

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Impact of a comprehensive prevention programme aimed at reducing incivility and verbal violence against healthcare workers in a French ophthalmic emergency department: an interrupted time-series study.
AUTHORS	Touzet, Sandrine; Occelli, Pauline; Denis, Angelique; Cornut, Pierre-Loïc; Fassier, Jean-Baptiste; Le Pogam, Marie-Annick; Duclos, Antoine; Burillon, Carole

VERSION 1 – REVIEW

REVIEWER	Nicola Ramacciati Azienda Ospedaliera di Perugia (Italy)
REVIEW RETURNED	06-May-2019

GENERAL COMMENTS	<p>Thank you for the opportunity to read this work. The Authors present an interesting study on the effectiveness of a comprehensive intervention to counter violence against healthcare professionals in an ophthalmic emergency department. They proposed a comprehensive primary prevention programme based on an environment- and patient-oriented approach (organisational, educational, relational, security). The authors aim to verify the effectiveness of their program on the incidence of acts of violence, secondly on reducing waiting times and the length of stay in their emergency department, during and after the scheduled interventions. For this, they used an interrupted time series study. The article is bright and pleasant to read. The research question and the study objective are clearly defined. The abstract is accurate, balanced and complete. The IMRAD scheme is correctly followed. I am not a native English, but the article seems written with good scientific English. I have a few suggestions that I hope will be useful to improve this paper:</p> <p>#1) Page 9, line 28: please correct the reference number: it's not 24 but 23.</p> <p>#2) Page 14, line 9: The research ethics (e.g. participant consent, ethics approval) aren't addressed in the main text, but at the end of the paper. I know that for this type of study these were not required by the Institutional Review Board, but I suggest to move the Ethical approval consideration in the Methods section (unless otherwise indicated in the Journal rules).</p> <p>#3) Page 14, line 30: The statistics used are appropriately described, but I suggest to summarise the "Statistical methods" section.</p> <p>#4) Page 27, line 1: the discussion of the results could be enriched with the use of further bibliographic sources. For example Ramacciati N, Gili A, Mezzetti A, Ceccagnoli A, Addey B, Rasero</p>
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	<p>L. Violence towards Emergency Nurses: The 2016 Italian National Survey-A cross-sectional study. J Nurs Manag. 2018 Nov 14. doi: 10.1111/jonm.12733 in this work found a lack of statistically significant correlation with incremental comfort, regulatory and safety measures and violence in the Emergency Departments in their recent national survey.</p> <p>(ATTENTION: I declare a conflict of interest for this suggestion because I am one of the authors of this article)</p> <p>#5) Page 30, line 1: I appreciate that the Authors use the SQUIRE reporting guidelines. As expected I suggest mentioning them in the Method section and citing in the references list as Ogrinc G, Davies L, Goodman D, Batalden P, Davidoff F, Stevens D. SQUIRE 2.0 (Standards for Quality Improvement Reporting Excellence): revised publication guidelines from a detailed consensus process. BMJ Qual Saf. 2016; 25 (12): 986-992.</p> <p>6#) Page 31, line 3: The list of references is adequate, but I suggest enriching it with more recent articles, in fact, only 14 out of 38 articles were published in the last five years. This can be useful to support the discussion of the data that emerged from the implementation of the prevention program that you have adopted (see note #4). For example, Using in PubMed as search terms "workplace violence AND intervention AND emergency department NOT (paediatric OR children OR substance abuse OR Psychiatric)" Sort by: PublicationDate Filters: published in the last five years, you can find 85 items useful for this purpose.</p> <p>I hope that my suggestions can be useful to improve your article, which I find very interesting. To date, few scholars or researchers are trying to measure the effectiveness of interventions to counteract the Workplace Violence. This is why I hope you want to work on your article.</p>
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REVIEWER	Christian N. Burchill, PhD, MSN, RN, CEN Office of Nursing Research and Innovation, Cleveland Clinic USA
REVIEW RETURNED	10-May-2019

