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A study on the workplace cultural violence against nurses: a systematic review and meta-analysis

Masoumeh Shohani[1] and Hamed Tavan[2*]

Abstract

Introduction Cultural violence includes any offensive behavior regarding ethnicity, race, language, religion, and place of birth devaluing human dignity. The purpose of this study was to investigate workplace cultural violence against nurses by systematic review and meta-analysis.

Materials and methods The guideline of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) was followed. The search was independently conducted in ISI, Cochrane Library, Google Scholar, PubMed, and Scopus by two researchers. We used mesh keywords to recruit publications from different regions of the world between 2002 and 2017. Data was analyzed using meta-analysis and STATA software. To determine the heterogeneity, Q and I^2 indices were used.

Results A total of 50 articles were found from which 8 were ultimately included in the systematic review process. The overall rate of workplace cultural violence among nurses was 17.25% (95% CI 16.83–17.66, $I^2=99.7\%$, $P=0.0001$). Also, the rate of workplace cultural violence against nurses and patients' relatives and companions was 8.21% (95% CI 7.61–8.81, $I^2=99.7\%$, $P=0.0001$). The meta-regression of cultural violence in terms of sample size and year of study rendered a significant decrease in the violence rate by increasing years and sample size ($P<0.001$).

Conclusion Although not all cases of cultural violence are reported and recorded, the rate of cultural violence against nurses is decreasing according to the results of our study. Nevertheless, by providing good services and appropriate education to patients, the overall incidence of cultural violence is expected to be further reduced.

Keywords Cultural violence, Nurses, Meta-analysis

Introduction

Workplace violence; as an intrinsic feature of jobs, occurs everywhere and cannot be absolutely eliminated [1]. Workplace violence against nurses may be committed by either patients or their companions [2]. Various sorts of violence include verbal, physical, cultural, and sexual violence. Physical violence (such as being punched, kicked, pushed, tweaked, or wounded with sharp objects such as knives and shovels) is defined as applying physical force against individuals causing physical, sexual, or psychological harm [3, 4]. Verbal violence constitutes insults, humiliation, intimidation, and mockery that often are perceived as attacks against oneself [3, 4]. Cultural violence includes any abusive treatment toward one's ethnicity, race, language, religion, and place of birth in order to defame human dignity [3, 4]. Finally, sexual violence refers to any sexual harassment and assault causing intimidation, discomfort, and humiliation [3, 4].

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Because of direct contact with patients and their relatives, nurses are at higher risk of workplace violence compared with other hospital staff. Nurses have been 3 times more likely to face workplace violence than other counterparts [5, 6]. Patients being young, male, having low economic and social, having major psychiatric disorders, refusing treatments, having personality disorders and histories of maladaptation, hospitalization due to invasive behavior, familial violence, and finally carrying weapons have been among the most important factors associated with violence against nurses. Most cases of violence have been observed in intensive care units, as well as psychiatric and emergency departments [7, 8].

Nurses working in intensive care units, as well as psychiatric and emergency wards are exposed to a higher risk of facing violence. In fact, patients and their relatives referred to emergency often have serious concerns about themselves or their loved ones predisposing them to a variety of physical and mental pressures. Therefore, they usually experience fear and sometimes anger. Furthermore, nurses working in emergency units frequently and constantly contact alcohol and drug abusers, patients with mental problems, and possibly patients' angry companions which exposes them to the risk of violence. Other factors which are specifically observed in emergency units such as long awaiting, crowded and noisy environments, etc. may further exaggerate the risk of violence in emergency units. The three most important reasons leading to various kinds of violence in emergency units have been long waiting times, high costs, and insufficient coverage of insurance, as well as a low number of personnel in emergency departments [9, 10].

