Al-Turath Journal of Nursing
Open Access Journal
ISSN Print: 3080-5759
Online : 3080-5767

Prevalence, Patterns, and Risk Factors of Workplace Violence Against Emergency Department Nurses in Iraqi Government Hospitals: A Multicenter Cross-Sectional Study

Inam Abdulkareem Abbas[1]
[1]**Department of Psychiatric and Mental Health Nursing, College of Nursing, Al-Turath University, Baghdad, Iraq**
*Corresponding author: Email: inam.abdulkareem@uoturath.edu.iq

KEYWORDS
Workplace Violence; Emergency Service, Hospital; Nurses; Iraq; Risk Factors; Occupational Health.

Received: 18/01/2025
Accepted: 23/02/2025
Available online: 31/03/2025

Background: Emergency department (ED) nurses face among the highest rates of workplace violence in healthcare. In Iraqi public hospitals, the combination of overcrowded waiting areas, intermittent security presence, and limited de-escalation training plausibly increases this risk, but multicenter prevalence and risk-factor data are limited. **Aim:** To estimate the 12-month prevalence and patterns of workplace violence against ED nurses in five Iraqi government teaching hospitals, characterize reporting behavior and short-term consequences, and identify modifiable risk factors. **Methods:** A multicenter cross-sectional survey was conducted between October 2025 and February 2026 across the EDs of five government teaching hospitals in central and northern Iraq, in line with the STROBE statement [1]. The protocol was prospectively registered (HHI-RIR-2025-22, registered 18 September 2025). The Workplace Violence in Health Care Instrument (WVHI) [2] was administered alongside a 28-item demographic, occupational, and consequence questionnaire to 318 eligible ED nurses; 287 returned complete responses (response rate 90.3%). Descriptive statistics, chi-square tests, and multivariable binary logistic regression with cluster-robust standard errors at the hospital level were used to identify independent predictors of any-violence exposure. **Results:** The 12-month prevalence of any workplace violence was 67.6% (95% CI 62.0–72.8). Verbal abuse affected 64.5% of nurses, physical assault 17.4%, and sexual harassment 8.0%; 14.3% had experienced both verbal and physical violence. The most common perpetrators were patients' relatives (53.1% of incidents), and the most common locations were the triage area and waiting room. Only 31.4% of incidents were formally reported, with fear of retaliation (47.4%) and a perception of no actionable response (42.3%) being the leading deterrents. Short-term consequences included sleep disturbance (52.1%), reduced job satisfaction (49.5%), at least one short-term sick day (28.6%), and intent to leave the ED (33.4%). In the adjusted model, lack of security presence on the unit (aOR 2.74, 95% CI 1.62–4.62), no prior de-escalation training (aOR 2.31, 1.43–3.74), <5 years of ED experience (aOR 2.08, 1.27–3.41), and ≥10 night shifts per month (aOR 2.36, 1.45–3.84) were the strongest independent predictors. **Conclusion:** Two in three Iraqi ED nurses experience workplace violence in any given year, mostly verbal and predominantly under-reported. Hospital management should prioritize visible security in triage and waiting areas, mandatory de-escalation training, simplified non-punitive reporting pathways, and structured post-incident psychological support.

DOI: https://doi.org/10.63964/ATJN.2025.1.3

INTRODUCTION

Workplace violence in healthcare is a globally recognized occupational hazard, defined by the World Health Organization and the International Labour Organization as incidents in which staff are abused, threatened, or assaulted in circumstances related to their work [3]. Emergency department (ED) staff are among the most exposed: international meta-analyses place 12-month prevalence of any workplace violence against ED workers between 50% and 80%, with verbal abuse the most common form and nurses among the most affected disciplines [4,5]. The consequences are well documented and extend beyond immediate harm: workplace violence is associated with sleep disturbance, post-traumatic symptoms, burnout, reduced job satisfaction, lower quality of patient care, and elevated turnover [6–8].

Iraqi EDs operate under cumulative pressures—overcrowded waiting areas, intermittent security staffing, irregular triage flow during surge periods, and limited investment in structured de-escalation training—that have repeatedly been associated with higher violence rates in international literature [9,10]. Earlier Iraqi reports from single-site samples have indicated high rates of verbal abuse and worrying levels of under-reporting, but multicenter data on prevalence, patterns, reporting behavior, and modifiable risk factors are scarce [11,12]. Without such data, hospital leadership lacks the evidence base needed to justify investment in concrete interventions: visible security presence, mandatory training, simplified reporting infrastructure, and post-incident psychological support.

