

Use of simulation in training on violence in nursing practice

Uso da simulação na capacitação sobre violência no trabalho da enfermagem
 Uso de simulacros en la capacitación sobre violencia en el trabajo de enfermería

Maiara Bordignon¹
 Maria Inês Monteiro²

Keywords

Professional training; Simulation training; Patient simulation; Workplace violence; Health personnel; Nurse practitioners

Descritores

Capacitação profissional; Treinamento por simulação; Simulação de paciente; Violência no trabalho; Profissional de saúde; Profissionais de enfermagem

Descriptores

Capacitación profesional; Entrenamiento simulado; Simulación de paciente; Violencia laboral; Personal de salud; Enfermeras practicantes

Submitted

January 6, 2019

Accepted

April 8, 2019

Corresponding author

Maiara Bordignon
<https://orcid.org/0000-0001-7766-4612>
 E-mail: bordignonmaiara@gmail.com

DOI

<http://dx.doi.org/10.1590/1982-0194201900047>

**Abstract**

Objective: To evaluate the applicability and results of the use of simulation in nursing students and professionals' training on violence at work. **Methods:** Integrative review of literature that met methodological guideline to answer the question: can simulation help nursing students and workers understand and deal with workplace violence? It was developed search strategies from Boolean operators and terms related to simulation and violence at work, which were inserted into CINAHL, MEDLINE and ProQuest Central along with the other filters. Two independent reviewers selected the studies using criteria and there was an analysis of the level of evidence. **Results:** Nine studies were selected and showed the flexibility of the simulation by the possibility of using it with different purposes in training. It was identified in the studies the use of many simulation resources, as well as the approach of different topics of violence. The settings with patients or aggressors and violence starting with the patient were the most frequent. The studies pointed out benefits of the simulation, but not all results were consensual. **Conclusion:** Simulation is a resource capable of helping nursing students and professionals to deal with cases of workplace violence, preventing it to occur or reducing damage. Studies on this topic are recent and several research needs emanate from the alliance between simulation and violence at work, some of which are highlighted in this review and that may guide the gathering of stronger evidence.

Resumo

Objetivo: Avaliar a aplicabilidade e os resultados do uso da simulação nos processos de capacitação de estudantes e profissionais de enfermagem sobre violência no trabalho. **Métodos:** Revisão integrativa da literatura que seguiu recomendações metodológicas para responder à questão: a simulação pode ajudar estudantes e trabalhadores de enfermagem a lidarem com a violência no trabalho? Construiu-se estratégias de busca a partir de operadores booleanos e termos relacionadas à simulação e violência no trabalho, que foram inseridas ao CINAHL, MEDLINE e Proquest Central juntamente com os demais filtros. Dois revisores independentes selecionaram os estudos mediante critérios e houve análise do nível de evidência. **Resultados:** Nove estudos foram selecionados e revelaram a flexibilidade da simulação pela possibilidade de utilizá-la com diferentes propósitos em capacitações. Identificou-se nos estudos que houve o uso de recursos variados de simulação, assim como a abordagem de diferentes tópicos de violência. Os cenários com pacientes ou agressores e a violência com origem no paciente foram os mais frequentes. Os estudos indicaram benefícios da simulação, mas nem todos os resultados foram consensuais. **Conclusão:** A simulação é um recurso com potencial de ajudar estudantes e profissionais de enfermagem a lidarem com casos de violência no trabalho, prevenindo sua ocorrência ou reduzindo danos. Os estudos neste tema são recentes e várias necessidades de pesquisa emanam da aliança entre simulação e violência no trabalho, algumas das quais destacadas nesta revisão e que podem orientar a construção de evidências mais robustas.

Resumen

Objetivo: Evaluar la aplicabilidad y los resultados del uso de simulacros en procesos de capacitación de estudiantes y profesionales de enfermería sobre violencia en el trabajo. **Métodos:** Revisión integradora de literatura que sigue recomendaciones metodológicas para responder la pregunta: ¿los simulacros pueden ayudar a los estudiantes y trabajadores de enfermería a lidiar con la violencia en el trabajo? Se elaboraron estrategias de búsqueda a partir de operadores booleanos y términos relacionados con simulacros y violencia en el trabajo, que fueron ingresadas al CINAHL, MEDLINE y Proquest Central junto con los demás filtros. Dos revisores independientes seleccionaron los estudios mediante criterios y se realizó un análisis del nivel de evidencia. **Resultados:** Se seleccionaron nueve estudios que revelaron la flexibilidad de realizar simulacros por la posibilidad de utilizarlos con diferentes propósitos en capacitaciones. En los estudios, se observó el uso de recursos variados de simulacros, así como el enfoque de diferentes tópicos de violencia. Los escenarios con pacientes o agresores y la violencia con origen en el paciente fueron los más frecuentes. Los estudios indicaron los beneficios de los simulacros, pero no hubo consenso en todos los resultados. **Conclusión:** Los simulacros son un recurso con potencial para ayudar a estudiantes y profesionales de enfermería a lidiar con casos de violencia en el trabajo, mediante prevención de incidentes o reducción de daños. Los estudios sobre este asunto son recientes y surgen varias necesidades de investigación de la alianza entre simulacro y violencia en el trabajo, algunas de las cuales se destacan en esta revisión y pueden orientar la construcción de evidencias más firmes.