Workplace violence can have negative impacts on individuals' physical, psychological, cognitive, and emotional health. This can reduce working efficiency and result in dropouts, transfer to another job, and even death. Complications of violence have been reported as sadness, feelings of insignificance and emptiness, reduced motivation, fatigue and irritability, and sleep and eating disorders. Violence also imposes a prominent financial burden on organizations. Violence towards employees can lead to medical errors, absenteeism, job abandonment and burnout, extra costs on maintaining and employing new forces, detachment from patients, patient complaints, cognitive dissonance among the staff, and finally reduced functional efficiency and performance [9, 10]. This negative atmosphere affects the relationship between patients and nurses making them spend less time with patients and to be less responsive to their needs. The same feelings are experienced by patients resulting in a negative atmosphere and less satisfaction with the quality of healthcare services [9, 10].

While many factors contribute to violence against nurses, patient care is the most important source of violence against nurses. As mentioned, violence against nurses may be associated with increased incidents, higher healthcare costs, reduced efficiency and performance, job abandonment, and burnout, gaps between nurses and patients, complaints, and finally job stress among nurses [11, 12].

Among various types of workplace violence against nurses, less attention has been directed toward cultural violence which may be considered as a prohibited area. Actually, most cases of cultural violence may even remain unreported. Meta-analysis studies aim to collect and unify opinions on a specific subject. Meta-analyses are needed to validate the results of other studies and to provide a guide for policymakers and researchers.

The aim of this study was to investigate workplace cultural violence against nurses using systematic review and meta-analysis.

Materials and methods

This study was conducted based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol. The main steps included initial design, searching data resources, collection and review of articles, evaluation of articles, and finally statistical analysis of the data. To prevent any publication bias, two individuals independently conducted the literature search, and a third researcher synthesized the data.

Search strategy

In order to achieve the studies related to the research question, a comprehensive search was performed in the national and international scientific resources (Magiran, Iran Medex, Scopus, PubMed, Cochrane, Web of Science, and Google Scholar search engine). The primary search was performed by two researchers individually. According to the research question, the keywords included cultural violence against nurses by patients and patients' companions. These keywords were first used individually. Then, a combinational search was conducted using Boolean operators to make the search more comprehensive. Finally, additional relevant articles were identified by reviewing all references to the articles. In case of full-text availability and not being duplicated, the full texts were handed to the researchers.

Inclusion criteria

Original research papers that reviewed workplace cultural violence against nurses were included.

Exclusion criteria

Lack of quality, lack of relevance, incomplete data, review articles, case reports, letters to editors, qualitative studies, abstracts of congress papers providing incomplete information, and full-text unavailability were considered as exclusion criteria.

Selection and qualification of article

The STROBE checklist [13, 14] was used to evaluate the articles. Two of the authors gave each part of the checklist a score between 0 and 2. Based on the scores obtained from the checklist, the articles were categorized into three groups including weak, moderate, and good qualities with respective scores of 1–15, 16–30, and 31–44. Articles that received at least 16 scores were entered into the meta-analysis process.

Measurement tools

The final included papers were those that reported a quantitative measure of workplace cultural violence against nurses.

Data extraction

The collected variables were the name of the first author, the year and location of the research, sample size, and cultural violence rates against nurses by patients and patients' companions in different continents (Asia, America, Europe, Australia, and Africa). The data was recorded into a checklist designed by the researcher and individually assessed in different departments.

Statistical analysis

Given the nature of the collected data and because the number of final studies was less than 10, it was not applicable to assess publication bias and depict funnel plots. The I square (I^2) index was used to calculate the heterogeneity. The heterogeneity index between studies was individually calculated for each of the variables of cultural violence against nurses committed by patients and patients' companions. Considering the significant heterogeneity between the studies ($P < 0.001$), the random effects model was used to combine the results of different studies. The data was analyzed using STATA software version 14.