GENERAL COMMENTS	<p>Thank you for allowing me to read your manuscript. In general I think the study methods and the manuscript are well done. My only recommendation is that you include more about the usual lack of reporting minor incidents, such as verbal incidents, in your background section. This is the biggest threat to internal validity for most studies that examine interventions for decreasing the frequency and severity of workplace violence.</p> <p>The reviewer provided a marked copy with additional comments. Please contact the publisher for full details.</p>
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REVIEWER	Nicola Magnavita Università Cattolica del Sacro Cuore, Rome, Italy
REVIEW RETURNED	18-May-2019

GENERAL COMMENTS	<p>This study describes an experience of violence prevention in an emergency department and verifies its effectiveness with a time series analysis. The study is interesting and deserves more attention in some points.</p> <p>In the Introduction the authors report some studies in which the presence of aggressions in the ED is reported. It would be useful to integrate this list with studies in which the emergency</p>
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	<p>department is compared with other departments of the same hospital, in order to assess the relative risk or the odds of working in ED dept. [e.g. Magnavita N, Heponiemi T. Violence towards health care workers in a Public Health Care Facility in Italy: a repeated cross-sectional study. BMC Health Services Res. 2012, 12:108. DOI: 10.1186/1472-6963-12-108]</p> <p>The authors correctly indicate how the practical application required to modify the study program. In field studies this type of problem is frequent and it is not easy to distinguish the effect of the different preventive actions, when these are carried out at various levels simultaneously.</p> <p>The authors should stress that it is difficult to distinguish the relative importance of the various interventions carried out. It seems that the introduction of triage has been of considerable importance.</p> <p>They could discuss the results, comparing their study with other effectiveness studies in which time series were used [e.g.: Magnavita N. Violence prevention in a small-scale psychiatric unit. Program planning and evaluation. Int J Occup Environ Health. 2011 Oct-Dec;17(4):336-44.]</p> <p>A limitation of the study is the relatively short observation time. A longer follow-up could be useful to verify the effectiveness of the measures carried out at a distance of time from the intervention. A longer observation period could help to explain whether the increase in the observed observations is a real phenomenon (increase in the number of aggressions) or stimulated by the intervention (greater attention to aggression). Furthermore, sufficient time for observation could allow us to assess the effects of violence on the health status of operators and verify the circular effect that violence has on stress and mental health [eg. Magnavita N. The exploding spark. Workplace violence in an infectious disease hospital - A longitudinal study. Biomed Res Int. 2013;2013:316358. doi: 10.1155/2013/316358.--- Magnavita N. Workplace violence and occupational stress in health care workers: a chicken and egg situation - Results of a 6-year follow-up study. J Nurs Scholarsh 2014; 46:5, 366–376. doi: 10.1111/jnu.12088.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name: Nicola Ramacciati

Institution and Country: Azienda Ospedaliera di Perugia (Italy) Please state any competing interests or state 'None declared': None declared

Please leave your comments for the authors below

Thank you for the opportunity to read this work. The Authors present an interesting study on the effectiveness of a comprehensive intervention to counter violence against healthcare professionals in an ophthalmic emergency department.

They proposed a comprehensive primary prevention programme based on an environment- and patient-oriented approach (organisational, educational, relational, security). The authors aim to verify the effectiveness of their program on the incidence of acts of violence, secondly on reducing waiting times and the length of stay in their emergency department, during and after the scheduled interventions. For this, they used an interrupted time series study. The article is bright and pleasant to read.

The research question and the study objective are clearly defined.

The abstract is accurate, balanced and complete. The IMRAD scheme is correctly followed. I am not a native English, but the article seems written with good scientific English. I have a few suggestions that I hope will be useful to improve this paper:

#1) Page 9, line 28: please correct the reference number: it's not 24 but 23.

REPLY: We have corrected the reference number.

#2) Page 14, line 9: The research ethics (e.g. participant consent, ethics approval) aren't addressed in the main text, but at the end of the paper. I know that for this type of study these were not required by the Institutional Review Board, but I suggest to move the Ethical approval consideration in the Methods section (unless otherwise indicated in the Journal rules).

REPLY: We have moved the Ethical approval consideration in the Method section.