How to cite:

Bordignon M, Monteiro MI. Use of simulation in training on violence in nursing practice. Acta Paul Enferm. 2019;32(3):341-9.

¹Universidade Regional Integrada do Alto Uruguai e das Missões, Erechim, RS, Brazil.

²Universidade Estadual de Campinas, São Paulo, SP, Brazil.

Conflicts of interest: nothing to declare.

Introduction

Workplace violence has been identified constantly across multiple health services worldwide and it is a global challenge regarding health and safety of the professionals working in these locations, due to its prevalence and psychophysical, emotional, labor, social and financial consequences.^(1,2) The phenomenon ‘workplace violence’ refers to “incidents where employees are abused, threatened, assaulted or subjected to other offensive behaviour in circumstances related to their work”.⁽³⁾ So, incidents can take on characteristics of physical or psychological violence, such as sexual and moral harassment and threat, although the types of violence frequently are combined.⁽³⁾

Situations of violence at work have been witnessed mainly by the nursing team, who are at greater risk of suffering from them compared with other members of the team, such as doctors.⁽⁴⁾ This increased risk of exposure to violence may be related to the time that nurses remain with patients and to the patients and caregivers’ behavior, that sometimes show insecurity, distress, anxiety and worry, as well as issues of gender, professional prestige and work organization.⁽⁴⁻⁸⁾

In addition to violence committed by patients and caregivers, nursing professionals, especially the newly formed, are at risk of suffering violence from their supervisors and co-workers from the same profession or from categories that are interrelated, due to lack of empathy, weaknesses in team communication and devaluation of individual knowledge or potentialities.⁽⁸⁻¹⁰⁾

Study carried out among health professionals from a public hospital in the South of Brazil showed that 15.2% of participants had been through physical violence and 48.7% psychological violence; and the patient, co-worker, boss and caregiver were included among perpetrators.⁽⁷⁾ In that study the nursing professionals, specially technicians and assistants, had suffered workplace violence in the last 12 months more than doctors and workers from other categories that made up the health interdisciplinary team.⁽¹¹⁾ The same authors have associated exposure to violence with the development of burn-

out and minor psychic disorders in workers; and with possibility of complications as accidents and absenteeism, highlighting the need to adopt protective measures.⁽¹¹⁾

There is a consensus in the literature about the importance of government and health institutions to seek tools to prevent violence at work, protect workers and promote a culture of peace.^(1,7,8,11,12) Different strategies have been designed to prevent or control cases of violence at work and to contribute to the creation of healthier working environments.⁽⁸⁾ In this context, it is highlighted the development of educational programs with emphasis on the awareness of the workers on the phenomenon, in the prevention and management of violence.^(1,13)

Previous study results have shown that workers often express fear and anxiety when they need to care for patients who can act aggressively.⁽¹⁴⁾ Therefore, it has also been increasingly emphasized that the training of professionals can play an important role in the prevention and control of violence at work.⁽¹⁴⁾ However, educational plans vary in effectiveness⁽¹²⁾ and, in some cases, workers may have theoretical knowledge but still feel unprepared to respond properly to a violent situation due to lack of experience.⁽¹⁵⁾

In this sense studies have revealed the use of the simulation to reflect real situations inherent in the provision of care and its benefits to health training.⁽¹⁶⁻¹⁸⁾ In general, the benefits include enhancing trust and knowledge, improving communication and criticality, promoting problem-solving skills, and managing complex situations.⁽¹⁶⁻¹⁸⁾ For this reason, the simulation resources integrated into the education of nursing students and professionals seem to be a strategy that can contribute to the learning about violence at work and protect them.

So, the following research question was defined for this study: can simulation help nursing students and workers understand and deal with workplace violence?

The objective of the study was to evaluate the applicability and results of the use of simulation in nursing students and professionals’ training on violence at work.

Methods

Integrative review of the literature conducted in four sequential stages: definition of the objective and the question to be answered; selection of the study set through access to databases, including definition of the criteria used to include or exclude publications; delimitation of the items that guided the process of extracting data and characteristics of the articles included; and analysis, results presentation, discussion with the literature and conclusion.⁽¹⁹⁻²¹⁾

In the first stage the review question was defined as: can simulation help nursing students and workers understand and deal with workplace violence?

Then there was the definition of the terms that composed the research strategies from the floating analysis of scientific publications about the simulation in health education and violence at work. Terms were selected that are commonly used in the studies that deal with these topics: simulation, “simulation technology”, “Patient Simulation”, simulations, “simulated patients”, “Simulation Training”, “High

Fidelity Simulation Training”; and “Workplace Violence”, “lateral violence”, “horizontal violence”, Aggression, “physical violence”, “Physical Abuse”, “verbal abuse”, “Sexual Harassment”, Bullying, mobbing.

