventions, this review provides a solid foundation for developing more effective public policies and systems for organizations. Above all, it highlights the urgent need for specific, action-oriented national reporting systems that ensure safe environments for all healthcare workers.

7. Conclusion

This scoping review mapped current knowledge on the reporting of violence episodes against healthcare workers between 2020 and 2025 offering a comprehensive and comparative analysis across 25 countries. Despite the existence of digital reporting platforms and existing public policies, underreporting still persists at over 50%. The results show that the most prevalent type of violence is verbal violence, paradoxically the least reported. Overall, it is suggested that underreporting is due to individual or organizational barriers. The most commonly reported individual barrier was the belief in the ineffectiveness of reporting, often described as 'nothing will be done,' while the main organizational barrier was ineffectiveness of reporting systems. In Portugal effective reporting mechanisms are urgently needed, combined with ongoing training and education at both the national and institutional levels. In summary this review highlights the need for structured and multidimensional response that combines effective public policies, digital reporting systems and an organizational culture that promotes reporting. All of this is necessary to create safe environments for healthcare workers.

7.1. Limitations of the Study

This review has limitations. First, the search was conducted in only three electronic databases, which may have excluded relevant studies. Second, only articles published in Portuguese, English and Spanish were included, which may limit the geographic and cultural diversity of evidence base. Finally, as this is a scoping review, a critical appraisal of methodological quality of the included studies was not performed, in accordance with the chosen design.

8. Future research

This scoping review highlighted important advances in combating violence against Healthcare Workers (HCWs). However, there is an urgent need to develop more integrated organizational and political systems, particularly through robust policies and intuitive, interoperable platforms. From an institutional and political perspective, the following stand out:

- The opportunity to strengthen national plans, such as the Action Plan for the Prevention of Violence in the Health Sector (PAPVSS), through a systematic evaluation of their implementation;
- The implementation of a national reporting system for violence events anonymous and easy to use, accessible to all HCWs on the internet browser;
- The definition of performance indicators that allow for monitoring the effectiveness of prevention strategies, monitoring notifications, and monitoring HCWs.

For future research, the following are recommended:

- Longitudinal and mixed-methods studies that explore, in addition to prevalence, the subjective barriers of underreporting.
- Explore implementation and effectiveness, such as white code and immediate psychological supports programs.
- Incorporating emerging technologies, with artificial intelligence, for the early detection of risk patterns and the automation of real-time alerts.

This scoping review should serve as a reference point for strengthening and clarifying public policies in Portugal. The integration of the evidence presented here with constructive dialogue between healthcare professionals, policymakers, and service users is crucial. Through coordinated and collaborative action, it will be possible to enhance working conditions, support professional well-being, and safeguard the quality and safety of healthcare delivery.

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Annexes

Annex I: Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	Title page
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	Page iv (Abstract)
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	Page 1 (Introduction)
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	Page 2 (Objectives)
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	Page 9 (Methods – Study design)

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	Page 10 (Information sources)
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	Page 10 (Search strategy)
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	Page 10 (Selection process)
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	Page 11 (Data extraction and analysis)
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	Page 11 (Data extraction and analysis)
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	Not applicable
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	Page 11 (Data extraction and analysis)
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for	Page 12 (Results – Characterisation of Studies,

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
		exclusions at each stage, ideally using a flow diagram.	PRISMA flow diagram)
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	Page 12 (Characterisation of Studies)
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	Not applicable
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	Pages 12–42 (Results subsections)
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	Pages 42 (Main Conclusions)
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	Pages 43–48 (Discussion subsections)
Limitations	20	Discuss the limitations of the scoping review process.	Page 49 (7.1 Limitations of the Study)
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	Page 49 (Conclusion)
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	Page xiv (Scientific results and financial support)

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).

‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

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