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REVIEW

'That's Enough' - Workplace Violence Against Physicians, Pharmacists, and Nurses in Saudi Arabia: A Systematic Review of Prevalence, Causes, and Consequences

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Background: Workplace violence (WPV) threatens the safety and well-being of healthcare providers and leads to significant organizational consequences, including staff burnout, reduced productivity, and high turnover rates. At the societal level, it reduces the quality of care, increases medical errors, and imposes a substantial economic burden on healthcare systems and communities. Despite the global attention to WPV, systematic reviews specifically addressing WPV across all three professions—physicians, pharmacists, and nurses—and in various healthcare settings in Saudi Arabia are lacking. This review examines the prevalence, contributing factors, types, sources, potential causes, reactions, and impact of WPV against HCPs in Saudi Arabia.

Methods: We conducted a systematic search of electronic databases from January 2010 to November 2024 and reviewed reference lists of included studies focusing on WPV against physicians, pharmacists, and nurses in Saudi Arabia. Two researchers independently screened studies for inclusion, resolved discrepancies through discussion, and extracted data in duplicate. The quality of included studies was assessed using critical appraisal tools for cross-sectional studies.

Results: A total of 42 studies were reviewed using the AXIS tool for cross-sectional studies. The prevalence of WPV against HCPs ranged from 26% to 90.7%. This range reflects overall WPV prevalence across various studies, encompassing different healthcare settings and professional groups. Verbal violence was the most reported type (19.7–98.2%), followed by threats (12–74.4%), physical violence (3–79%), and sexual violence (1.9–76.5%). Perpetrators were predominantly male, with patients (7.1–99.3%) and their relatives or friends (6.6–91%) as the primary sources. Contributing factors of WPV included gender, age, profession, workload, shift patterns, nationality, experience, and inadequate training. Causes included staff shortages, overcrowding, long waiting times, miscommunication, unmet patient demands, insufficient penalties, and inadequate security measures. Responses to WPV varied, with some HCPs reporting incidents and others taking no action. The impact on HCPs included psychological distress, reduced work quality, and occasional job resignation.

Conclusion: The high prevalence of WPV against HCPs in Saudi Arabia highlights the urgent need for enhanced protective measures, increased awareness of WPV policies, and improved reporting systems. Understanding the factors contributing to WPV can inform targeted intervention programs to foster safer healthcare environments.

Keywords: health profession, healthcare worker, violence, workplace violence, review, Saudi Arabia

Introduction

Workplace violence (WPV) among healthcare providers (HCPs) is a growing concern for both developed and developing nations, including Saudi Arabia.[1–47] WPV is defined by the World Health Organization (WHO) as

> incidents where staff are abused, threatened, or assaulted in circumstances related to their work, involving an explicit or implicit challenge to their safety, well-being, or health.[48]

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Violence can take many forms in the workplace, including physical violence and/or psychological violence. Physical violence involves actions such as beating, kicking, slapping, stabbing, pushing, biting, and pinching.[48] Psychological violence includes forms of verbal aggression (eg, shouting, insults, humiliation, threats, and the use of offensive language), harassment based on race or gender, and workplace bullying.[48] Over one-third of all WPV incidents worldwide currently occur within the healthcare sector.[43]

While nurses and physicians are often the primary focus of WPV studies due to their frontline roles, pharmacists in Saudi Arabia also frequently serve as frontline healthcare providers, particularly in community pharmacies,[19] and hospital settings.[20,25,31] Their direct interaction with patients and families, including addressing medication concerns and managing disputes over prescriptions, places them at risk of WPV. However, existing research often underrepresents pharmacists, leaving gaps in understanding the unique factors contributing to their experiences of WPV.[19] By including pharmacists in addition to nurses and physicians, this review aims to provide a more comprehensive understanding of WPV across multiple professional roles and healthcare settings.

The Australian Institute of Criminology has identified the healthcare sector as the most violent industry globally, highlighting the severity of WPV in this field.[49] The prevalence of WPV varies significantly across studies due to differences in the types of violence examined, employment sectors, healthcare providers, countries, and the definitions and measurement tools used. In the United States (U.S.), HCPs are at risk for WPV, being five times more likely to experience violence at work than other workers. They account for 73% of all nonfatal workplace injuries from violence.[50] In Europe, it is reported that HCPs are 16 times more at risk of violence than other professionals.[51] In Canada, it is reported that 71.4% of Canadian workers experienced at least one form of harassment or violence in the workplace.[52] According to the systematic review and meta-analysis by Liu et al (2019), 61.9% (95% CI: 56.1% to 67.6%) of HCPs reported exposure to any form of WPV. The study analyzed WPV prevalence across various regions, including Asia, Europe, North America, Australasia, Africa, and Latin America, highlighting the global nature of this occupational hazard.[45]

WPV significantly affects the safety, dignity, and overall well-being of HCPs physically, mentally, and socially.[2,7,10,23] It impacts organizations through absenteeism, reduced productivity, loss of skilled professionals, work morale, compensation costs, job dissatisfaction, and high employer burnout and turnover rates.[1,3,4,7,10] It is the leading cause of occupational fatalities worldwide, with an estimated 1.5 million workers dying annually due to WPV.[53] While quantifying the financial impact of WPV can be challenging, research indicates that it contributes to approximately 30% of the overall society's costs of violence.[54,55] It also contributes to a higher rate of medical and medication errors, leading to adverse outcomes and limiting the level of care provided to patients.[1,10,16,23]

While nurses are often the primary victims,[1,16,17,20,25,32] WPV affects all occupational groups in healthcare, including physicians and pharmacists.[3,12,17,18,21,33] These incidents are frequently underreported because many HCPs view violence as an expected aspect of their work.[1,2,10,15,16,23] Additionally, they may hesitate to report such incidents due to concerns about the reactions or consequences they might face.[1,2,10,15,16,23] Physicians, pharmacists, and nurses face high rates of WPV due to the nature of their work.[1,2,5,7,16] They frequently interact with patients and families in emotionally charged situations involving illness, pain, or death, where frustrations over delays or unmet expectations can escalate.[1,2,10,16,19] High-stress environments like emergency departments, long working hours, and fatigue increase the risk.[4,5,10,12,15,22,29,31,33] Pharmacists often encounter disputes over prescriptions,[19] while nurses and physicians provide hands-on care, exposing them to violent behavior from patients with medical, psychiatric, or substance abuse issues.[1,2,15,23,26] Additionally, insufficient reporting mechanisms leave these professionals more vulnerable to WPV.[1,2,16] The reliance on a diverse workforce, including expatriate workers, introduces language and cultural barriers that may exacerbate misunderstandings and conflicts.[5,7,13,17,34,37,41]

Currently, no systematic review exists that comprehensively evaluates the prevalence of workplace violence across all three professions—physicians, pharmacists, and nurses—and in various healthcare settings in Saudi Arabia. Furthermore, there is a lack of research addressing the contributing factors, types, sources, and potential causes of WPV, as well as the reactions and impact on HCPs. Additionally, existing measures to address and manage WPV across various sectors in the country still need to be explored. Thus, this systematic review aims to synthesize existing evidence on WPV among physicians, pharmacists, and nurses in Saudi Arabia by examining the prevalence, contributing factors, types, sources, potential causes, reactions, and impact of WPV in this context. The review seeks to identify literature gaps and provide

policy and practice recommendations to prevent and reduce violence in healthcare settings. This study is essential to inform strategies that protect healthcare workers, enhance workplace safety, and ultimately improve the quality of healthcare delivery in Saudi Arabia.

Material and Methods

Design

A systematic literature review was conducted to research workplace violence against healthcare providers (ie, physicians, nurses, and pharmacists). This review followed the guidelines of the preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA).[56] All the methods employed in this review were conducted in complete alignment with the guidelines outlined in the Cochrane Handbook for Systematic Reviews of Interventions.[57]

Inclusion/Exclusion Criteria

Studies were included if they met the following criteria:

(a) Original research articles that were peer-reviewed,
(b) Research focused specifically on workplace violence against healthcare workers (ie, physicians, nurses, and/or pharmacists),
(c) Studies that assessed at least one type of workplace violence (eg, physical and/or psychological), reported prevalence rates, and included enough data on possible causes and contributing factors of WPV,
(d) Quantitative studies (ie, cross-sectional studies),
(e) Publications were in English,
(f) Research conducted in Saudi Arabia between 2010 and 2024.

The studies were excluded based on the following criteria:

(a) Studies categorized as reviews, qualitative studies, conference abstracts, letters, commentaries, or editorials.
(b) Studies for which the full text was unavailable.
(c) Research focusing on violence against healthcare students, fellows, interns, residents, or veterinarians.

Data Sources, Search Terms, and Search Strategy

Searches were conducted using the electronic databases PubMed and Web of Science. Search terms were drawn from four main keywords: “healthcare worker”, “violence”, “work”, and “Saudi Arabia”. Search term lists related to each keyword were created using MeSH (Medical Subject Headings) terms from PubMed. Additional relevant terms were manually selected from the literature throughout the review process.[1–42] Table 1 displays the various keywords used to search for relevant articles in this review. Keywords not available as MeSH terms were searched as phrases using free-text mode. Reference lists of the retrieved and related review articles were manually reviewed to identify additional relevant studies. Consultation with experts or colleagues in the field was also conducted to ensure the comprehensiveness of the search terms. The search for all articles on WPV across the mentioned databases was conducted from January 2010 to November 2024.

Data Extraction

Two reviewers independently screened the titles and abstracts to assess eligibility based on the study inclusion criteria. Articles not meeting these criteria were excluded during the initial review. Full texts were obtained electronically and reassessed for inclusion in potentially eligible articles. Any disagreements were resolved through group discussion. All studies that met the inclusion criteria were included and evaluated.

Table 1 A List of Search Terms Used for This Review (PubMed and Web of Science)

Search terms for 'healthcare worker'	And	Search terms for 'violence'	And	Search terms for 'work'	And	Search terms for 'Saudi Arabia'
'health care worker' OR 'health worker' OR 'health professional' OR 'health provider' OR 'Health personnel' OR 'healthcare worker' OR 'healthcare professional' OR 'healthcare provider' OR 'physician' OR 'doctor' OR 'general practitioner' OR 'nurse' OR 'medical staff ' OR 'Pharmacist'		'violence' OR 'Stalking' OR 'assault' OR 'threat' OR 'aggression' OR 'bullying' OR 'harassment' OR 'crime'		'workplace' OR 'workplace violence' OR 'work-related' OR 'work'		'Saudi Arabia'

Quality Assessment of the Included Studies

The selected studies were evaluated using the AXIS tool for cross-sectional studies[58] alongside international standards for survey studies. The AXIS tool includes 20 questions grouped into areas that assess key aspects of a cross-sectional study's design, execution, and reporting quality. The AXIS tool uses a "yes", "no", or "do not know" response format for each question. Two reviewers assessed each item independently to determine potential areas of bias and whether the study meets quality standards. Any disagreements were resolved through discussion. Studies with more "yes" responses are generally considered to have higher methodological quality.

Results

Search Outcome

After removing duplicates, the initial electronic and manual search of reference lists from included articles yielded 463 articles. Four-hundred fifteen studies were excluded after title and abstract review for the following reasons: irrelevant studies (n = 340), not conducted in Saudi Arabia (n = 14), qualitative study (n = 1), review articles (n = 51), inability to retrieve full text (n = 2), studies on violence against healthcare students, fellows, interns, residents and veterinarians (n = 7). The full texts of the remaining 48 studies were thoroughly reviewed. Six studies were excluded as they did not meet the inclusion criteria, resulting in 42 studies in the systematic review (Figure 1).