With the defined terms two research strategies were created according to the proposal of this review and aiming to identify the largest number of publications possible. For this purpose, the Boolean operators or/and were used to integrate the terms into the Cumulative Index of Nursing and Allied Health (CINAHL), MEDLINE (via PubMed) and ProQuest Central databases. Access to these databases took place on March 7, 2018. The number of publications retrieved using search strategies and filters applied in each database is detailed in chart 1.

In order to select the publications, the following were considered as inclusion criteria: research article, editorial or letter to the editor that related the study that used the simulation in some stage of the training process of nursing professionals or students about workplace violence, regardless the approach

Chart 1. Search strategies, filters and number of publications retrieved according to the database

Database	Search strategy	Filters	Results
MEDLINE (PubMed)	(((((((simulation) OR "simulation technology") OR "Patient Simulation") OR simulations) OR "simulated patients") OR "Simulation Training") OR "High Fidelity Simulation Training")) AND (((((((("Workplace Violence") OR "lateral violence") OR "horizontal violence") OR Aggression) OR "physical violence") OR "Physical Abuse") OR "verbal abuse") OR "Sexual Harassment") OR Bullying) OR mobbing)	MEDLINE. Language: English, Portuguese, Spanish, French, Italian. Humans. Date: without limit until December 2017. The following article types were excluded: Addresses, Autobiography, Bibliography, Biography, Books and Documents, Dictionary, Festschrift, Legislation, News, Newspaper Article. Other types were held (Case Reports; Classical Article; Clinical Study; Clinical Trial; Clinical Trial, Phase I; Clinical Trial, Phase II; Clinical Trial, Phase III; Clinical Trial, Phase IV; Comment; Comparative Study; Controlled Clinical Trial; Corrected and Republished Article; Dataset; Directory; Duplicate Publication; Editorial; Electronic Supplementary Materials; English Abstract; Evaluation Studies; Government Publications; Guideline; Historical Article; Interactive Tutorial; Interview; Introductory Journal Article; Journal Article; Lectures; Legal Cases; Letter; Meta-Analysis; Multicenter Study; Observational Study; Patient Education Handout; Periodical Index; Personal Narratives; Portraits; Practice Guideline; Pragmatic Clinical Trial; Published Erratum; Randomized Controlled Trial; Research Support, American Recovery and Reinvestment Act; Research Support, N.I.H., Extramural; Research Support, N.I.H., Intramural; Research Support, Non-U.S. Gov't; Research Support, U.S. Gov't, Non-P.H.S.; Research Support, U.S. Gov't, P.H.S.; Research Support, U.S. Government; Retracted Publication; Retraction of Publication; Review; Scientific Integrity Review; Systematic Reviews; Technical Report; Twin Study; Validation Studies; Video-Audio Media; Webcasts; Overall; Congresses; Consensus Development Conference; Consensus Development Conference, NIH; Clinical Conference.	97 (1964-2017)
ProQuest Central	(ab(simulation) OR ab("simulation technology") OR ab("Patient Simulation") OR ab(simulations) OR ab("simulated patients") OR ab("Simulation Training") OR ab("High Fidelity Simulation Training")) AND (ab("Workplace Violence") OR ab("lateral violence") OR ab("horizontal violence") OR ab(Aggression) OR ab("physical violence") OR ab("Physical Abuse") OR ab("verbal abuse") OR ab("Sexual Harassment") OR ab(Bullying) OR ab(mobbing))	Language: English (Portuguese, Spanish, French, Italian –inexistent); Polish e Russian were excluded. Date: until 2017. The following article types were excluded: news, dissertation/thesis. The other types were maintained (article, feature, commentary, correspondence, working paper/pre-print, editorial, general information).	75 (1978-2017)
CINAHL	S1 AB simulation OR AB "simulation technology" OR AB "Patient Simulation" OR AB simulations OR AB "simulated patients" OR AB "Simulation Training" OR AB "High Fidelity Simulation Training" S2 AB "Workplace Violence" OR AB "lateral violence" OR AB "horizontal violence" OR AB Aggression OR AB "physical violence" OR AB "Physical Abuse" OR AB "verbal abuse" OR AB "Sexual Harassment" OR AB Bullying OR AB mobbing	Language: English (Portuguese, Spanish, French, Italian – in-existent). Date: until 2017.	12 (2008-2017)

used (quantitative or qualitative); studies available in Spanish, French, English, Italian and Portuguese; studies published until December 2017, and without restriction as to the starting date.