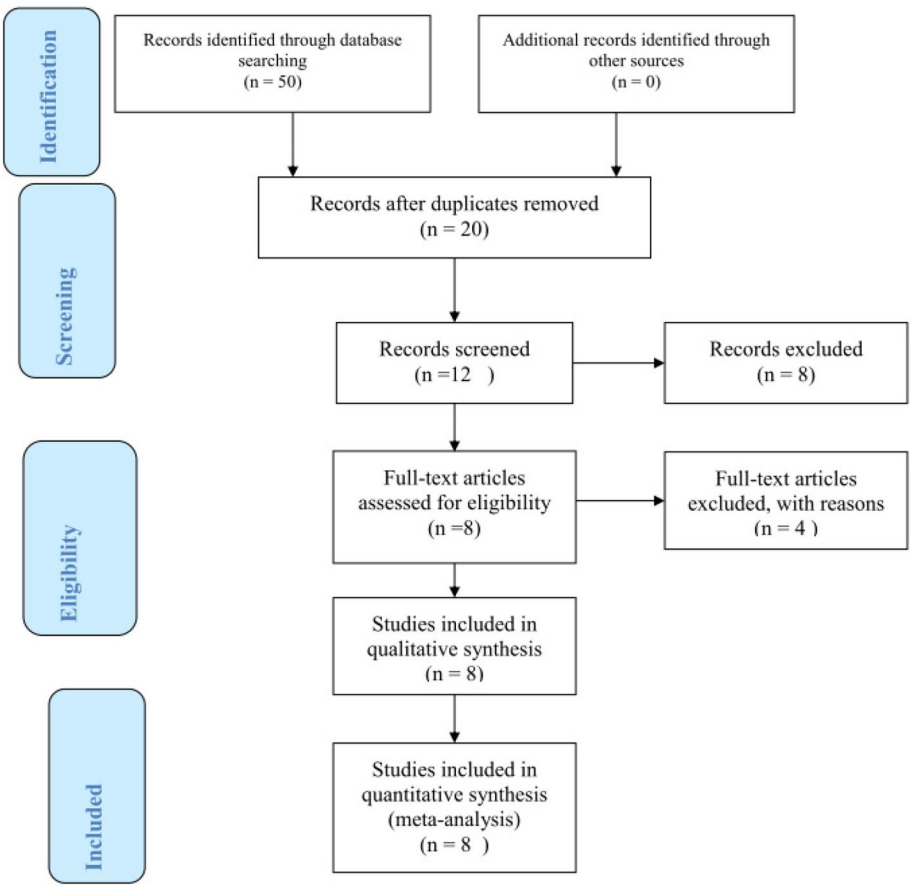


Fig. 1 The flowchart for inclusion of studies in systematic review and meta-analysis

Results

A list of all the titles and abstracts of the recruited articles was initially prepared. After covering the names of journals and authors, full texts of the articles were provided to the researchers. In the first step, 50 articles related to the subject were obtained from which 30 were omitted due to inadequate communication and information provided on the topic. Additionally, by reviewing the full texts of the articles, 12 related articles were removed due to the lack of inclusion criteria. Finally, 8 articles were entered into the evaluation process (Fig. 1).

The total sample size was 4202 giving an average sample size of 600 per study. The characteristics of the studied articles have been noted in Table 1.

Table 2 shows the quality of the used articles in full, which includes a maximum of 7 factors, each factor is given a score and a total of 7 scores, and the score of 7 favorable articles and the score between 5 and 6 is average quality and the score below 5 articles of poor quality were divided.

The rates of cultural violence against nurses committed by patients and patients' companions were 17.25% (95% CI 16.83–17.66%, Fig. 2a) and 8.21% (95% CI 7.61–8.81%, Fig. 2b) respectively.

Table 3 shows the details of the subtypes of cultural violence in individual continents, departments, and occupations.

Meta-regression of cultural violence regarding sample size and year of study revealed significant declines in the percentage of cultural violence by increasing year of study and decreasing sample size ($P < 0.0001$, Fig. 3). The funnel plot of studies is mentioned in Fig. 4.

Discussion

Cultural violence is considered any offensive behavior toward one's ethnicity, race, language, religion, and place of birth that devalues human dignity. The purpose of this study was to investigate the rate of workplace cultural violence against nurses by systematic review and meta-analysis.