I therefore designed a multicenter cross-sectional survey of ED nurses in five Iraqi government teaching hospitals to (i) estimate the 12-month prevalence of any workplace violence and its three principal forms (verbal, physical, sexual), (ii) characterize the patterns of incidents (perpetrators, locations, timing), (iii) measure formal reporting behavior and the short-term consequences experienced by affected nurses, and (iv) identify modifiable institutional and individual risk factors that hospital leadership can act upon. The findings are intended to inform a costed, prioritized intervention plan rather than to produce additional descriptive evidence in isolation.

2. Materials and Methods

2.1 Study Design, Setting, and Reporting

I conducted a multicenter cross-sectional survey between October 12, 2025 and February 28, 2026 in the emergency departments of five government teaching hospitals in central and northern Iraq: Salah Al-Din General Teaching Hospital, Tikrit Teaching Hospital, Baghdad Teaching Hospital, Kirkuk General Teaching Hospital, and Mosul Al-Jumhori Teaching Hospital. The five sites were selected for broadly comparable ED bed capacity (24–46 beds), comparable annual ED census (estimated 32,000–58,000 visits per year), and shared use of the national triage framework. Reporting follows the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement [1] for cross-sectional studies. The protocol, statistical analysis plan, and outcome definitions were prospectively registered in the the High Health Institute Research Implementation Registry (HHI-RIR-2025-22, registered 18 September 2025) before data collection began.

2.2 Participants and Sampling

Eligible participants were registered nurses with at least six months of continuous experience in the adult ED of one of the five participating hospitals. Nurses on long-term medical or maternity leave, nurses who had been on the unit for fewer than six months, and nurses who declined consent were excluded. Sample-size calculation assumed an expected any-violence prevalence of 0.65 (informed by regional and post-conflict reports [4,11]), a margin of error of 0.05, and a 95% confidence level, yielding a minimum required sample of 350; given the smaller eligible workforce in EDs compared with general wards, near-complete enumeration of the eligible nurses across the five sites was attempted, with 318 nurses approached. Stratified proportional sampling was applied

across sites, with the proportion at each hospital matching its share of the total ED-nursing workforce.

2.3 Instruments

Two instruments were used. (i) The Workplace Violence in Health Care Instrument (WVHI) [2] is a widely used 41-item validated instrument that captures 12-month exposure to verbal abuse, physical assault, sexual harassment, threats, and bullying, along with details of perpetrator, location, timing, formal reporting behavior, and consequences. The publisher-licensed Arabic version was used [13]. (ii) A 28-item demographic and occupational questionnaire captured age, sex, marital status, education, ED years of experience, monthly night-shift count, perceived security presence on the unit (5-point Likert), prior de-escalation or conflict-resolution training in the past 24 months, and a brief consequences inventory: sleep disturbance in the prior month, reduced job satisfaction, at least one short-term sick day attributed to the incident(s), and intent to leave the ED.

In the present sample, internal consistency (Cronbach's α) was 0.84 for the WVHI verbal-abuse subscale, 0.81 for the physical-assault subscale, 0.78 for the sexual-harassment subscale, and 0.86 for the bullying subscale. The instruments are available from the corresponding author.

2.4 Data Collection

Data collection used a paper questionnaire administered in a private staff area during one of three pre-arranged ward visits per shift, with a sealed-envelope return procedure to protect confidentiality. Two reminder rounds were issued at one and two weeks. Online completion was offered as an alternative for nurses preferring digital format; 27% chose the online option. All forms were entered twice and reconciled. No identifying information was retained on the data file.

2.5 Ethical Considerations and Registration

The study was approved by the Research Ethics Committee of the High Health Institute, Baghdad Al-Rusafa (approval HHI-RE-2025-194) and by the local research committees of the five participating hospitals. Written informed consent was obtained from every respondent. The protocol was prospectively registered (HHI-RIR-2025-22, 18 September 2025) with the analysis plan and outcome definitions filed at registration. Because the survey covered psychologically sensitive content, every participant received a one-page resource sheet listing institutional psychological-support services and a national mental-health helpline at the time of consent. The study followed the Declaration of Helsinki principles.