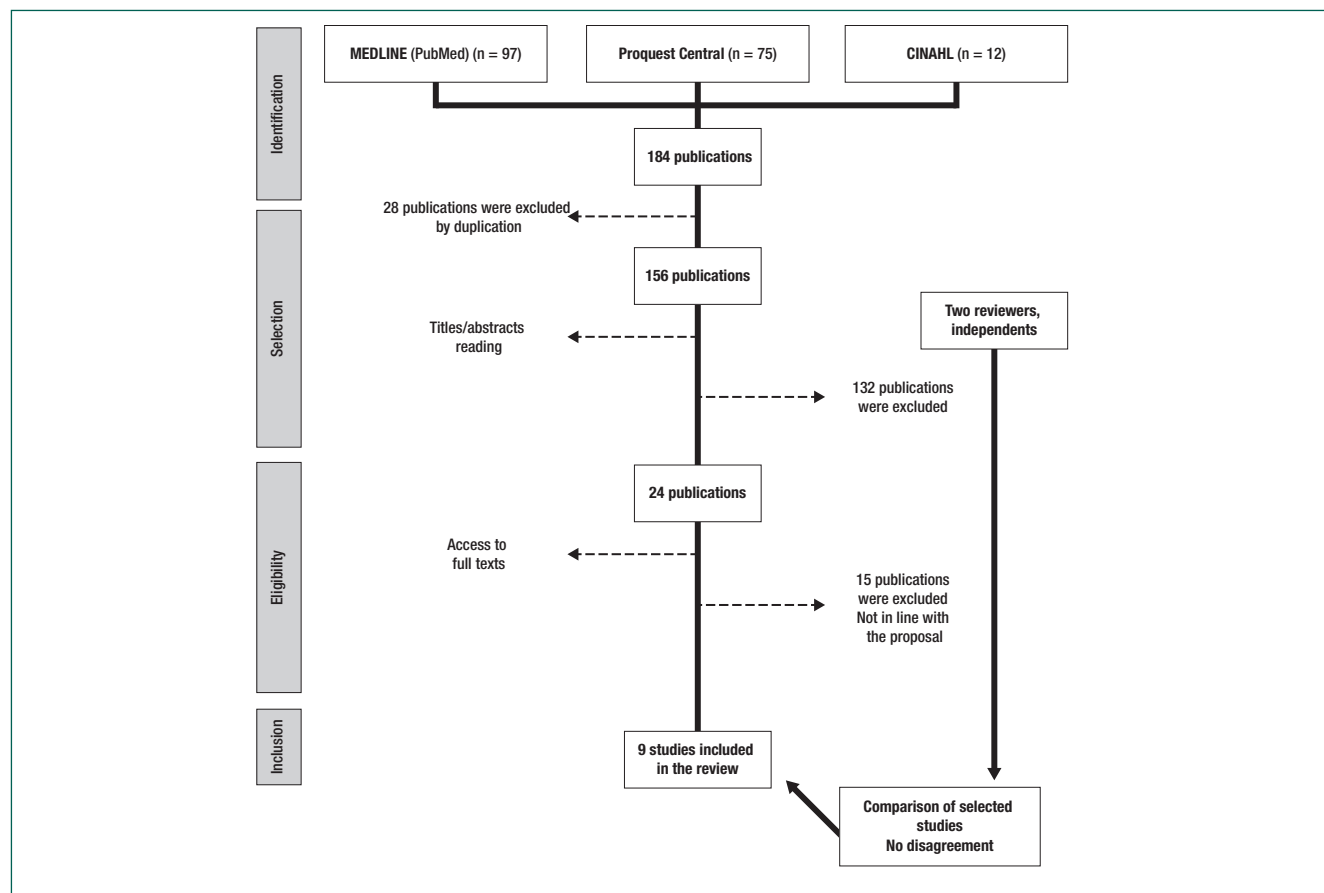
Duplicate publications, literature reviews, undergraduate and graduate degree papers, news and publications that disagreed with previous criteria were excluded. Two reviewers analyzed individually retrieved publications⁽²²⁾ and considered both criteria at all stages of study selection (Figure 1). There was no disagreement between reviewers regarding studies that composed the final sample of this review.

It is worth pointing out that there were no terms related to nursing students or workers in search strategies, as it was considered that the use of broader strategies would contribute to recovering more publications. For this reason, most of the publications were excluded in the title and abstract reading stage, because they presented studies with

other populations and contexts; or in other formats, such as the news, which were not of interest in this review.

In the third stage⁽¹⁹⁻²¹⁾ was defined as reasonable extraction characteristics of the studies included: publication aspects (authors, year of publication and country in which the study was conducted); simulation resource and topic of violence at work addressed; synthesis of results; method: study design, theory or support element, participants, measurement times, measuring instruments and debriefing – one of the stages of the simulation that allows reflections on the simulated situation.^(9,24,25)

With the selection of studies completed, data extraction was started with the help of a form prepared by the authors for this purpose. The form contributed to the analysis of the Strength of Evidence (SE) of the studies, considering five levels: I - experimental studies or meta-analyzes of randomized controlled clinical studies; II - quasi-experimental



Source: Soares CB, Hoga LAK, Peduzzi M, Sangaleti C, Yonekura T, Silva DRAD. Integrative review: concepts and methods used in nursing. Rev Esc Enferm. USP. 2014;48(2):335-45. Moher D, Liberati A, Tetzlaff J, Altman DG, PRISMA Group. Preferred reporting items for systematic reviews and meta-Analyses: The PRISMA statement. PLoS Med. 2009;6(7): e1000097.^(22,23)

Figure 1. Flowchart of studies selection

studies; III - non-experimental, qualitative studies and meta-synthesis; IV -guidelines to clinical practice; and v- evidence generated from expert reports or opinions not supported by scientific research such as case studies and experience reports.⁽²⁶⁾ This classification of the SE was the element used to structure the categories of analysis (categorization by similarity).

