The Effectiveness of Educational Training and Simulation on Readiness to Respond to a Traumatic Event

Dr. Riah Hoffman
Shannon Dusack
Dr. Johanna Boothby
Lauren Succheralli
Dr. Daniel Puhlman
Background

• With the incidence of shootings at schools, campuses, and in the community continuing to rise, education needs to be implemented and protocols developed for handling these situations.
Background: Simulation

• Nursing students lack experiences that provide them with the opportunity to respond to a multiple victim scenario. In a study conducted by Kaplan and Ura (2010), 69% of the participants indicated that using a multiple patient simulation increased their understanding of prioritizing and delegating care.

• Using standardized patients rather than high fidelity simulators or mannequins with nursing students add behavioral and emotional realism to the simulation (Sideras, McKenzie, Noone, Markle, Frazier, & Sullivan, 2013).
Purpose

The purpose of this project is to enhance emergency readiness with the use of education and a multiple standardized patient shooter simulation scenario.
Research Questions

• How does providing an educational video enhance participant’s readiness to respond to an emergency situation?
• How does the addition of a simulated experience after education further enhance the participant’s readiness to respond?
Participants

• Senior level baccalaureate nursing students in a community health course (n=95).
• Child development and family relations students (n=24).
Methods

• IRB approval/Research Incentive Grant
• Mixed method
• Students completed a survey prior to start of the experience, after viewing the educational video, and after participating in the standardized patient simulation scenario.
• Participants rated their perceived level of readiness and anxiety (1-10 scale) at all 3 intervals and also completed open ended questions at all 3 intervals.
Interventions

- **Educational Video**: communication and prioritization of care during a traumatic event
- **Standardized Multiple Patient Shooter Simulation**: multiple trauma (4 gunshot wound patients-head, chest, arm, and leg) and medical patients (9 month pregnant patient in labor and a patient with PTSD with anxiety) and family members at the scene of a mass shooting in a community grocery store and then care transferred to an emergency room with crisis center
Photos of the Standardized Simulation
Quantitative Results (Nursing n=95)

After Viewing Video:

• **Readiness**: 61% readiness increased, 5% readiness decreased and 34% readiness stayed the same

• **Anxiety**: 11% anxiety increased, 43% anxiety decreased and 46% anxiety stayed the same
Quantitative Results (Nursing n=95)

After the Standardized Patient Simulation:

• **Readiness:** 77% readiness increased, 9% readiness decreased and 14% readiness stayed the same

• **Anxiety:** 62% anxiety increased, 21% readiness decreased and 17% stayed the same
Qualitative Results (Nursing n=95)

Themes at the Beginning of the Experience:

*Concerns:

- **Anxiety/Overwhelming**: “I fear not knowing what to do”, “I feel overwhelmed with anxiety”
- **Lack of training**: “Not knowing what to do if I did not have the proper training”
- **Prioritization**: “I fear not knowing how to prioritize correctly”, “Not choosing the highest priority patient”, “Inability to accurately triage”
Qualitative Results (Nursing n=95)

Themes After Viewing the Video:

*Concerns:*

- **Prioritization/Triage:** “Not knowing which patients might be more critical”
- **Lack of Equipment/Supplies:** “Not having the help or extra people and not enough equipment”
Qualitative Results (Nursing n=95)

Themes After Viewing the Video:

*Strengths:*
- **Calmness:** “Remaining calm”, “Keeping others calm”, “I feel that I can stay calm for the most part”
- **Assessment Skills:** “I feel like I am able to do a quick assessment”
- **Communication:** “I feel able to provide assistance and therapeutic communication to the victims”
Qualitative Results (Nursing n=95)

Themes After Viewing the Video:

*How video enhanced readiness:

• Enhanced knowledge: “Helpful to know a rating system”, “Aiding in learning tips to prioritize patients and the tagging system”
Qualitative (Nursing n=95)

Themes After the Standardized Patient Simulation:

*Reactions:

- **Chaotic**: “It was hard to concentrate with all the yelling”, “It was hectic and rushed”
- **Intimidating**: “Deer in headlights”
- **Realistic**: “The patients were very realistic”, “Helped me prepare for the real thing”, “The actors were realistic”
Qualitative Results (Nursing n=95)

Themes After the Standardized Patient Simulation:

*How simulation enhanced readiness:

- **Critical Thinking:** “It challenged us to think critically and prioritize in the case of a shooter/disaster situation with minimal resources like it would in that situation”
- **Prioritization:** “You have to be able to work under a high amount of stress and be able to prioritize”, “It helped me to identify the multiple components of a triage situation”
Qualitative (Nursing n=95)

Themes After the Standardized Patient Simulation:

*Concerns:

- Preparation: “I am nervous about messing up”, “Technical skills”, “Concern with having enough people to provide help”, “Handling the stress”, “Not having tools available that you would use in the hospital”, “It would be beneficial to have more training”
Strengths

• Exposed students to a realistic multiple patient traumatic event and increased their readiness to respond in a traumatic event.
• Assisted students with critical thinking, prioritization, delegation, collaboration, and management of care.
Limitations

- **Equipment:** Received small grant to purchase equipment and moulage materials; however, with larger grant funding could purchase more equipment and moulage to make more realistic and a more mass scale simulation.
- **Resources:** Could incorporate more disciplines into the simulation more specifically in ER setting such as physicians, respiratory therapy, EMS.
Implications

• This realistic standardized patient simulation can be used to enhance readiness:
• Educate students across multiple disciplines (ex: nursing, respiratory, family relations, criminology, physicians, physician assistants)
• Development of workshops including the simulation to prepare those in the community for a traumatic event (ex: hospitals, schools, colleges/universities, community venues)
• Expand to conduct a mass causality incident
References

• Facebook-IUP College of Health and Human Services-video with additional pictures of the shooter simulation