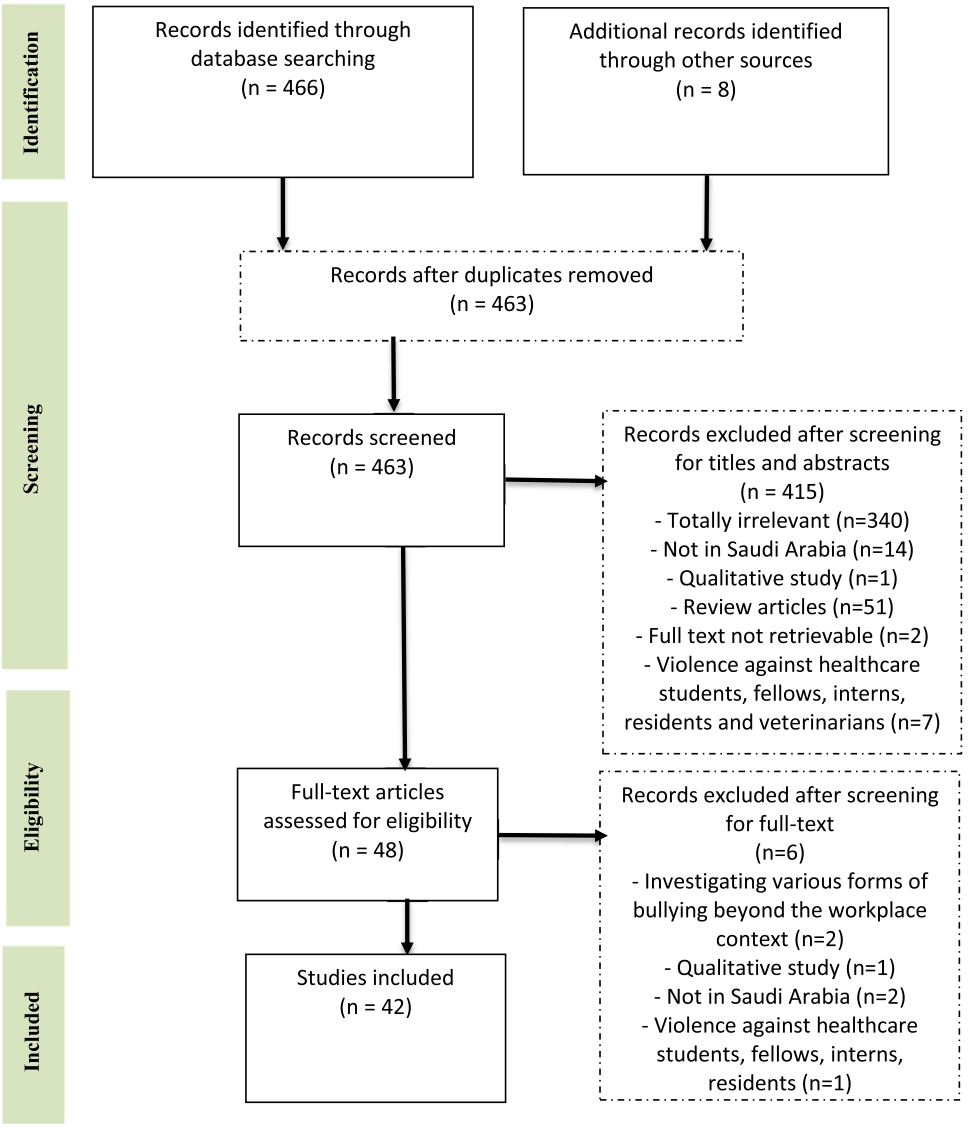

Figure 1 Flowchart of identification and selection procedure.

Quality Assessment of the Included Studies

All the studies meet most of the AXIS quality criteria, particularly in areas of clear aim, ethical standards, appropriate sample and methods, and transparent and comprehensive reporting of results. Limitations include potential response bias and generalizability due to sampling limitations. Areas that could be improved include a deeper analysis of non-respondents. Overall, all the studies provide valuable insight into workplace violence among healthcare professionals in Saudi Arabia. See Table 2.

Characteristics of the Reviewed Studies

The key characteristics of the 42 studies published between 2010 and 2024 are presented in Table 3. [1–19] The majority of the studies were conducted in the Western (ie, Jeddah, Mecca, Al-Madinah, Taif) (n = 12)[14,15,22–24,26,28,31,32,37,38,41] and Central (ie, Riyadh, Buraidah) (n = 10)[1–4,6,7,25,27,30,36] Provinces, followed by the Eastern Provinces (n = 7) (ie, Al Khobar, Dammam, Jubail, Qatif, Al-Hassa),[8–11,21,29,42] with fewer studies in the Northern (ie, Tabuk, Arar) (n = 2),[12,13] and Southern (ie, Abha) (n = 2) Provinces.[16,33] Nine studies were Nationwide (ie, data were collected across various provinces in Saudi Arabia).[5,17–20,34,35,39,40] The sample sizes of the studies varied, with participants ranging from 96

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Table 2 Quality Assessment of the Included Studies

Study	Study's aim clearly stated	Target population defined	The sample size justification	Sampling method described and appropriate	Measurement tool validity/reliability	Non-respondents characteristics described	Risk of bias from non-response	Respondents' demographics described	The method of data collection clearly described	Ethical approval and consent obtained	Statistical methods described	Control of confounding factors	Outcome data reported accurately	Limitations discussed	Potential sources of bias identified	Funding source stated	Conflict of interest disclosed	Results generalizable to the target population	Interpretation of results justified	Conclusions supported by results
Algwaiz and Alghanim, 2012[1]	Yes	Yes	Yes	Yes	No	No	Low	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Alkorashy and Al Moalad, 2016[2]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Al-Turki et al, 2016[3]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Alyaemni and Alhudaithi, 2016[4]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Alharbi et al, 2021[6]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Alenezi, 2024[7]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Al-Shamlan et al, 2017[8]	Yes	Yes	Yes	Partially	Yes	No	Low	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Alsmael et al, 2019[9]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Harthi et al, 2020[10]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Al-Shaban et al, 2021[11]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Kamal et al, 2016[14]	Yes	Yes	Yes	Partially	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Alnofaiey et al, 2022[15]	Yes	Yes	Yes	Partially	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Alzahrani et al, 2016[12]	Yes	Yes	Yes	Partially	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Al Anazi et al, 2020[13]	Yes	Yes	Yes	Partially	Yes	No	Low	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Alsaleem et al, 2018[16]	Yes	Yes	Yes	Yes	Yes	No	Low	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes

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Alhusain et al, 2020[5]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Alhassan et al, 2023[17]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Alsaqat et al, 2023[18]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Alshahrani, 2023[19]	Yes	Yes	Yes	Yes	Yes	No	Low	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Alhassan et al, 2023[20]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
El-Gilany et al, 2010[21]	Yes	Yes	No	No	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	No	No	Partially	Yes	Yes
Babkair et al, 2024[22]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Basfr et al, 2019[23]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Rayan et al, 2019[24]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Al-Sagheir et al, 2022[25]	Yes	Yes	Partially	Yes	Partially	No	Moderate	Yes	Yes	Yes	Yes	No	Yes	Yes	Partially	Yes	Yes	Partially	Yes	Yes
Al Harthi, 2022[26]	Yes	Yes	Yes	Yes	Partially	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	No	Partially	Yes	Yes
Sayed et al, 2022[27]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	No	Partially	Yes	Yes
Alamri et al, 2023[28]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Alobaidan et al, 2024[29]	Yes	Yes	No	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Alharbi et al, 2024[30]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Al-Sayaghi, 2023[31]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Abdulkarim and Subke, 2023[32]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Alqahtani et al, 2020[33]	Yes	Yes	No	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	No	Partially	Yes	Yes
Al-Surimi et al, 2020[34]	Yes	Yes	No	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes

(*Continued*)

Table 2 (Continued).

Study	Study's aim clearly stated	Target population defined	The sample size justification	Sampling method described and appropriate	Measurement tool validity/reliability	Non-respondents characteristics described	Risk of bias from non-response	Respondents' demographics described	The method of data collection clearly described	Ethical approval and consent obtained	Statistical methods described	Control of confounding factors	Outcome data reported accurately	Limitations discussed	Potential sources of bias identified	Funding source stated	Conflict of interest disclosed	Results generalizable to the target population	Interpretation of results justified	Conclusions supported by results
Alwabili et al, 2024[35]	Yes	Yes	No	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes
Almutairi and Jahan, 2022[36]	Yes	Yes	No	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	No	Partially	Yes	Yes
Alhaeli et al, 2023[37]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	No	Partially	Yes	Yes
Al-Nemari and Salem, 2020[38]	Yes	Yes	Yes	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	No	Partially	Yes	Yes
Alsharari et al, 2021[39]	Yes	Yes	Partially	Yes	Partially	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	No	Partially	Yes	Yes
Albuainain et al, 2022[40]	Yes	Yes	Partially	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	No	Partially	Yes	Yes
Alsheri et al, 2017[41]	Yes	Yes	No	Yes	Partially	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	No	Partially	Yes	Yes
Alshamlan et al, 2022[42]	Yes	Yes	No	Yes	Yes	No	Moderate	Yes	Yes	Yes	Yes	Partially	Yes	Yes	Yes	Yes	Yes	Partially	Yes	Yes

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Table 3 Summary of Included Studies on Workplace Violence Against Healthcare Providers in Saudi Arabia

Study	Country	Design	Study duration (months)	Number of participants (n)	Age (years)	Sample	Setting
Algwaiz and Alghanim, 2012[1]	Riyadh, Saudi Arabia	Cross-sectional survey	3 months	383	20–62	Healthcare providers (HCPs) [physicians, nurses]	2 Public hospitals
Alkorashy and Al Moalad, 2016[2]	Riyadh, Saudi Arabia	Cross-sectional survey	3 months	370	31–39	Nurses	1 Hospital
Al-Turki et al, 2016[3]	Riyadh, Saudi Arabia	Cross-sectional survey	2 months	270	≤30 – ≥40	Healthcare providers (HCPs) [physicians, pharmacists, nurses and others]	Primary healthcare center
Alyaemni and Alhudaithi, 2016[4]	Riyadh, Saudi Arabia	Cross-sectional survey	2 months	121	<30 – >40	Nurses	Emergency departments of 3 hospitals
Alzahrani et al, 2016[12]	Tabuk, Saudi Arabia	Cross-sectional survey	5 months	129	21–62	Healthcare providers (HCPs) [physicians, nurses, others]	Emergency departments of 3 hospitals
Kamal et al, 2016[14]	Taif, Saudi Arabia	Cross-sectional survey	NR[1]	201	25–60	Healthcare providers (HCPs) [physicians, nurses]	Primary health care centers
Al-Shamlan et al, 2017[8]	AL Khobar, Saudi Arabia	Cross-sectional survey	2 months	391	<30 – ≥40	Nurses	1 Hospital
Alsaleem et al, 2018[16]	Abha, Saudi Arabia	Cross-sectional survey	NR[1]	738	21–60	Healthcare providers (HCPs) [physicians, nurses, others]	10 primary healthcare centers and 2 government hospitals
Alsmael et al, 2019[9]	Dammam and AL Khobar, Saudi Arabia	Cross-sectional survey	4 months	360	Mean age (35 years)	Healthcare providers (HCPs) [physicians, pharmacists, nurses and others]	Primary care centers
Al Anazi et al, 2020[13]	Arar, Saudi Arabia	Cross-sectional survey	3 months	352	21–62	Healthcare providers (HCPs) [physicians, nurses, others]	1 Public hospital and 2 primary healthcare centers
Harthi et al, 2020[10]	Dammam, Saudi Arabia	Cross-sectional survey	3 months	324	≤30 – >40	Healthcare providers (HCPs) [physicians, nurses, others]	Emergency departments from 4 hospitals
Alharbi et al, 2021[6]	Riyadh, Saudi Arabia	Cross-sectional survey	3 months	404	24–69	Healthcare providers (HCPs) [physicians, nurses, others]	Tertiary medical city, including various wards and healthcare centers
Al-Shaban et al, 2021[11]	Dammam, Saudi Arabia	Cross-sectional survey	3 months	213	20 – >50	Healthcare providers (HCPs) [physicians, nurses]	1 Hospital
Alnofaiey et al, 2022[15]	Taif, Saudi Arabia	Cross-sectional survey	2 months	96	≤30 – ≥51	Physicians	Emergency departments in selected hospitals
Alhusain et al, 2020[5]	Nationwide (data collected from healthcare providers across various cities in Saudi Arabia)	Cross-sectional survey	12 months	475	24–60	Healthcare providers (HCPs) [physicians and nurses]	Emergency department staff from 37 hospitals across three provinces in Saudi Arabia

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Table 3 (Continued).