The fourth stage⁽¹⁹⁻²¹⁾ started with the analysis and description of the studies by presenting the extracted data and ended with the discussion and conclusion.

Results

Nine studies were selected and composed the list of analyzed publications. It was identified that the studies are recent, with the majority published in the last ten years, although the interest of researchers in allying the simulation to the processes of formation in violence at work is previous, by the existence of a study published in 2006.

Regarding the countries where the studies were carried out are Germany, Canada, the United States and the United Kingdom, with the last two standing out. All studies were available in English.

There were used different resources of simulation in the study to approach situations of workplace violence. The settings simulated with aggressive patients or participant was the most frequent resource. Using simulation resources, researchers addressed different topics of violence, such as patient violence, assault, shooter presence at the workplace, horizontal violence (among nurses), bullying and violence management.^(13,14,27-33) Patient-generated events were the main topic of violence addressed in the studies (Chart 2).

The nine studies were classified into two categories of analysis. The majority were classified in category I (six-66.7%) that integrate the studies with SE II. Of the six studies, half were performed among nursing students and the other half among workers; being that in one of the studies the sample was not composed exclusively by nursing professionals, but highlighted specific results for this

category. In all studies in this category the measurement was performed before and after the intervention, and in one of them there was inclusion of a control group, but it was considered a pilot study. The other studies did not insert or did not mention the addition of the control group. The six papers indicated some benefit of the simulation, but there were neutral or less favorable results even after implementation.^(13,14,27-29,33)

Category II was composed of three studies that showed SE III and that involved nursing students, workers (including nurses) and mentors. In this case, data measurement was performed during or after intervention. With the results, it was recognized the flexibility regarding the application of the simulation in different moments of the process of qualification of students and professionals, since it was used both as an active learning resource and clinical skill development, as well as to evaluate the use of techniques previously discussed in training.⁽³⁰⁻³²⁾

Chart 2 informs characteristics of the studies, including methodological aspects, and a synthesis of the results.

Studies of this review have shown the simulation leads individuals to feel in a real setting, which contributes to improved skills related to interaction with patients, such as excited patients.^(14,27) As well as, the publications have demonstrated as benefits of the simulation applied to the training on violence in the work the increase in confidence and knowledge,⁽²⁷⁾ learning in cognitive and affective dimensions,⁽³⁰⁾ improvement in the management of a setting,⁽¹³⁾ in behavior,⁽¹⁴⁾ and in self-efficacy for communication with people potentially difficult.⁽³³⁾ Besides that, it can favor collaborative and team work.⁽³²⁾

The results also demonstrated that the simulation is valid for identification and dialogue about the behavior of professionals in the face of an incident of violence and that, probably due to stress, could be interpreted as aggressive, affect patient satisfaction⁽³⁰⁾ and contribute to the continuity of aggression. As well as, the simulation was useful to evaluate if the participants would use the techniques presented in previous training to deal with a simulated assault.⁽³¹⁾

