

Stop the Bleed Training's Effects on Preclinical Medical Students' Confidence and Willingness to Intervene in a Hemorrhage Situation

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Gun violence and emergency situations require hemorrhage control.

- With increasing incidents of gun violence in many different settings, the need for people to be educated in hemorrhage control is ever increasing.

Hemorrhagic bleeding is one of the leading causes of death in trauma patients and some cases can be prevented using hemorrhage control techniques.^{1, 2}

Medical students are a unique group that can gain these basic life support skills and assist until help arrives.

- Medical students in their preclinical years who have undergone Stop the Bleed training have reported increased comfort in applying a tourniquet, more confidence in packing wounds, and more confidence in knowing how to apply direct pressure to stop bleeding, according to Marsh et al., 2022.³

Implementation of Stop the Bleed into the medical school curriculum

- Since 2016, the New Jersey Medical School (NJMS) has required Stop the Bleed training for medical students and has implemented this in the form of a 4-year longitudinal program.⁴

Rural Medicine in Arkansas

- Arkansas has a large rural population meaning there are fewer medical professionals per county.⁵
- Knowledge of hemorrhage control techniques could be lifesaving in situations where medical and surgical intervention are not readily available.

Materials and Methods

This course was hosted in collaboration with the Army Medical Recruiters from Little Rock, Arkansas and NYITCOM-AR ACOS-MSS chapter.

Likert Survey

- Questions assessed the confidence and willingness of students to intervene during a hemorrhage situation before and after they took the Stop the Bleed training course.

- Please scan the QR code to view the questions used on the pre- and post-course surveys.



Pre-clinical medical student participation

- 60 NYITCOM-AR students were invited to participate, 30 from the class of 2025 and 2026.
- 52 attended and filled out the presurvey and 39 filled out the post survey.

Statistical Analyses

We are interested in the difference between the pre- and post-course survey data.

- We are also interested in differences based on gender, education, class, age, prior Bcon course status, and prior First Aid course status.

- 50 pre-course surveys and 33 post-course surveys were used in our data analysis.

We used regression models to explore the patterns found in the data.

Results

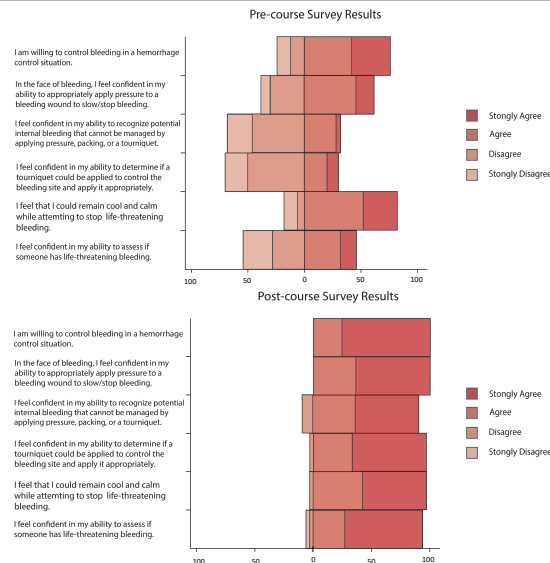


Figure 1. Visual representation of the results from the Likert surveys.

Ordinal Logistic and Logistic Regression Results and Interpretation

Survey Question	Males were ___ times more likely compared to females
PRE-SURVEY: I feel that I could remain cool and calm while attempting to stop life threatening bleeding.	4.07 (p<0.037)
POST-SURVEY: I feel confident in my ability to determine if a tourniquet could be applied to control the bleeding site and apply it appropriately.	2.07
POST-SURVEY: I feel confident in my ability to recognize potential internal bleeding that cannot be managed by applying pressure, packing, or tourniquet.	2.38
POST-SURVEY: In the face of bleeding, I feel confident in my ability to appropriately apply pressure to a bleeding wound to slow/stop bleeding.	2.29
Survey Question	Students who have completed first aid training were ___ times more likely compared to students who have not
PRE-SURVEY: I feel confident in my ability to determine if a tourniquet could be applied to control the bleeding site and apply it appropriately.	20.8 (p<0.0011)
Survey Question	Second year students were ___ times more likely compared to first year students
PRE-SURVEY: I feel confident in my ability to assess if someone has life threatening bleeding.	4.43 (p<0.03)
POST-SURVEY: I feel confident in my ability to determine if a tourniquet could be applied to control the bleeding site and apply it appropriately.	2.02
POST-SURVEY: In the face of bleeding, I feel confident in my ability to appropriately apply pressure to a bleeding wound to slow/stop bleeding.	2.56



Figure 2. Images of first and second year medical students learning and practicing hemorrhage control techniques.

Discussion

First and second year medical students self-reported higher confidence and willingness after receiving Stop the Bleed training.

- A longitudinal and more extensive Stop the Bleed course should be strongly considered for implementation into the current NYITCOM-AR curriculum.
- This addition would enhance and better prepare students to assist in hemorrhage control situations, for their clinical rotations, and for their future career.

Current Gap in the Literature

- There is a gap in the literature of an agreed upon retention rate for this course.
- We aim to continue this study with preclinical students during our summer course that NYITCOM-AR second years will be taking in July 2023 using the same pre- and post-course surveys.

The Stop the Bleed training course, created by the American College of Surgeons, is a valuable tool in equipping both medical professionals and laypeople with skills to assist during an emergency. We seek a more integrated and extensive Stop the Bleed program than what is currently offered to preclinical NYITCOM-AR medical students.

References and Acknowledgments

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