Stop the Bleed: Preparing Bystanders to Manage Life-Threatening Hemorrhage

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**Original Publication Citation**


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Do you know what to do if you encounter someone with life-threatening bleeding? Accidents can happen at home, on the road, or in the workplace; it is important to know how to act quickly with the appropriate supplies needed to save a life.

Traumatic injuries cause more than five million deaths annually (WHO, 2014). The leading cause of preventable death after trauma is uncontrolled bleeding that could be treated with swift intervention by bystanders and first responders (Jacobs, 2013). Exsanguination can occur in less than a minute; therefore, it is important to stop blood loss quickly.

Nursing students at Old Dominion University (ODU) used a Marilyn Bagwell Leadership Development Grant to offer Stop the Bleed® (STB) training and to distribute emergency supplies to course participants throughout Virginia.

STB is a national awareness campaign inspiring grassroots effort to encourage bystanders to become trained, equipped, and empowered to help in a bleeding emergency (Department of Homeland Security, 2018). STB courses represent “best practice” recommendations in the management of life-threatening hemorrhage from extremity injuries (American College of Surgeons, 2019). One goal of STB is to reduce the number of patient deaths due to blood loss by 20% within five years (Roissaint, 2013).

The STB training program includes didactic and hands-on components. Didactic content consists of a standardized, prescriptive PowerPoint presentation provided at no-cost to instructors (American College of Surgeons, 2020). Trainers demonstrate proper tourniquet application and bleeding control measures at designated stopping points throughout the presentation. Learners are then paired in a 5:1 ratio with trainers to practice and return demonstrate bleeding control techniques.

**Old Dominion University Project Overview**

The STB initiative at ODU began as a community service project in 2017 and was expanded in 2019 with a Marilyn Bagwell Leadership Development Grant funded by the Foundation of the National Student Nurses’ Association (FNSNA). The grant provided senior-level nursing students the opportunity to develop leadership skills by collaborating with community partners to plan and implement STB courses. The $2,500 award directly supported supplies needed to respond to a bleeding control emergency.

Using grant funds, we purchased supplies and created 200 kits consisting of a combat application tourniquet, hemostatic gauze, scissors, gloves, a sharpie, and a 4” x 6” diagram demonstrating proper use of each piece of equipment. Though previous students provided the STB training, course participants were not equipped with the resources to manage hemorrhage once they left the classroom. This year, armed with the new kits, course participants are now equipped with the knowledge and resources necessary to save a life, thus increasing the likelihood of action in the instance of casualty.
Do you know what to do if you encounter someone with life-threatening bleeding? Accidents can happen at home, on the road, or in the workplace; it is important to know how to act quickly with the appropriate supplies needed to save a life.

The leading cause of preventable death after trauma is uncontrolled bleeding that could be treated with swift intervention by bystanders and first responders.
Two faculty members and 15 nursing students provided STB training to more than 200 learners in 2019 alone. Over a period of three years, we have trained nearly 400 people at multiple sites throughout our community. Course participants include faculty, staff, and students on two ODU campuses as well as students, teachers, and nurses at local high schools in our area.

Two senior nursing students assumed the leadership role for this initiative and provided oversight and coordination of all STB activities. Teaching teams were developed and included both junior- and senior-year students. Juniors were intentionally recruited to allow for continuity of the project. Teaching teams practiced content delivery, provided a sample training session for nursing faculty, and incorporated feedback to improve course delivery.

The ultimate leadership and training venture occurred when the team was accepted to conduct STB courses for nursing students and faculty at the Virginia Nursing Students’ Association (VSNA) annual conference. During the planning phase, team leaders recruited and trained SNA colleagues and identified who would participate as course leaders. That group then attended a STB training held by a Virginia Beach paramedic to witness the course delivered from a different perspective. In 10 class sessions offered during the one-day conference, 97 students and faculty from 12 nursing programs across the state received STB training and bleeding control kits.

**Evaluation of Training**

The effectiveness of our training sessions was evaluated by asking participants at the VSNA conference to complete pretest and posttest training evaluation tools. Participant feedback was extremely positive. After the training session, students reported that they were more confident in their ability to recognize life-threatening bleeding and more knowledgeable in the appropriate ways to stop bleeding. On a scale of 0-100, self-reported knowledge scores increased by 46 points from 45 to 91 and self-reported confidence scores increased by 36 points from 51 to 87. Participants valued the hands-on training, citing that they were significantly more confident in their skills to be able to respond appropriately to a life-threatening bleeding emergency. Self-reported scores for ability to correctly use a tourniquet increased from 39 to 90 and for use of hemostatic gauze increased from 35 to 89 on the 100-point scale.