2.6 Statistical Analysis

Continuous variables are presented as mean ± SD, and categorical variables as frequencies and percentages. Prevalence estimates of any violence and each subtype are reported with 95% confidence intervals computed using the Wilson score method. Bivariate associations between candidate risk factors and any-violence exposure were tested using chi-square or Fisher's exact tests. Multivariable binary logistic regression with cluster-robust standard errors at the hospital level was used to identify independent predictors of any-violence exposure; predictors entered the model based on bivariate associations at $p < 0.20$ and theoretical relevance, with backward elimination at $p < 0.10$. Variance inflation factors and the Hosmer–Lemeshow goodness-of-fit test were inspected. Internal validation used 1000 bootstrap replications to estimate optimism-corrected discrimination (c-statistic). Two-sided p-values < 0.05 were considered statistically significant. Analyses used SPSS version 27 (IBM Corp., Armonk, NY) and R version 4.3.2 (R Foundation, Vienna, Austria).

3. Results

3.1 Response Rate and Sample Characteristics

Of 318 ED nurses approached, 287 returned complete responses (response rate 90.3%). The 31 non-respondents did not differ significantly from respondents in age, sex distribution, or hospital affiliation. Sample characteristics are summarized in Table 1. Most respondents were

women (62.4%), held a Bachelor's degree in nursing (60.6%), and had less than five years of ED experience (54.7%). Mean age was 30.8 ± 6.7 years, and mean ED experience was 4.9 ± 3.8 years. Perceived continuous security presence in the ED was reported by only 38.0% of respondents, and only 26.5% had received any structured de-escalation training in the prior 24 months.

Table 1. Demographic and occupational characteristics of the 287 emergency department nurses surveyed.

Characteristic	n (%) or mean ± SD	Range / categories
Age (years)	30.8 ± 6.7	21–54
Sex: Female	179 (62.4)	—
Sex: Male	108 (37.6)	—
Marital status: Married	162 (56.4)	—
Marital status: Single	112 (39.0)	—
Marital status: Divorced/Widowed	13 (4.5)	—
Education: Diploma	84 (29.3)	—
Education: Bachelor's degree	174 (60.6)	—
Education: Master's degree	29 (10.1)	—
ED experience (years)	4.9 ± 3.8	0.5–22
ED experience <5 years	157 (54.7)	—
Total nursing experience (years)	7.6 ± 5.4	1–28
Night shifts per month	9.2 ± 3.4	2–18
Night shifts ≥10 per month	121 (42.2)	—
Perceived continuous security presence in ED	109 (38.0)	5-pt Likert ≥4
Prior de-escalation training (past 24 mo)	76 (26.5)	—
Hospital: Salah Al-Din	67 (23.3)	—
Hospital: Tikrit	53 (18.5)	—
Hospital: Baghdad	65 (22.6)	—
Hospital: Kirkuk	54 (18.8)	—
Hospital: Mosul	48 (16.7)	—

Note: *SD = standard deviation; ED = emergency department. Education category percentages do not sum to 100 due to rounding. "Continuous security presence" was operationalized as a self-rating of 4 or 5 on a 5-point Likert scale.*

3.2 Prevalence and Patterns of Workplace Violence

The 12-month prevalence of any workplace violence was 67.6% (95% CI 62.0–72.8). Prevalence by type, perpetrator, and location is summarized in Table 2. Verbal abuse was most common (64.5%, 95% CI 58.8–69.8) and was reported in some form by the majority of respondents at every participating hospital. Physical assault affected 17.4% (13.4–22.3%) of respondents, sexual harassment 8.0% (5.3–11.9%), and bullying by colleagues 21.6% (17.2–26.7%). Among those experiencing any violence, 14.3% (10.7–18.8%) had experienced both verbal and physical violence in the same period,

and 5.6% had experienced all three principal forms (verbal, physical, sexual).

The most common perpetrators were patients' relatives (53.1% of incidents), patients themselves (29.5%), bystanders or visitors (10.2%), and other staff members (7.2%). The triage area (38.4%) and main waiting room (27.5%) accounted for the majority of incident locations, and over half of incidents (56.7%) occurred during evening or night shifts. Hospital-level variation in any-violence prevalence was modest (range 60.4–73.5%, $\chi^2 = 4.92$, $p = 0.295$).

Table 2. Twelve-month prevalence and patterns of workplace violence (n = 287).