Study	Country	Design	Study duration (months)	Number of participants (n)	Age (years)	Sample	Setting
Alhassan et al, 2023[17]	Nationwide (data collected from healthcare providers across various cities in Saudi Arabia)	Cross-sectional survey	NR[1]	7398	20 – ≥60	Healthcare providers (HCPs) [physicians, pharmacists, nurses and others]	Healthcare workers registered with the Saudi Commission for Health Specialties, across government and private sectors
Alsaqat et al, 2023[18]	Nationwide (data collected from healthcare providers across various cities in Saudi Arabia)	Cross-sectional survey	12 months	7398	20 – ≥60	Healthcare providers (HCPs) [physicians, pharmacists, nurses and others]	Various healthcare sectors (public, semi-governmental, and private) across Saudi Arabia
Alshahrani, 2023[19]	Nationwide (data collected from pharmacists across various cities in Saudi Arabia)	Cross-sectional survey	NR[1]	316	23–60	Pharmacists	Community pharmacies across Saudi Arabia
Alenezi, 2024[7]	Riyadh, Saudi Arabia	Cross-sectional survey	4 months	361	20 – >40	Nurses	Psychiatric Hospital
AlHassan et al, 2023[20]	Nationwide (data collected from pharmacists across various cities in Saudi Arabia)	Cross-sectional survey	12 months	7398	20 – ≥60	Healthcare providers (HCPs) [physicians, pharmacists, nurses and others]	Healthcare workers registered with the Saudi Commission for Health Specialties, across government and private sectors
El-Gilany et al, 2010[21]	Al-Hassa, Saudi Arabia	Cross-sectional survey	3 months	1091	NR[1]	Healthcare providers (HCPs) [physicians, pharmacists, nurses and others]	Primary health care centers
Babkair et al, 2024[22]	Jeddah, Saudi Arabia	Cross-sectional survey	2 months	100	Mean age (32 years)	Physicians	Emergency department in eight hospitals
Basfr et al, 2019[23]	Western region, Saudi Arabia	Cross-sectional survey	3 months	310	29–59	Nurses	3 Psychiatric hospitals
Rayan et al, 2019[24]	Mecca, Saudi Arabia	Cross-sectional survey	0.5 month	118	Mean age (29 years)	Nurses	Tertiary medical city, including various wards and healthcare centers
Al-Sagheir et al, 2022[25]	Riyadh, Saudi Arabia	Cross-sectional survey	NR[1]	1054	20 - >40	Healthcare providers (HCPs) [physicians, pharmacists, nurses and others]	Home healthcare services provided by government sectors in Saudi Arabia (eg, Ministry of Health, Ministry of Defense, Ministry of National Guard, etc).
Alharthi, 2022[26]	Taif, Saudi Arabia	Cross-sectional survey	2 months	141	NR[1]	Nurses	Psychiatric medical complex and mental health

(*Continued*)

Table 3 (Continued).

Study	Country	Design	Study duration (months)	Number of participants (n)	Age (years)	Sample	Setting
Sayed et al, 2022[27]	Buraidah, Saudi Arabia	Cross-sectional survey	2 months	369	Mean age (34 years)	Nurses	Hospitals and primary healthcare centers
Alamri et al, 2023[28]	Jeddah, Saudi Arabia	Cross-sectional survey	1 month	198	Mean age (38 years)	Nurses	Psychiatric departments in two hospitals
Alobaidan et al, 2024[29]	Jubail, Qatif, Dammam	Cross-sectional survey	2 months	157	Majority (70.1%) were younger than 30 to 35 years old	Healthcare providers (HCPs) [physicians and nurses]	Emergency departments in three hospitals
Alharbi et al, 2024[30]	Riyadh, Saudi Arabia	Cross-sectional survey	4 months	416	20 - >50	Nurses	Hospitals
Al-Sayaghi, 2023[31]	Al-Madinah, Saudi Arabia	Cross-sectional survey	3 months	234	≤30 - >40	Healthcare providers (HCPs) [physicians, pharmacists, nurses and others]	Hospitals
Abdulkarim and Subke, 2023[32]	Jeddah, Saudi Arabia	Cross-sectional survey	5 months	437	<30-60	Healthcare providers (HCPs) [physicians and nurses]	Primary healthcare centers
Alqahtani et al, 2020[33]	Abha, Saudi Arabia	Cross-sectional survey	NR[1]	164	Mean age (30 years)	Healthcare providers (HCPs) [physicians and nurses]	Emergency departments in three hospitals
Al-Surimi et al, 2020[34]	Nationwide (data collected from pharmacists across various cities in Saudi Arabia)	Cross-sectional survey	NR[1]	1074	≤30 - >40	Healthcare providers (HCPs) [physicians, pharmacists, nurses and others]	Hospitals
Alwabili et al, 2024[35]	Nationwide (data collected from pharmacists across various cities in Saudi Arabia)	Cross-sectional survey	11 months	239	25 - ≥50	Physicians (psychiatrists)	Hospitals
Almutairi and Jahan, 2022[36]	Buraidah, Saudi Arabia	Cross-sectional survey	2 months	288	<30 - >50	Healthcare providers (HCPs) [physicians and nurses]	Primary health care centers
Alhaeli et al, 2023[37]	Jeddah, Saudi Arabia	Cross-sectional survey	2 months	402	<30 - >60	Healthcare providers (HCPs) [physicians, pharmacists, nurses and others]	Hospitals and primary health care centers
Al-Nemari and Salem, 2020[38]	Mecca, Saudi Arabia	Cross-sectional survey	12 months	450	20 - >40	Healthcare providers (HCPs) [physicians and nurses]	Hospitals
Alsharari et al, 2021[39]	Nationwide (data collected from pharmacists across various cities in Saudi Arabia)	Cross-sectional survey	4 months	849	20–60	Nurses	Emergency departments in hospitals

(*Continued*)

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Table 3 (Continued).

Study	Country	Design	Study duration (months)	Number of participants (n)	Age (years)	Sample	Setting
Albuainain et al, 2022[40]	Nationwide (data collected from pharmacists across various cities in Saudi Arabia)	Cross-sectional survey	6 months	788	20 - >50	Healthcare providers (HCPs) [physicians and nurses]	Multiple surgical environments including hospitals and surgical centers
Alsheri et al, 2017[41]	Al-Madinah, Saudi Arabia	Cross-sectional survey	NR[1]	288	29> - >50	Nurses	Hospitals
Alshamlan et al, 2022[42]	AL Khobar, Saudi Arabia	Cross-sectional survey	2 months	359	<30 - >40	Physicians	Hospitals

Note: [1] NR: not reported.

(small-scale studies) to 7398 (large-scale studies) (median = 359; IQR: 213–437), with a total of 29,826 participants. All studies used cross-sectional survey designs, lasting 0.5 to 12 months.[1–42]

The participants' age groups ranged from 20 years to over 60. The settings for these studies included diverse healthcare environments, such as hospitals,[1,2,8,11,13,16,30,31,34,35,37,38,40–42] tertiary medical cities,[6,24] primary healthcare centers,[3,9,13,14,16,21,32,37] psychiatric hospitals,[7,23,26,28] emergency departments,[4,5,12,15,19,22,29,33,36,39] community pharmacies,[19] and home healthcare services provided by government sectors in Saudi Arabia (eg, Ministry of Health, Ministry of Defense, Ministry of National Guard, etc).[25] The study participants in the reviewed articles covered diverse healthcare providers, including nurses, physicians, and pharmacists. Among these, studies focusing specifically on nurses[2,4,7,8,23,24,26–28,30,39,41] were more frequently reported compared to other professions. In contrast, phys icians[15,22,35,42] and pharmacists[19] were rarely the primary focus of studies, typically being included as part of broader categories of healthcare providers.[1,3,5,6,9–14,16–18,20,21,25,29,31–34,36–38,40]

The Prevalence of Workplace Violence Against Healthcare Workers in the Province

The literature reveals varying prevalences of WPV in different Provinces. The Central Province (ie, Riyadh, Buraidah) experienced 41.2%–89.3% of at least one form of WPV.[1–4,6,7,25,27,30,36] In the Eastern Province (ie, Al Khobar, Dammam, Jubail, Qatif, Al-Hassa), 27.7%–82.4% of cases had WPV witnessed violence.[8–11,21,29,42] In the Western Province (ie, Taif), WPV stood at 26%– 90.3%.[14,15,22–24,26,28,31,32,37,38,41] The Northern Province (ie, Tabuk, Arar) had about 48.6% to 90.7% cases of WPV.[12,13] The Southern Province (ie, Abha) reported a prevalence between 45.7% and 57.5% of WPV.[16,33] The prevalence of WPV among cases in nationwide studies was 4%– 81%.[5,17–20,34,35,39,40] Based on the maximum and minimum prevalence values reported, the Northern Province had the highest prevalence of workplace violence, with a maximum prevalence of 90.7%.[12] In contrast, the Western Province had the lowest prevalence of workplace violence, with a minimum prevalence of 26%.[41] Local cultural norms, existing legal and policy frameworks, and the extent of awareness and training on WPV may shape these variations.

Across most studies, the gender of the attacker in WPV incidents was predominantly male.[3,7–10,21,27,29,32,33,36,42] The analysis of WPV incidents revealed a notable difference between male and female attackers. The average percentage of male attackers was 56.85% (range: 39.42% to 65.9%), significantly higher than that of female attackers, who accounted for an average of 27.63% (range: 14.7% to 40.8%). See Table 4.

The Contributing Factors of WPV Against HCPs

The commonly reported contributing factors of WPV were gender, age, years of work experience, profession, workload, shift patterns, nationality, department, and lack of training and knowledge of violence reporting systems. The analysis revealed that 11 studies[4,5,20,25,31,32,34,36,37,41,42] identified female HCPs as being more likely to be targeted in WPV

Table 4 The 6 to 12-month Prevalence and Contributing Factors of Workplace Violence Against Healthcare Workers in Different Provinces

Province	Author and Year	Prevalence (%)	95% CI (%)	Sample	Cases reporting exposure to WPV	Gender of the attackers	Contributing factors of WPV
Central (ie, Riyadh, Buraidah)	Algwaiz and Alghanim, 2012[1]	67.4%	(62.6% - 72.2%)	383 HCPs [physicians, nurses]	258	NR[1]	- Male gender (P=0.033) - Young age (<35 years) (P<0.001) - Less experienced staff (<10 years of experience) (P<0.001) - Nurses (P<0.001) - Working in the outpatient department (P=0.031)
	Alkorashy and Al Moalad, 2016[2]	47.3%	(42.5% - 52.1%)	370 Nurses	175	NR[1]	- Lack of staff training and knowledge of the procedure for reporting WPV (P=0.020)
	Al-Turki et al, 2016[3]	45.6%	NR[1]	270 HCPs [physicians, pharmacists, nurses and others]	123	- Male (65.9%) - Female (30.1%) - Both (4%)	- Pharmacists (P=0.045) - Working in multiple shifts (P<0.001) - Working in evening or night shifts (P<0.001) - Lack of an encouraging environment to report incidents of violence (P=0.006)
	Alyaemni and Alhudaithi, 2016[4]	89.3%	NR[1]	121 Nurses	108	NR[1]	- Female gender (P<0.001) - Holding a bachelor's degree (P=0.026) - Working in evening or night shifts (P<0.001)
	Alharbi et al, 2021[6]	81.4%	NR[1]	404 HCPs [physicians, nurses and others]	329	NR[1]	- Working in emergency and surgery departments (P<0.05) - Working in evening or night shifts (P<0.05) - Interacting directly with patients and their relatives (P<0.01)
	Alenezi, 2024[7]	70.4%.	NR[1]	361 Nurses	254	- Male (34.3%) - Female (14.7%) - Both (21.3%)	- Non-Saudi HCPs (P=0.03) - Holding a lower education level (ie, technical institute level) (P=0.04) - Working in multiple shifts (P=0.02) - low resilience (ie, reduced ability to cope with and adapt to stressful situations effectively) (P<0.001)
	Al-Sagheir et al, 2022[25]	67.7%	NR[1]	1054 Home HCPs [physicians, pharmacists, nurses and others]	714	NR[1]	- Young age (<35 years) (P=0.010) - Female gender (P=0.002) - Working as a nurse (P<0.001) - Less experienced staff (<10 years of experience) (P=0.003)
	Sayed et al, 2022[27]	68%	NR[1]	369 Nurses	250	- Male (58%)	- Working in public sector facilities (P<0.001)
	Alharbi et al, 2024[30]	54.8%	NR[1]	416 Nurses	228	NR[1]	- Young age (<40 years) (P=0.014) - Male gender (P=0.013) - Charge and managerial nurses (P=0.002) - Holding a bachelor's degree or higher (P<0.001) - Less experienced staff (<5 years of experience) (P<0.001) - Working in specialty units (P=0.030)
	Almutairi and Jahan, 2022[36]	41.2%	NR[1]	288 HCPs [physicians, nurses]	119	- Female (63.2%)	- Female gender (P=0.039) - Divorced/widowed (P=0.011) - Dealing with female patients (P=0.003) - More experienced staff (>10 years of experience) (P=0.05)

(*Continued*)

Table 4 (Continued).

