An International Collaboration to Enhance Learning About Military Veterans and Post-Traumatic Stress: Creating Virtual Simulation Games

CAN Sim
Canadian Alliance of Nurse Educators Using Simulation ©

TEXAS A&M UNIVERSITY CORPUS CHRISTI | COLLEGE OF NURSING & HEALTH SCIENCES

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Abstract

A new, international collaboration between nurse researchers in Canada and the United States, and active duty military personnel was created to share innovative teaching methods in the creation of two virtual simulation games (VSG). Scripts, decision points, and objectives for two PTSD scenarios were developed during an afternoon session and filming was completed the following day. Using Go-Pro cameras and iPads, the VSG scenes were filmed from the viewpoint of the nurse to facilitate student immersion into the role of the nurse. While participating in the VSG, students come to decision points where they are required to select their response to the presented patient situation. Once a decision has been made, students see the result of their choice, whether correct or not the best selection, receiving immediate feedback for right-on-time learning.

Introduction

- Simulation faculty & staff at Texas A&M University – Corpus Christi (TAMUCC) collaborated with members of the Canadian Alliance of Nurse Educators Using Simulation (CAN-Sim) to create two virtual simulation games (VSG) focused on educating baccalaureate nursing students on the care of military personnel experiencing post-traumatic stress disorder (PTSD)

- This generation of nurses will be caring for active-duty and retired military personnel that have been in combat from Operation Enduring Freedom (OEF 2001-2014), Operation Iraqi Freedom (OIF 2003-2011) through the current War on Terror

- Current PTSD stats for OEF & OIF are noted to be 11-20% and felt to be largely underreported

- Post-traumatic stress not often covered in current nursing curriculum – this was a gap in our program's content knowledge now covered by the new VSGs
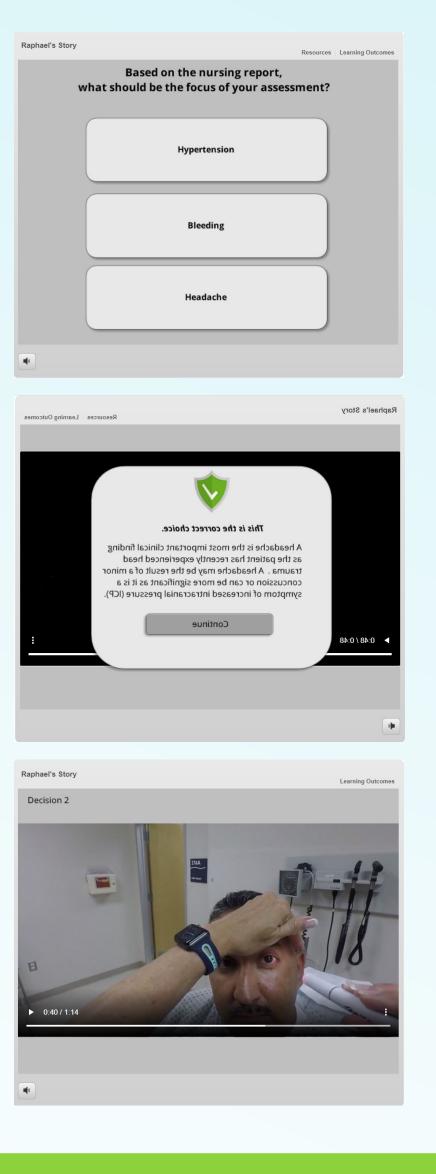

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VSG Development

1. Scenario selection based on learning needs/gaps in curriculum
2. Development of learning outcomes & assessment rubrics
3. Decision point mapping and writing of rationales
4. Script writing for screen actors
5. Filming of each scene and decision points
6. Video editing
7. Creation of VSG using interactive software
8. Publication of game to students and faculty

Virtual simulation games are made up of video clips filmed from the perspective of a nurse interacting with a patient using a Go-Pro camera. At regular intervals, learners must select the best of three or four potential nursing actions in response to the given situation. Following selection of the correct or incorrect response, learners are provided with immediate feedback and can see how their choices impact the patient situation.

Post-Traumatic Stress Virtual Simulation Game Decision Point Map

Decision Point	Scene Description	Question	Response 1	Response 2	Response 3
1	Pt in ER setting post-MVA (ran red light as trigger of PTSD) Pt agitated, c/o HA, restless, avoiding eye-contact Nurse does vs 150/92, 118, 22, sat 98%, Pain	Based on your focused assessment, what is the priority?	Headache	Hypertension *a single BP does not diagnose HTN	Bleeding
2	Nurse conducts neuro assessment (including GCS, MAE x4, AAO x4, PERLA) Pt agitated, restless, & avoidant, c/o lights & noise AAO x4, Pupils 4mm & reactive, MAE x4	What findings require additional assessment?	Restlessness & Agitation	Pupils 2mm & reactive	GCS of 14
3	There's a loud noise in the ER, Nurse turns to check out noise, then turns to find patient on floor. Nurse asks if patient is ok, then…… RN finds pt on floor after loud noise	What priority information should the nurse ask the pt now?	Did you serve in the military?	Are you having pain?	Did you fall?
4	Wife comes in, asks if he ran red light again; Pt doesn't want to disclose info about hx	What is the nurse's best response?	Acknowledge & encourage disclosure	Support pt's wishes for non-disclosure	Encourage wife to disclose information
5	Patient begins to disclose hx; RN "have you ever sought help with this before?" Nurse asks about accident – was it purposeful or accident? Was this an attempt to self-harm? Patient says no. Patient discusses increasing stress at home (script on whiteboard) – notes toddler & new baby, marital stress, work stress, war experiences, accident fear - "What's next?" After pt's speech	Which pt concern requires priority action?	Risk of harm to self & family	Risk for traumatic brain injury	Family & spousal relationship
6	Nurse then asks pt & wife questions re: mental health Questions from tools & response to indicate low level risk of suicide. Nurse asks permission to refer pt Nurse determines low level risk of suicide	What is the nurse's next priority response?	Is it ok for me to ask the social worker to see you right now?	Here's the number to social work. You can make an appointment	Can we make a verbal contract that you won't harm yourself?
	Nurse call social work to make referral for patient (script of phone call) Nurse says the social worker will be right down. Patient & wife say thank you – wife reiterates that patient needs help to keep everyone in the family safe				

Lessons Learned

- Students are hungry for innovative learning methods they can control and use on their schedule
- Educators are equally eager to provide meaningful and easily accessible learning opportunities for students
- Creation of VSGs allows faculty to control the content and objectives, making the game contextually relevant to learner needs
- Student feedback consistently mentions the active learning, immediate feedback with rationales, and ease of use as extremely useful and fun to complete
- VSGs highlight the high-impact, low-frequency care situations they may not see in clinical
- VSGs easily accessed by students on a variety of technology, including smartphones, tablets, laptops, and desktop computers
- Having faculty input for content is important to meet learning needs for students

Application and Conclusions

- VSGs can be used as pre-simulation activities, in-class learning, or virtual simulations when clinical space unavailable
- Within each game, resources are available highlighting lesson objectives, potential grading rubrics for educators, additional readings for students, and directed reflection questions
- Multiple triggers of PTSD have been identified – childhood trauma, personal trauma and loss, violence – either through personal experience or even witnessing the event
- Nurses often the first contact with patients who are suffering from PTSD but often lack training and education on dealing with it
- VSG development can be done on low-level budgets using current technology available including smartphones
- Students can view and participate in the VSG repeatedly, and on their own time/schedule
- With closures that came due to COVID-19, the use of VSGs became essential to meeting learning outcomes and clinical experiences for students

Acknowledgments