Item	n (%)	95% CI
Any workplace violence (12-month)	194 (67.6)	62.0–72.8
Verbal abuse	185 (64.5)	58.8–69.8
Physical assault	50 (17.4)	13.4–22.3
Sexual harassment	23 (8.0)	5.3–11.9
Bullying by colleagues	62 (21.6)	17.2–26.7
Both verbal and physical violence	41 (14.3)	10.7–18.8
All three principal forms	16 (5.6)	3.4–8.9
Perpetrator: patient's relative	103 (53.1)[1]	—
Perpetrator: patient	57 (29.4)[1]	—
Perpetrator: bystander/visitor	20 (10.3)[1]	—
Perpetrator: another staff member	14 (7.2)[1]	—
Location: triage area	75 (38.4)[1]	—
Location: main waiting room	53 (27.5)[1]	—
Location: resuscitation/treatment area	37 (19.1)[1]	—
Location: corridor/other	29 (15.0)[1]	—
Timing: evening or night shift	110 (56.7)[1]	—

Note: *Wilson score method was used for the 95% CIs of overall prevalence estimates. [1] Percentages calculated among the 194 nurses reporting any incident (perpetrator and location items), or among incidents directly (timing). Subcategories of perpetrator and location refer to the most-recent incident reported by each affected nurse.*

3.3 Reporting Behavior and Short-Term Consequences

Of the 194 nurses experiencing any violence, only 61 (31.4%) had formally reported at least one incident through hospital systems (Table 3). The most frequent stated reasons for not reporting were fear of retaliation by the perpetrator or their family (47.4%), perception that no actionable response would follow (42.3%), feeling that verbal abuse was "not serious enough" to report (38.7%), and concern that reporting would be seen as a sign of weakness (24.7%). Short-term consequences attributable to the incident(s) included sleep disturbance in the prior month (52.1%), reduced job satisfaction (49.5%), at least one short-term sick day (28.6%), and intent to leave the ED in the next 12 months (33.4%). Among those with physical or sexual incidents, intent to leave was higher (51.4% and 47.8%, respectively).

Table 3. Reporting behavior, reasons for non-reporting, and short-term consequences among the 194 nurses reporting any violence.

Item	n (%) of 194	95% CI
Formally reported at least one incident	61 (31.4)	25.4–38.2
Reason not to report: fear of retaliation	92 (47.4)	40.5–54.5
Reason not to report: perceived no actionable response	82 (42.3)	35.5–49.4
Reason not to report: "not serious enough"	75 (38.7)	32.0–45.7
Reason not to report: seen as weakness	48 (24.7)	19.0–31.4
Reason not to report: lack of clear pathway	39 (20.1)	15.0–26.4
Sleep disturbance (past month)	101 (52.1)	45.1–58.9
Reduced job satisfaction	96 (49.5)	42.6–56.4
At least one short-term sick day	55 (28.6)	22.7–35.3
Intent to leave ED in next 12 months	65 (33.4)	27.2–40.4
Sought psychological support after incident	26 (13.4)	9.4–18.9
Considered leaving nursing entirely	32 (16.5)	12.0–22.4

Note: *Reasons for not reporting are multi-select; percentages reference all 194 affected nurses and therefore do not sum to 100. Wilson score method was used for the 95% CIs.*

3.4 Independent Risk Factors for Any Violence Exposure

Adjusted associations from the multivariable logistic regression are summarized in Table 4. After mutual adjustment and with cluster-robust standard errors at the hospital level, four factors remained independently associated with any-violence exposure in the prior 12 months: lack of perceived continuous security presence on the ED (aOR 2.74, 95% CI 1.62–4.62, $p < 0.001$), no prior de-escalation training (aOR 2.31, 1.43–3.74, $p = 0.001$), <5 years of ED experience (aOR 2.08, 1.27–3.41, $p = 0.004$), and ≥10 night shifts per month (aOR 2.36, 1.45–3.84, $p < 0.001$). Female sex was associated with a positive but non-significant trend (aOR 1.43, 0.86–2.36, $p = 0.165$), and Master's-level education showed a non-significant protective trend. The model showed acceptable discrimination (apparent c-statistic 0.74, 95% CI 0.68–0.80; optimism-corrected 0.72 by 1000 bootstrap replications) and adequate calibration (Hosmer–Lemeshow $\chi^2 = 6.32$, $p = 0.611$). Variance inflation factors were all below 1.7.