Province	Author and Year	Prevalence (%)	95% CI (%)	Sample	Cases reporting exposure to WPV	Gender of the attackers	Contributing factors of WPV
Eastern (ie, AL Khobar, Dammam, Jubail, Qatif, Al-Hassa)	Al-Shamlan et al, 2017[8]	30.7%	NR[1]	391 Nurses	120	- Male (45.8%) - Female (31.3%) - Both (22.9%)	- Male gender (P=0.004) - Working in the emergency department (P<0.001)
	Alsmael et al, 2019[9]	46.9%	NR[1]	360 HCPs [physicians, pharmacists, nurses and others]	169	- Male (62.1%) - Female (37.9%)	- Lack of staff training and knowledge of the procedure for reporting WPV (P<0.001) - Lacking motivation to report WPV (P<0.001)
	Harthi et al, 2020[10]	47.8%	NR[1]	324 HCPs [physicians, nurses and others]	155	- Male (39.42%) - Female (20.33%) - Both (40.25%)	- Male gender (P=0.02) - Low number of co-workers (<10 people) (P=0.001) - Saudi HCPs (P=0.007) - Lack of an encouraging environment to report incidents of violence (P<0.001) - No available system to report WPV (P=0.02)
	Al-Shaban et al, 2021[11]	69%	NR[1]	213 HCPs [physicians, nurses]	147	NR[1]	- Young age (<35 years) (P<0.05) - Inpatient department (p = 0.006) - Working in evening or night shifts (P<0.001)
	El-Gilany et al, 2010[21]	27.7%	NR[1]	1091 HCPs [physicians, pharmacists, nurses and others]	302	- Male (95%) - Female (5%)	- Holding a bachelor's degree (P<0.001) - Working in Hegar (Bedouin areas) (P<0.001) - Working in emergency department (P<0.001) - Working as a physician (P<0.001)
	Alobaidan et al, 2024[29]	82.4%	NR[1]	157 HCPs [physicians, nurses]	130	- Male (65.6%) - Female (40.8%)	NR[1]
	Alshamlan et al, 2022[42]	36.5%		359 Physicians	131	- Male (61.1%) - Both (20.6%) - Female (18.3%)	- Young age (<30 years) (P=0.006) - Female gender (P = 0.008) - Less experienced staff (<5 years of experience) (P=0.002) - Working in evening or night shifts (P=0.014) - Feeling very worries and unsafe in the workplace (P<0.001) - Working in medical departments (P=0.015)

Western (ie, Jeddah, Mecca, Al-Madinah, Taif)	Kamal et al, 2016[14]	30.3%	NR[1]	201 HCPs [physicians, nurses]	61	NR[1]	- Male gender (P=0.015) - Lack of staff training and knowledge of the procedure for reporting WPV (P=0.003) - Absence of security measures (P=0.031)
	Alnofaiey et al, 2022[15]	78.1%	NR[1]	96 Physicians	75	NR[1]	- Less experienced staff (<5 years of experience) (P=0.014) - Location of the incident inside the hospital (P=0.002) - Lack of staff training and knowledge of the procedure for reporting WPV (P=0.004)
	Babkair et al, 2024[22]	76%	NR[1]	100 Physicians	76	NR[1]	- Reducing fines as a deterrent against violets (P=0.008)
	Basfr et al, 2019[23]	90.3%	NR[1]	310 Nurses	280	NR[1]	- Working in evening or night shifts (P=0.02) - Patient dissatisfaction with medical care (P=0.04) - Insufficient organization support (P=0.01)
	Rayan et al, 2019[24]	56%	NR[1]	118 Nurses	66	NR[1]	- Nurses with higher stress levels (P<0.001) - Nurses burnout (emotional exhaustion) (P<0.01)
	Alharthi, 2022[26]	90.1%	NR[1]	141 nurses	127	NR[1]	- Working in evening or night shifts (P=0.008) - Patient dissatisfaction with care (P<0.001)
	Alamri et al, 2023[28]	80.8%	NR[1]	198 Nurses	160	NR[1]	NR[1]
	Al-Sayaghi, 2023[31]	33.3%	NR[1]	234 HCPs [physicians, pharmacists, nurses and others]	78	NR[1]	- Female gender (P=0.009) - Divorced/Widowed (P=0.004) - Lacking motivation to report WPV (P=0.003)
	Abdulkarim and Subke, 2023[32]	48.7%	(44.2% - 53.2%)	437 HCPs [physicians, nurses]	213	- Male (58.2%) - Female (41.8%)	- Young age (<35 years) (P=0.003) - Female gender (P=0.02) - Working as a nurse (P<0.001) - Less experienced staff (<5 years of experience) (P=0.01) - Working in multiple shifts (P<0.001)
	Alhaeli et al, 2023[37]	65.4%	NR[1]	402 HCPs [physicians, pharmacists, nurses and others]	263	NR[1]	- Females gender (P=0.035) - Working in emergency department (P=0.003) - Non-Saudi HCPs (P=0.015) - Working in primary healthcare (P=0.002)
	Al-Nemari and Salem, 2020[38]	52%	NR[1]	450 HCPs [physicians, nurses]	234	NR[1]	- Working in emergency department (P<0.01) - Working in multiple shifts (P=0.01) - Single HCPs (P=0.02) - Direct contact with patient (P=0.01)
	Alsheri et al, 2017[41]	26%	NR[1]	288 Nurses	75	NR[1]	- Female gender (P=0.034) - Less experienced staff (<10 years of experience) (P<0.001) - Non-Saudi HCPs (P=0.02)

(*Continued*)

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Table 4 (Continued).

Province	Author and Year	Prevalence (%)	95% CI (%)	Sample	Cases reporting exposure to WPV	Gender of the attackers	Contributing factors of WPV
Northern (ie, Tabuk, Arar)	Alzahrani et al, 2016[12]	90.7%	NR[1]	129 HCPs [physicians, nurses, others]	117	NR[1]	- Older age (>40 years) (P=0.027) - Working in emergency department (P=0.044) - Working as a physician (P=0.004) - More experienced staff (P=0.015)
	Al Anazi et al, 2020[13]	48.6%	NR[1]	352 HCPs [physicians, nurses, others]	171	NR[1]	- Older age (>50 years) - Non-Saudi HCPs (P<0.0001) - Working in emergency department (P=0.002) - Working in evening or night shifts (P<0.0001)
Southern (ie, Abha)	Alsaleem et al, 2018[16]	57.5%.	NR[1]	738 HCPs [physicians, nurses and others]	424	NR[1]	- Older age (>50 years) (P=0.048) - Working as a nurse (P=0.050) - Working in evening or night shifts (P=0.001)
	Alqahtani et al, 2020[33]	45.7%	NR[1]	164 HCPs [physicians, nurses]	75	- Male	- Male gender (P=0.02) - Direct contact with patient (P=0.005) - Being a physician

Nationwide (ie, data collected from various cities in Saudi Arabia)	Alhusain et al, 2020[5]	45%	NR[1]	475 HCPs [physicians, nurses]	213	NR[1]	- Female gender (P=0.032) - Non-Saudi HCPs (P=0.022) - Working in a governmental hospital (P=0.01)
	Alhassan et al, 2023[17]	9.3%	NR[1]	7398 HCPs [physicians, pharmacists, nurses and others]	685	NR[1]	- Male gender (P=0.023) - Non-Saudi HCPs (P=0.001) - Young age (<30 years) (P=0.040) - Working as a pharmacist (P<0.001), followed by a nurse (P<0.001) - Direct physical contact with the patient (P<0.001) - Working in evening or night shifts (P<0.001)
	Alsaqat et al, 2023[18]	49.1%	NR[1]	7398 HCPs [physicians, pharmacists, nurses and others]	3635	NR[1]	- Young age (<40 years) (P<0.001) - Working as a pharmacist (P<0.001), followed by a physician (P=0.001) - Working in evening or night shifts (P=0.052) - Direct and frequent interaction with patient (P<0.001) - Lack of an encouraging environment to report incidents of violence (P<0.001)
	Alshahrani, 2023[19]	81.0%	NR[1]	316 Pharmacists	256	NR[1]	- Adult male patients were the most likely to initiate violence (P<0.001) - Working in evening or night shifts (P<0.001) - Pharmacists interacting with 100–200 clients daily (P<0.05) - Working in chain pharmacies
	Alhassan et al, 2023[20]	4%	NR[1]	7398 HCPs [physicians, pharmacists, nurses and others]	290	NR[1]	- Female gender (P=0.002) - Working as a nurse (P=0.002) - Working in evening or night shifts (P=0.007) - Having routine direct physical contact with patient (P=0.001) - Saudi HCPs (P=0.005) - Working in the private healthcare sector (P=0.016) - Less experienced staff (<10 years of experience) (P<0.001) - Lack of an encouraging environment to report incidents of violence (P=0.001)
	Al-Surimi et al, 2020[34]	63.7%	NR[1]	1074 HCPs [physicians, pharmacists, nurses and others]	684	NR[1]	- Female gender (P=0.041) - Young age (<30 years) (P<0.001) - Holding a higher education level (P<0.001) - Non-Saudi HCPs (P=0.017)
	Alwabili et al, 2024[35]	56.3%	NR[1]	239 [Physicians-psychiatrists]	134	NR[1]	- More experienced staff (>10 years of experience) (P=0.004) - Working in central region (P=0.120)
	Alsharari et al, 2021[39]	73.7%	NR[1]	849 Nurses	626	NR[1]	- More experienced staff (>10 years of experience) (P<0.001) - Feeling unsafe in the workplace (P<0.001)
	Albuainain et al, 2022[40]	47.6%	NR[1]	788 HCPs [physicians, nurses]	376	NR[1]	- Young age (<30 years) (P=0.007) - Participants in general surgery (P=0.002) - Lack of staff training and knowledge of the procedure for reporting WPV (P<0.001)

Notes: [1]NR: not reported.

incidents, whereas seven studies[1,8,10,14,17,30,33] highlighted male HCPs as being at higher risk. This reflects variability in the influence of gender as a contributing factor across different studies and contexts. Multiple studies reported that younger age (eg, individuals under 35) was the most frequently reported contributing factor of WPV.[1,11,17,18,25,30,32,34,40,42] Working evening and night shifts,[3,4,6,11,13,16–20,23,26,42] multiple shifts,[3,7,32,38] in the emergency departments,[6,8,12,13,21,37,38] non-Saudi HCPs[5,7,13,17,34,37,41] and less experienced staff (eg, those with fewer than 5–10 years of experience)[1,10,15,20,25,30,32,41,42] are commonly reported as at-risk groups. Nurses were frequently identified as at higher risk of WPV across multiple studies.[1,16,17,20,25,32] Physicians[12,18,21,33] and pharmacists[3,17,18] were less frequently highlighted than nurses. Insufficient training and lack of awareness of violence reporting systems and prevention measures[2,9,14,15,40] were also common contributing factors of WPV. See Table 4.