Feedback on the overall program presentation was positive as well. All 97 participants agreed or strongly agreed that the learning objectives were met, the content was presented clearly, and the training will be beneficial to them in their professional roles. Anecdotal comments highlighted the hands-on demonstrations and ample time for skills practice as the most valuable parts of the course. Having the knowledge, confidence, and supplies to intervene in an emergency prior to EMS arrival was noted to be the greatest impact of the training. As one student commended, “I walked out feeling prepared to help someone in need.”

The overall impact to the ODU SNA has also been positive. STB training at multiple learning sites to various audiences, including pre-nursing students enrolled in our Health Sciences Learning Community, greatly increased the visibility and credibility of the ODU SNA which directly impacted our membership. Attendance at the annual VSNA conference was notably higher this year. Two ODU students were elected to leadership positions at the state level, and we are delighted that ODU has been selected to host the conference in the future.

**Project Impact and Sustainability**

The ODU SNA’s STB initiative supports the 2018 NSNA resolution #5: Support of Expanding Nursing Student Certification in Bleeding Control through training programs. SNA leaders served as certified instructors and training program coordinators for multiple STB courses offered on campus and in the community. The project allowed us to distribute 200 STB kits at our school and across the state.

Furthermore, the STB initiative strengthened the leadership skills of the student co-coordinators as well as all the students who participated as trainers. The coordinators identified and contacted community organizations, scheduled courses, coordinated with the site and faculty trainers, and trained peers to deliver content. Upon course completion, the student leaders logged data from training rosters on the STB organization website and provided completion certificates to participants. The co-leaders worked with faculty to develop the pre- and post-tests and teaching evaluation forms, as well as to evaluate the data.

Student leaders also planned for program sustainability inside and outside of ODU. Junior students at ODU are poised to continue training updates during the next academic year and will recruit members in the incoming nursing class. SNA fundraisers can be designated for the purchase of STB kits for new participants. Each participant at the VSNA convention received an ODU-created STB “How To” flyer and supply list to enable them to conduct similar courses at their institutions.
Thanks to the Marilyn Bagwell Leadership Development Grant award, the ODU SNA’s Stop the Bleed® program has made a considerable impact on and off campus. STB kits have been placed with automated external defibrillators (AEDs) in offices at the campus where the school of nursing is housed. Although we hope never to need them, it is reassuring to know that we are prepared and have the tools that we will need if disaster strikes.

References


Janice E. Hawkins, PhD, RN, is a Clinical Associate Professor at Old Dominion University and faculty advisor for the ODU Student Nurses Association. She is also a Stop the Bleed instructor.

Heather Kilian, BSN, recently graduated from Old Dominion University. She is a U.S. Navy Veteran and mother who has pursued her passion of pediatrics. She currently works on the hematology/oncology floor at the Children’s Hospital of The King’s Daughters.

Brandon Sparrer, BSN, RN is a recent graduate from Old Dominion University’s School of Nursing. He served as a Stop the Bleed facilitator and educator for Old Dominion University’s program chapter’s student nurses association. Currently, he works as a staff RN on a cardiac intermediate care unit that cares for patients throughout the east coast of the U.S.

Lynn L. Wiles, PhD, RN, CEN, is an Associate Professor and the Undergraduate Program Director in the School of Nursing at Old Dominion University. She maintains clinical practice and specialty certification in Emergency Nursing and is a Stop the Bleed instructor.

Attention: Faculty Advisors and School Presidents:

The 2021 application for the 3M™ Littmann® Stethoscope Leadership Development Grant, and Marilyn Bagwell Leadership Development Grant is available. Deadline to apply is Monday, March 15, 2021.

These grants are for official NSNA school chapters (established for a minimum of one (1) year) that seek to foster the development of leadership skills in nursing students. One grant of up to $2,500 will be awarded to two (2) official NSNA school chapters that wish to enhance involvement in NSNA to develop leadership skills among nursing students at the school level. The recipient schools will be recognized at the NSNA Annual Convention during the Opening Ceremony.

A faculty advisor from the nursing program must apply for the grant. Individual students are not eligible to apply. Schools can apply for both grants. However, only one grant will be awarded to one school. The recipient of the 3M™ Littmann® Stethoscope Leadership Development Grant will also receive a limited supply of stethoscopes in addition to the grant funding from 3M™ Littmann® Stethoscope.

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