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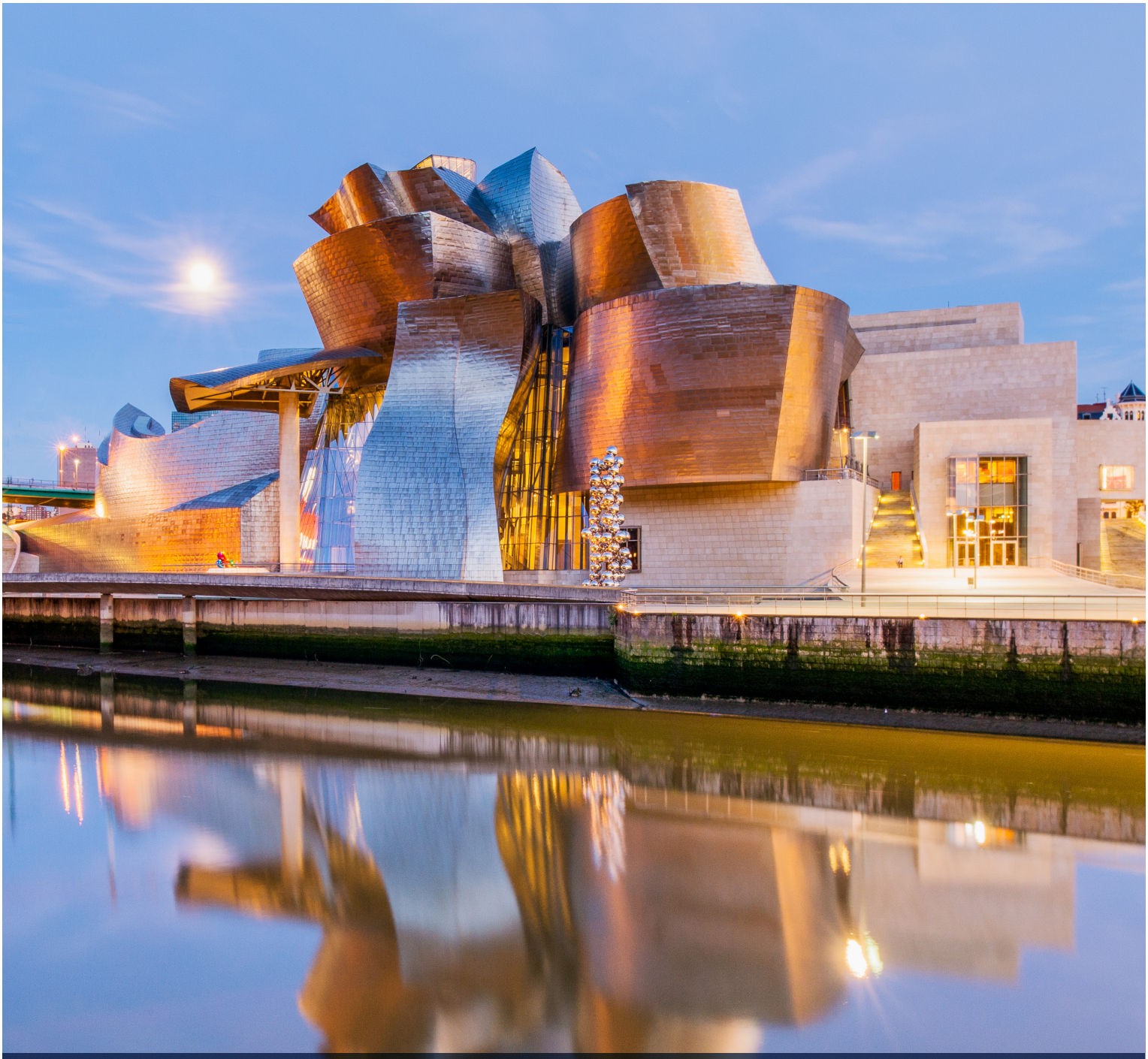

ABSTRACT BOOK

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PROMOTING SIMULATION IN MEDICAL EDUCATION
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SOCIEDAD ESPAÑOLA DE SIMULACIÓN CLÍNICA Y SEGURIDAD DEL PACIENTE

A pulmonary-focused simulation-based curriculum for Doctor of Pharmacy students

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

A patient in the ICU is suffering from a protracted asthma exacerbation that is not responding to standard treatment. What drug will be most effective for reversing airway resistance and improving the patient's oxygenation? How should the drug be administered? As the practice of pharmacy has expanded beyond drug compounding and dispensing advanced practice pharmacists have become a crucial resource for critical care clinicians and patients. As such, pharmacy students must have sufficient opportunity to apply critical care therapeutics in realistic circumstances. Our primary aim was to develop a pulmonary-focused simulation-based curriculum to better prepare our students for the challenges of treating critical care patients.

Description

We developed this curriculum using the TestChest by AQAI coupled with a 3G simulator by Laerdal. Our decision to develop this curriculum was based upon several factors including the renewed scientific interest of inhalation-based therapeutics as well as improved understanding of the factors that govern effectiveness of inhalation-based therapeutics. These factors have led to an increase in use of inhalation-based therapeutics in highly complex patients on either continuous non-invasive ventilation (NIV) or standard mechanical ventilation (MV). Despite widespread clinical use, recent publications have documented persistent gaps of knowledge that may lead to improper administration and limited efficacy of inhalation-based therapeutics. Our curriculum was designed to close this knowledge gap by creating an opportunity for students to achieve the following objectives:

- Identify factors that govern effectiveness of inhalation-based therapeutics
- Identify and apply variables that improve efficacy of inhaled therapeutics
- Demonstrate techniques that improve efficacy of inhaled therapeutics
- Administer an inhalation based treatment to a select patient (simulated patient will be randomly assigned and will be maintained on either continuous non-invasive ventilation (NIV) or standard mechanical ventilation (MV))

Discussion

In summary, inhalation-based therapeutics and associated delivery systems are complex. We believe that properly educated critical-care pharmacists could optimize inhaled therapeutics potentially improving patient outcomes. New inhalation-based drug formulations and adjunctive delivery devices are entering the healthcare landscape at a rapid pace. The use of inhalation-based therapeutics will continue to expand creating a greater need for related education for all critical care clinicians. While designed for pharmacy students, we believe our unique curriculum offers an attractive and realistic platform that can be readily adapted for medical or nursing students to put their advancing body of knowledge into practice.

A simulation-based intervention to improve non-technical skills in obstetric surgical teams in a secondary level maternity hospital in South Africa

Format: Accepted for Poster Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

Perioperative causes of morbidity and mortality form a significant proportion of the unacceptably high maternal and foetal death rates in South Africa. Poor non-technical skills within surgical teams are associated with poor performance but formal team-based non-technical skills training is not offered in this country. We propose a pilot to investigate the feasibility and impact of a simulation-based intervention to improve obstetric surgical team non-technical skills performance as a prelude to further measurement of its effect on patient outcomes and widespread roll-out.
The primary outcome measured will be the impact of the intervention on non-technical skills performance in the simulated surgical environment. Secondary outcomes will include learner and facilitator experience, feasibility, and sustainability.

Methods

Local ethics board approval has been obtained for a prospective, quasi-experimental, before-and-after design to be deployed targeting the operating theatre staff at a secondary level obstetric hospital in Cape Town, South Africa. Preliminary ethnographic data describing current non-technical skills behaviour in theatre (in analysis phase at present) will inform the intervention design and data collection will proceed from January – April 2018. A low-technology patient-simulator will be deployed in weekly in-situ simulated scenarios of obstetric crises with inter-disciplinary teams as targets. Patient safety attitudes will be assessed pre-intervention with a questionnaire and team performance in the simulated scenarios will be evaluated using the Oxford non-technical skills rating system. Team performance and patient safety attitudes will be re-assessed at the end of the 4-month period and compared for change. Further qualitative data exploring learner and facilitator experience will be gathered using semi-structured interviews analysed thematically.

Results & Discussion

Preliminary ethnographic data suggest significant contextual challenges to patient safety such as significant language barriers within teams. We hope the simulation-based in-situ interventions will provide exposure to impactful non-technical skills training, but will also facilitate shared learning experiences for members of the inter-disciplinary team that seldom train together. If sustainability can be demonstrated, this will inform the roll-out of future interventions to other surgical teams within Cape Town and to a wide network of hospitals in Southern Africa where the investigators have already established relationships.

Advocating technology enhanced learning to improve systems: Assessing staff competency and efficiency using mobile phones in clinical practice through simulation-based in-situ evaluation.

Format: Accepted for Poster Presentation
Subject: Patient Safety / Quality Improvement

Authors

Peter Mallett	Clinical Fellow in Education & Simulation
Carol Junk	APNP, RBHSC
Jennifer Wallace	Paediatric Registrar, RBHSC
Andrew Thompson	Consultant Paediatrician, RBHSC

Introduction & Aims

The use of mobile devices by Healthcare professionals has transformed many aspects of clinical practice.1
In our unit, management are currently reluctant to advocate the staff use of mobile phones due to the risks associated with interference of medical equipment, infection control concerns, and reported parental complaints.
Mobile devices provide a multitude of benefits for clinical staff including increased access to useful apps such as drug-dose calculators, and other validated point-of-care tools, which are of high educational value and have been shown to support better clinical decision making and improved patient outcomes.2

Description

We designed a survey assessing parental and staff perception on the use of mobile phones, using a five point Likert scale. 40 staff and 40 carers participated.

We then designed two clinical simulated scenario's assessing administrator and prescriber performance for healthcare professionals. We assessed length of time to complete task and degree of accuracy. Scenario 1 participants were prohibited from using mobile phones. Subsequently, participants were granted access to mobile phones for assistance in Scenario 2.

38/40 (95%) parents surveyed felt that healthcare professionals should be allowed to use mobile technology in a clinical environment. Similarly, of the 40 staff members surveyed, 39/40 (97%) felt access to mobile phones for clinical reasons was appropriate.

For the drug administration simulated scenario (performed by 10 nursing staff), all participants were quicker using mobile phone for assistance. The average length of time was 1 minute 22 seconds quicker. Task accuracy was maintained at 100% with and without mobile phone use.
For the prescriber simulated scenario (performed by 9 medics and 1 non-medical prescriber), again all participants were quicker using mobile phone aide, with an average length of 1 minute 26 seconds quicker. Accuracy of 100% was maintained in both cohorts.