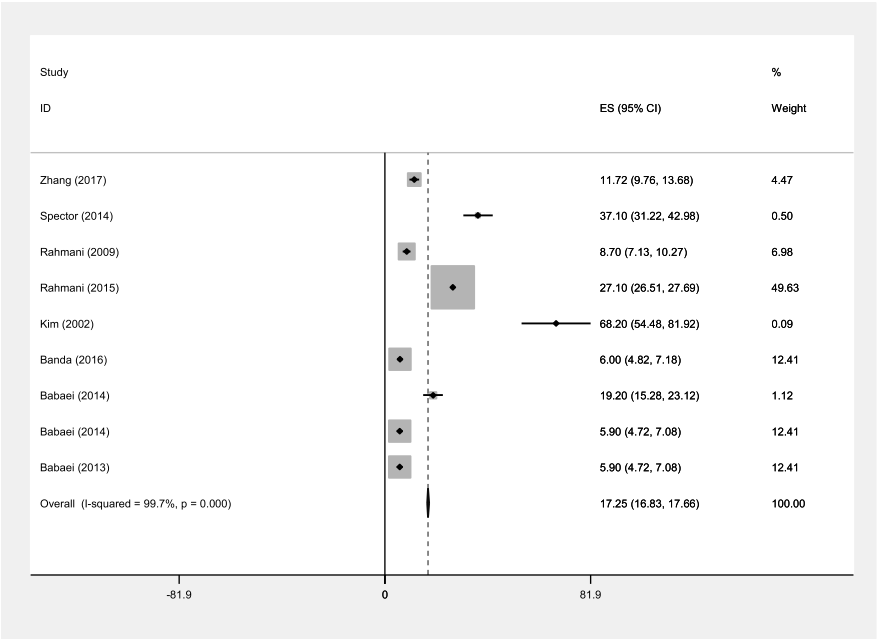
According to the results of this study, the rate of workplace cultural violence against nurses committed by patients was slightly higher than violence against patients' relative's companions. In the study of Rahmani et al., they reported the prevalence of cultural violence as 9% [18]. The rate of cultural violence obtained here; however, was notably lower compared with studies outside Iran [16, 19, 21]. One of the reasons for this may be the fact that most medical personnel in Iranian cities are

Table 1 Specifications of the articles reviewed

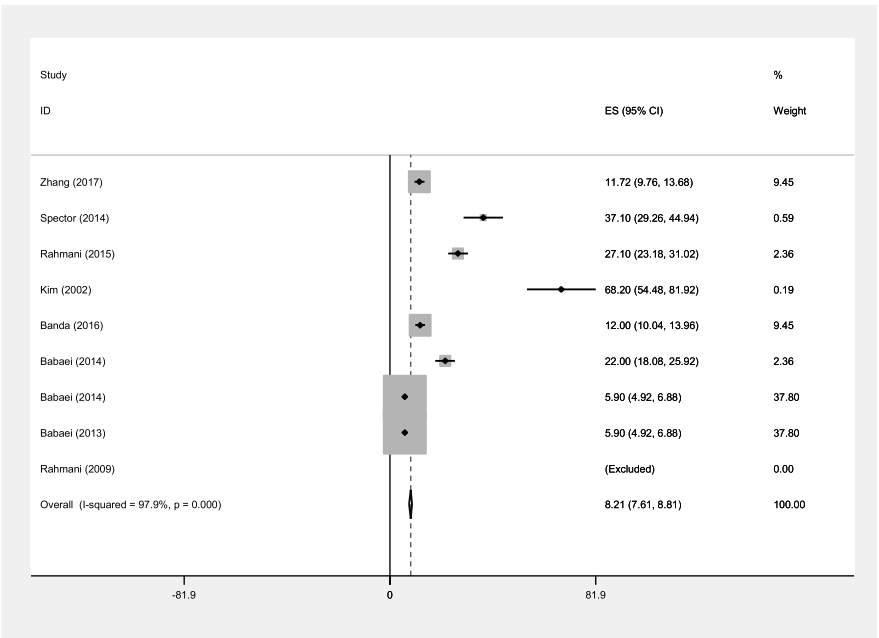
References	Author	Year	Place	Total (*N*)	Male (*N*)	Female (*N*)
[13]	Zhang	2017	China	3004	89	2915
[14]	Spector	2014	USA	–	–	–
[15]	Rahmani	2014	Iran	144	82	62
[16]	Rahmani	2009	Iran	138	138	–
[17]	Kim	2002	Africa	44	80	36
[18]	Banda	2016	Africa	112	26	86
[19]	Babaei	2014	Iran	384	150	234
[20]	Babaei	2016	Iran	376	153	223