Types, Sources, Possible Causes, and Impact of Workplace Violence Against Healthcare Providers Across Studies

The most reported type of workplace violence across studies is verbal violence, with an average prevalence of approximately 63.7%, ranging from 19.7% to 98.2%.[1–16,18,19,21–23,25–29,31–39,41,42] Physical violence is the second most frequently reported type, followed by threats and sexual violence, which are less frequently reported. Interestingly, the average prevalence of threats (36%, ranging from 12% to 74.4%)[2,3,9,21,24,25,28,30,33] is higher than that of physical violence (18.8%, ranging from 3% to 79%)[1–7,9–17,19,21–29,31–35,37–39,41] and sexual violence (14%, ranging from 1.9% to 76.5%).[2,4,6,7,10,14,19,20,25,28,30,34,39] See more details on Table 5. Patients (45.5%, ranging from 7.1% to 99.3%), patients' relatives or friends (45.1%, ranging from 6.6% to 91%), and other healthcare staff, including colleagues, supervisors, and managers (35.7%, ranging from 2.2% to 86%) were the most commonly reported sources of violence against healthcare providers.[1–42]

The causes of workplace violence identified in the studies included lack of penalty for offenders (63.7%, ranging from 43.5% to 90.6%),[2,3,9,10,12,21,23,34,37] inadequate security measures (52.3%, ranging from 31.9% to 86.7%),[2,4,10,12,21] shortage of staff (49%, ranging from 7.4% to 92.5%),[1,2,4,10,12,13,16,23,26,28,31,35,39] overcrowding (43%, ranging from 9.7% to 93.7%),[1,3,9,10,12,16,21,23,26,35–37,39] miscommunication and misunderstanding (42%, ranging from 31.5% to 54.6%),[2–4,9,28,31,34] long waiting time to receive care (33.25%, ranging from 5.6% to 51.6%),[1–4,9,10,13,16,23,26,31,36,37] unmet patient and service demands (33%, ranging from 6.1% to 69.3%),[1,3,4,9,13,21,23,25,26,36] and lack of staff training on how to deal with violence (19%, ranging from 15.5% to 22.5%).[2,9,28] See more details on Table 5.

Healthcare providers reported a range of actions after experiencing workplace violence. The most common response was reporting the incident mainly to a senior staff member (average prevalence of 83.3%, ranging from 1.7% to 74.8%).[1,3,4,7,9,10,12–15,17–21,23,25–29,31,34–36,39,40] This was followed by taking no action after a violent incident (average prevalence of 66%, ranging from 8.1% to 84%).[3,4,6,9,10,14,15,17,18,20,21,23,25–29,31–36,39,42] Some healthcare providers reported instructing the perpetrator to stop (30.3%, ranging from 4.5% to 36.2%),[4,17,18,20,26,31,32,34] while others chose to inform a colleague (average prevalence of 29.7%, ranging from 6.1% to 66.6%).[1,3,4,9,10,15,21,23,25,26,32,34,35] The last reported action was reporting the incident to the police (average prevalence of 12.3%, ranging from 4.9% to 23.8%).[1,3,9,10,15,35,39]

Following a violent incident, many HCPs reported emotional distress, including symptoms such as hyper-alertness, feelings of unease, fear, sadness, anxiety, and stress (average prevalence of 60.4%, ranging from 4.9% to 96.7%).[5,7,13,20,21,23,26,28,29,31,32,35,39] A proportion of participants reported experiencing no change in workplace behavior due to the incident (average prevalence of 59%, ranging from 46.5% to 73.8%).[3,8,9] Additionally, reduced work performance was observed among some healthcare providers (average prevalence of 30%, ranging from 11.4% to 78.2%),[3,7,9,10,21,35,36,39] and consideration of resignation (average prevalence of 25%, ranging from 3% to 48.9%).[5,21,26,32,35,37] For further details, refer to Table 5.

Existing Measures to Deal with WPV and Recommendations Made by HCPs to Reduce WPV Across Studies

Only six studies reported existing workplace measures to deal with violence. The most frequently reported measures are the presence of security personnel and the use of surveillance cameras,[14,31] incident reporting and documentation systems,[25,31,34,38] and training HCPs on WPV safety procedures.[14,25,31,33] See Table 6.

Table 5 Types, Source, Possible Causes and Impact of Workplace Violence Against Healthcare Providers Across Studies

Authors	Types	Sources	Possible causes	Action taken toward violent incident	Impact
Algwaiz and Alghanim, 2012[1]	- Verbal (94.6%) - Physical (12%) - Both (10.5)	- Patients' relatives or friends (71.7%) - Patients (60.1%) - Other healthcare staff (14.3%)	- Long waiting time (51.6%) - Shortage of staff (39.1%) - Unmet patient and service demands (38%) - Other causes (poor organization of work, overcrowding, patient health conditions, and staff workload)	- Reported to senior staff member (64.3%) - Told a colleague (25.9%) - Reported to police (19.9%)	NR[1]
Alkorashy and Al Moalad, 2016[2]	- Verbal (38.5%) - Threats (27.4) - Physical (5.03%) - Sexual (8.1%)	- Other healthcare staff (56%) - Patients (50.9%) - Patients' relatives or friends (47%)	- Miscommunication and language barrier (54.4%) - Shortage of staff (53.6%) - Working with volatile individuals (42.5%) - Long waiting time (51.6%) - Inadequate security measures (31.9%) - Lack of staff training and policies (22.5%)	NR[1]	NR[1]
Al-Turki et al, 2016[3]	- Verbal (94.3%) - Threats (22%) - Physical (6.5%)	- Patients (71.5%) - Patients' relatives or friends (20.3%) - Other healthcare staff (4.9%)	- Lack of penalty for offenders (49.6%) - Miscommunication and misunderstanding (40.7%) - Unmet patient and service demands (36.6%) - Overcrowding (33.3%) - Long waiting time (32.5%)	- No action (48%) - Reported to senior staff member (30.9%) - Told a colleague (13.8%) - Reported to police (4.9%)	- No changes in workplace behavior (56.6%) - Reduced work performance (31.1%) - Emotional impact: hyper-alertness, and feeling of unease, fear, sadness, stress (4.9%)
Alyaemni and Alhudaithi, 2016[4]	- Verbal (74.1%) - Physical (6.5%) - Both (18.5%) - Sexual (1.9%)	- Patients (73.6%) - Patients' relatives or friends (57.9%) - Other healthcare staff (13.2%)	- Miscommunication and language barrier (54.6%) - Unmet patient and service demands - Shortage of staff - Inadequate security measures	- Reported to senior staff member (45.4%) - Told the person to stop (29.6%) - Told a colleague (16.75%) - No action (14.8%)	NR[1]
Alharbi et al, 2021[6]	- Verbal (79.5%) - Academic (79%) - Sexual (76.5%) - Physical (67.6%)	- Other healthcare staff - Patients and their relatives or friends	NR[1]	- No action (39.6%)	NR[1]
Alenezi, 2024[7]	- Verbal (67.3%) - Physical (15%) - Sexual (9.1%)	- Patients (45.4%) - Patients' relatives or friends (33%) - Other healthcare staff (31.9%)	NR[1]	- Reported to senior staff member (65.4%)	- Emotional impact: hyper-alertness, and feeling of unease, fear, sadness, stress (46.8%) - Reduced work performance (17.7%)

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Table 5 (Continued).

Authors	Types	Sources	Possible causes	Action taken toward violent incident	Impact
Al-Sagheir et al, 2022[25]	- Verbal (61.6%) - Threat (41.6%) - Physical (31.1%) - Sexual (5.7%)	- Patients' relatives or friends (52.7%) - Patients (26.2%)	- Unmet patient and service demands (20%) - Dissatisfaction with visit timing (13.7%) - Patient health condition (13.4%)	- No action (33.1%) - Obtaining verbal or written commitment from patients or their relatives to avoid repeating the assault (25%) - Visit cancellation (12%) - Service discontinuation (12%) - Reported to senior staff member (20.6%) - Told a colleague (66.6%)	NR[1]
Sayed et al, 2022[27]	- Verbal (68%)	- Patients (44.4%) - Patients' relatives or friends (34.4%) - Other healthcare staff (11.2%)	NR[1]	- No action (16%) - Reported to senior staff member (47.6%) - Pretending it had never happened (18%)	NR[1]
Alharbi et al, 2024[30]	- Bullying (31.1%) - Threat (34.5%) - Sexual (25.6%)	- Patients (36.1%) - Patients' relatives or friends (36.1%) - Other healthcare staff (33.3%)	NR[1]	NR[1]	NR[1]
Almutairi and Jahan, 2022[36]	- Verbal (98.2%)	- Patients (79.7%) - Patients' relatives or friends	- Misunderstanding (41.1%) - Unmet service demand (29.5%) - Overcrowding (26.8%) - Long waiting time (25%)	- Took no action (56.3%) - Reported to senior staff member (34.8%)	- Reduced work performance (11.4%)
Al-Shamlan et al, 2017[8]	- Verbal (30.7%)	- Patients (52.3%) - Patients' relatives or friends (30.1%) - Other healthcare staff (7.8%)	NR[1]	NR[1]	NR[1]
Alsmael et al, 2019[9]	- Verbal (90%) - Threat (34.3%) - Physical (3%) - Multiple (27.2%)	- Patients (74%) - Patients' relatives or friends (45.6%) - Other healthcare staff (6.5%)	- Lack of penalty for offenders (43.5%) - Overcrowding (43.5%) - Miscommunication and misunderstanding (31.5%) - Long waiting time (23.8%) - Lack of staff training (15.5%) - Unmet patient and service demands (7.7%)	- No action (46.7%) - Reported to senior staff member (46.2%) - Reported to police (5.9%)	- No changes in workplace behavior (73.8%) - Reduced work performance (17.3%)
Harthi et al, 2020[10]	- Verbal (52%) - Physical (19%) - Bullying (16%) - Racial (10%) - Sexual (3%)	- Patients (42%) - Patients' relatives or friends (31%) - Other healthcare staff (66.4%)	- Lack of penalty for offenders (67%) - Inadequate security measures (51%) - Shortage of staff (34%) - Long waiting time (33%) - Overcrowding (29%)	- No action (63.9%) - Reported to senior staff member (21.2%) - Reported to police (6.6%)	- No changes in workplace behavior (46.5%) - Reduced work performance (44.4%)

Al-Shaban et al, 2021[11]	- Verbal (57%) - Physical (6%) - Both (37%)	NR[1]	NR[1]	NR[1]	NR[1]
El-Gilany et al, 2010[21]	- Verbal (54.2%) - Threat (33.3%) - Bullying (2.5%) - Physical (5%) - All (5.7%)	- Patients' relatives or friends (68.1%) - Patients (23.1%) - Other healthcare staff (8.7%)	- Unmet patient and service demands (72.2%) - Lack of penalty for offenders (67.2%) - Overcrowding (65.9%) - Impatience (58.9%) - Inadequate security measures (39.4%)	- No action (40.7%) - Told a colleague (66.6%) - Told a family member or friends (39.4%) - Reported to senior staff member (1.7%)	- Emotional impact: hyper-alertness, and feeling of unease, fear, sadness, stress (96.7%) - Decrease work satisfaction (69.2%) - Reduced work performance (30.1%) - Contemplating Resignation (3%)
Alobaidan et al, 2024[29]	- Verbal (82.2%) - Physical (63.7%)	- Patients' relatives or friends (82.2%) - Patients (63.7%)	NR[1]	- Reported to senior staff member (59.3%) - Reported to security staff (58.6%) - Took no action (26.1%)	- Emotional impact: hyper-alertness, and feeling of unease, fear, sadness, stress - Burnout
Alshamlan et al, 2022[42]	- Verbal (36.5%)	- Patients (34.5%) - Patients' relatives or friends (32.8%) - Other healthcare staff (8%)	NR[1]	- Took no action (84%) - Counseling (16.7%) - Other support provided (25.0%)	NR[1]
Kamal et al, 2016[14]	- Verbal (86.9%) - Sexual (8.2%) - Physical (4.9%)	- Patients (86.8%) - Patients' relatives or friends (6.6%)	NR[1]	- Reported to senior staff member (37.7) - Told a colleague (21.3%) - Told a family member (18%) - No action (16.4%)	NR[1]
Alnofaiey et al, 2022[15]	- Verbal (78.1%) - Physical (4.6%)	- Patients' relatives or friends (81.25%) - Patients (55.21%) - Other healthcare staff (9.37%)	NR[1]	- No action (63.9%) - Reported to police (20.83%) - Reported to senior staff member (17.7)	NR[1]
Babkair et al, 2024[22]	- Verbal (72%) - Physical (18%)	- Patients' relatives or friends (66.7%) - Patients (50%) - Other healthcare staff (7%)	NR[1]	- Reported to senior staff member (38.9%)	NR[1]
Basfr et al, 2019[23]	- Physical (14.2%) - Verbal (19.7%) - Both (57.7%)	- Patients (81.3%) - Patients' relatives or friends (30%) - Visitors (26.1%) - Other healthcare staff (25.8%)	- lack of penalty for offenders (69.7%) - Shortage of staff (44.8%) - Unmet patient and service demands (20.6%) - Overcrowding (33.9%) - Long waiting times (29.7%) - Violations of visiting hours (28.4%)	- Reported to senior staff member (54.2%) - Told a colleague (40.6%) - Requesting transfer (30%) - No action (28.7%)	- Emotional impact: hyper-alertness, and feeling of unease, fear, sadness, stress (64.2%) - Medical Intervention (57.4%) - Reduced work satisfaction (8.4%)

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Table 5 (Continued).