Discussion

Despite previous suggestions of parental concerns, this survey highlights the strong carer support for healthcare professionals appropriately using mobile phones in clinical areas within this unit. Staff members were similarly keen for

the use of mobile technology to aid their practice .
Through the use of In-situ simulated clinical prescribing and administration scenarios, we have demonstrated an improvement in efficiency of performing clinical tasks with the assistance of mobile phones, ensuring accuracy was maintained.
We plan to negotiate with senior hospital management team, using this initiative as evidence, in a bid to demonstrate that the appropriate use of mobile phones in a clinical setting promotes well-informed, safety-conscious, technology-assisted effective clinical care.

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After action review: Bridging the gap

Format: Accepted for Poster Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

Simulation is a tool that is widely used in a variety of settings to teach both technical and non technical skills. There has been evidence of the minimal impact that increased fidelity has on the transfer of learning (Ref1). We noted that there were many examples of similar learning points which could be gained within the normal working day.

Our team covers a general paediatric caseload within a specialist paediatric hospital. Our patients can vary from an average of 50 to over 100 spread across up to 15 wards and is made up of 30 people of differing experience and with variable training needs.

Our aim was to introduce a tool to enable us to learn from daily events.

Description

We introduced the concept of 'A brief 5 minute' board (fig 1). We paired this with the use of the After Action Review (AAR) model of debrief as a daily debriefing tool to maximise learning. Initially this was only done on alternate weeks and showed improvements in learning events, perceived situational awareness and team morale. We subsequently established it as a business as usual capturing data on team preparedness and learning following the debrief. Themes for learning were largely centred around communication both within the team and with parents, team organisation and planning and feedback with regard to wider process issues. We are further adapting it in response to feedback.

Discussion

After action review provides a mechanism for debriefing around both non-technical skills, systems and processes and teamwork. It provides a forum to discuss factors influencing the effectiveness of an individual and a team in a safe environment. AAR is a tool developed by the military and used across a variety of disciplines. Within the UK health service it has been championed for use following incidents both positive and negative (Ref 2). We have found that within our team, its daily use bridges the gap between learning from incidents or excellence at an extreme towards learning from the daily events. These learning points within human factors or systems processes could easily constitute one hole in the swiss cheese model of adverse events.

We would like to thank Dr Phil Debenham and the AAR training team at University College London.

Ref1: Norman G, Dore K, Grierson L;The minimal relationship between simulation fidelity and transfer of learning; Medical Education May 2012
Ref 2: Dr Claire Gerada: Trust me, I'm a leader NHS Confederation 2013

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An investigation of paramedic students' confidence in and satisfaction with clinical simulations of an Emergency Medical Care programme in South Africa

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

In South Africa, the pre-hospital field has various levels of practitioners who provide help to the sick or critically ill or injured persons. Historically, South Africa had three levels of short care courses: Basic Ambulance Assistant (BAA)-a-three weeks' course, Ambulance Emergency Attended (AEA)-a-six weeks' course and Critical Care Assistant (CCA) a-six-month course
The Universities of Technology and Further Education and Training (FET) colleges in South Africa are the only institutions of learning that can offer these courses. As part of the Emergency Medical Care programme, students are exposed extensively to clinical simulations events before engaging with real patients. These simulations events are usually used for teaching new skills or as an assessment tool to establish if students are ready for clinical practice on real patients.
Currently, in South Africa, many health science programmes are using simulations as a teaching and learning tool. But there is limited research on the use of standard measurement tools to assess the benefits of simulation in relation to paramedic students' self-confidence toward proficiencies and satisfaction with simulation experiences. The study aims to describe paramedic student's self-confidence in and satisfaction with simulations of an Emergency Medical Care programme in South Africa.

Description

There is currently limited research on the use of standard measurement tools to assess the benefits of simulation in relation to paramedic students' self-confidence, proficiencies and satisfaction with simulation experiences in South Africa . This study would add to the body of knowledge in this subject area. Its outcome will assist paramedic educators in constructing or developing effective learning environments, which in turn will enhance the success rate of paramedic students in the context of achievement of learning outcomes, and enhancement of skills and knowledge of simulation.
This study will be utilizing the National League for Nursing simulation framework developed by Jeffries. The framework is based on constructivism, which is consistent with adult learning theories. Constructivism is an active approach that places students at the centre of the learning environment and respects their needs, strategies, and styles, which emphasis on integrated and conceptual learning.

Discussion

The researcher has completed data collection and will have results at the conference.

Analysis of the educational impact with the use of simulation in the triage process

Format: Accepted for Poster Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

The first contact of the patients with health professionals at the hospital in Emergency Services corresponds to nurses. What we know as a triage, tends to define as reception, wellcome and classification. Nurses who carry out this assessment must have the competencies to priorize and order the patients effectively based on their problems, manifestation, human responses and neeeds, expressed by the patient and family, and adapt them to the structure of the Emergency service. training plays a key role in the adquisition of these competencies. This study designs, implements and analyses a training intervention where the clinical simulation is used to see if this action improves the nursing competencies in triage and the triage process.

AIM: Analyze the use of the simulation in the training of the triage nurses.

Methods

- Study carried out during the months of January-November 2016.
- Design and analysis of a training intervention for nursing triage using the clinical simulation with clinical scenarios, focal groups and observation. A pre-test and post-test about clinical cases in triage is administered to determine the level of knowledge on triage and an evaluation questionnaire of competences (COM_VA). Place: Emergency service of Hospital Verge de la Cinta Tortosa (HTVC).

Results & Discussion

The training intervention was effective because it improves the level of professional competence, the time of attention to the triage and the whole triage process in general. The time of entry vs. triage was reduced from 12.41 minutes to 9.88 minutes. We also improved the times in handover . There are significant post-formation differences in aspects such as: the adjustment of the level of triage ($p < 0.001$), the information on the team ($p < 0.001$), the patient ($p < 0.0001$), the evaluation of nursing competencies ($p < 0.004$) as well as levels of professional postformational stress ($p < 0.0001$). All the participants have valued the intervention positively.

Ansiedad percibida por los alumnos de enfermeria que participan en los escenarios de simulación compleja en la asignatura de cuidados criticos

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Authors

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Juan Luis Gonzalez Pascual	Universidad Europea de Madrid

Introduction & Aims

Medir el nivel de ansiedad estado de los alumnos matriculados en el grado en enfermería que participan en escenarios de simulación compleja.

Methods

Diseño: Estudio descriptivo observacional.
Población: Todos los estudiantes matriculados en la asignatura de Cuidados en Situaciones Críticas en la Universidad Europea de Madrid. Durante el curso 15-16 N=42.
Intervención: Se realizaron dos escenarios de simulación compleja con una semana de separación. La recogida de datos se realizó entre febrero y marzo del 2016.
Variables de estudio: nivel de ansiedad, sexo, experiencia laboral en el ámbito sanitario.
Instrumentos de media:
Edad, sexo y experiencia laboral en el ámbito sanitario mediante cuestionario ad-hoc.
El nivel de ansiedad medida mediante el cuestionario de Ansiedad Estado/Rasgo (STAI) adaptado al español y validado por Spielberger.
Aspectos éticos; el estudio fue aprobado por la Comisión de investigación de la Facultad de ciencias biomédicas y de la salud de la Universidad Europea de Madrid

Results & Discussion

De los 48 estudiantes matriculados en la asignatura de Cuidados en Situaciones Críticas de tercero, se incluyeron 42 estudiantes, con una edad media (±DE) de 29.43±9.13 años, el 69.05% fueron mujeres (Edad media±DE:28.79±8.64 años) y el 45.24% tenían experiencia en el ámbito de la salud (Edad media±DE:36.63±8.43 años).
Los valores obtenidos fueron los siguientes; ansiedad estado basal 7.56 ± 1.29, ansiedad estado tras el primer escenario 7.88 ± 1.47y la ansiedad estado tras el segundo escenario7.81 ± 1.93

Autopercepción de las competencias del alumno del grado de medicina antes y después de una sesión de simulación

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Authors

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Diego Palacios Castañeda	Médico
Ignacio Pujol Varela	Médico
Alonso Mateos Rodríguez	Médico
Fernando Caballero Martinez	Médico
Diana Monge Martín	Médico
Sophia Denizon Arranz	Médico
Emilio Cervera Barba	Médico

Introduction & Aims

La simulación clínica es una herramienta docente a la que se le está dando mucha importancia en los últimos años. El impacto que esta tiene sobre los objetivos que se plantean en los escenarios se puede medir de muchas formas. Objetivo Analizar si existe una relación entre la autopercepción y los diferentes momentos de participación de un alumno del grado de medicina en una jornada práctica de simulación clínica.

Methods

Las variables estudiadas fueron la autopercepción sobre adquisición de destrezas que se midió con una escala tipo Likert, siendo 1 el menor valor y 6 el máximo valor. Para la determinación de esta variable se realizó un cuestionario ad hoc basado en las competencias entrenadas y evaluadas en la asignatura de Estancias clínica I, cuyo contenido es la medicina de urgencias y emergencias, realizándose preguntas sobre la percepción que el estudiante tenía de haberlas adquirido. Esos cuestionarios se entregaron al alumno en diferentes momentos del proceso de la simulación, es decir, desde antes de que el alumno acudiera al centro de simulación, a una vez que el alumno en su casa, visionaba el vídeo y cumplimentaba el checklist que acompañaba al vídeo del escenario en el que había participado.
Las preguntas formuladas eran sobre el nivel del competencia del alumno al hora de hacer:
1.Una historia clínica
2.Exploración física
3.Indicación de pruebas analíticas
4.Interpretarlas
5.Indicación de pruebas de imagen y de electrofisiología
6.Interpretarlas
7.Diagnóstico diferencial
8.Manejo general de la patología urgente
9.Trabajo en equipo

El análisis estadístico se realizó mediante el paquete estadístico SPSS, utilizándose Test no paramétricos, como la prueba de Wilcoxon de los rangos con signo de muestras relacionadas.