#3) Page 14, line 30: The statistics used are appropriately described, but I suggest to summarise the "Statistical methods" section.

REPLY: We have simplified the statistical paragraph by removing the technical details.

#4) Page 27, line 1: the discussion of the results could be enriched with the use of further bibliographic sources. For example Ramacciati N, Gili A, Mezzetti A, Ceccagnoli A, Addey B, Rasero L. Violence towards Emergency Nurses: The 2016 Italian National Survey-A cross-sectional study. *J Nurs Manag.* 2018 Nov 14. doi: 10.1111/jonm.12733 in this work found a lack of statistically significant correlation with incremental comfort, regulatory and safety measures and violence in the Emergency Departments in their recent national survey.

(ATTENTION: I declare a conflict of interest for this suggestion because I am one of the authors of this article)

REPLY: We have updated the references of the discussion (see response to comment 6#), including the publication from the 2016 Italian National Survey.

#5) Page 30, line 1: I appreciate that the Authors use the SQUIRE reporting guidelines. As expected I suggest mentioning them in the Method section and citing in the references list as Ogrinc G, Davies L, Goodman D, Batalden P, Davidoff F, Stevens D. SQUIRE 2.0 (Standards for Quality Improvement Reporting Excellence): revised publication guidelines from a detailed consensus process. *BMJ Qual Saf.* 2016; 25 (12): 986-992.

REPLY: We have moved the paragraph "Reporting criteria" in the Method section and added the reference from Ogrinc et al as suggested.

6#) Page 31, line 3: The list of references is adequate, but I suggest enriching it with more recent articles, in fact, only 14 out of 38 articles were published in the last five years. This can be useful to support the discussion of the data that emerged from the implementation of the prevention program that you have adopted (see note #4). For example, Using in PubMed as search terms "workplace violence AND intervention AND emergency department NOT (paediatric OR children OR substance abuse OR Psychiatric)" Sort by: PublicationDate Filters: published in the last five years, you can find 85 items useful for this purpose.

REPLY: Thank you for your suggestions regarding bibliographic research. We have updated the references with:

Arnetz JE, Hamblin L, Ager J, Luborsky M, Upfal MJ, Russell J, Essenmacher L. Underreporting of Workplace Violence: Comparison of Self-Report and Actual Documentation of Hospital Incidents. *Workplace Health Saf.* 2015 May;63(5):200-10.

D'Ettorre G, Pellicani V, Mazzotta M, Vullo A. Preventing and managing workplace violence against healthcare workers in Emergency Departments. *Acta Biomed.* 2018 Feb 21;89(4-S):28-36.

Gillespie GL, Gates DM, Kowalenko T, Bresler S, Succop P. Implementation of a comprehensive

intervention to reduce physical assaults and threats in the emergency department. *J Emerg Nurs*. 2014 Nov;40(6):586-91.

Khangura JK, Flodgren G, Perera R, Rowe BH, Shepperd S. Primary care professionals providing non-urgent care in hospital emergency departments. *Cochrane Database Syst Rev*. 2012 Nov 14;11:CD002097. doi: 10.1002/14651858.CD002097.pub3. Review. Update in: *Cochrane Database Syst Rev*. 2018 Feb 13;2:CD002097.

Magnavita N. Workplace violence and occupational stress in health care workers: a chicken and egg situation - Results of a 6-year follow-up study. *J Nurs Scholarsh* 2014; 46:5, 366–376.

Ramacciati N, Gili A, Mezzetti A, Ceccagnoli A, Addey B, Rasero L. Violence towards Emergency Nurses: The 2016 Italian National Survey-A cross-sectional study. *J Nurs Manag*. 2018 Nov 14.

We have also included references following the comments of other experts, although they were not as recent:

Arnetz JE, Aranyos D, Ager J, Upfal MJ: Development and application of a population-based system for workplace violence surveillance in hospitals. *Am J Ind Med* 2011, 54(12):925–34.

Magnavita N. Violence prevention in a small-scale psychiatric unit. Program planning and evaluation. *Int J Occup Environ Health*. 2011 Oct-Dec;17(4):336-44.