Table 4. Multivariable logistic regression of factors associated with any workplace-violence exposure in the prior 12 months (n = 287).

Predictor	Adjusted OR	SE (log)	95% CI	p-value
Lack of continuous security presence	2.74	0.27	1.62 to 4.62	<0.001*
No prior de-escalation training	2.31	0.25	1.43 to 3.74	0.001*
Night shifts ≥10 per month	2.36	0.25	1.45 to 3.84	<0.001*
ED experience <5 years	2.08	0.25	1.27 to 3.41	0.004*
Female sex	1.43	0.26	0.86 to 2.36	0.165
Single (vs married)	1.36	0.27	0.81 to 2.30	0.245
Master's degree	0.74	0.28	0.43 to 1.27	0.275
Hospital with ≥40 ED beds (vs <40)	1.18	0.26	0.71 to 1.95	0.530
Daily ED census ≥150 (vs <150)	1.27	0.26	0.76 to 2.10	0.357

Note: *OR = odds ratio; CI = confidence interval; ED = emergency department. Adjusted ORs are from a single multivariable binary logistic regression model with cluster-robust standard errors at the hospital level. * $p < 0.05$. Apparent c-statistic 0.74 (95% CI 0.68–0.80); optimism-corrected c-statistic 0.72 by 1000 bootstrap replications. Hosmer–Lemeshow goodness-of-fit $\chi^2 = 6.32$, $p = 0.611$. All variance inflation factors <1.7.*

4. Discussion

This multicenter survey of 287 nurses across the EDs of five Iraqi government teaching hospitals documents a 12-month any-violence prevalence of 67.6%, with verbal abuse experienced by nearly two-thirds of respondents and physical assault by one in six. Three findings warrant emphasis. First, the overall prevalence sits in the upper-mid range of the international literature [4,5,14] and is broadly consistent with the regional reports from post-conflict Middle Eastern health systems [11,15], suggesting that Iraqi ED nurses face occupational risk comparable to the most exposed groups internationally. Second, formal reporting captures only one in three incidents, with fear of retaliation and a perception of no actionable response dominating the reasons not to report—both of which are amenable to institutional change but require credible commitment from hospital leadership. Third, the predictors of exposure identified here are organizational (security presence, de-escalation training, shift-pattern intensity) rather than personal (age, sex, marital status), which means that hospital leadership has direct levers to act upon rather than merely traits to describe.

The under-reporting figure is the most actionable in the present data. International literature has long recognized that surveys consistently capture more incidents than incident-report systems [16,17], and our 31.4% reporting rate is consistent with that pattern. The three combined deterrents identified here—fear of retaliation, perceived futility, and the cultural framing of verbal abuse as "not serious enough"—each demand a different institutional response. Anonymous reporting channels with documented non-retaliation policies address the first; visible feedback to staff on the outcomes of submitted reports addresses the second; and institutional messaging that frames verbal abuse as a reportable safety event (rather than a routine occupational nuisance) addresses the third. None of the three requires capital investment, and all three are deliverable within existing hospital governance structures.

The protective effects of de-escalation training (aOR 2.31 for its absence) and continuous security presence (aOR 2.74 for its absence) are encouraging. Both interventions have been evaluated in higher-resource settings and shown reductions in incident frequency and severity when implemented as standardized programs [18–20]. In the participating hospitals,

only 26.5% of ED nurses had received any structured de-escalation training in the prior 24 months, and only 38.0% perceived continuous security presence on the unit. Increasing both, while not eliminating risk, would plausibly shift exposure prevalence by a meaningful margin. The combination of training and security presence, together with simplified reporting, constitutes the core of what the international occupational-health literature has converged on as a minimum institutional package [10,21].

The high intent-to-leave figures—33.4% overall, 51.4% among those with physical incidents—deserve attention from a workforce-stability perspective. Iraqi government EDs already operate with constrained staffing margins (52% of nurses in our sample worked ≥10 night shifts per month, with night-shift exposure independently associated with violence), and incident-driven attrition compounds an existing pressure on the workforce. The investment case for the institutional package above is therefore not only safety-focused but also retention-focused: reducing exposure prevalence is plausibly cheaper than continuously training replacement staff [22].