Results & Discussion

Del total de 104 alumnos a los que se entregaron los diferentes cuestionarios, solo se tomaron en cuenta los datos de los 86 (82,7%) que contestaron a todos los cuestionarios.
En relación con la autopercepción sobre las diferentes competencias sobre las que se preguntaba al alumno, antes y después de participar en una experiencia clínica simulada, se ha producido un incremento en la percepción que los alumnos tienen a la hora de asistir a un paciente con patología urgente.
A la vista de los resultados, creemos que la participación del alumno del grado de medicina, en una experiencia clínica simulada, es muy recomendable para obtener las competencias necesarias para atender a un paciente con patología urgente.

By the students, for the students: Undergraduate-designed high-fidelity simulation

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Authors

Luke Cox University of West London

Introduction & Aims

Simulation-Based Education (SBE) helps prepare nurses for practice. In the UK SBE increasingly replaces time in clinical practice. Yet assessment using high-fidelity simulation is rare at this learning level.
The University of West London's (UWL) innovative module allows students to design, run and debrief simulated scenarios. Crucially, the scenario's creators are assessed on their design and the learning in the debrief, rather than participants being assessed on clinical performance.

This presentation shares the learning from this experience. Students can effectively take part in high-fidelity simulation at this level, and are best-placed to understand the student experience in practice. They value this module for its level of interaction with the educational experience, as they design and develop content for their own benefit.

Description

In 'Advancing Nursing Practice' pre-registration nursing students form small groups (typically 3-6 students). These groups design simulated clinical scenarios depicting the acute deterioration of a patient or service user. Over subsequent weeks students plan the scenario; liaise with simulation technicians to operate simulation equipment; develop the 'embedded' roles required in the scenario; and run the scenario for the benefit of students from other groups on the module. Experienced faculty guide them in developing scenarios to reflect clinical reality. Students develop debriefing skills, providing feedback to participants. A final enactment of the scenario is assessed: Rather than assessing the participants on their performance, the students who designed the scenario are assessed, based on the realism of the scenario, the clinical picture it presents, and the degree to which meaningful learning results from the debrief.

This oral presentation consists of a description of the module and its aims, alongside supporting vignettes from students and video footage of the scenarios they have designed. The oral discussion will explore the implications for this new form of learning.

Discussion

This module raises important discussion points. One aspect is the extent to which engagement of students is secured. 'The Flipped Classroom' is a mantra of university curricula in the UK but often exists in name only. Involving students in simulation creates learner-led content. How students debrief each other is also relevant: they study several methods with an emphasis placed on 'good judgement' debriefing not 'judgemental' feedback. This presentation may appeal to educators in all clinical fields who use simulation as a tool at undergraduate level: all could use similar approaches to their advantage.

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Cardiac arrest in pregnancy. Are we prepared to follow the guidelines?

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

OSCAR MARTINEZ-PEREZ — OBSTETRICIAN.PUERTA DE HIERRO UNIVERSITY HOSPITAL

Introduction & Aims

Cardiac arrest during pregnancy is a rare event, with a currently reported incidence of 0.02 per 1,000 deliveries (95% confidence interval 0.01 to 0.06) or 1:50,000 deliveries.
The key intervention to save the mother and her infant is perimortem Cesarean delivery (PMCD), defined as a Cesarean delivery after cardiopulmonary resuscitation (CPR) has been initiated.

We wanted to know what is the opinions and experience of the nurses and doctors who work in the Madrid prehospital department advanced life support ambulances about the management of a cardiac arrest in a pregnant woman

Description

Puerta de Hierro Obstetrical Simulation Team is a multiprofessional team that includes midwives, obstetricians and anaesthesiologists.

For the last 4 years we‘ve been organizing Obstetric Emergencies courses; for pre hospital Health care workers .

We also designed a survey for the workers of the Madrid Emergency Ambulance Service to evaluate their general knowledge of obstetric emergency management, and passed it before they attended an Obstetric Emergency course that we offered them. The survey was conducted anonymously using a Google doc electronic survey and was completed by 63 participants (57% nurses- 43% doctors).

SURVEY

Do you feel confident with Maternal code resuscitation manoeuvres ?
63 answers. 47/63 (74,6%) of the learners who are working daily in a ambulance have never been trained in maternal code.

Have you been specifically trained in maternal Code resuscitation in the past?

63 answers. 45/63 (71,4%) of the learners who are working daily in a ambulance have never been trained in maternal code

Dou you know how to detect if a woman is pregnant with more than 20 weeks during a Maternal Code?

63 answers. 21/63 33,3% of the learners who are working in pre hospital services did not know how to estimate a gestational age > 20 weeks in a code

During a maternal code . Would you perform a Perimortem C Section (PMCS) if necessary?

63 answers.13/28 (46,4%) of the physicians who are working daily in an ambulance would not know how to perform a PeriMortem Cesarean Section if necessary.

Discussion

The Maternal code resuscitation guideline requires that the care provider manage a critical situation that most of the Emergency Service workers, had never experienced during training.

Emergency Service workers don’t receive training in maternal code that takes into consideration the Peri Mortem C Section option.

Multi professional training is highly recommended for all types of pre hospital obstetrical emergencies.

Clinical interviews and feedback with standardizes patients undertaken by 3rd year medical students

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

Tutors hospital referred that students on 3ed year of Medical School undertook hospital practices without sufficient knowledge of how to perform and write a clinical history.
The aim of these workshops is to improve training in preparation and drafting of a clinical history in our 3rd year students before they begin their clerkship. To carry this out we started identifying the difficulties they had with their own simulation experiences.

Description

This activity was taken with 120 students of 3rd year of Medical School. It consists of 3 meetings in which they performe a medical history (anamnesis and physical examination) with a standardized patient during 15 minutes. This interview is recorded. At the end of the meeting they have other 15 minutes to write down the clinical history. Subsequently, the students display individually their video and complete a self-assessment (in checklist format) of their own performance and of the written history.
A few days later, a 2 h feedback session takes place in groups of 20 students. In small groups, first the students analyze the strengths and difficulties that they have identified during the clinical interview. Subsequently all the group discusses the:
1. General perception of the encounter with type of questions as: What were you concerned about before the interview was started?

2. Interview review. We addressed questions such as: What went great? What things have you forgotten or have not addressed well? Why? How do you think that you can solve these problems?
3. Written clinical history. What important things you have not filled in the medical history? Why you think this data was missed? How do you think this missed information could affect the patient?
4. What possible improvements could be considered for the next patient?

Discussion

To work with standardized patients is very powerful in this point of their learning pathway. Students practice three times the structure and writing of medical history, which greatly facilitates their immersion in clinical practice. These meetings also generate awareness and motivation for communicative aspects that help to introduce this subject in a more practical and close manner to them. The evaluations shown progress as the students realize the importance of self-reflexion to enhance their learning. Throughout the three encounters progress was detected in the evolution of items filled in the check-list recorded.

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Clinical simulation in nursing degree to work patient safety in blood products transfusions

Format: Accepted for Poster Presentation
Subject: Patient Safety / Quality Improvement

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Introduction & Aims

Clinical simulation is a learning method that allows working diverse healthcare situations in a safe and ideal environment to reflect and to revise the own actions. During nursing studies, students have to perform many hours of clinical practice, which in some, there is the need to assure that their inexperience do not damage patients safety. In this way, the evidence shows that simulation is useful in the development of professional competences related to blood products transfusions. In this work, the design of a simulation scenario is suggested to work patient safety when doing a blood product transfusion, for students enrolled in the subject of Nursing Care for Health Problems in the 3rd course of the Nursing degree.

Description

A simulation scenario has been designed taking into account the competences and learning outcomes included in nursing degree. The scenario includes techniques, knowledge and attitude skills related to nursing care during transfusion process. The scenario allows working aspects of patient safety before, during and after transfusions, such as: patient identification, data verification, hand washing, appropriate use of gloves, ABO group check, accidental punctures, measures in adverse reactions, and others. Working groups of 6-7 students, individually have to solve different moments of the blood products transfusion.

Discussion

The patient safety during transfusions, is mainly worked in nurses already inserted in the labor market, allowing to establish preventive measures in blood transfusion management processes. The incidence of some factors such as erroneous transfusions, such as 1/12.000 in Catalonia in 2015, and the lack of proper identification (21.7%) demonstrate the need of working on these aspects, from the beginning of the nursing training process.
Simulation is useful for students to train aspects of patient safety during transfusions, and enables to be aware of prevention and risk measures. Simulated scenarios make easier for students to get used with these blood transfusion management processes, and learn to respond facing adverse situations in a safe environment. In this controlled

environment students can solve doubts, insecurities and anxieties that arise during transfusions. Simulation facilitates students to achieve a better integration of the professional competencies, during the clinical practices.
To assess the main outcome of the study, information demonstrating students' degree of knowledge on patient safety will be collected during the simulation.

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SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

Competences acquisition in nursing students for the management of critical patients

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

There are usual clinical situations in the critical patient care that require rapid and immediate interventions by the nursing staff. Clinical simulation has proved to be a useful methodology for students to integrate theoretical concepts in practice and, in turn, to learn from their mistakes before exposing real patients in their clinical placements. The main aims of the study were to evaluate student satisfaction with clinical simulation; as well as to analyse the main advantages of clinical simulation identified by nursing students.

Description

Nine simulated clinical cases were designed representing the most common situations in the critical patient care: critical patient admission in the intensive care unit and a multiple trauma patient admission in the emergency unit, management of respiratory failure acute, cardiac arrhythmias, hypertensive crisis, hypovolemic shock, acute coronary syndrome, seizures and intracranial hypertension. The simulated clinical cases were recorded and a debriefing session was conducted with the students. Subsequently, and after obtaining their informed consent, the students completed a questionnaire to evaluate their satisfaction with clinical simulation. This questionnaire consisted of 20 items with a 5-point response scale (1 = "strongly disagree" to 5 = "strongly agree"). A total of 108 third-year nursing students participated in the study.