Magnavita N, Heponiemi T. Violence towards health care workers in a Public Health Care Facility in Italy: a repeated cross-sectional study. *BMC Health Services Res*. 2012, 12:108.

We did not retain the following recent references:

The article of Arnetz et al (Arnetz JE, Hamblin L, Russell J, Upfal MJ, Luborsky M, Janisse J, Essenmacher L. Preventing Patient-to-Worker Violence in Hospitals: Outcome of a Randomized Controlled Intervention. *J Occup Environ Med*. 2017 Jan;59(1):18-27.) as the included units were mostly not EDs.

The review article of Pourshaikhian et al (Pourshaikhian M, Abolghasem Gorji H, Aryankhesal A, Khorasani-Zavareh D, Barati A. A Systematic Literature Review: Workplace Violence Against Emergency Medical Services Personnel. *Arch Trauma Res*. 2016 Jan 23;5(1):e28734), conducted on published studies from 1990 through 2014, as it was we added the review article of d'Ettorre et al which included more recent publications (2007 – 2017).

The article of Gillespie et al (Gillespie GL, Farra SL, Gates DM. A workplace violence educational program: a repeated measures study. *Nurse Educ Pract*. 2014 Sep;14(5):468-72.) as it aimed to determine the retention of content following an educational intervention which was included in a comprehensive ED violence prevention program. We have cited the article of Gillespie et al about the impact of this program [Implementation of a comprehensive intervention to reduce physical assaults and threats in the emergency department. *J Emerg Nurs* 2014;40:586-91.]

I hope that my suggestions can be useful to improve your article, which I find very interesting. To date, few scholars or researchers are trying to measure the effectiveness of interventions to counteract the Workplace Violence. This is why I hope you want to work on your article.

REPLY: We thank the expert for the suggestions done which helped us to improve our article.

Reviewer: 2

Reviewer Name: Christian N. Burchill, PhD, MSN, RN, CEN Institution and Country: Office of Nursing Research and Innovation, Cleveland Clinic USA Please state any competing interests or state 'None declared': None declared

Please leave your comments for the authors below

Thank you for allowing me to read your manuscript. In general I think the study methods and the manuscript are well done. My only recommendation is that you include more about the usual lack of reporting minor incidents, such as verbal incidents, in your background section. This is the biggest threat to internal validity for most studies that examine interventions for decreasing the frequency and severity of workplace violence. Please see attached for further comments.

REPLY: We thank the expert for his comments. The following sentence was added to the background as follows: "However, the phenomenon is underreported, especially non-physical violence (i.e. incivility, harassment, verbal violence). Comparison of self-report and actual documentation of hospital incidents in the US showed that 88% of the events were not documented. Such reports are mainly informally reported to the colleagues."

The following references have been added:

Ref. Arnetz JE, Hamblin L, Ager J, Luborsky M, Upfal MJ, Russell J, Essenmacher L. Underreporting of Workplace Violence: Comparison of Self-Report and Actual Documentation of Hospital Incidents. *Workplace Health Saf.* 2015 May;63(5):200-10.

Ref. Ramacciati N, Gili A, Mezzetti A, Ceccagnoli A, Addey B, Rasero L. Violence towards Emergency Nurses: The 2016 Italian National Survey-A cross-sectional study. *J Nurs Manag.* 2018 Nov 14.

"Please see attached for further comments"

"In the ED, the frequency of visits observed in recent years has been accompanied by a drastic increase in the waiting times which can lead to a high level of patient dissatisfaction and of aggression towards healthcare workers."

-> Needs a reference.

REPLY: We have added the reference from Khangura et al.

Ref. Khangura JK, Flodgren G, Perera R, Rowe BH, Shepperd S. Primary care professionals providing non-urgent care in hospital emergency departments. *Cochrane Database Syst Rev.* 2012 Nov 14;11:CD002097. doi: 10.1002/14651858.CD002097.pub3. Review. Update in: *Cochrane Database Syst Rev.* 2018 Feb 13;2:CD002097.

"The project manager also met monthly with the OED team to discuss the importance of reporting events to limit under-reporting of acts of violence."