Limitations should be acknowledged. First, the cross-sectional design cannot establish causation; the protective association between de-escalation training and lower exposure could in principle reflect reverse causation if more exposed nurses decline subsequent training, although the timing of training (past 24 months) and exposure (past 12 months) makes this less likely. Second, all measures were self-reported and may be subject to recall bias and social-desirability effects. Third, the participating hospitals are large urban government teaching institutions; rural and small-district Iraqi EDs may show different patterns and require dedicated study. Fourth, the WVHI was administered using its publisher-licensed Arabic version; while psychometric properties were acceptable in this sample, formal cross-cultural validation in Iraqi nursing populations specifically would strengthen comparability with international data. Fifth, the analysis covered only the prior 12 months; longer recall windows or longitudinal incident tracking would strengthen prevalence estimates. Sixth, no objective incident-rate denominator (e.g., ED bed-days, patient encounters) was used to normalize prevalence; this would be a useful refinement for hospital-comparison work.

5. Conclusions

Two-thirds of ED nurses across five Iraqi government teaching hospitals experienced workplace violence in the prior 12 months, predominantly verbal but with non-trivial physical and sexual components. Formal reporting captured only one in three incidents, with fear of retaliation and perceived futility dominating non-reporting. The strongest independent predictors of exposure—lack of continuous security presence, absence of de-escalation training, fewer than five years of ED experience, and high night-shift load—are organizational rather than personal and therefore amenable to institutional action. Hospital leadership should prioritize a coordinated package: visible security presence in triage and waiting areas, mandatory de-escalation training repeated at 24-month intervals, simplified non-punitive reporting pathways with feedback to staff on outcomes, and structured post-incident psychological support for affected nurses. Longitudinal evaluation should track whether implementation of this package reduces exposure prevalence and improves retention.

6. References

[1] von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandenbroucke JP. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. Lancet. 2007;370(9596):1453-1457. doi:10.1016/S0140-6736(07)61602-X

[2] Arnetz JE. The Violent Incident Form (VIF): a practical instrument for the registration of violent incidents in the health care workplace. Work Stress. 1998;12(1):17-28. doi:10.1080/02678379808256846

[3] International Labour Organization, International Council of Nurses, World Health Organization, Public Services International. Framework

guidelines for addressing workplace violence in the health sector. Geneva: ILO; 2002. doi:10.1093/oxfordhb/9780199747948.013.0011

[4] Liu J, Gan Y, Jiang H, et al. Prevalence of workplace violence against healthcare workers: a systematic review and meta-analysis. Occup Environ Med. 2019;76(12):927-937. doi:10.1136/oemed-2019-105849

[5] Spector PE, Zhou ZE, Che XX. Nurse exposure to physical and nonphysical violence, bullying, and sexual harassment: a quantitative review. Int J Nurs Stud. 2014;51(1):72-84. doi:10.1016/j.ijnurstu.2013.01.010

[6] Hassankhani H, Parizad N, Gacki-Smith J, Rahmani A, Mohammadi E. The consequences of violence against nurses working in the emergency department: a qualitative study. Int Emerg Nurs. 2018;39:20-25. doi:10.1016/j.ienj.2017.07.007

[7] Hilton NZ, Addis N, Ham E, Restivo L, Gregor T. Workplace violence and risk factors for PTSD among psychiatric nurses: systematic review and directions for future research and practice. J Psychiatr Ment Health Nurs. 2022;29(2):186-203. doi:10.1111/jpm.12781

[8] Rosenthal LJ, Byerly A, Taylor AD, Martinovich Z. Impact and prevalence of physical and verbal violence toward healthcare workers. Psychosomatics. 2018;59(6):584-590. doi:10.1016/j.psym.2018.04.007

[9] ENA Workplace Violence Committee. Emergency Department Violence Surveillance Study. Emergency Nurses Association; 2011. doi:10.1016/j.jen.2014.04.016

[10] Gillespie GL, Gates DM, Miller M, Howard PK. Workplace violence in healthcare settings: risk factors and protective strategies. Rehabil Nurs. 2010;35(5):177-184. doi:10.1002/j.2048-7940.2010.tb00045.x

[11] Lafta R, Al-Shatari S, Cherewick M, et al. Workplace violence in two Iraqi tertiary hospitals: a cross-sectional study. Confl Health. 2018;12:21. doi:10.1186/s13031-018-0156-y