Authors	Types	Sources	Possible causes	Action taken toward violent incident	Impact
Rayan et al, 2019[24]	- Bullying (61%) - Racial (15%) - Threats (12%) - Physical (12%)	- Other healthcare staff (86%) - Visitors (14%)	NR[1]	NR[1]	NR[1]
Alharthi, 2022[26]	- Physical (7.8%) - Verbal (24.8%) - Both (67.4%)	- Patients (90.8%) - Patients' relatives or friends (42.6%) - Visitors (32.6%)	- Violation of visiting hours (8.2%) - Long waiting times (5.6%) - Psychological issues (12.2%) - Smoking prohibition (4.1%) - Denial of admission (5.4%) - Delays in nursing (12%) and medical care (10.8%) - Patient dissatisfaction (7.9%) - Shortage of staff (7.4%) - Unmet patient and service demands (6.1%) - Poor organization (11.9%) - Overcrowding (3.3%) - Patient health conditions (5.2%)	- No action (8.1%) - Told a family member or friend (8.7%) - Requesting transfer (10.3%) - Seeking professional help (15%) - Told the person to stop (4.5%) - Told a colleague (6.1%) - Reported to senior staff member (15.2%) - Obtaining legal help (10.7%)	- Emotional impact: hyper-alertness, and feeling of unease, fear, sadness, stress (91.5%) - Reduced work - Contemplating Resignation (48.9%)
Alamri et al, 2023[28]	- Physical - Verbal - Threats - Sexual	- Patients - Patients' relatives or friends	- Drug abuse - Patient health condition - Previous violent behavior Lack of staff training - Miscommunication and misunderstanding - Low experience in psychiatric care - Shortage of staff	- Took no action and avoided discussing the incidents or reminders of the events - Reported to senior staff member and sought institutional support	- Emotional impact: hyper-alertness, and feeling of unease, fear, sadness, stress, difficulty concentrating, hypervigilance
Al-Sayaghi, 2023[31]	- Verbal (97.4%) - Physical (9%)	- Patients' relatives or friends (91%) - Patients (42.3%) - Other healthcare staff (19%)	- Shortage of staff (60.3%) - Long waiting time (44.9%) - Lack of violence prevention measures (35.9%) - Miscommunication and misunderstanding (32.1%) - Lack of understanding of the triage process (48.7%) - Preconceived expectations or misconceptions about staff behavior (48.7%) - Patient health condition (16.7%) - Patients/relatives under the influence of alcohol or drugs (14.1%)	- Took no action (34.6%) - Reported to hospital security (61.5%) - Told the person to stop (52.6%) - Completing an accident report form (14.1%) - Trying to protect oneself physically (9.0%) - Reported to senior staff member (16.7%)	- Emotional impact: hyper-alertness, and feeling of unease, fear, sadness, stress, anxiety, disappointment, anger, difficulty concentrating (51%) - Requesting transfer or vacation (3.8%)

Abdulkarim and Subke, 2023[32]	- Verbal (67.8%) - Bullying (45.2%) - Physical (9.6%)	- Other healthcare staff (63%) - Patients (18%) - Patients' relatives or friends (19%)	NR[1]	- Took no action (30%) - Told the person to stop (25%) - Told a colleague (20%) - Reported incidents (40%)	- Emotional impact: hyper-alertness, and feeling of unease, fear, anxiety, sadness, stress (45%) - Decrease work satisfaction and increased absenteeism (25%) - Contemplating Resignation (18%)
Alhaeli et al, 2023[37]	- Verbal (65.4%) - Physical (8.7%)	- Patients - Patients' relatives or friends	- Overcrowding - Disrespect towards healthcare workers - Lack of penalty for offenders - Long waiting time	NR[1]	- Decrease work performance and motivation (50%) - Contemplating Resignation (48.3%) - Affected personal well-being, self-care, as well as mental and psychological well-being
Al-Nemari and Salem, 2020[38]	- Verbal - Physical	- Patients and Patients' relatives or friends	NR[1]	- Reported incidents (67.3%)	NR[1]
Alsheri et al, 2017[41]	- Physical (26%) - Verbal (23.3%)	- Patients' relatives or friends (53.7%) - Patients (25.4%) - Other healthcare staff (20%)	NR[1]	NR[1]	NR[1]
Alzahrani et al, 2016[12]	- Physical (79%) - Verbal (38.5%)	- Patients and Patients' relatives or friends	- Lack of penalty for offenders (90.6%) - Shortage of staff (88.4%) - Overcrowding (87.6%) - Inadequate security measures (86.7%)	- Reported to senior staff member (65.3%)	NR[1]
Al Anazi et al, 2020[13]	- Verbal (83%) - Physical (5%) - Both (12%)	- Patients (71.9%) - Patients' relatives or friends (48.5%)	- Unmet patient and service demands (69.3%) - Perception of expatriate healthcare workers as inferior (61.1%) - Shortage of staff (52.5%) - Long waiting time (44.3%)	- Reported to senior staff member (16.4%)	- Emotional impact: hyper-alertness, and feeling of unease, fear, sadness, stress (75%)
Alsaleem et al, 2018[16]	- Verbal (55.9%) - Physical (11.1%) - Both (32.9%)	- Patients and Patients' relatives or friends	- Lack of education (56%) - Long waiting time (44.3%) - Cultural factors and patient personality traits (55%) - Shortage of staff (52%) - Overcrowding (48%)	NR[1]	NR[1]
Alqahtani et al, 2020[33]	- Physical (16.5%) - Verbal (57.3%) - Bullying (22.7%) - Threats (44%)	- Patients' relatives (10.4%).	NR[1]	- No action (40%)	NR[1]

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Authors	Types	Sources	Possible causes	Action taken toward violent incident	Impact
Alhusain et al, 2020[5]	- Verbal (42%) - Physical (12%)	- Patients (47%) - Patients' relatives or friends (43%)	NR[1]	- Reported to hospital security (31%)	- Emotional impact: hyper-alertness, and feeling of unease, fear, sadness, stress (46%) - Contemplating Resignation (19%)
Alhassan et al, 2023[17]	- Physical (9.3%)	- Patients (48.2%) - Patients' relatives or friends (36.2%)	NR[1]	- Reported to senior staff member (37.4%) - Told the person to stop (33%) - No action (15.6%) - Completed an official report (21.3%)	NR[1]
Alsaqat et al, 2023[18]	- Verbal (49.1%)	- Patients (37.1%) - Patients' relatives or friends (36.7%)	NR[1]	- Told the person to stop (34.3%) - Reported to senior staff member (27%) - No action (27%)	NR[1]
Alshahrani, 2023[19]	- Emotional (43.99%) - Verbal (29.11%) - Physical (12%) - Cultural (12.97%) - Sexual (1.9%)	- Patients (78.5%)	NR[1]	- Reported to senior staff member (16.1%)	NR[1]
Alhassan et al, 2023[20]	- Sexual (4%)	- Patients (29.5%) - Other healthcare staff (36.6%) - Patients' relatives or friends (18.3%)	NR[1]	- No action (43.3%) - Told the person to stop (36.2%) - Reported to senior staff member (19.8%)	Emotional impact: hyper-alertness, and feeling of unease, fear, sadness, stress
Al-Surimi et al, 2020[34]	- Verbal (98.1%) - Physical (11.8%) - Sexual (5.8%)	- Patients (36.1%) Patients' relatives and friends (29.5%) - Other healthcare staff (34.4%)	- Misunderstanding (77%) - Lack of penalty for offenders (58.2%) - Concern of Patients (40.8%) - Miscommunication or language barriers (39%) - Lack of Explicit Rights or Procedures (17.3%) - Patient health conditions (15.5%)	- Told a family member or friend (48.4%) - Reported to senior staff member (28.8%) - Told the person to stop (26.8%) - Told a colleague (26.3%) - Tried to defend physically (18.1%) - Completed incident/accident Report (11.1%) - Sought Counseling (8%) - Transferred to another position (6.7%) - Took no action (23.4%)	NR[1]
Alwabili et al, 2024[35]	- Verbal (56.0%) - Physical (3.7%) - Both (40.3%)	- Patients (99.3%) - Patients' relatives and friends (53.7%) - Other healthcare staff (2.2%)	- Patient health condition (27.6%) - Denial of hospital admission (19.4%) - Shortage of staff (13.4%) - Long waiting time (12.7%) - Overcrowding (9.7%) - Violation of visiting hours (3.0%)	- Reported to senior staff member (73.9%) - Told a colleague (40.6%) - Report to hospital management (47.8%) - Reported to Ministry of Health (MOH) (5.8%) - Reported to police (4.3%) - Court (2.9%) - Took no action (48.5%)	- Emotional impact: hyper-alertness, and feeling of unease, fear, sadness, anxiety, stress (39%) - Reduced work performance or consideration of resignation (12%) - Medical intervention was required after WPV incidents (23.9%)

Alsharari et al, 2021[39]	- Verbal (94.3%) - Threat (74.4%) - Physical (47.4%) - Sexual (18.8%)	- Patients' relatives and friends (88.3%) - Patients (7.1%) - Other healthcare staff (4%)	- Overcrowding/workload (93.7%) - Shortage of staff (92.5%) - Violation of visiting hours (77.7%) - Misunderstanding/misconceptions by patients/visitors of staff behavior (77%) - Care of psychiatric patients in ED (72.0%) - Drug-seeking behavior (70.5%) - Patients/visitors under influence of alcohol (68.4%) - Patients/visitors under influence of illicit drugs (65.8%)	- Took no action (52.4%) - Reported to senior staff member (74.8%) - Reported to police (23.8%)	- Reduced work performance (78.2%) - Emotional impact: hyper-alertness, and feeling of unease, fear, sadness, anxiety, stress (95.1%) - Feeling unsafe in the workplace (75.9%)
Albuainain et al, 2022[40]	- Work-related and person-related bullying (100%) - Physically intimidating bullying (29.3%)	- Other healthcare staff (44.3%)	NR[1]	- Reported to senior staff member (21.8%)	NR[1]

Notes: [1]NR: not reported.

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Table 6 The Existing Measures to Deal with WPV, and Recommendations Made by HCPs to Reduce WPV Across Studies

Authors	Existing measures to deal with violence in the workplace	Recommendations made by HCPs to reduce WPV
Algwaiz and Alghanim, 2012[1]	NR[1]	NR[1]
Alkorashy and Al Moalad, 2016[2]	NR[1]	NR[1]
Al-Turki et al, 2016[3]	NR[1]	NR[1]
Alyaemni and Alhudaithi, 2016[4]	NR[1]	- Providing counseling for affected HCP - Implementing stricter rules and policies to prevent violence - Providing a need for action codes for immediate responses to violent situations - Limiting the number of Relatives and friends accompanying patients - Requiring that male nurses handle male patients - Providing public awareness and training for the staff to increase awareness of self-defense
Alharbi et al, 2021[6]	NR[1]	NR[1]
Alenezi, 2024[7]	NR[1]	- Establishment of punishment and strict penalty policy that is clear for both health workers and patient and their companions - Providing adequate staffing to enhance health service quality - Training on violence prevention and control - Enhance security system and personnel
Al-Shamlan et al, 2017[8]	NR[1]	NR[1]
Alsmael et al, 2019[9]	NR[1]	NR[1]
Harthi et al, 2020[10]	NR[1]	NR[1]
Al-Shaban et al, 2021[11]	NR[1]	NR[1]
Kamal et al, 2016[14]	- Security presence - Organized workspaces - Restricted access - Special uniform for staff - Reduced periods of working alone - Training on workplace violence safety procedures	NR[1]
Alnofaiey et al, 2022[15]	NR[1]	NR[1]
Alzahrani et al, 2016[12]	NR[1]	- Encouragement and establishment of a system to report violent events - Establishment of punishment and strict penalty policy that is clear for both health workers and patient and their companions
Al Anazi et al, 2020[13]	NR[1]	- Enhance security system and personnel - Increase staffing - Training on violence prevention and control - Better labeling - Change policies to allow the victim to leave violence scene - Liaison with police or emara (local authority) - Changing the work environment and flow

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Table 6 (Continued).