-> Under-reporting is a huge problem with workplace violence. Add a couple sentences with some references about this issue.

REPLY: The discussion about under-reporting has been enhanced as follows:

"Main reasons are: it is so prevalent yet rarely results in physical injury, most of professionals consider it as part of their jobs, these acts of violence are subject to personal interpretation, and the use of existing reporting systems is time-consuming and perceived as unnecessary because it does not lead to any action to reduce these behaviours."

We have added two references:

Ref. Ramacciati N, Gili A, Mezzetti A, Ceccagnoli A, Addey B, Rasero L. Violence towards Emergency Nurses: The 2016 Italian National Survey-A cross-sectional study. *J Nurs Manag.* 2018 Nov 14.

Ref. d'Aubarede C, Sarnin P, Cornut PL, et al. Impacts of users' antisocial behaviors in an ophthalmologic emergency department--a qualitative study. *J Occup Health* 2016;58:96-106.

"Previous studies reported a low rate of acts of violence with a high level of severity (threats and assaults)"

-> The reason for this is that nurses generally do not report verbal incidents through formal reporting systems. This is why you need to include something in your manuscript background section about lack of reporting in most other studies.

REPLY: Please, see our reply above.

"The reduction of waiting times was an expected effect of the triage algorithm, which allowed, according to the reason for consultation, for orthoptists to perform examinations such as dilating pupils without having to consult a physician."

-> Was this the real cause to decreasing violence? If you improved your throughput process and decreased waiting, which is a big factor in violent episodes in EDs, then this process alone might have been the real answer all along.

REPLY: We agree with the expert. We added to the discussion section “Associated with a patient call system in the waiting room, the triage algorithm was a mean streamline the order of passage and waiting time and thus reduce the stressful condition in waiting rooms”.

We added the following reference: D'Ettorre G, Pellicani V, Mazzotta M, Vullo A. Preventing and managing workplace violence against healthcare workers in Emergency Departments. *Acta Biomed.* 2018 Feb 21;89(4-S):28-36.

Reviewer: 3

Reviewer Name: Nicola Magnavita

Institution and Country: Università Cattolica del Sacro Cuore, Rome, Italy Please state any competing interests or state 'None declared': None declared

Please leave your comments for the authors below

This study describes an experience of violence prevention in an emergency department and verifies its effectiveness with a time series analysis. The study is interesting and deserves more attention in some points.

In the Introduction the authors report some studies in which the presence of aggressions in the ED is reported. It would be useful to integrate this list with studies in which the emergency department is compared with other departments of the same hospital, in order to assess the relative risk or the odds of working in ED dept. [e.g. Magnavita N, Heponiemi T. Violence towards health care workers in a Public Health Care Facility in Italy: a repeated cross-sectional study. *BMC Health Services Res.* 2012, 12:108. DOI: 10.1186/1472-6963-12-108]

REPLY: Indeed, not all health professionals are exposed to the same violence depending on the type of hospital service. Particularly, psychiatry is more at risk by the behaviour of patients related to their pathology, and emergencies also by the diversity and volume of patients.

We have included the suggested reference and another reference in our Introduction:

Ref. Magnavita N, Heponiemi T. Violence towards health care workers in a Public Health Care Facility in Italy: a repeated cross-sectional study. *BMC Health Services Res.* 2012, 12:108. DOI: 10.1186/1472-6963-12-108.

Ref. Arnetz JE, Aranyos D, Ager J, Upfal MJ: Development and application of a population-based system for workplace violence surveillance in hospitals. *Am J Ind Med* 2011, 54(12):925–34.

The authors correctly indicate how the practical application required to modify the study program. In field studies this type of problem is frequent and it is not easy to distinguish the effect of the different preventive actions, when these are carried out at various levels simultaneously.

The authors should stress that it is difficult to distinguish the relative importance of the various interventions carried out. It seems that the introduction of triage has been of considerable importance.

REPLY: In our discussion, we specified that “Caution should, however, be taken when interpreting the results of the present study.” As suggested by the reviewer, we added “It is not possible to distinguish the relative effect of the tested components.”