Discussion

The most of the participating students (92%) were very satisfied with the experience of working with clinical simulation. The main advantages of the clinical simulation identified by the students were:
•Objective tool to evaluate learning process.
•Improvement of nurse competence.
•Integration between theory and the practice.
•Verbal feedback and constructive criticism through debriefing.
•Improvement of technical skills.
•Development of critical reasoning and decision-making.
•Increase of safety and confidence.
•Motivation to learn.
•Improvement in the prioritization of nursing interventions.
•Empowerment of communication and teamwork.
•Realism.
In conclusion, clinical simulation is an ideal tool for the acquisition of competencies and skills in nursing students for the

management of critical patients.

Creating a scenario to assist the patient in a severe preeclampsia situation

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

Simulation replicates clinical experiences in an interactive, immersive and reflective way. Simulation is being increasingly used as a form of training. In healthcare, simulation is an arrangement that portrays aspects that are paramount in a clinical setting where, in the event of a similar real life situation in clinical practice, it could be managed successfully. Objective: to describe the experience of creating a scenario to assist the patient in a severe preeclampsia situation.

Description

Descriptive study, experience report about the creation of a scenario for maternal-infant simulation in nursing, with the purpose of promoting nursing care for serious parturients. The scenario was developed in a nursing undergraduate course at the University of Brasília-Brazil. Four professors with clinical experience participated in the creation and revision of the scenario applied to nursing students. The established objective for the simulation was that the nurse could provide proper assistance to the parturient in a timely manner. In order to choose the manikin, it was necessary to assemble the case beforehand to identify the answers that would be presented by the parturient (mannequin), choosing a high fidelity manikin that could simulate the delivery process until the expulsive period. The scenario was based on an Obstetric Center. It was established that the scenario would last approximately 15 to 20 minutes and classified as highly complex. After presentation of the clinical scenario, the participants were asked to start the patient assistance. The clinical case elaborated was: "Pregnant woman G1P0A0, 35 weeks + 5 days, arrives at the Emergency Room complaining of headache and dizziness. The patient reports a seizure at home. Physical examination: Uterine dynamics 4 out of 10 (45 sec, 50 sec, 55 sec and 60 sec). At vaginal touch, total dilatation was observed. Lower limbs oedema was observed (4 + / 4 +) and BP 160 x 110 mmHg".

Discussion

Simulation must take place in a realistic scenario, being conducted through the case presentation to the participants. Through situation analysis, the student needs to perform interventions and in turn the manikin should present the expected response. In the scenario, the situations must mimic reality and include as many factors as possible. Clinical scenarios should offer students and nurse practitioners a semblance of reality.

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Crisis resource managemant as an elective course for medical students

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Grzegorz Cebula	Department of Anesthesiology and Intensive Care UJ CM

Introduction & Aims

During the curriculum of medical education in Poland there is not enough focus put on Crisis Resource Management and team work approach.
We came up with an elective course for undergraduates which allows them to work on many CRM issues such as situation awareness, fixation error etc.

Description

The course was introduced in 2013. It consists of 5 meetings, each of them is 5 hours long.
The scenarios that we use have been carefully prepared and the course has been desinged to for students to learn as many CRM principles as possible in such sort time.
At the beginning only 16 students applied for this course. In the following year it was 32, it reached the maximum number of 48 students (as of yet) in 2016/17.
This year we managed to intoduce the course to the nursing department so the teams involved in scenarios would be mixed (future doctors and nurses).

Discussion

In our opinion there is a need among the undergraduates to learn CRM principles because they are aware that there will be many stressful emergency situations as long as the team work involved in their future career.
Simulation allows for structured and systematic teaching of the CRM principles through established curriculum and set objectives. It may even be best to organise high fidelity simulation objectives around CRM principles.

CT to groin: Are we going somewhere by moving faster?

Format: Accepted for Poster Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

Stroke is the most common serious neurological disease, with significant mortality and morbidity. Early treatment is crucial in order to increase the likelihood of a good clinical outcome, as “Time is Brain”. Mechanical thrombectomy (MT) is recommended as a treatment for patients with acute ischaemic stroke due to large vessel occlusion(1)■.
MT presents unique challenges as it requires interdisciplinary team collaboration. It necessitates precise and coordinated work, communication and interaction with the patient, relatives and among teams under pressure in order to reach safe and timely decision making.
Since July 2016, St. George’s Hospital (SGH) is the only centre in UK providing MT on 24/7 basis. In this period we have identified a number of factors in our work systems that affect professional processes and potentially patient outcomes.
We aimed to explore ways to: a) improve patient flow and safety, b) strengthen professional well-being, and (c) enhance organisational efficiency and performance.

Description

The MT pathway is an example of a complex social technical system. It involves at least seven different ad-hoc professional teams from stroke diagnosis to the safe transfer of the patient to the angiography suite for the procedure. All these professional teams try to interact with equipment, technology, other teams and adhere to policies and guidelines. These interactions combined with time pressure contribute to tensions, conflict of individual tasks, adaptations and bottlenecks(2)■.
We used a mixed methods approach to gather data: focus groups, interviews, mobile in-situ simulation and hospital data and drew on conceptual models from human factors, ergonomics and activity theory to organise and interpret our findings.

Discussion

Bridging the tools of conceptual analysis and everyday shop floor practice by mirroring with staff the tensions between “work as imagined” and “work as done”, we managed to identify opportunities for redesign along the MT pathway and for educational interventions(3)■. The in-situ mobile simulation was proven a valuable tool for probing system responses as

well as identifying models of on-going simulation-based training.

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3. Engeström Y, Virkkunen J, Helle M, Pihlaja J, Poikela R. The Change Laboratory as a Tool for Transforming Work. Lifelong Learn Eur. 1996;1(2):10-17.

Curriculum development of basic clinical interview skills in third-year medical students based on simulation techniques.

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

The subject of Clinical Methods I provides 3rd year students of the Degree in Medicine with the necessary knowledge and skills to establish a professional relationship with the patient during the clinical interview, being able to better sense what is happening to them and provide an effective support. By the end of this course, the students will be able to: A) Make a complete clinical history. B) Establish a traditional medical anamnesis with a patient-centered communicational style. C) Conduct a systematic physical exploration, interpreting its meaning. D) Perform and interpret several complementary tests.

Description

The formative activities include theoretical classes, using active and highly participatory methodologies (28 hours, for groups up to 60 students per classroom); practical seminars in the simulation classroom to practice different physical examination techniques (24 hours, in groups of up to 15 students per classroom); work with simulated patients with video recording of the interviews (each student will perform three 15-minutes interviews, and will write the clinical history afterwards) and feed-back seminars to review the work with the simulated patients (6 hours with each group of up to 30 students).

Discussion

The clinical interview provides a scenario where the student has a direct experience of reality, represented by the patient, the doctor and those who are present at the interview. Through experiential learning, simulation provides

exposure to a situation that is unique and essential in medical practice. The work with standardized patients allows students to develop essential skills to collect the basic information needed to begin the clinical reasoning. In this person-centered diagnosis approach, it is as important to understand the disease as understanding the person who suffers it and how he or she suffers it. The emphasis of the subject lies on the process of making contact with the patient’s reality and in the collection of relevant information from the clinical point of view.

Designing a new in situ train the trainers course

Format: Accepted for Poster Presentation
Subject: Faculty Development

Authors

Andrew Blackmore	Hull Institute of Learning and Simulation
Dave Wright	Hull Institute of Learning and Simulation

Introduction & Aims

In situ simulation allows teams to train in their own clinical environment and systems to be tested. It presents different challenges for the facilitator and the technical team. We designed a train the trainers programme specifically for in situ simulation.

Description

We already run an established “Train the Trainers in Simulation” (TTT) course at our institution. We identified a need for an in situ specific train the trainers course, to meet both educational and quality improvement demands.
Our first consideration was whether the course should be a discrete comprehensive training package, or function as a top-up to our standard TTT. There was concern that repetition of the simulation based education pedagogy would be unnecessary for the majority of the target audience (who would have done our TTT course). We settled on a refresher at the start to cover core material for novices and included the educational theory in pre-course material.
The programme includes interactive presentations and small group work in the morning; focusing on technical considerations, safety issues affecting in situ simulation and the identification and management of latent threats. The candidates then divide into two groups to each design an in situ simulation. The brief is to devise a scenario suitable for the other group. There is flexibility of learning outcomes, simulation modality and debriefing techniques.
In the afternoon the candidates run their scenarios in our emergency department. Each group is responsible for prebriefing, running their scenario and debriefing their candidates.
As an alternative to the afternoon session, we considered delivering a half day course, with the candidates setting up individual in situ sessions in their usual clinical environment, at a later date. These would then be observed by an experienced member of our faculty, who would provide feedback, in order to complete the course. We decided to keep the course as a complete one day package, as feedback suggested that the observed session may have lower uptake than a full day self-contained course.

Discussion

In designing the new in situ train the trainers course, we considered what it was that made in situ simulation different and made that the focus of our course. The sessions on technical considerations, safety issues and latent threats prepare candidates for these key differences. Running an in situ simulation as part of the course allows the candidates to apply the knowledge gained throughout the day.

Designing simulation scenarios in undergraduate physiotherapy education: guidelines for educators

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

There is a tendency towards population ageing which implies having to deal with pluripathological patients (Dean et al, 2011; 2014). Higher degree studies should implement methodologies that favor the acquisition of competencies to deal with these problems safely prior to contact with real patients. Likewise, the influence of new technologies and innovation are changing both the educational process and models (Blackstock et al, 2013).
Simulation is considered to be a good methodology to train competencies in safe environments (Cook, 2013). In the context of physiotherapy, there is a lack of knowledge regarding the use of these methods during undergraduate studies. Furthermore, few studies have focused on the design of specific cases regarding physiotherapy competencies either in the Spanish context or internationally. Below, we describe the basic minimum criteria for the application of this methodology in simulation, based on the model described and approved by the International Nursing Association for Clinical Simulation and Learning (INACSL).

Description

In total, 12 physiotherapy simulation cases were designed and implemented between 2015 and 2017 at Faculty of Health Sciences at Manresa, University of Vic – Central University of Catalonia. A basic sequence of steps to follow was created (see table 1) to organize the simulation process used in the Physiotherapy Degree. The following aspects were considered: the students' level of knowledge (from inexperienced to beginners, according to Benner), the competencies to be developed (from more horizontal to more specific), and the subjects where the cases were developed (a strategic selection in agreement with the concept of clinical reasoning according to Jones, 2004). In turn, this sequence was divided into 3 stages to enable focusing and centering the aims according to the competencies developed. This study followed the good practice standards as described by the team lead by Lioce (2015) at the INACSL.

