Scubs Addressing the Firearm Epidemic: A Novel Multidisciplinary Elective for Preclinical Students

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Purpose: In the United States, firearm-related injuries claim over 100 lives daily. Lately, physicians have taken a leading role in advocating for public health strategies, policy change, and increased research funding to address the firearm epidemic. However, rates of physician counseling on firearm safety remain low, with lack of knowledge a known barrier. Currently, few institutions offer a formal curriculum on the firearm epidemic. We developed and evaluated an elective curriculum on firearm injury, violence, and the role of health care providers in preventing and addressing this epidemic.

Approach/Methods: We developed an 8-week curriculum using educational priorities determined by a panel of national experts. Eight content-area experts from across the United States led the following sessions: Intro to Firearm Violence in the United States; Physician and Community Advocacy; Public Health Approach to Gun Violence; Preventing Mass Shootings and Targeted Violence; Trauma Teams and Procedures; Suicide and Firearm Counseling; Firearm Research and Physician Advocacy; and Survivor Panel Within a Hospital-Based Violence Intervention Program. The course was delivered via Zoom in Fall 2020. Our evaluation used a mixed-methods approach: developing and disseminating a pre–post quantitative survey to assess course impact on knowledge and self-efficacy by priority and conducting a postcourse focus group. Quantitative survey questions used 1–5 Likert scale responses and were analyzed with paired t tests. Qualitative results were grouped by theme using independent inductive thematic analysis by 2 investigators.

Results/Outcomes: Twenty-eight students participated in at least 1 session, with a regular attendance of 6. Twenty-one students responded to the precourse survey, and 7 responded to the postcourse survey, with 5 students completing both surveys. The postcourse focus group included 5 students and 3 investigators. Students reported heightened understanding of the epidemiology of firearm injury in the United States (pre = 1.76 to post = 3.71, P < .0001) and the physical and mental health sequelae of firearm injury (1.67 to 3.43, P < .0001). Students felt more equipped to discuss this topic with peers (1.43 to 3.43, P < .0001) and patients (1.48 to 4.0, P < .0001). Students were more likely to agree that physicians should screen patients for firearm access (4.19 to 5, P = .0075), and felt more confident about providing specific safe storage and use advice (1.43 to 2.86, P = .0003). Students felt more familiar with legal and ethical requirements for physicians if patients screen positive for firearm access (1.24 to 3.29, P < .0001) and reported a greater understanding of firearm laws in California (1.24 to 2.71, P < .0001). Students felt more familiar with forms of physician advocacy (2.19 to 3.86, P = .0002). Students’ perceptions on the importance of firearm education in medical school curriculum also improved (4.52 to 5, P = .0432). Subanalysis of the 5 students who completed both precourse and postcourse surveys did not have significantly different results. The postcourse focus group highlighted several key themes: increased motivation to incorporate patient counseling and advocacy as well as utility of spiraled learning and repetition of statistics throughout the course. Participants expressed a desire for more interactive content and opportunities for peer-to-peer engagement during the sessions.

Discussion: A multidisciplinary, longitudinal curriculum on the firearm epidemic in the United States increased student knowledge and self-efficacy in key educational priority areas. While this course was a supplemental elective, our results showed that an evidence-based firearm education is feasible and impactful for preclinical students. The remote learning format necessitated by the COVID-19 pandemic presented unique benefits and challenges: we were able to engage experts from across the United States but were limited in facilitating peer and instructor interaction.

Significance: Firearm curriculum in early medical training has the potential to impact patient care through building knowledge and skills to advocate for evidence-based policy and counsel patients on firearm safety.

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References


Advantages of a Combination Cut Score Method for Basic Science Assessment

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Purpose: Per the medical education research literature, there remains no gold standard for determining medical education exam cut scores (passing scores). Most U.S. medical schools use an absolute or relative standard method; each has advantages and limitations. Given the diverse goals schools strive to accomplish when administering exams, neither approach is sufficient. For example, in Phase 1 of our basic science curriculum, we endeavor to develop exams that are valid, reliable, appropriately rigorous, and criterion-referenced; prepare students for the high-stakes testing situations.