Canadian Medical Education Journal
Revue canadienne de l'éducation médicale

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Cite this document

Article abstract

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You Should Try This!

Teaching mindfulness-based stress management techniques to medical learners through simulation

L'enseignement de techniques de gestion du stress basées sur la pleine conscience aux étudiants en médecine par le biais de simulations

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Implication Statement

Acutely traumatic clinical events can exacerbate stress and burnout amongst healthcare providers. The Simulated Training for Resilience in Various Environments (STRIVE) course may provide a useful framework for medical educators to teach stress management skills to promote resilience amongst physician trainees. The course introduces the Big Four+ techniques (goal setting, visualization, self-talk, progressive muscular relaxation, attention control and tactical breathing) created by the Canadian Armed Forces using clinical scenarios. This framework can be easily adapted across other training contexts to equip future clinicians with a foundational skill set to optimize their response and recovery following critically stressful incidents.

Énoncé des implications de la recherche

Un événement clinique très traumatisant peut exacerber le stress et l'épuisement professionnel vécus par les soignants. Le cours « *Simulated Training for Resilience in Various Environments* » ou STRIVE (formation par simulation pour développer la résilience dans divers environnements) offre un cadre utile aux enseignants en médecine pour initier les apprenants aux stratégies de gestion du stress afin de renforcer leur résilience. Le cours présente, à l'aide de scénarios cliniques, les principales techniques (les « *Big Four+* ») créées par les Forces armées canadiennes, à savoir la fixation d'objectifs, la visualisation, le dialogue intérieur, la relaxation musculaire progressive, le contrôle de l'attention et la respiration tactique. Ce cadre peut être facilement adapté à d'autres contextes de formation afin de doter les futurs cliniciens d'un ensemble de compétences fondamentales pour optimiser leur capacité de réaction et de rétablissement face à un incident particulièrement stressant.

Introduction

The prevalence of burnout in medicine raises concerns about organizational culture and patient safety.[1]

Medical students work in demanding clinical environments and encounter stressful situations, including witnessing death, ethical challenges, and adverse outcomes related to medical errors.[2] Lack of effective stress management training may limit trainee abilities to cope effectively, and further exacerbate stress, depression, fatigue and burnout.[3] Resilience –the ability of an individual to recover from stressful circumstances–is essential for healthcare providers to be able to thrive in clinical environments. Mindfulness training in medicine has been shown to reduce stress and burnout, as well as improve empathy and patient outcomes.[4]

The STRIVE course

The Simulated Training for Resilience in Various Environments (STRIVE) course was developed by the lead author (SS) to teach mindfulness-based stress management techniques to medical students. The primary aim was to help medical students develop a tool kit of resiliency skills to effectively cope with acute stress during

training and promote recovery after traumatic events. SS led the conceptualization of STRIVE based on the Canadian Armed Forces' Road to Mental Readiness resiliency program and incorporated simulated scenarios specific to the context of healthcare. Participants attend a two-hour lecture covering the physiology of stress, the Big 4+ resiliency skills (e.g., goal setting, visualization, self-talk, progressive muscular relaxation, attention control and tactical breathing), the mental health continuum, and debriefing techniques.[5] Materials are available from the primary author upon request. Participants then complete three simulations that use high fidelity mannequins, standardized patients and/or role-playing scenarios intended to elicit stress related to morally or ethically challenging situations, conflicts or stressful events (e.g., couple conflict about medical abortion, medical assistance in dying, mistreatment in the workplace, traumatically injured child). Trained instructors facilitated all scenarios and led a debriefing session focused on further discussing the use of the Big 4+ skills for future practice. Three iterations have been completed to date with a total of 89 medical students. This study received ethical approval by the University of Calgary Conjoint Health Research Ethics Board (File #18-1027). All participants provided written informed consent to their participation in this evaluation.

Preliminary evaluation of STRIVE

To explore the potential impact of STRIVE, our team used a repeated measures design to collect data prior to STRIVE (pre), immediately following STRIVE (post), and 3-months later (retention). The survey consisted of two scales. The first scale comprised four questions developed de novo that queried participants about their ability to identify early signs of burnout, support peers, find resources, and teach peers about resiliency techniques. The second scale included four items from the Connor-Davidson Resilience Scale (CD-RISC) which asked participants about their ability to: adapt when change occurs; bounce back after illness, injury, or hardships; to turn for help during times of stress or crisis; and to stay focused and think clearly under pressure.[6,7] We also included additional items in the post-course survey to collect feedback for program evaluation and improvement purposes.

Approximately fifty percent ($N = 41$) of students completed all three surveys. Following STRIVE, medical students were more confident in their stress management skills, and these changes were sustained following the program [$F_{(2,120)} = 34.2$, $p < 0.001$]. There were no significant differences in CD-RISC scores [$F_{(2,120)} = 0.614$, $p = 0.54$]. Participants were satisfied with the course, commenting on the relevance of the skills and the benefit of the simulations, which provided the opportunity to practice the Big 4+ and manage stressful situations.
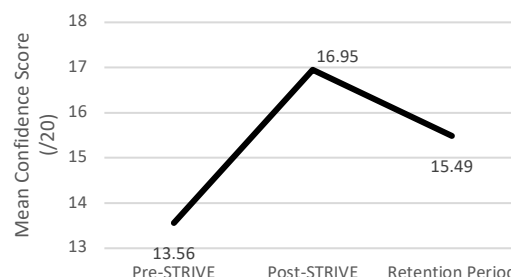

Figure 1. Comparison of confidence in stress management skills following STRIVE
Improvements in confidence were statistically significant and sustained during the retention period
Note: Cronbach's alpha = 0.70 (internal consistency), suggesting reliability evidence for these items

Conclusions

The STRIVE initiative aims to prepare participants to thrive in stressful clinical situations. As medical learners continue to train in high-stress environments, teaching mindfulness-based stress management techniques through simulation early in their training may cultivate confidence in managing morally and ethically challenging clinical encounters and potentially mitigate the burden of acutely stressful events on learner well-being.

Conflicts of interest: The authors have no conflicts of interest to declare.

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