Discussion

The organization of the process underpinning the design of the case simulations was specifically conducted so that this process be highly coordinated. This facilitated the experts in simulation to be able to deeply know the potential

participants of the training action as well as the specific needs linked to the training. At the same time, the experts participated in the design to provide their expertise and to improve the experience with rich objectives, adapted to the learning needs of the degree students.

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Developing a novel internal medicine simulation case for OSCE

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Authors

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Teemu Masalin	University of Helsinki, Faculty of Medicine
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Introduction & Aims

All medical students must pass an OSCE before graduating at the University of Helsinki Faculty of Medicine. Candidates go through a series of stations in which they examine and treat standardized patients. In the internal medicine station, we use a patient simulator with simulation cases designed specifically for the OSCE. Our objective is to develop a new case for the OSCE every year.

The duration of the OSCE is typically 4-5 days with 6-8 different cases rotating. The cases must be adequately tested and verified beforehand. Therefore, we chose a strategy to create a new case into the OSCE retake exam with a smaller number of participants. The latest new simulation case was developed for the OSCE retake in November 2017.

Description

The development of a new OSCE case involves a lengthy process which starts with the selection of the subject area not covered by existing simulation cases. Second step includes the search for a suitable patient case which forms the framework for the simulation case. The selection is based on doctor's experience, patient history, and discussions with colleagues. The case must also match to the defined learning outcomes of the students.

For the November 2017 OSCE retake, six different cases were evaluated until the final selection. Criteria included suitable level of difficulty, clear enough clinical status and vital parameters. Demonstrative ECG printouts, x-ray imaging and lab results were selected. Special care was taken to remove all the data that might lead to the identification of patients. All the materials were combined into the simulation case and the patient simulator mannequin was programmed. Finally, the scenario was tested comprehensively, and adjustments were made accordingly.

Discussion

Developing a novel simulation patient case requires time, collaboration and a suitable patient case. In addition the simulated patient case must be built in a way that the measured learning outcomes are clearly distinguishable. It is essential to constantly re-evaluate the cases and observe results from the OSCE.

It is challenging to assess the level of difficulty of a novel simulation case and therefore it is practical to introduce the novel case in the OSCE retake. The decision to take the new simulation case into the final OSCE is based on the fellow teacher feedback, passing rates and observations of the student performance during the OSCE retake. Our goal is to build an extensive bank of simulation patient cases in order to offer wide selection of cases.

Developing NI Paediatric regional teaching curriculum and enhancing educational experience in trainees: Targeted technical skills simulated teaching programme for RCPCH core procedures.

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

Acute Paediatrics is a stimulating and challenging training programme coordinated by the Royal College of Paediatrics and Child Health (RCPCH). The College provides a comprehensive curriculum for trainees during these years. In Level 1 Training (ST1-3), there are a number of core practical procedures trainees are expected to perform prior to progression to Level 2 training. These skills include Neonatal Intubation, Lumbar Puncture (LP) and Intraosseous (IO) Access.1

Often it may be difficult for trainees to gain significant experience in these skills and achieving competence can be challenging. Reasons for this include lack of opportunity, lack of experience, and low procedural confidence. The RCPCH advocates the delivery of Simulation and Technology Enhanced Learning (TEL) including in the area of technical skills training.2

By initiating a targeted technical skills simulation training day, we aimed to increase exposure and confidence to core college procedures for junior paediatric trainees.

Methods

We created a simulated core procedure training day for Level 1 Regional Training targeted specifically at 3 core procedures. We surveyed Paediatric ST1-3 trainees about previous experience, previous teaching and confidence levels with these skills.

Results & Discussion

24 ST1-3 trainees were surveyed. Prior to the teaching, 2 (8%) trainees felt their Intubation skills were adequate, 12 (50%) described their LP skills as satisfactory and 4 (16%) trainees labelled their IO access skills as acceptable.

Following the teaching session, 23 of the 24 trainees (96%) felt significantly more confident in approaching all 3 of the core practical skills. All 24 Trainees (100%) felt that simulated practice helped improve their technical skills and all (100%) felt it would be useful in their daily job.

Simulation-based training for procedural skills has been shown to be effective for trainees and has been widely used in many training programs.3
By integrating this into the Deanery's Regional teaching programme, we have presented junior trainees the opportunity to gain vital hands on experience on high-fidelity models, which has improved procedural exposure, enhanced user-confidence and may potentially develop procedural competence.

We aim to further develop the regional teaching curriculum and extend this programme to higher level trainee teaching sessions. We hope to incorporate other core simulated procedural skills in a bid to further promote a safe, trainee-friendly, patient-centred simulated learning environment.

Word count : 367 words

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SESAM
PROMOTING SIMULATION IN MEDICAL EDUCATION
SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

Developing nursing students' managerial skills: Scenario-based simulation

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Authors

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Melih Elçin,MD, MSc, CHSE (Professor)	Hacettepe University, Faculty of Medicine, Department of Medical Education and Informatics
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Introduction & Aims

Nurse managers and leaders are responsible for effective management of their workforce to achieve the desired outcomes of healthcare organisation. They should acquire the communication, problem solving, and decision-making skills. There are numerous studies showing the impact of competent nurse managers on patient care outcomes such as decreasing infection rates, shortening patients' length of stay at hospital, and decreasing the cost of care. Their management style and skills are of key importance to the well-being and job satisfaction of staff in organizations. Therefore, healthcare organizations should support their staff nurses and nurse managers to achieve those skills, and the educational institutions should ensure that they provide their nursing students with opportunities to develop managerial skills. The aim of our study was to evaluate the impact of scenario-based simulation (screen-based and standardized patients) on the achievement of the nursing students' managerial skills.

Description

A key role of the nurse educator is to develop and implement the best curriculum, and use various interactive/student-centered teaching methods such as scenario-based simulation for effective teaching and to achieve nursing program outcomes. We explored the use of scenario-based simulation and standardized patients to improve bachelor's of science in nursing (BSN) students' managerial competencies. During 2016-2017 academic year, four simulation scenarios were developed including the issues; patient safety, conflict management, malpractice, and quality management. The goal of using scenario-based simulation were to (a) experience a new student centered teaching strategy, (b) apply theory to the practice, (c) apply managerial principles to patient safety, quality management, staff conflict scenarios, and malpractice issues, (d) gain managerial problem solving and decision making skills, (e) integrate scenario-based simulation into a nursing management course at a Turkish University. Qualitative feedback was obtained through focus groups conducted with students who took the nursing management course with the simulation sessions.

Discussion

In Turkey, scenario-based simulation training has never been included in nursing education programs to develop managerial skills of nursing students. It is expected that nurse educators should focus on developing nursing students' cognitive and psychomotor domain learning together with the affective domain learning. Therefore, they should be able

to use different types of teaching strategies to cover all domains of learning. Considering the benefits of scenario-based simulation in nursing education, this innovative teaching strategy also should be used to develop the managerial skills of the undergraduate nursing students.

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PROMOTING SIMULATION IN MEDICAL EDUCATION
SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

Developing simulation globally - A Zimbabwean training programme

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

Simulation training is an integral feature of medical education programmes in Europe and the United States. In stark contrast, it is a rarely used teaching modality in the developing world.

As UK-based anaesthetists delivering simulation training at a regional level, presenting at the Zimbabwean Anaesthetic Association's (ZAA) Annual Congress provided an ideal opportunity to develop the concept of simulation to an international audience.

The well-documented political instability in Zimbabwe has had inevitable consequences on the provision of healthcare to its sixteen million residents who must rely on just sixty medically-qualified doctor anaesthetists, heavily supported by nurse anaesthetists, to provide all anaesthetic services.

Given this background, we based our presentations on the following objectives:

(1) promotion of the role of simulation as an educational tool
(2) the delivery of a basic faculty training workshop
(3) creation of links between the UK and Zimbabwe for an anaesthetic simulation training partnership

Description

We had previously designed and run a faculty training day in the UK but realised this would be largely unsuitable for an audience where simulation was a relatively unknown discipline. In addition, Zimbabwe lacked any of the high fidelity equipment readily available in most UK centres.

Taking into consideration both our audience and facilities, we adapted our usual teaching format and delivered:

(1) Day 1 Lecture on the key concepts in medical simulation, focussing on
- the history and evolution of simulation in medical education
- the educational theories underpinning medical simulation
- the literature and research supporting achievable outcomes

(2) Day 2 Workshop focussing on
- simulation planning
- scenario design
- debriefing skills

The workshop finished with a fully-immersive, albeit low-fidelity, simulation scenario that aimed to demonstrate the possibilities of simulation within a system of constrained resources and funding.

Discussion

The high attendance and overwhelmingly-positive feedback received for both the lecture and workshop suggested an enthusiasm for medical simulation as an educational tool in anaesthetic training in Zimbabwe.

Subsequent discussion with the President of the ZAA has led to the preliminary stages of a partnership aiming to facilitate the development of an anaesthetic simulation training programme in the region. In the immediate future, the authors would aim to provide external support to enthusiastic local anaesthetists with a long term goal of introducing medical simulation into undergraduate and speciality training groups across Zimbabwe throughout the region.

Development of simulation based education at the Faculty of Medicine of the Jagiellonian University

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

Medical Simulation in an era of increasingly difficult access to the patient is becoming an important tool used in the training of medical staff. The aim of the work is to present the past, the present, and the future of medical simulation at the Faculty of Medicine of the Jagiellonian University.