Table 2 The quality of the articles appraised using a checklist consists of 7 criteria

Authors	Sample size	Male (*n*)	Female (*n*)	The cause of violence	Workplace unit	% of cultural violence	Separation of % perpetrators of cultural violence	Total score
Zhang	√	√	√	√	√	√	√	7
Spector	√	√	√	√	√	√	√	7
Rahmani	√	√	√	√	√	√	√	7
Rahmani	√	√	√	√	√	√	√	7
Kim	√	√	√	√	√	√	√	7
Banda	√	√	√	√	√	√	√	7
Babaei	√	√	√	√	√	√	√	7
Babaei	√	√	√	√	√	√	√	7



a) the Forest plots of cultural violence against nurses committed by patients



b) the Forest plots of cultural violence against nurses patients' relatives companions

Fig. 2 **a** The Forest plots of cultural violence against nurses committed by patients. **b** The forest plots of cultural violence against nurses' patients' relatives companions

Table 3 Cultural violence by sub-groups

Variable mean	Subgroup	Articles (*N*)	%	CI/95	I^2	*P* value
Variable mean cultural violence patient	Subgroup	7	18.85	18.41.–19.30	99.7	0.000
	Nurse	1	19.2	15.28–23.12	–	–
	Patient	1	5.9	4.72–7.08	–	–
	Companion patient	8	17.25	16.83.–17.66	99.7	0.000
Unit	Total	1	27.1	26.51–27.69	–	–
	Emergency	7	7.54	6.69–8.13	97.2	0.000
	Un Emergency	8	17.25	16.83. –17.66	99.7	0.000
	Total	5	18.69	18.24. –19.13	99.7	0.000
	Asia	1	37.1	31.22–42.98	–	–
Continent	America	2	6.45	5.28–7.63	98.7	0.000
	Africa	7	9.13	8.35–9.91	98.1	0.000
	Nurse	1	22	18.08–25.92	–	–
Cultural violence companion patient	Patient	1	5.9	4.92–6.88	97.0	0.000
	Companion patient	8	8.21	7.61–8.81	97.9	0.000
	Total	1	27.1	23.18–31.02	–	–
Unit	Emergency	7	7.75	7.15–8.36	97.5	0.000
	Un Emergency	8	8.21	7.61–8.81	97.9	0.000
	Total	5	7.49	6.86–8.13	97.9	0.000
continent	Asia	1	37.1	29.26–44.94	–	–
	America	2	8.21	7.61–8.81	97.9	0.000

natives and residents of that city, and in fact, fewer non-indigenous people are employed. Therefore, when nurses and patients have a common culture, nurses are less likely to face cultural violence.

Comparison between emergency and non-emergency departments also showed that cultural violence was several times higher in emergency departments which is consistent with other studies conducted in Iran and abroad [19, 22]. One of the reasons for this may be that patients in emergency departments are usually in unstable emotional conditions. Patients in such conditions are more likely to be affected by their emotions and become angry and therefore put bad words in their mouths [10, 12].

The comparisons between different continents also showed that the incidence of cultural violence was the highest in America, then in Africa, and Asia respectively. According to the World Health Organization, the rates of cultural violence were 8% in Portugal, 0.7% in Lebanon, 2.2% in Bulgaria, and 22.5% in South Africa [23]. In the study of Zamanzadeh et al. in Iran [24], this rate has been 2.7%. This is while Parsapour et al. reported no cultural violence against medical students in Iran [25]. Given that 3 studies from Africa and only one study from America entered into the meta-analysis in the present study, it is likely that if more studies are recruited from America, the rate of cultural violence would be higher in Africa as reported by the World Health Organization.