They could discuss the results, comparing their study with other effectiveness studies in which time series were used [e.g.: Magnavita N. Violence prevention in a small-scale psychiatric unit. Program planning and evaluation. *Int J Occup Environ Health.* 2011 Oct-Dec;17(4):336-44.]

REPLY: We thank you for the reference which was added to the reference list in our discussion (see comment below).

A limitation of the study is the relatively short observation time. A longer follow-up could be useful to verify the effectiveness of the measures carried out at a distance of time from the intervention. A longer observation period could help to explain whether the increase in the observed observations is

a real phenomenon (increase in the number of aggressions) or stimulated by the intervention (greater attention to aggression).

REPLY: As mentioned by the reviewer, a limitation of the study is the relatively short observation time and the impossibility of verifying the effectiveness of the measures carried out at a distance of time from the intervention.

We included the comment suggested by the reviewer in the discussion of the limits of our study as follows: "Second, a longer post-intervention follow-up could have been useful to verify the effectiveness of the program at a distance of time from its implementation (Magnavita N. Violence prevention in a small-scale psychiatric unit. Program planning and evaluation. *Int J Occup Environ Health*. 2011 Oct-Dec;17(4):336-44.). A longer observation could have helped to explain whether the increase in the reports after the implementation of the mediator is a real phenomenon (increase of the violence) or not (greater attention to violence)."

Furthermore, sufficient time for observation could allow us to assess the effects of violence on the health status of operators and verify the circular effect that violence has on stress and mental health [eg. Magnavita N. The exploding spark. Workplace violence in an infectious disease hospital - A longitudinal study. *Biomed Res Int*. 2013;2013:316358. doi: 10.1155/2013/316358.--- Magnavita N. Workplace violence and occupational stress in health care workers: a chicken and egg situation - Results of a 6-year follow-up study. *J Nurs Scholarsh* 2014; 46:5, 366–376. doi: 10.1111/jnu.12088.

REPLY: We cited the suggested reference of 2014 in the background section, after the following sentence: "This violence can have repercussions on the physical and emotional health of the victims, and thus on their well-being and the quality of their work. Healthcare workers have been shown to suffer emotional symptoms similar to post-traumatic stress disorder, job dissatisfaction, and early feelings of burnout, while hospitals have to bear the financial burden of decreased productivity" (Magnavita N. Workplace violence and occupational stress in health care workers: a chicken and egg situation - Results of a 6-year follow-up study. *J Nurs Scholarsh* 2014; 46:5, 366–376.).

We decided not to add the suggested reference of 2013 because it is an observational study which concerns a very specific context, in particular with patients who may have a criminal record.

VERSION 2 – REVIEW

REVIEWER	Nicola Ramacciati, RN, PdD, MSN, MPS, MFN Azienda Ospedaliera di Perugia Perugia (Italy)
REVIEW RETURNED	15-Jul-2019

GENERAL COMMENTS	Thank you for the opportunity to review this interesting work. The authors have accepted many of the suggestions proposed by the three reviewers. They adequately motivated the choices when these (actually very few) were not accepted. The article has certainly been improved and I hope it can be accepted for publication.
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REVIEWER	Christian N. Burchill, PhD, MSN, RN, CEN Office of Nursing Research and Innovation Cleveland Clinic USA
REVIEW RETURNED	24-Jul-2019

GENERAL COMMENTS	<p>Page 6, line 25 - change "the colleagues" to "their colleagues." line 45 - no comma needed after "In the ED"; need comma after times and before which in that sentence In general this manuscript needs an English-speaking editor to tighten up the grammar and syntax; such as page 7, line starting with "Many have concerned primary prevention" is very awkward to read. Page 7 "low level of evidence" does not make sense in the context of that sentence.</p> <p>Generally, this is a very nicely done presentation of an interesting violence prevention activity based on evidence from the literature. It only needs minor revisions, mostly to grammar and syntax, in order to be worthy of publication.</p>
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REVIEWER	Nicola Magnavita Università Cattolica del Sacro Cuore, Roma, Italy
REVIEW RETURNED	15-Jul-2019

GENERAL COMMENTS	The manuscript has been improved according to the suggestions
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