Description

The Faculty of Medicine of the Jagiellonian University educates approximately 2,200 future doctors. At the end of the twentieth century simulation training included only cardiopulmonary resuscitation. This situation changed when the Didactics Unit was opened in 2000 and the Department of Medical Didactics afterwards. Since then students have been trained using simulation training in the field of standardised interviewing, physical examination, and technical skills in nursing and surgery.
During the period between 2002 and 2010 the Department of Medical Didactics developed a medical simulation based training in the field of doctor-patient communication. At the same time, in the Department of Anaesthesiology and Intensive Therapy, a group of academic teachers in collaboration with other medical schools and institutions started training based on the European Resuscitation Council (ERC) certified courses.
In 2010 the Department of Medical Teaching moved to new premises. There, students can use a room for clinical skills laboratory teaching, surgical skills laboratory teaching, and three high fidelity simulation rooms.
Due to the development of educational base there was a need for staff training. The first 30-hour course for instructors of medical simulation took place in April 2013; 10 people participated in it. Subsequent trainings were held in 2015 - one, 2016 - three, 2017 - two. At present, the university has 75 people trained in simulation, 7 people with experience in conducting courses for instructors of medical simulation, and 2 more are being trained in this field.
Increasing the number of available rooms resulted in the emergence of medical simulation in the curriculum of courses such as surgery or emergency medicine. In 2013 an extracurricular "Crisis Resource Management Skills" course was launched during which 30-40 students annually learn about the use of non-technical skills in team work.
At present every student during the course performs 170 hours of simulations including 45 hours of high-fidelity simulations.

Discussion

Gradual development of simulation as a method of training at the Faculty of Medicine of the Jagiellonian University in the years 2000-2015 has enabled effective development and training of new medical staff which in turn has enabled high quality education for students.

SESAM
PROMOTING SIMULATION IN MEDICAL EDUCATION
SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

Differential improvements of neonatal resuscitation skills after an extensive high fidelity training program

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

To perform newborn resuscitation at birth (NRB), healthcare professionals must carry out resuscitation actions at the right time and effectively according to ILCOR guidelines.
Developing the technical and behavioral skills needed to resuscitate newborn remains challenging despite new training programs using high-fidelity simulation.
Based on a new quantitative/qualitative score (QS) of NRB the aim of this study was first to evaluate the NRB performance of students midwifes involved in a learning program with four successive High-Fidelity Simulation (HFS) sessions combined with a theoretical and low fidelity practice training. Secondly, to help to a better understanding of NRB failures and ways of improvement by analyzing performance of all NRB steps (A, B, C, D and Evaluation).

Methods

This study compared 2 groups of midwifes students with different learning sequences. The main core started by HFS then included theoritical e-learning, low-fidelity training related to the technical NRB skills and 2 additional HFS. A retention HFS 6 months later completed the training program. The NRB performances were evaluated using a video retrospective based mixed quantitative and qualitative score.

Results & Discussion

Among the 41 participants, the global NRB performance increased from sessions 1 to 4 (38.48±6.02 versus 52.40±7.44). No improvement was observed all over the sessions for the Phase A, D and E. Regarding Phase C, overall Group 1 performed better compared to Group 2 (45.0±1.6 versus 38.9±1.7). Also increasing significantly their scores from session 1 (16.9±2.3), to Session 2 (37.5±2.3), to Session 3 (62.6±2.3). Results at the Session 4 showed a significant loss of retention (50.7±2.4). The two groups diverge at Session 2, Performance of Group 1 was close to twice Group 2 (52.1 ±3.2 versus 22.8±3.1) and Group 2 reverse the results at Session 3 without being significant (67.9±3.4 versus 57.4±3.2). However the two groups performed equally at the Sessions 1 and 4.
Training programs of NRB including HFS with low-fidelity simulation of technical NRB skills allow mainly developing management of the phases B and C. The evaluation phase as well as the primary cares of the newborn revealed a

non-significant small improvement despite an extended training program. Retention at 6 months appeared to be potentialized by starting the program by technical skills training despite lower global NRB performance at the end of the main core training.

Does using computer-based simulation improves the education of approaching ACLS rhytms?

Format: Accepted for Poster Presentation
Subject: Interprofessional / Team Education

Authors

Begum Oktem M.D.

Introduction & Aims

Our aim is to compare computer-based simulation programme with classic educational method, in the context of cardiopulmonary rescucitation guidelines, to reveal if we can improve students' knowledge on this topic.

Methods

Medical students who are in their final year of faculty and having an internship in emergency department are included in this study. First group had classical lecture supported with verbal case studies. Second group had the same classical lecture, but supported by case studies in a computer-based simulation programme (Anesoft licenced programme). All lectures are given as group studies. A pre-test before the lecture, and a post-test after 1 month are given to students. Both tests consisted of same questions.

Results & Discussion

Total number of 80 students took pre-test and post-test, each group had 40 students. Although the total number of correct answers increased more in study grop compared to control group, this difference is not found statistically significant. This result reveals that computer-based simulation is as effective as classical method. However, simulation technology has more advantages than classical lectures, and this results shows us that simulation methods can be more commonly used in education. Group study can be transformed into individualized studies to improve the quality.

Embedding human factors and the safety two perspective into a London DGH

Format: Accepted for Poster Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

Consideration of Human Factors from an individual and organisational level within the context of patient safety and incident investigation is vital to help us comprehend the impact of observed and unobserved emergent phenomena. The simulation department regularly sits on the Trusts serious incident panel and concurs with the findings of the Care Quality Commissions (CQC) 2016 report into the quality of incident investigations within the NHS. The CQC recommended five opportunities to enhance incident learning including engaging and supporting staff involved and utilising human factors principles to develop solutions. With these opportunities in mind we approached the quality directorate to discuss how senior healthcare professionals undertaking investigations can ensure human factors are incorporated into investigations and the investigators gain improved internal error wisdom.

Description

Full engagement and support was sought from the quality directorate and simulation agreed to run a one day human factors course to complement the Trusts existing Root Cause Analysis training. Prior experience observing SI panel meetings, reading report action plans plus sitting on investigation panels was utilised and a syllabus that addressed some of the issues noted was compiled. We noted many senior staff investigating SI's viewed safety from the paradigm of linear cause and effect, often conceptualising that incidents can be deconstructed and individual parts fixed with improved policy or staff training. Some common human factors principles were mentioned in reports but tended to focus on communication and escalation whilst not taking into account the more unobvious ones. The Safety 2 (Hollengel et al, 2015)white paper recommends we widen our focus to also look at when things go right, becoming more proactive rather than reactive, using those that do the work to prescribe how work should be done and allowing our staff and systems to become more resilient. With these principles in mind we designed a course that would challenge preconceived ideas of what safety is and how we should view patient safety incidents not through the lens of blame apportioned to a particular person or event but as symptoms of inadequate systems.

Discussion

Through this course we hope to grow a ground swell of change at middle management level that will have a pivotal effect on both junior staff and senior management. Feedback from the pilot has been extremely positive and we plan to present findings from four courses that we believe will demonstrate this course has been successful in embedding human factors into a DGH.

Evaluating human factors skills for non-healthcare professionals working in healthcare contexts

Format: Accepted for Poster Presentation
Subject: Center Administration and Program Evaluation

Authors

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Introduction & Aims

As clinical simulation has evolved it is increasingly used to educate staff who work in healthcare contexts (e.g. hospital administrators, security guards) or directly with clinical populations (e.g. police officers) but are not healthcare professionals.

This is in recognition of the important role such individuals play in the patients' journey, frequently being a patients' first point of contact with the clinical context. Furthermore, it acknowledges their place in the wider clinical team. The need for education is particularly clear in the area of mental health where a greater understanding of, and sensitivity to, a patient's mental state may influence clinical outcome.

As with other forms of clinical simulation, a core aim of this training is to equip staff with the social and cognitive skills needed to be part of a broader healthcare team. We refer to these skills as the Human Factors Skills for Healthcare. Although we have recently developed a reliable and valid instrument to evaluate learning of human factors skills for healthcare professionals (Reedy et al., 2017), no such instrument exists for non-healthcare professionals.
The aim of this study was to develop, pilot and evaluate an adapted version of the Human Factors Skills for Healthcare Instrument, specifically designed for non-healthcare professionals, that could be used to evaluate learning pre and post training.

Methods

The instrument was adapted from the Human Factors Skills for Healthcare instrument, through consultation with experts in the field of simulation and human factors and non-healthcare professionals.

An 18-item tool was developed reflecting the human factors skills of situation awareness, decision making, communication, teamwork, leadership, care and compassion and stress and fatigue management.

The tool was piloted with non-healthcare professionals to ensure face validity and usability.

The final 18 item instrument was completed pre and post training by 98 non-healthcare professionals attending simulation training courses at Maudsley Simulation, a large simulation centre in London, specialising in mental health.

The sensitivity of the instrument items and the psychometric properties of the instrument were examined.

Results & Discussion

The results will be discussed.

Evaluating the influence of didactic process for simulation scenarios elaboration for the significative teaching-learning in Nursing

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

Introduction: The simulation scenarios elaboration requires didactic experience of the professor, especially for didactic sequences development. The sequences involve the organization of didactic activities predicting the order in which the activities are proposed, the previous knowledge of the participants, the level of the student and the complexity that the content demands(Zabalza, 1998). The members of the Bay Area Simulation Collaborative(BASC) developed a template to simulation scenarios development for evidence-based clinical use. The template include: learning objectives, assessment plan and tools, inclusion of evidence supporting the objectives and assessment, pre-scenario activities, general plan for debriefing and scenario validation and testing. This study developed simulation scenarios using BASC perspective and concepts on didactic sequence during simulation strategy. Objective: To evaluate the design of the simulation scenario during a complexity professional clinical situation.

Methods

Design: Descriptive study. Method: Consisted of three phases: (1). Lecture about the scenario theme; (2). application of the simulation strategy on competence "Pressure Injury risk assessment; (3). Application of the Scale. 155 nursing undergraduate students from the last year participated in the study (August-September 2016). The students was from public and private universities in northeast and south of Brazil. Data were collected by Simulation Design Scale. Approved by Ethics Committee (n. 1.806.560). The lecture plan consisted: theme, date and duration of the lesson, specific objectives, contents, methodology (learning activities and didactic procedures), didactic resources, evaluation of learning and references the stage of the lesson plan "learning-evaluating" was constituted in the simulation strategy

Results & Discussion

Results: The mean age of nursing students was 26.2 ± 6.6 years. Out of five dimensions evaluated in the simulation scenario, the realism 17.9 ± 3.4, for scenario execution, and the feedback/reflection 17.6 ± 2.6 during the strategy debriefing stage were essential elements for the exercise of the competence studied, represented respectively 89.5% and 88.0% in relation to the maximum that could be obtained in the judgment of the participants. The dimension with lower scores in the evaluation was support 14.3 (± 3.3), with a minimum of 6.25 and a maximum of 20.0. The entire instrument showed 73.8% from the perspective of nursing students. Conclusion: The simulation strategy was developed together with the other elements of operationalization: material resources, visual, printed and roleplay that were sufficiently applied and produced satisfactory conditions for the exercise of the competence in focus and significative teaching-learning evidencing the importance of the quality didactic process for simulation scenarios elaboration.