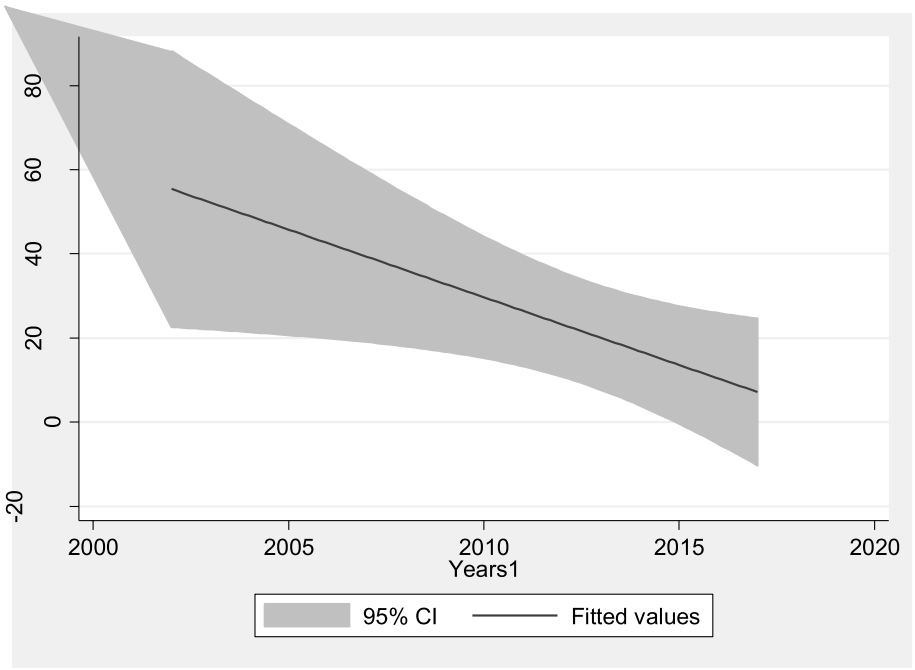
In two studies that have been conducted on the continent of Africa with the theme of workplace violence, the statistics are high, and cultural solutions have also been stated [25, 26].

The results of the meta-regression analysis revealed a significant decrease in cultural violence against nurses by increasing years of study. This observation may be rooted in the improvements in provided services and the level of patients' and their companions' knowledge over time [10, 12]. Although workplace violence is an indispensable part of jobs and cannot be completely eliminated, it is possible to reduce these types of violence by providing proper education and desirable services to patients.

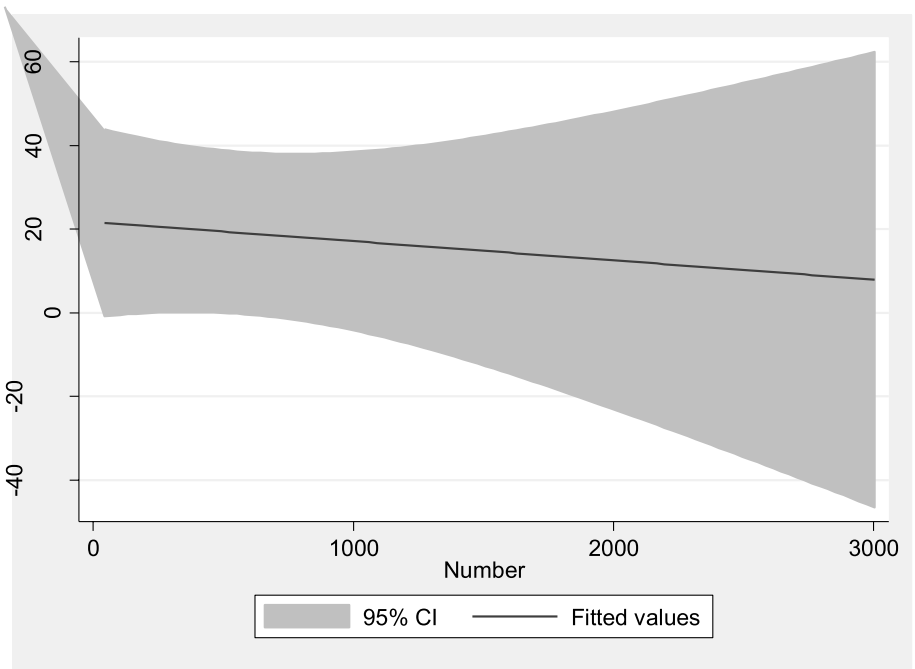
Considering the heterogeneity of 97.9% among the included studies, our study retained a high-grade heterogeneity (i.e., > 75%) [27, 28]. This implied high differences among the included studies.