Authors	Existing measures to deal with violence in the workplace	Recommendations made by HCPs to reduce WPV
Alsaleem et al, 2018[16]	NR[1]	NR[1]
Alhusain et al, 2020[5]	NR[1]	NR[1]
Alhassan et al, 2023[17]	NR[1]	NR[1]
Alsaqat et al, 2023[18]	NR[1]	NR[1]
Alshahrani, 2023[19]	NR[1]	NR[1]
Alhassan et al, 2023[20]	NR[1]	NR[1]
El-Gilany et al, 2010[21]	NR[1]	- Enhance security system and personnel - Liaison with Police - Establishment of punishment and strict penalty policy that is clear for both health workers and patient and their companion - Training on violence prevention and control - Encourage immediate reporting of WPV by using hotline
Babkair et al, 2024[22]	NR[1]	- Enhance security system and personnel (eg, security guards, cameras) - Establishment of punishment and strict penalty policy that is clear for both health workers and patient and their companions - Training on violence prevention and control - Raising fines for offenders - Liaison with Police - Limiting the number of Relatives and friends accompanying patients
Basfr et al, 2019[23]	NR[1]	- Training on violence prevention and control - Public awareness programs - Enhanced organizational support (eg, support policies) - Addressing staff shortages - Enhance security system and personnel (eg, security guards, cameras) - Collaboration with law enforcement - Stricter enforcement of visiting hours
Rayan et al, 2019[24]	NR[1]	- Enhance security system and personnel (eg, security guards, cameras) - Training on violence prevention and control - Reducing periods of working alone - Increased Staff - Restricted Public Access
Al-Sagheir et al, 2022[25]	- Existence of workplace violence policies within the organization - Training on workplace violence safety procedures - Incident reporting and documentation	NR[1]
Al Harthi, 2022[26]	NR[1]	NR[1]
Sayed et al, 2022[27]	NR[1]	NR[1]
Alamri et al, 2023[28]	NR[1]	NR[1]
Alobaidan et al, 2024[29]	NR[1]	NR[1]

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Table 6 (Continued).

Authors	Existing measures to deal with violence in the workplace	Recommendations made by HCPs to reduce WPV
Alharbi et al, 2024[30]	NR[1]	NR[1]
Al-Sayaghi, 2023[31]	- Security presence - Incident reporting and documentation - Training on workplace violence safety procedures	- Provide adequate trained security staff - Increase staff numbers - Implement stricter policies on the number of companions allowed with patients and control access to sensitive areas. - Provide training programs for healthcare worker - Advocate for stricter laws against workplace violence and penalize perpetrators to prevent future incidents
Abdulkarim and Subke, 2023[32]	NR[1]	NR[1]
Alqahtani et al, 2020[33]	- Counseling or support for affected staff - Training on workplace violence safety procedures	NR[1]
Al-Surimi et al, 2020[34]	- Incident reporting and documentation - Counseling or support for affected staff	NR[1]
Alwabili et al, 2024[35]	NR[1]	NR[1]
Almutairi and Jahan, 2022[36]	NR[1]	NR[1]
Alhaeli et al, 2023[37]	NR[1]	NR[1]
Al-Nemari and Salem, 2020[38]	- Incident reporting and documentation	- Increase staff number - Patient screening - Reduce period of working alone - Special equipment or clothing - Enhancing security measures
Alsharari et al, 2021[39]	NR[1]	NR[1]
Albuainain et al, 2022[40]	NR[1]	NR[1]
Alsheri et al, 2017[41]	NR[1]	NR[1]
Alshamlan et al, 2022[42]	NR[1]	NR[1]

Notes: [1]NR: not reported.

Only ten studies reported recommendations from HCPs to reduce WPV.[4,7,12,13,21–24,31,38] The most recommended measures by healthcare providers to reduce workplace violence include implementing strict penalties for offenders,[4,7,12,21,22,31] increasing staffing levels to meet patient demand,[7,13,21,23,24,31,38] providing training on violence prevention and management,[4,7,13,14,21–24,31] establishing transparent reporting systems and policies[7,12,22,23,31] to handle incidents effectively, increasing security personnel and installing surveillance cameras,[7,13,21–24,31,38] liaison with police and local authorities,[13,21,23] strict control of visitor numbers and visiting hours and access to sensitive areas,[4,22–24,31] and support systems for affected HCPs.[4,33,34] See Table 6.

Discussion

This study represents the first comprehensive literature review on WPV in Saudi Arabia. It utilizes extensively sourced evidence from reliable databases. Our results were derived from a synthesis of 42 peer-reviewed studies encompassing various healthcare sectors, professional groups, and cities. The review reported a wide but consistently high prevalence of

WPV, ranging from 26% to 90.7%. Compared to global data, the prevalence of WPV shows similar high, wide-ranging patterns. For example, an international review by Liu et al (2019)[45] reported WPV prevalence ranging from 4% to 81%, while an African review noted an even broader range, from 9% to 100%.[43]

In a global review,[59] regions, such as Europe (26.38%) and the Americas (23.61%), predominantly consist of high-income countries. Stricter reporting systems, better safety protocols, and comprehensive staff training may contribute to comparatively higher WPV prevalence reporting rates.[59] In contrast, regions like the Eastern Mediterranean (17.09%) and the Western Pacific (14.53%) include a mix of middle- and high-income countries. These countries may face lower WPV prevalence reporting rates due to resource constraints, understaffing, and limited enforcement of workplace safety policies.[59] Regions such as Africa (20.71%) and South Asia (5.6%) are predominantly composed of low—and middle-income countries. Workplace violence is often exacerbated by inadequate healthcare infrastructure, higher patient-to-staff ratios, and weaker enforcement of policies to protect healthcare workers.[59] These socioeconomic factors likely contribute to the significant burden of WPV observed in these regions. These findings highlight that WPV is not only an essential issue in Saudi Arabia but also a global epidemic affecting HCPs across all continents.

Our review found that the majority of attackers in WPV incidents were male, aligning with the findings of Nikathil et al (2017),[47] Binmadi and Alblowi (2019),[46] and Liu et al (2019),[45] which similarly identified the predominance of male perpetrators. Several sociocultural and systemic factors may explain this phenomenon. Saudi Arabia's healthcare workforce, particularly in supervisory and administrative roles, is often male-dominated, creating more opportunities for males to be in positions of authority. This power may sometimes result in inappropriate or abusive behavior toward juniors.[60,61] Additionally, cultural norms and traditional gender roles may contribute to the prevalence of male perpetrators, as societal expectations and power imbalances may discourage women from reporting violence, especially when the perpetrator is male.[60,61] Addressing these underlying factors requires targeted interventions that consider the sociocultural context and workplace dynamics unique to the region.

Importantly, despite the predominance of male attackers, our findings demonstrate that both male and female healthcare workers are equally vulnerable to WPV, emphasizing the widespread nature of the issue. Previous reviews have similarly noted no significant difference in risk between genders.[45,47,59] These findings underline the importance of implementing universal safety measures and comprehensive strategies to protect all healthcare professionals, regardless of gender.

This review identifies key contributing factors of WPV against healthcare workers, including demographic, professional, and organizational factors. Younger and less experienced workers were found to be at a higher risk of violence compared to their older and more experienced counterparts, emphasizing the need for targeted interventions aimed at early-career professionals. These individuals may lack the skills to manage violent situations and are often more accessible to potential perpetrators.[43,45] A critical factor contributing to WPV is the lack of sufficient training and awareness regarding violence reporting systems, highlighting the necessity for organizations to implement comprehensive training programs and promote reporting mechanisms.

Nurses consistently emerged as the most vulnerable group to WPV, primarily due to their extensive patient interactions and caregiving responsibilities, which increase their exposure to potentially violent situations.[1,16,17,20,25,32] As the primary point of contact for patients and visitors, nurses are often the first targets of violence, making them more susceptible compared to other healthcare workers.[43] Additionally, research on WPV has predominantly focused on nurses, followed by physicians, with pharmacists receiving considerably less attention.[1–42] While physicians and pharmacists face lower reported rates of WPV, they remain at significant risk, particularly in high-stress environments such as emergency departments and community pharmacies, where direct patient interactions are frequent.[6,8,12,13,21,37,38] These findings align with global reviews that also highlight the heightened vulnerability of nurses to WPV.[45,47,59]

Certain settings and work conditions, such as emergency departments, psychiatric units, evening and night shifts, and rotating or extended shifts, were consistently identified as high-risk environments for WPV. Factors contributing to this risk include reduced staff presence, increased patient volume, heightened stress, fatigue, diminished vigilance, disrupted routines, and the intense, unpredictable nature of interactions during these times. These findings are consistent with global reviews that emphasize the critical role of these factors in WPV incidents.[47,59] Targeted interventions are essential to address these risks. Measures such as increasing staff security, implementing de-escalation training, and improving resource availability during high-risk shifts and in vulnerable settings are crucial to mitigating the occurrence of WPV. These actions can help create a safer work environment for all healthcare professionals and reduce the impact of WPV across various healthcare contexts.

The analysis revealed that verbal violence is the most prevalent type of WPV, reported by approximately 63.7% of HCPs across studies, with a wide prevalence range (19.7%–98.2%). This highlights the widespread prevalence of verbal aggression in healthcare settings. Verbal abuse was consistently identified as the most common form of WPV, aligning with findings from all reviews.[43–45,59] Threats (36%) ranked second, followed by physical violence (18.8%) and sexual violence (14%). The higher prevalence of verbal violence and threats compared to physical and sexual violence suggests that non-physical forms of aggression are more common in Saudi Arabia. This finding aligns with the results reported by Binmadi and Alblowi (2019)[59] and Liu et al (2019),[45] who also observed lower prevalence rates for these forms of WPV in their review studies. However, it contrasts with the findings of Njaka et al (2020)[43] in the African context, where both physical and sexual violence were reported to be significantly higher, highlighting notable regional differences in the prevalence and dynamics of WPV. Verbal violence was the most common type of WPV reported in this study; this is possibly due to the high frequency of interactions between healthcare providers and patients.[45,59] It could also be perceived as less severe and is culturally normalized in some contexts, leading to more frequent occurrences and reporting. Additionally, physical and sexual violence are often under-reported possibly because of stigma and fear of retaliation, which makes verbal violence seem more common in comparison.

The large variability in the reported prevalence of sexual violence in our study (ranging from 1.9% to 76.5%) highlights a significant challenge in interpreting the findings. This variability may be due to differences in how sexual violence is defined and measured across studies. Some studies provide clear definitions and standardized methodologies, while others lack detailed descriptions, leading to inconsistencies in reported rates. Additionally, cultural and organizational differences in reporting practices, workers' sensitivity to violence, and the stigma associated with sexual violence may further contribute to underreporting or variability in prevalence estimates.[43–46] Future research should aim to address these differences and explore the underlying factors contributing to the variability in sexual violence prevalence.

Among the general causes of WPV identified in this study—such as staff shortages, overcrowding, long waiting times, miscommunication, unmet patient demands, and inadequate security measures—miscommunication plays an important role. Factors such as unclear instructions, language barriers, cultural differences, and unmet expectations may escalate tensions between healthcare providers and patients or their families. These misunderstandings may cause frustration and anger, which can lead to verbal or physical violence.

Moreover, some of these causes may indirectly contribute to sexual violence in healthcare settings. For instance, inadequate security measures can result in unmonitored or unsupervised interactions, creating opportunities for inappropriate behaviors. Similarly, overcrowding and miscommunication may exacerbate tensions and interactions, increasing the risk of sexual violence. Addressing these issues requires targeted interventions, such as improving communication training programs, implementing standardized communication protocols, and ensuring adequate security measures to protect healthcare providers, particularly in high-risk environments. Future research should explore these connections further to develop effective strategies for mitigating WPV in all its forms.

Patients and their relatives or friends were identified as the most common perpetrators of WPV, highlighting the central role of patient–caregiver interactions in these incidents. These findings align with the reviews by Njaka et al (2020)[43] and Liu et al (2019),[45] which similarly emphasize the predominance of patients and their close contacts as primary sources of violence in healthcare settings. Several strategies can be implemented to address this issue:

1. Healthcare workers should receive comprehensive training in communication and conflict resolution to effectively manage interactions with patients and their families, and reduce the potential for escalating tensions.
2. Healthcare facilities should consider environmental design modifications, such as creating secure areas for staff and limiting unrestricted access to sensitive spaces, to minimize patient-staff conflicts.
3. Educating patients and their families about appropriate behavior and the consequences of violent actions is crucial in fostering a culture of mutual respect toward healthcare providers.