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Evaluation of the use of simulation as a learning tool for master students

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

Demostrar que la introducción de la simulación clínica en alumnos de Máster permite integrar los conocimientos mejorando los resultados académicos.

Methods

Realizamos un estudio retrospectivo en que comparamos los resultados académicos entre los alumnos que cursaron el Máster de Anestesiología y Reanimación en dos cursos académicos distintos 2014-2015 (grupo control) y 2016-2017 (grupo intervención). La materia impartida durante el curso se divide en diferentes secciones y fue en una de ellas en las que en 2017 se introdujo la simulación como complemento a las clases magistrales ya impartidas en el curso anterior. Para esto comparamos el número de respuestas correctas en cuatro de las preguntas del examen final, la puntuación obtenida por los alumnos en esas preguntas referentes a la simulación entre los dos cursos y la evolución en los resultados globales de la evaluación general. Analizamos los resultados t-student para la comparación de medias y chi-cuadrado para la comparación de proporciones.

Results & Discussion

Se evaluaron los resultados de los 20 alumnos de grupo control y los comparamos con los 19 alumnos de grupo intervención. Revisamos los exámenes finales y evidenciamos que cuatro de las preguntas totales eran referidas al tema en el que se introdujo la simulación clínica. Analizando estas 4 preguntas, el grupo intervención mostró mejores resultados que el grupo control con una nota media de 8.02 (DE ±1.96) vs 6.4 (DE ±1.51) y una media de respuestas correctas de 3.21 (DE±0.7) vs 2.55 (DE±0.6) debido a que 0% alumnos del grupo intervención vs 5% del grupo control respondieron únicamente 1 pregunta correcta, un 21.1% del grupo intervención vs un 35% del control respondieron correctamente 2 preguntas, un 36.8% vs un 60% respondieron 3 preguntas correctamente y un 42% vs 0% respondieron las 4 preguntas correctamente (p=0.006).

Finalmente, para evitar el sesgo de temporalidad, comparamos los resultados finales de la avaluación general entre los dos grupos obteniendo un valor de puntuación media inferior en el grupo intervención 7.47 (DE±0.81) respecto el grupo control 7.98 (DE±0.83) sin llegar a ser esta diferencia significativa (p=0.062).
Por lo que concluimos que la simulación clínica como herramienta docente afianza los conocimientos teóricos mejorando los resultados académicos en nuestros estudiantes de máster.

Evaluation of VausSim™ ultrasound simulator in allowing to quickly acquire diagnostically valuable images in a FAST echo setting

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Introduction & Aims

Bedside clinical ultrasound evaluation represents a very important noninvasive diagnostic tool that has been defined as an “extension” of the stethoscope in the hands of any clinician. In the emergency medicine setting, it is crucial in achieving a proper, point-of-care as well as rapid diagnosis in many clinical situations, ranging from cardiogenic shock to abdominal trauma, from pulmonary edema or embolism to aortic dissection or pneumothorax. However, its use needs experience in quickly acquiring images that are of diagnostic utility in the different settings. Therefore, technical competence as well as rapidity in achieving images/videos of reasonable quality are of paramount importance.

Description

Many simulators are confined to a single aspect of clinical ultrasound evaluation, allowing to achieve competence in one of the many diagnostic fields that take advantage from such a noninvasive imaging (i.e., echocardiography, abdominal, lung, soft tissue, or vascular evaluation). Moreover, they are not easily applicable in an advanced simulation setting. Relying on a network of high-fidelity sensors, the VausSim™ ultrasound simulator can be applied to any simulator or manikin, making evaluation possible in virtually any simulation setting. It also allow to simultaneously perform cardiac, lung, arterial, abdominal and venous ultrasound evaluation using 3 different realistic ultrasound probes (convex, linear and phased array), including pressure sensor and a bright LED for probe orientation.
We tested the Emergency module, equipped with 8 different clinical cases (FAST, eFAST and RUSH) in 42 Internal Medicine and Emergency Medicine fellows, each of whom was asked to acquire a proper (i.e. diagnostically valuable) image in 4 different ultrasound domains: cardiac, abdominal, vascular and pulmonary. Achievement of a diagnostically valuable image was assessed by an independent expert judge, who was blinded to both final diagnosis and fellow identity. Time to acquisition of the 4 images was measured in basal conditions (i.e. at the first experience with the VausSim™ ultrasound simulator) and after two 4-hour training sessions with the different scenarios.
Compared to baseline, training considerably reduced the time needed to acquire proper images from 9.5±3 to 3.1±3 minutes ($p<0.001$).

Discussion

In the setting of emergency medicine, such a difference cannot be overlooked, allowing a rapid, point-of-care clinical ultrasound evaluation that may be of extreme importance in a timely diagnosis. In conclusion, the VausSim™ ultrasound simulator allows to considerably improve the rapidity of acquiring diagnostically valuable images in a setting in which rapid evaluation of different body districts (i.e. heart, lungs, abdomen and vessels) may be lifesaving.

Experiences from skills lab training with peer tutors

Format: Accepted for Poster Presentation
Subject: New Technologies and INNOVATION

Authors

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Introduction & Aims

University of Helsinki Faculty of Medicine started a peer tutor program in the simulation centre in 2015. The goal was to offer low-threshold supervised voluntary practical training possibilities for all medical students. Five tutors from 4th to 6th study years were recruited and introduced to Skills lab teaching.

Peer tutors work in the Skills lab for 1-3 three-hour shifts weekly, guiding students in voluntary skills training and assisting teachers during lessons, e.g. simulations. Tutor shifts are announced in an electronic calendar, mailing lists and a Facebook group, where students can contact the tutors.

Description

Feedback is collected with a voluntary electronic form. Between September 2016 and October 2017, 95 students across all study years gave feedback in 50 groups, consisting of 1-10 students. Peer tutors assisted 25 groups. The respondents practiced 21 different clinical activities. Three most frequently practiced were suturing (40 % of the groups), iv-cannulation (38 %), ultrasound (20 %) and heart murmur simulator (12 %). Students rated (Likert scale) the experience highly: 4,80 with tutors, 4,76 without.

Overall, the respondents found the Skills lab to be useful and versatile. Many students practice multiple skills during one visit. The presence of peer tutors was valued in the comments. Technical problems and limited supplies were also brought up in the survey.

Discussion

The Skills lab is becoming an increasingly important part of the medical studies in the University of Helsinki. Overall feedback has been positive. However, only a small portion of the students visiting the Skills lab give feedback. Peer tutors estimate that up to 20 students visit the Skills lab during one peer tutor shift. Students can also visit the Skills lab independently and it is difficult to estimate the total amount of visitors.

The peer tutor program has started successfully. The continuity is ensured by recruiting new peer tutors every year, when senior peer tutors graduate. It is important to maintain approachable and low-threshold environment while the Skills lab is developed.

The Skills lab is already an essential part of practical training and peer tutors are a valuable addition to that. "The Skills lab is a great thing, it is nice that peer-assistant is easily available!" (student comment from feedback).

Experimental biomedical validation of commercially available artificial bones used for training and simulation of surgical procedures.

Format: Accepted for Poster Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

Manufacturers of artificial training bones continuously try to improve their synthetical bone fabrication methods. Although the creation of anatomically accurate models seems to be simple, many items (e.g. elasticity or resistance) of a bone model have to be accurate for physicians to practice surgical procedures on. In cooperation with a laboratory for biomechanics, we tested artifical bone models of Femur, Tibia and Humerus of two fabricators of anatomical models. A quasistatic machine Zwick/Roell Type 1455 was used for the assessment. This installation was set to advance biomechanical data from artificial bones to compare different types of artificial bones and to contrast these values with those from real bone specimen.

Description

Of the two groups of samples provided, group one consisted of ORTHObones (Type 1) by 3B Scientific GmbH and group two was tested from another manufacturer.
Three items were assessed: Elasticity (A), Resistance of Spongiosa (B) and Resistance of Compacta (C).
For elasticity, a 3-point bending test for Femur, Tibia and Humerus in centric arrangement was performed. To test the resistance (penetration behavior), a cone (30°) was placed on the bone at a maximum force of 30N. Opposed to the elasticity test, where the bone in whole was bended, a 1,5cm thick bone slice was extracted from different locations: Femur: 5cm proximal of knee joint, Tibia: 3,5cm proximal of knee joint, Humerus: 1,5cm proximal of glenohumeral joint. We tested three samples from both manufacturers for each item.

Selected Results:
Elasticity (A):
Results: Femur: Maximum force at breakage:
Type 1 (ORTHObones): 1141,58N(1), 1383,94N(2), 1402,97N(3).
Type 2: 1019,24N(4), 1137,14N(5), 1225,21N(6).

Resistance of Spongiosa (B):
Results: Femur: 0,5mm deep penetration
Type 1: at 12,5N(1), 10N(2), 22N (3).
Type 2: at 12,5N(4), 14,5N(5), 12,5N(6).

Resistance of Compacta (C):
Results: Femur: 1mm deep penetration
Type 1: 175N(1), 240N(2), 310N(3).
Type 2: 55N(4), 60N(5), 80N(6).

Discussion

Overall, the mechanical properties differed in the groups tested. The elasticity was greater among Type 1 than Type 2. Only Type 2 samples of Humerus were slightly more elastic compared to Type 1. Spongiosa in bones of Type 1 was on average more resistant than in Type 2, with a large variation among the specimen. The resistance of Compacta was significantly higher in Type 1 samples, although the test results of the specimen express clear deviations among each other. Type 1 model results did not differ as much.

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Final year medical students' perceptions of and self-reported competence in clinical practice after receiving Resuscitation-Based Simulation training.