Conclusion

According to the results of our study, a decreasing trend was observed in the rate of workplace cultural violence against nurses. Nevertheless, it should be noted that not all cases of violence are reported and recorded, so the violence rates may be underestimated. The overall rate of cultural violence against nurses can be further reduced by appropriate strategies such as providing appropriate services and education to patients. The results of this meta-analysis can help guide health policymakers at the



a: Meta-regression of cultural violence based on the year of study conduction



(b) Meta-regression of cultural violence against nurses based on sample size

Fig. 3 Meta-regression of cultural violence based on the year of study conduction. **b** Meta-regression of cultural violence against nurses based on sample size

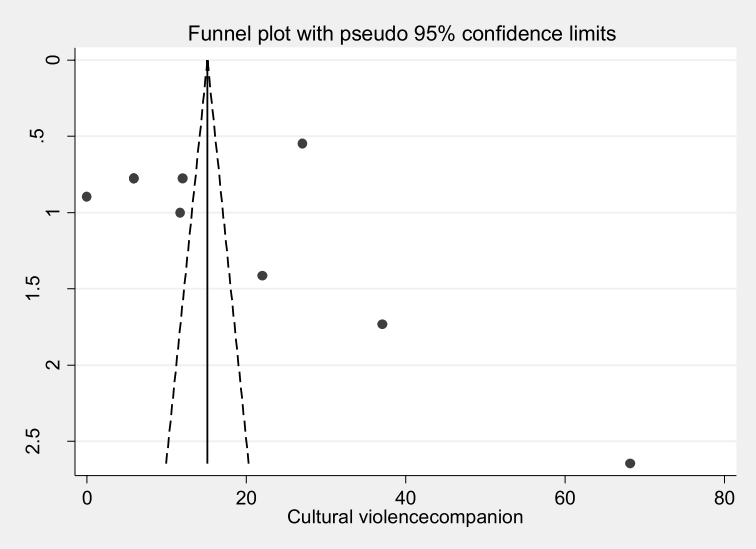


Fig. 4 Funnel plot shows the studies

macro level to adopt measures to deal with these acts of violence. Besides, it can be used by other researchers and clinical service providers.

Limitations

Limitations in the studied variables such as reporting the overall rate of violence instead of individual rates based on demographic variables (age, gender, marital status, and working record) hindered us from detailed analyses. There were also no descriptions of the personal characteristics of the aggressors (such as mental, physical, or traumatic disorders) and their motives.

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Authors' contributions
Masoumeh Shohani conceived and designed the experiments; contributed reagents, materials, analysis tools, or data; performed the experiments; analyzed and interpreted the data; and wrote the paper.

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Ilam University of Medical Sciences.

Data availability
The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate
This study was approved (IR.MEDILAM.REC.1399.263) by the Deputy of Research and Technology of Ilam University of Medical Sciences for financial support. All participants provided written informed consent. Ethical issues (including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

Consent for publication
Not applicable.

Competing interests
The authors declare that there is no conflict of interest regarding the publication of this article.

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