Chart 2. Characteristics of the studies selected

Category	Study Data*	Base/Theory	Design/ Measurement	Participants	Measures	Simulation Debriefing	Violence topic	Synthesis of results and SE**
Category I	S1 ⁽²⁷⁾ Martinez (2017) United States	Kolb's experiential theory	Pilot study, without control group, pre and post	Nursing students	MHNCCS0; questionnaires built for the study	Simulated setting Y‡	Excited psychiatric patient	Confidence and knowledge increased after the simulation. In some cases, the results of the evaluation of knowledge remained the same or were smaller in post-simulation than in pre-simulation. SE: II.
	S3 ⁽¹⁴⁾ Wong et al (2015) United States(?)†	Kolb's experiential knowledge theory	Survey-based design, pre and post	Emergency team workers	Management of Aggression and Violence Attitude Scale - MAVAS	Simulated settings, excited patients Y	Patient violence	Three constructs improved substantially: internal/ biomedical factors, external/team factors, and situational/interactive perspectives. Behavior reactions regarding the management of patient violence was not statistically significant. SE: II.
	S4 ⁽²⁸⁾ Kotora et al (2014) United States	Department of Homeland Security's IS:907 Active Shooter course	Quasi-experimental study with mixed, pre and post methods	Nurses, residents and medical students	Questionnaire elaborated (face validity)	Training with didactic methods and setting Y	Active shooter(s) in a hospital emergency unit	It was identified a statistically significant difference between the pre and post-implementation in relation to the questionnaire scores. There was no difference in the nurses' scores. SE: II.
	S5 ⁽²⁹⁾ Malette et al (2011) Canada	Kirkpatrick model Bandura self-efficacy theory	Experimental efficacy study, with control group, pilot study, pre and post	Nurses of a hospital	Questionnaire: demographic; reliable; knowledge (content validity); from the proposal of the National League for Nursing; Virtual-World Debriefing Questionnaire; The Global Rating Scale	Role play and practice in virtual patient unit Y	Horizontal violence at work (among nurses)	For the participants, all strategies were profitable. The participants' satisfaction was greater in the e-learning method with virtual world experiential learning. The authors considered this combination an effective proposal to promote knowledge and skills regarding horizontal violence. SE: II.
	S6 ⁽¹³⁾ Nau et al (2010) Germany	Evidences and elements for program; educational theories; descriptions from the Universities 'and Colleges' Staff Development Agency; objectives, contents and methods	Pre and post-test design within and among groups, without control group, pre and post	Nursing students	Deescalating Aggressive Behaviour Scale (DABS)	Settings with simulation patients NS‡	Deescalating Aggressive patients	Training participants managed setting A and B significantly better compared to the untrained. In some cases, there was a great improvement after implementation, while in others it was not verified or the performance was lower. SE: II.
	S9 ⁽³³⁾ McConville et al (2006) United Kingdom(?)	Self-efficacy theory	Pre and post-test design, without separation into control group or experimental, pre and post	Nursing students	Instruments developed for the study	Video clip NS	Nurses dealing with potentially difficult and sensitive patients	Results related to aggressive patient management were not statistically significant. However, pre and post-video clip analysis indicated that the average related to self-efficacy in dealing with aggressive patients increased after the module (3.04 vs 3.33). SE: II.
Category II	S2 ⁽³⁰⁾ Ulrich et al (2017) United States	-	Qualitative exploratory study, post	Senior nursing students	Reflection worksheet built for the study	Role play simulation Y	Bullying in nursing practice	Researchers concluded that the simulation was an effective pedagogy and promoted learning in the cognitive and affective dimensions. SE: III.
	S7 ⁽³¹⁾ Dickens et al (2009) United Kingdom	Authors have replicated previous publication, but have made some changes considering local variations	Audit study, cross-sectional Measurement during the setting	Participants from a psychiatric hospital	Demographics and experience data Audit tools have been developed	Simulated settings (violent aggressor) Y	Simulated Assault	14% used the correct procedures they learned previously to escape the assault in 10 seconds. 80% even not using the techniques they learned managed to escape within 10s. The probability of escaping from the use of any resource was significantly lower in the nursing team than in other clinical or nonclinical workers. SE III.
	S8 ⁽³²⁾ Moule et al (2008) United Kingdom	-	Study with mixed methods Assessment at one of the OSCE stationsII; Post	Nursing students pre-record and mentors	Vignettes, OSCE, experience assessment tool and marking sheet; Individual interviews	Simulation sessions Y	Management of violence/ aggression (one of the sessions)	Students and mentors received the simulation in a positive way. Mentors considered the learning from the simulation was multifaceted, allowing both practical development and acquisition of knowledge about teamwork, providing an opportunity to work collaboratively and to promote student confidence. SE: III.

S*: Study; SE**: Strength of Evidence; (?)†: information not clear in the study; OSCEII: Objective Structured Clinical Examinations; ‡Y for debriefing; yes; NS‡ for debriefing; information not clear in the study; MHNCCS0: Mental Health Nursing Clinical Confidence Scale

Discussion

This review may not have identified all studies aligning the simulation with training in workplace violence. In any case, it was sought to demonstrate results regarding the articulation of these two themes in order to contribute to the creation of institutional plans that integrate the education for daily professional life as one of its dimensions. Another limitation refers to the differences of the objectives and methods as a result of the inclusion of studies with several proposals and research designs. Although the inclusion of different methodological approaches on the subject, both qualitative and quantitative, represents a benefit of the integrative review,^(20,21) the diversity of proposals made it difficult to identify common aspects among the studies that could indicate success of an intervention with simulation.⁽³⁴⁾

Despite these limitations, the review showed that the simulation has been used in training on violence in the work environment with nursing students and workers in order to offer knowledge on the subject or resources to manage situations of violence; besides being a tool used to evaluate skills in the face of these circumstances. Although the development of mannequins as a form of support for education dates from the seventeenth century,⁽²⁴⁾ it was identified in this review that the studies that combined simulation to the training process on violence at work were published mainly in the last ten years, and the oldest publication was from 2006.