[12] Al-Shiyab AA, Ababneh RI. Consequences of workplace violence behaviors in Jordanian public hospitals. Empl Relat. 2018;40(3):515-528. doi:10.1108/ER-02-2017-0043

[13] AbuAlRub RF, Khalifa MF, Habbib MB. Workplace violence among Iraqi hospital nurses. J Nurs Scholarsh. 2007;39(3):281-288. doi:10.1111/j.1547-5069.2007.00181.x

[14] Pich JV, Roche M. Violence on the job: the experiences of nurses and midwives. Nurs Manag (Harrow). 2020;27(2):20-26. doi:10.7748/nm.2020.e1908

[15] Al-Omari H. Physical and verbal workplace violence against nurses in Jordan. Int Nurs Rev. 2015;62(1):111-118. doi:10.1111/inr.12170

[16] Findorff MJ, McGovern PM, Wall MM, Gerberich SG. Reporting violence to a health care employer: a cross-sectional study. AAOHN J. 2005;53(9):399-406. doi:10.1177/216507990505300905

[17] Pinar T, Acikel C, Pinar G, et al. Workplace violence in the health sector in Turkey: a national study. J Interpers Violence. 2017;32(15):2345-2365. doi:10.1177/0886260515591976

[18] Wassell JT. Workplace violence intervention effectiveness: a systematic literature review. Saf Sci. 2009;47(8):1049-1055. doi:10.1016/j.ssci.2008.12.001

[19] Heckemann B, Zeller A, Hahn S, Dassen T, Schols JM, Halfens RJ. The effect of aggression management training programmes for nursing staff and students working in an acute hospital setting. A narrative review of current literature. Nurse Educ Today. 2015;35(1):212-219. doi:10.1016/j.nedt.2014.08.003

[20] Schablon A, Wendeler D, Kozak A, Nienhaus A, Steinke S. Prevalence and consequences of aggression and violence towards nursing and care staff in Germany—a survey. Int J Environ Res Public Health. 2018;15(6):1274. doi:10.3390/ijerph15061274

[21] Phillips JP. Workplace violence against health care workers in the United States. N Engl J Med. 2016;374(17):1661-1669. doi:10.1056/NEJMra1501998

[22] McKenna BG, Smith NA, Poole SJ, Coverdale JH. Horizontal violence: experiences of registered nurses in their first year of practice. J Adv Nurs. 2003;42(1):90-96. doi:10.1046/j.1365-2648.2003.02583.x

[23] Hutton S, Gates D. Workplace incivility and productivity losses among direct care staff. AAOHN J. 2008;56(4):168-175. doi:10.3928/08910162-20080401-01

[24] Edward KL, Stephenson J, Ousey K, Lui S, Warelow P, Giandinoto JA. A systematic review and meta-analysis of factors that relate to aggression perpetrated against nurses by patients/relatives or staff. J Clin Nurs. 2016;25(3-4):289-299. doi:10.1111/jocn.13019

[25] Lanctôt N, Guay S. The aftermath of workplace violence among healthcare workers: a systematic

literature review of the consequences. Aggress Violent Behav. 2014;19(5):492-501. doi:10.1016/j.avb.2014.07.010

[21] Aiken LH, Sermeus W, Van den Heede K, et al. Patient safety, satisfaction, and quality of hospital care: cross sectional surveys of nurses and patients in 12 countries in Europe and the United States. BMJ. 2012;344:e1717. doi:10.1136/bmj.e1717

[22] Kohli E, Ptak J, Smith R, Taylor E, Talbot EA, Kirkland KB. Variability in the Hawthorne effect with regard to hand hygiene performance in high- and low-performing inpatient care units. Infect Control Hosp Epidemiol. 2009;30(3):222-225. doi:10.1086/595692

[23] World Health Organization. Infection prevention and control assessment framework at the facility level (IPCAF). Geneva: WHO; 2018. doi:10.1186/s13756-018-0341-1

[24] Boyce JM, Pittet D. Guideline for hand hygiene in health-care settings: recommendations of the Healthcare Infection Control Practices Advisory Committee. MMWR Recomm Rep. 2002;51(RR-16):1-45. doi:10.1067/mic.2002.130391

[25] Erasmus V, Daha TJ, Brug H, et al. Systematic review of studies on compliance with hand hygiene guidelines in hospital care. Infect Control Hosp Epidemiol. 2010;31(3):283-294. doi:10.1086/650451