These combined efforts can create safer healthcare environments for staff and patients.

While reporting incidents of WPV to senior management was a common response among HCPs, underreporting remains a significant issue. Factors that may contribute to underreporting include fear of negative consequences, lack of institutional support, inadequate policy enforcement, and a sense of resignation or normalization of violence within

healthcare settings. The reporting process is often lengthy and time-consuming, discouraging workers from reporting incidents. Additionally, insufficient support from supervisors or coworkers, fear of retaliation or being blamed, and the perception that reporting will not lead to meaningful change all contribute to underreporting. These observations align with previous international reviews,[43–45,47] which have similarly identified these barriers to reporting WPV.

Following a violent incident, many HCPs reported experiencing emotional distress. This observation is supported by the systematic review conducted by Lanctôt and Guay (2014),[44] which found that WPV is predominantly linked to psychological impacts, such as symptoms of post-traumatic stress disorder, depression, and anxiety, as well as negative emotional responses, including anger, fear, and sadness. Prospective studies are essential for advancing knowledge in this field. Most research heavily depended on retrospective data and self-reported information. A proper understanding of the incidence and short- and long-term effects of WPV on healthcare workers can only be achieved through longitudinal cohort studies involving population-based samples. Further research into the long-term psychological and physical impacts of WPV on healthcare workers would be highly beneficial. This could expand knowledge about the relationships between WPV and adverse outcomes, such as post-traumatic stress disorder, depression, anxiety, burnout, and turnover. Our findings align with and expand upon prior reviews in the field:

1. Aljohani KA (2022)[62] conducted a narrative review on WPV against nurses in Saudi Arabia, analyzing 15 studies from 2011–2021. Our study broadens this scope by systematically reviewing WPV across multiple healthcare professions, including physicians, pharmacists, and nurses, analyzing 42 studies from 2010–2024. Both studies identify nurses as the most frequent victims, patients and families as primary perpetrators, and verbal abuse as the most common form of violence. Both studies also identify overcrowding, miscommunication, and unmet patient needs as significant contributors to WPV. Aljohani's review focuses exclusively on hospital settings, while our research explores a broader range of settings, including hospitals, primary care environments, and community pharmacies. Additionally, our study provides a more in-depth analysis of contributing factors such as gender, age, shift patterns, nationality, and profession-specific risks, offering a more comprehensive understanding of WPV.
2. Aljohani B et al (2021)[63] conducted a systematic review and meta-analysis on WPV in emergency departments from 22 USA, Australia, Canada, and South Africa studies. Their findings indicate that WPV is frequent in emergency department settings (36 incidents in every 10,000 patients) and that a significant proportion of violent incidents are associated with drug and alcohol use. While they focus specifically on emergency departments, our research examined WPV across diverse healthcare settings, enabling a comprehensive comparison across sectors. In our systematic review, the prevalence of WPV in emergency departments (EDs) in Saudi Arabia ranged from 45% to 91%,[4,5,12,15,19,22,29,33,36,39] indicating that a significant proportion of healthcare professionals in this setting are exposed to violence. In contrast, Aljohani et al (2021)[63] reported an incidence of 36 violent incidents per 10,000 patient presentations in EDs, which represents a considerably lower figure. The differences in reported WPV prevalence may arise from variations in study scope, methodology, and data sources. The current review captures broader settings, and timeframes, while Aljohani's study uses narrower settings and official reports, which could lead to underestimation.

Study Strengths and Limitations

This study represents the first comprehensive systematic review of WPV targeting HCPs, including physicians, nurses, and pharmacists in different settings. It examines the prevalence, contributing factors, types, sources, potential causes, reactions, and impacts of WPV, offering valuable insights for understanding and preventing this universal issue. The strength of this review lies in its comprehensiveness, incorporating a wide range of studies, and its use of a robust systematic review methodology, which enhances the reliability of its findings.

Despite its contributions, this review has several limitations. Many of the included studies relied on self-administered questionnaires and self-reported data, often covering recall periods of 12 months, which could introduce recall bias. Furthermore, the lack of a standardized tool and definition for assessing WPV posed challenges for comparing results

across studies. This highlights the need to develop a widely applicable and standardized assessment instrument for future research.

The cross-sectional design of the included studies also limits the ability to establish causal relationships. Moreover, the exclusion of qualitative research restricts the review's ability to provide a deeper understanding of WPV from the perspective of healthcare providers. Qualitative studies could offer richer insights into the nature and context of violence that are often missing in quantitative studies. Additionally, the restriction of the review to studies published between 2010 and 2024 may have excluded earlier work on the topic. Therefore, future research should incorporate qualitative approaches, and longitudinal designs to enhance understanding and interventions targeting WPV.

Another limitation of this review is the variability in methodologies used by the included studies to assess WPV. Detection methods varied, with some studies relying on officially reported cases and others on self-reported data collected through surveys or interviews. While some studies employed standardized questionnaires, self-reported surveys, or incident reporting systems, not all explicitly reported the specific instruments or approaches used. This lack of detailed methodological information and consistent reporting introduces variability in the reported prevalence rates, limiting the ability to assess the reliability and comparability of findings across studies fully.

Additionally, differences in methodological factors such as recall periods and population samples may have influenced the reported magnitude of WPV. These differences may make it challenging to synthesize and interpret prevalence data comprehensively. Prevalence comparisons between provinces or regions may lack validity if studies employed differing methods, making it difficult to draw meaningful conclusions about regional differences in WPV prevalence.

One key limitation of this study is the inability to perform a meta-analysis due to the significant heterogeneity across the included studies. The variability in definitions of workplace violence, study designs, data collection instruments, and population characteristics made statistical synthesis inappropriate. Future research should address these limitations by adopting standardized tools and methodologies for measuring WPV. This would enhance the consistency and reliability of findings, enabling better comparisons across studies and providing robust evidence to inform interventions and policy development. Additionally, standardized methodologies and consistent definitions would facilitate meta-analytical synthesis, improving the comparability and applicability of findings.

Another limitation of this review is the lack of gender-disaggregated data in the included studies. While gender differences in WPV are a critical area of concern, many of the studies reviewed either did not stratify their findings by gender or provided limited information on how gender intersects with different types of WPV (eg, verbal, physical, or sexual violence). This gap in reporting made it challenging to conduct a detailed analysis of gender-specific experiences and their implications. Future research should aim to collect and report more detailed, gender-stratified data to understand better how gender influences WPV and to inform the development of gender-sensitive interventions and policies.

Implication to Practice and Policy

1. Staff training and education: To manage WPV effectively, HCPs in Saudi Arabia must receive training in conflict resolution, de-escalation techniques, and reporting protocols. These training programs can be integrated into mandatory continuing medical education (CME) requirements for healthcare professionals. Public awareness campaigns, led by the Ministry of Health (MoH) and supported by community leaders, should promote respect for healthcare workers and highlight the legal and social consequences of violent behavior.
2. Improved reporting systems: Establishing a centralized, confidential, and accessible reporting platform through the MoH would ensure transparency and encourage incident reporting. This system should be supported by clear protocols to protect healthcare workers from retaliation and reduce the stigma associated with reporting WPV. Regular feedback on actions taken in response to reports can build trust in the system.
3. Strengthened security measures: In high-risk areas such as emergency departments and psychiatric units, enhanced security measures can include hiring additional trained security personnel, installing advanced surveillance systems, and making environmental modifications such as secure staff areas, improved lighting, and controlled access points. The MoH can mandate these measures in public and private healthcare facilities as part of accreditation standards.

4. Workforce and system improvements: Addressing systemic issues such as staff shortages is critical to reducing worker fatigue and improving patient satisfaction. Increasing staffing levels, particularly in high-demand departments, can be achieved by incentivizing healthcare careers through scholarships, competitive salaries, and benefits for Saudi nationals. Additionally, implementing standardized communication protocols can help alleviate patient frustrations and reduce misunderstandings.
5. Zero-tolerance policies: Implementing strict zero-tolerance policies, with clearly defined penalties for offenders, should be enforced at both institutional and national levels. The MoH can collaborate with legal authorities to ensure judicial protections for healthcare workers and publicize these policies to deter potential perpetrators. Legal awareness campaigns could emphasize the consequences of violence against healthcare providers under Saudi law.
6. Collaborative efforts: Collaboration between healthcare organizations, professional societies, policymakers, and community leaders is essential for creating and enforcing region-specific WPV prevention guidelines. Saudi Arabia's Vision 2030 initiatives can serve as a framework for aligning these efforts with national goals of improving healthcare quality and safety.

Suggestion for Future Work

Future studies should explore longitudinal trends in WPV and evaluate the effectiveness of interventions across different healthcare settings. Furthermore, qualitative research is needed to gain deeper insights into the experiences of HCPs facing WPV and to understand cultural and organizational factors unique to Saudi Arabia. Future research should examine gender differences, occupational variations, and time trends in WPV against HCPs. Studies are required to investigate the impact of awareness and education on enhancing the detection and reporting of abuse.

Conclusion

This review makes a unique contribution to the literature by comprehensively examining WPV across multiple healthcare professions and settings in Saudi Arabia, filling significant gaps in understanding its prevalence, contributing factors, sources, types, and causes. The findings reveal alarmingly high rates of WPV against HCPs between 2010 and 2024. Key contributing factors include gender, age, years of experience, workload, shift patterns, nationality, and inadequate training. Among the healthcare workforce, nurses reported the highest rates of violence, with verbal abuse being the most common form, primarily perpetrated by patients and their relatives. Contributing factors identified include inadequate security measures, staff shortages, overcrowding, and miscommunication, highlighting critical areas for targeted intervention.

Failing to address WPV may exacerbate existing challenges in the healthcare sector. This includes increased staff burnout, reduced job satisfaction, and higher turnover rates, which may contribute to a critical shortage of skilled professionals.[1,3,4,7,10,24,29] Additionally, the psychological and emotional stress caused by WPV may impair healthcare providers' ability to deliver safe, high-quality care, leading to poor patient outcomes and undermining the overall efficiency of healthcare systems.[44]

Addressing the root causes of WPV—such as improving staffing levels, implementing robust security measures, enhancing staff training, and mitigating miscommunication—can transform the healthcare environment. Increasing staffing levels may help reduce worker fatigue and patient frustrations, alleviating tension and potential conflict.[43–47,54,61] Enhanced security measures, including trained personnel and surveillance systems, can deter violent behavior and ensure timely incident response.[43–47,54,61] Comprehensive training programs for healthcare providers in conflict resolution and de-escalation techniques are critical to equipping staff with the skills to manage violence effectively. These efforts can also improve healthcare worker satisfaction, reduce burnout, better staff retention, and enhance patient care quality.[43–47,54,61]

Lessons from countries with similar WPV challenges offer valuable insights for Saudi Arabia. For example, successful strategies implemented in the United States, Australia, Asia, and South Africa include mandatory staff training, robust reporting mechanisms, zero-tolerance policies, and enhanced security measures. These interventions have demonstrated success in reducing WPV and could be adapted to align with the cultural and organizational context of Saudi Arabia.[44–47,61]

The successful implementation of these strategies requires coordinated efforts from key stakeholders:

1. Government agencies should establish and enforce comprehensive national policies, such as mandatory reporting systems, zero-tolerance policies, and legal protections for healthcare workers. They should also allocate funding for WPV prevention programs and ensure adequate staffing across healthcare facilities.
2. Healthcare institutions should implement robust training programs, strengthen security measures, develop efficient reporting systems, and provide ongoing support for WPV victims.
3. Professional societies are vital in raising awareness about WPV, developing best practice guidelines, and fostering stakeholder collaboration. They can also facilitate education, training, and research initiatives to address WPV.

By integrating evidence-based strategies and clearly defining the roles of stakeholders, Saudi healthcare systems can create safer and more supportive environments for healthcare professionals and patients. These interventions are critical to reducing WPV prevalence, improving healthcare worker well-being, and ensuring the delivery of high-quality care. Efforts to enhance staff training, streamline reporting processes, and enforce strict penalties for violent behavior are essential steps toward fostering a sustainable and secure healthcare environment.

Disclosure

The author reports no conflicts of interest in this work.

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