Is the Run, Hide, Fight concept effective in improving hospital response to shooting incidents?: A systematic review

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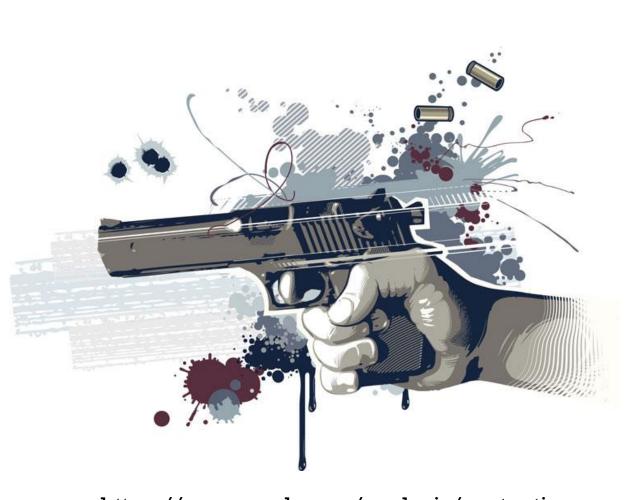
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INTRODUCTION



https://www.psqh.com/analysis/protecting-patients-violence-active-shooters/

- The recent rise of violence, especially active shootings, in the United States calls for adequate preparation²
- Currently, the 'Run, Hide, Fight' concept is widely accepted and adopted by many hospitals nationwide²
- Unfortunately, the appropriateness of this concept in hospitals is uncertain due to lack of data
- To understand the 'Run, Hide, Fight' concept application in hospital, a review of currently available data is needed

METHODS

- A systematic review was done focusing on the 'Run, Hide, Fight' concept using multiple databases from the last 12 years.
- The PRISMA flow diagram was used to systematically select the articles based on specific inclusion and exclusion criteria.
- The measurements were survival
 probabilities post-concept and subjective
 evaluations on the concept's applicability to
 healthcare settings, rates of
 implementation, and people's
 psychological preparedness for using this
 concept.

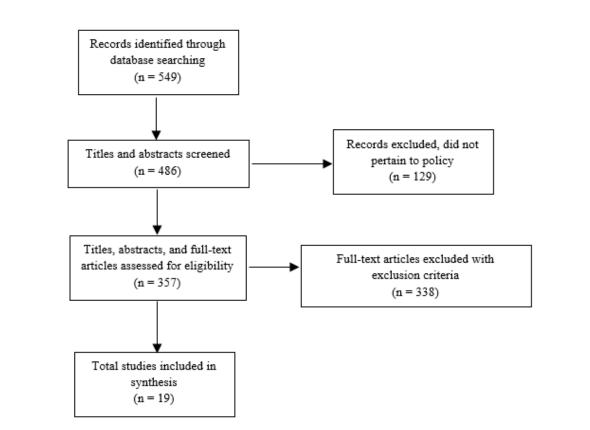


Figure 1: PRISMA Flow Diagram for literature review and systematic article selection on the 'Run, Hide, Fight' concept in healthcare facilities.

RESULTS

Quantitative Measurement of Effectiveness

- Lee performed an agent-based modeling study in 2019 by running multiple simulation scenarios requiring usage of the 'Run, Hide, Fight' concept to assess the concept's effectiveness in active shooting response⁶
 - a) survival probability for all-run scenarios is $92.1\%^6$
 - b) survival probability for all-hide scenarios is 5.16%
 - c) survival probability for all-fight scenarios is 97.6%
- either run or fight the perpetrator since those will result in better survival⁶