Discussions about the use of simulation in education of professionals in the health area have been increasingly evident by the ability to develop settings that represent real environments of nursing care and make it possible to students and professionals to face difficulties and common situations at work, such as dealing with people in difficult times, in a safe place and supported by mentors.⁽³⁰⁾ Besides, the mobilization on the need to seek strategies to prevent new victims of violence at work supports the increasing development of studies with emphasis on the evaluation of tools and their efficacies in the prevention and reduction of damage linked to the phenomenon; and are extremely needed.⁽¹²⁾

In the work environment, nursing professionals are often confronted with contexts that can give sense of danger for the occurrence of violent events, such as an overcrowded aisle⁽⁵⁾ and, at the same time, must be able to remain in balance and adopt a professional attitude that does not affect the quality of care provided. This process may require the team's cognitive resources and, above all, emotional intelligence to maintain quality care activities. Therefore, strategies that allow health professionals to gain experience are important.⁽¹³⁾ In this sense, generally, the simulation is a method that, by replicating the actual working environment in other locations, can favor active learning and development of skills related to the provision of care.^(16,35)

In addition, the simulation includes among its stages the debriefing, that is, a particularly important moment for the consolidation of knowledge by allowing participants to reflect on the decisions taken in the face of the simulated situation.^(9,24,25) With this stage the group can reflect on their own performance, the simulated situation and the learning tool; and combine learning with other contexts.^(9,24,25)

However, the literature points out that, although trained, professionals may not be able to manage cases of aggression due to the unpredictability of certain situations, the contact with unknown situations or the complexity of certain methods, which make it difficult to remember what can be done in circumstances such as violence.^(13,31) Authors suggest that individuals tend to recall innate human responses, although new studies may help in identifying which strategies can be used to make professionals more easily remember procedures use when exposed to impolite behavior in actual practice.⁽³¹⁾

In the same way, new studies can help to know the effects of different simulation approaches in the long term and if they remain, since the knowledge about the permanence of the method's benefits, especially when developed among students, is restricted.⁽¹³⁾ Little is known about the applicability of the promoted learning with the simulation after the nursing students start their work activities.⁽¹³⁾ With this it would be possible to guide, based on scientific evidence, on the need to update the students or professionals in specific periods.

Other recommendations for future research include exploring whether educational strategies that use simulation decrease rates of work-related violence; to encourage the use of simulation in studies on incivility involving peers or supervisors, which was a less frequently discussed topic in the publications of this review; and to investigate the use of different resources currently available in simulation proposals⁽¹⁷⁾ in order to assess the impacts on workplace violence, which is a relevant problem for health in general.

Conclusion

The study showed that there are several simulation resources that can be used to train nursing students and professionals regarding violence at work and pointed out that it is possible to approach different manifestations or situations of violence with the simulation, depending on the interest of the learning proposal. The review highlighted the benefits range with the use of simulation, but because they are not consensual results, future studies may contribute minimizing the need for evidence related to the use and, above all, to the effects of simulation on the prevention and reduction of violence incidence in nursing work, of resilience and interfaces.

Acknowledgements

This review was extracted from the doctoral study of the first author, financially supported through postgraduate scholarships by the agencies: Process 162825/2014-5, the Brazilian National Council for Scientific and Technological Development (CNPq - *Conselho Nacional de Desenvolvimento Científico*); process 01-P-3481/2014, Coordination for the Improvement of Higher Education Personnel (CAPES - *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior*); grant #2016/06128-7, São Paulo Research Foundation (FAPESP - *Fundação de Amparo à Pesquisa do Estado de São Paulo*).

References

1. Bambi S, Guazzini A, Piredda M, Lucchini A, De Marinis MG, Rasero L. Negative interactions among nurses: an explorative study on lateral violence and bullying in nursing work settings. *J Nurs Manag.* 2019;1-9
2. 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.
3. Di Martino V. Relationship between work stress and workplace violence in the health sector. 2003. [Internet]; [cited 2019 Mar 24]. Available from: https://www.who.int/violence_injury_prevention/violence/interpersonal/WVstresspaper.pdf
4. Shafran-Tikva S, Zelker R, Stern Z, Chinitz D. Workplace violence in a tertiary care Israeli hospital - a systematic analysis of the types of violence, the perpetrators and hospital departments. *Isr J Health Policy Res.* 2017;6(1):43.
5. Angland S, Dowling M, Casey D. Nurses' perceptions of the factors which cause violence and aggression in the emergency department: a qualitative study. *Int Emerg Nurs.* 2014;22(3):134-9.
6. Loro MM, Zeitoune RC, Guido LA, Silveira CR, Silva RM. Revealing risk situations in the context of nursing work At urgency and emergency services. *Esc Anna Nery.* 2016;20(4):e20160086.
7. Pai DD, Sturbelle IC, Santos C, Tavares JP, Lautert L. Physical and psychological violence in the workplace of healthcare professionals. *Texto Contexto Enferm.* 2018;27(1):e2420016.
8. Fernandes H, Sala DC, Horta AL. Violence in health care settings: rethinking actions. *Rev Bras Enferm.* 2018;71(5):2599-601.
9. Sanner-Stiehr E, Ward-Smith P. Lateral violence in nursing: implications and strategies for nurse educators. *J Prof Nurs.* 2017;33(2):113-8.
10. 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):90-6.
11. Pai DD, Lautert L, Souza SB, Marziale MH, Tavares JP. [Violence, Burnout and Minor Psychiatric Disorders in Hospital Work]. *Rev Esc Enferm USP.* 2015;49(3):460-8. Portuguese.
12. Bordignon M, Monteiro I. Considerations on the effectiveness of educational strategies in outcomes related to workplace violence. *Aten Primaria.* 2018;50(7):446-7.
13. Nau J, Halfens R, Needham I, Dassen T. Student nurses' de-escalation of patient aggression: a pretest-posttest intervention study. *Int J Nurs Stud.* 2010;47(6):699-708.
14. Wong AH, Wing L, Weiss B, Gang M. Coordinating a team response to behavioral emergencies in the emergency department: a simulation-enhanced interprofessional curriculum. *West J Emerg Med.* 2015;16(6):859-65.
15. O'Connell B, Guse L, Greenslade L, Osterreicher A, Jensen F. Undergraduate placements in geriatric care facilities: students gaining experience with challenging/responsive behaviors. *J Nurs Educ.* 2017;56(10):623-7.
16. Felton A, Wright N. Simulation in mental health nurse education: the development, implementation and evaluation of an educational innovation. *Nurse Educ Pract.* 2017;26:46-52.
17. Brown AM. Simulation in undergraduate mental health nursing education: a literature review. *Clin Simul Nurs.* 2015;11(10):445-9.
18. Kunst EL, Mitchell M, Johnston AN. Using simulation to improve the capability of undergraduate nursing students in mental health care. *Nurse Educ Today.* 2017;50:29-35.

19. Nogueira PC, de Carvalho Nagliate P, de Godoy S, Rangel EM, Trevizan MA, Mendes IA. Technology use for health education to caregivers: an integrative review of nursing literature. *Appl Nurs Res*. 2013;26(3):101–4.
20. Whittemore R, Knaf K. The integrative review: updated methodology. *J Adv Nurs*. 2005;52(5):546–53.
21. Whittemore R. Combining evidence in nursing research: methods and implications. *Nurs Res*. 2005 ;54(1):56–62.
22. Soares CB, Hoga LA, Peduzzi M, Sangaleti C, Yonekura T, Silva DR. [Integrative review: concepts and methods used in nursing]. *Rev Esc Enferm USP*. 2014;48(2):335–45. Portuguese.
23. Moher D, Liberati A, Tetzlaff J, Altman DG; PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS Med*. 2009;6(7):e1000097.
24. Martins JC, Mazzo A, Baptista RC, Coutinho VR, Godoy S, Mendes IA, et al. The simulated clinical experience in nursing education: a historical review. *Acta Paul Enferm*. 2012;25(4):619–25.
25. Sanner-Stiehr E. Using simulation to teach responses to lateral violence: guidelines for nurse educators. *Nurse Educ*. 2017;42(3):133–7.
26. Newhouse RP, Dearholt SL, Poe SS, Pugh LC, White KM. Johns Hopkins Nursing Evidence-based practice model and guidelines. Indianapolis, US: Sigma Theta Tau International; 2007.
27. Martinez AJ. Implementing a workplace violence simulation for undergraduate nursing students: a pilot study. *J Psychosoc Nurs Ment Health Serv*. 2017;55(10):39–44.
28. Kotora JG, Clancy T, Manzon L, Malik V, Loudon RJ, Merlin MA. Active shooter in the emergency department: a scenario-based training approach for healthcare workers. *Am J Disaster Med*. 2014;9(1):39–51.
29. Mallette C, Duff M, McPhee C, Pollex H, Wood A. Workbooks to virtual worlds: a pilot study comparing educational tools to foster a culture of safety and respect in Ontario. *Nurs Leadersh (Tor Ont)*. 2011;24(4):44–64.
30. Ulrich DL, Gillespie GL, Boesch MC, Bateman KM, Grubb PL. Reflective responses following a role-play simulation of nurse bullying. *Nurs Educ Perspect*. 2017;38(4):203–5.
31. Dickens G, Rogers G, Rooney C, Mc Guinness A, Doyle D. An audit of the use of breakaway techniques in a large psychiatric hospital: a replication study. *J Psychiatr Ment Health Nurs*. 2009;16(9):777–83.
32. Moule P, Wilford A, Sales R, Lockyer L. Student experiences and mentor views of the use of simulation for learning. *Nurse Educ Today*. 2008;28(7):790–7.
33. McConville SA, Lane AM. Using on-line video clips to enhance self-efficacy toward dealing with difficult situations among nursing students. *Nurse Educ Today*. 2006;26(3):200–8.
34. Wassell JT. Workplace violence intervention effectiveness: a systematic literature review. *Saf Sci*. 2009;47(8):1049–55.
35. Lavoie P, Clarke SP. Simulation in nursing education. *Nursing*. 2017;47(7):18–20.