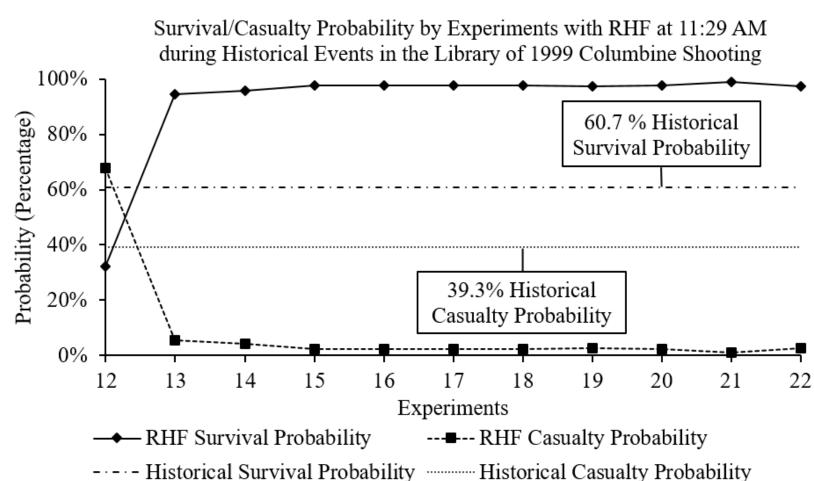


Figure 4.24. Survival/Casualty Probability by Experiments with RHF at 11:29 AM during
Historical Events in the Library of 1999 Columbine Shooting
(Lee, 2019)

Hospital Setting Applicability

- In one study in 2018, Inaba, Eastman, Jacobs, and Mattox claimed that the 'Run, Hide, Fight' concept may not be suitable for healthcare settings due to their unique population of ill individuals with some who are bedbound, unconscious, or relying on life-sustaining equipment⁵
- They also highlighted the ethical dilemma of this concept while exploring the nurses' perspectives in adopting the concept for active shooting response in hospitals⁵

Rates of Implementation

- A study in 2015 by Darais demonstrated that although 84% of staff were aware of the location of the concept's details, less than 50% of employees identified the 'Run, Hide, Fight' concept as a correct response option, were aware of the concept's details, and felt adequately trained for utilizing the concept³
- It is suggested by multiple studies that frequent simulation training and drills are fundamental for the effectiveness of this concept by promoting its recognition and execution when actual active shooting occur³

Psychological Wiring and Preparedness

- A study in 2016 by Adelman suggested that the 'Run, Hide, Fight' concept may only be applicable
 and effective for a specific group of individuals who, due to their life experience or brain
 chemistry, are able to recognize and respond to emergency situations more appropriately and
 efficiently¹
- Field of survival psychology identified three phenomena for explanation: incredulity response, normalcy bias, and confirmation bias¹
 - people tend to ignore or minimize new circumstances or perceptions when these do not fit with their normal life experiences¹
- confidence, open-mindedness, and flexibility will aid in possibly achieving mentality of those with a prepared \min^1

Finding Alternative Concepts

• Literature suggests a better suitable concept, the 'Secure, Preserve, Fight' concept, as a response concept to active shootings in hospitals⁵



https://zeroeyes.com/active-shooter-training-how-to-strengthen-your-security-with-tips-from-former-navy-seals/

DISCUSSION

- Limited data on the overall effectiveness of the 'Run, Hide, Fight' concept, and all the current data is not targeted to hospitals
- The 'Secure, Preserve, Fight' concept not only addresses the flaws of the 'Run, Hide, Fight' concept, but also addresses the ethical dilemma that healthcare professionals may face⁵
- While patient safety is a priority for healthcare professionals, personal safety is paramount⁴
 - Healthcare professionals should be allowed to accept significant, but not disproportionate, risks when performing their role⁴
- healthcare institutions should be involved in ensuring both the patient's and their employee's safety⁴

CONCLUSION

The effectiveness of the 'Run, Hide, Fight' concept in hospitals is questionable. The 'Secure, Preserve, Fight' concept was found to be designed more specifically for hospitals and closes the gaps on the flaws in the 'Run, Hide, Fight' concept.

REFERENCES

- . Adelman, S. A., 2016, Journal of the Entertainment Technology Industry
- 2. Cassidy, K. A., 2019, Encyclopedia of Security and Emergency Management, https://doi.org/10.1007/978-3-319-69891-5_21-1
- 3. Darais, M., 2015, Retrieved from Theses & Dissertations 56
- 4. Giwa et al., 2020, Academic Emergency Medicine, https://doi.org/10.1111/acem.13912
- 5. Inaba et al., 2018, N. Engl. J. Med., https://doi.org/10.1056/NEJMms1800582
- 6. Lee, J.Y., 2019, Purdue University

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