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

Background: Despite practicing resuscitation skills in a simulation environment, medical students often express anxiety about having to participate in patient resuscitation in the clinical environment. This fear can lead to an unwillingness to initiate or participate in resuscitations, and a decreased confidence in their skills. Exploring the perceptions of final year medical students can provide valuable insight for improving the current simulation programme at the University of Cape Town.
Aim: The aim of the study is to explore 6th year medical students' perceptions and self-reported competence for clinical practice after receiving Resuscitation-Based Simulation training.

Methods

Methods: During this research project three focus group interviews were conducted with sixth year MBChB students at the University of Cape Town (UCT) Clinical Simulation Centre. The interviews were audio-recorded, transcribed and analysed using a Grounded Theory approach.

Results & Discussion

Findings: Analysis of the data identified several common themes. Final year medical students perceive that resuscitation-based simulation training is valuable in that it provides a safe non-threatening environment in which to learn, the foundational 'hands-on' knowledge necessary for resuscitation, and opportunities to receive feedback on their learning. They also expressed that Resuscitation-based simulation training increased their confidence to participate in resuscitation during clinical practise, and improved their technique. However, the final year medical students have a reluctance to lead during resuscitations in the clinical environment, and expressed a need for more exposure both to resuscitation both in the simulation training and the clinical setting.
Conclusions: Final year medical students' feedback regarding their experience of the resuscitation based simulation training programme at the University of Cape Town provided valuable insight into current strengths and gaps. This feedback is useful for developing the simulation programme to be more aligned both to students' needs and the clinical reality, in order to prepare them for managing resuscitations in the clinical environment.

Formative assessment using simulation with medical students at St. George's University, Grenada

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

In the 2017 fall term, St. George's University (SGU) School of Medicine (SOM) students enrolled in the Introduction to Clinical Medicine (ICM) course were scheduled to spend two sessions in the Simulation Lab over a 10-week period during the final term of Basic Sciences. The main goals were to practice team interaction and encourage empathy during patient interaction as students focused physical exams, reinforced heart and lung auscultation, communicated with patients and medical teams, and learned and/or practiced intravenous (IV) skills. Simulation sessions were intended to enhance SGU medical student ability to perform well in hospital visits, future clinical rotations and standardized exams. We assessed SGU SOM Term 5 simulation sessions in meeting student needs and improving students' expected ability to perform well in future clinical sessions and standardized exams.

Description

At St. George's University (SGU) School of Medicine (SOM), medical students in the ICM course were scheduled in small groups to spend two three-hour sessions in the Simulation Lab during the final term of Basic Sciences. Pre-briefing was held at the beginning of the simulation sessions to emphasize effort and practice within a safe learning environment involving formative assessment.

During the first 5 weeks, students worked in teams and rotated through three acutely ill patient scenarios using deliberate practice and repetition in simulated cases to integrate what they observed with theoretical material they had learned previously in courses. The emphasis was on doctor-patient interaction to perform a focused exam and communicate findings. Students were asked to inspect, palpate, percuss, auscultate and use the findings to modify the group's differential diagnosis. During the second 5 weeks, students worked in teams within a patient scenario, along with auscultation practice of heart and lung sounds, plus instruction and practice in setting IV's. Sessions involving specific practice tasks (IV or auscultation) were summarized and discussed in terms of patient indications for the procedure and future steps to provide care.

Discussion

After the second three-hour simulation session students were asked to evaluate their experience in the Sim Lab. In Fall 2017, over 500 students submitted evaluations using a Likert Scale to assess degree of comfort and extent of agreement. Results in the following table show response to several questions related to objectives in the ICM course for the simulation scenarios that dealt with extent of agreement with achieving tasks in the Sim Lab.

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Good quality debriefings leads to participants gaining self-reflection abilities

Format: Accepted for Poster Presentation
Subject: Debriefing

Authors

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Introduction & Aims

In our Simulation Center rubrics are used to evaluate objectively the achievement of the previously set Learning Objectives; it allows as well an evaluation amongst participants, subject matter experts and facilitators within a simulation based learning experience.

Methods

The structure we use with our rubrics include different levels, criteria and rating scales through levels of achievement that include technical and non-technical outcomes. A questionnaire is handed at the end of every session to assist identifying the factors that influence a change in their self-assessment.

All participants in any simulation education activity in our Simulation Center will be handed two different rubrics, numbered one and two. They will participate in a simulation activity, then will join the rest of the participants' group and will fill in the rubric number one to self-assess before the start of the debriefing. A programmed debriefing session will be facilitated and the participant will fill in the rubric number two after the debriefing session.
After an educational session is finished our Data Analyst will summarize the findings of the rubrics one and two using a statistical program; this data will be complemented with the information collected through the questionnaires that are handed at the end of the activity.

Results & Discussion

Since this research project is on its beginnings, it can only be anticipated what the impact of the findings could be. Based on the anticipated results from this project we would expect a need to ensure that good quality debriefings lead participants gaining self-reflection abilities in an objective manner. This research would encourage the use of rubrics as a standardized assessment tool to assist participants in assessing the achievement of their own outcomes.

Anticipated results from this quantitative and qualitative research project are the following:
• Debriefing enhances participants' objectivity during self-assessment
• Reflection allows participants to critique themselves empirically
• According to participants, rubric is a good tool to self-assess outcomes

Hololens & Medical Simulation: An augmented reality self-directed learning and evaluation system for effective basic life support defibrillation training

Format: Accepted for Poster Presentation
Subject: New Technologies and INNOVATION

Authors

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Introduction & Aims

Providing an effective cognitive aid to both lay people and healthcare providers in Basic Life Support and Defibrillation (BLSD) procedures is a relevant educational goal in resuscitation. A self-instruction learning simulation program was developed to maximize learning results, helping to enhance motor skills and the retention of cognitive knowledge, reducing instructor intervention and cost. Microsoft HoloLens technology was used, enabling users to interact with high definition holograms. Holo-BLSD was developed as a mixed reality self-instruction training environment allowing also assessment, using a standard low-cost CPR manikin to deliver tactile information. The manikin was “augmented” by an interactive virtual environment reproducing realistic scenarios. Learners used natural gestures, body movements and spoken commands to perform their tasks, with virtual 3D objects anchored to the manikin and to the environment.

Methods

In training mode, a self-instruction program is provided. Users are guided through the sequence of actions required. Non-player characters (NPC) with different roles (by-standers, patient relatives, medical team members) deliver information or assist the trainee during the procedure. In evaluation mode, no guidelines are given, as the system only records and analyzes actions performed by the assessed trainee. MR techniques provide more interactivity and increase realism, by enriching the real world with digital information registered into the user’s perception of the environment. In order to assess the prototypal system, we performed a qualitative evaluation with a user panel. At the end, participants were given a questionnaire asking them to rate a number of statements using a 5-point Likert scale (1: strongly disagree, 5: strongly agree).

Results & Discussion

Our work is ongoing: 23 users (4 doctors and 19 residents) participated to the early experiments by testing the application once in training mode and filling the questionnaire. Results showed a general appreciation of the system (average rate 4.7), which was found pleasant (4.1) and easy to use (4). The cognitive load required to operate the HoloLens was minimal (1.8): users could focus on the BLSD procedure and on carrying out actions requested. Voice (4.4) and gesture interaction (3.8) were evaluated positively, although some hand recognition errors reduced the feeling of having the right level of control over the system (3.4). Virtual contents were found realistic (3.8). Participants judged the system as capable to provide a real benefit as a training tool (4.2) and to help them to be more effective (4.2).

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How do we use crisis resource management (CRM) principles? Perception of the impact of a specific training in CRM in a pediatric emergency department

Format: Accepted for Poster Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

A development plan centered on human factors and CRM principles is being implemented in our emergency department (ED). First phase consists of simulation-based teamwork courses, which promote reflection to understand mental frameworks that influence actions and decisions.
The aim of this study was to evaluate the perception of impact of this first phase in real work (level 3 of Kirkpatrick Model) and to know the type of factors that hinder the application of CRM principles in real activity.

Methods

A survey of 48 items was sent to ED professionals who had participated in teamwork courses. The survey included questions related to collective perception of teamwork in the unit, to individual perception of application of critical points of CRM and to the type of perceived barriers (personal, interaction with the group or organizational/structural type). Each question was answered according to a Likert scale of 5 points. The answers were classified into: high perception (4-5 points), intermediate (3 points) or low (1-2 points).

Results & Discussion

37 surveys were obtained, 81% answered by women. 59.4% had 5 years or more of professional experience and 51.3% were nurses. The following results show the percentage of respondents with high perception in the corresponding item. Globally, it was observed that only 51.3% showed a high perception of application of CRM principles. The principles that were most perceived as applied were: planning capacity (91.9%), communication with a good tone (81.1%) and knowledge of resources (75.7%). The principles with the lowest perception of application are: "leader acts exclusively as leader" (40.5%), "leader is explicitly positioned" (37.8%) and "participants promote pauses to recapitulate" (35%).
Reasons that hinder the application of CRM principles were perceived more as personal or about interaction with the group than related to the physical or organizational structures.
According to the professional profile, it was observed that nurses had more perception of using closed loop communication (73 vs. 33%, p=0.01) and knowing the location of resources (94 vs. 55%; p=0.01).

Conclusions: There are difficulties for the application of CRM principles in real situations despite having received specific training, which mainly depend on individual's own human factors and on interaction with the group. It is necessary to combine training with other continuity activities that promote cultural change and group development.

How to teach Neuroresuscitation for Care Team of "Integrated Community Care System" in Japan?

Format: Accepted for Poster Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

Japanese Government started new healthcare plan called as “Integrated Community Care” system. Outline of new plan is reduction of medical cost by induction of patients from hospital to community as “Integrated Community Care” system. In Japan, community based care system is incomplete and under development. Especially, neuroresuscitation for stroke should be an important role on “Integrated Community Care” system. Our concept on teaching neurosresuscitation for interprofessional care team will be presented.

Methods

We have reported development of neuroresucitation training system such as Immediate Stroke Life Support (2006), Prehospital Stroke Life Support (2006), Prehospital Coma Evaluation and Care (2008), Primary Neurosurgical Life Support (2008) and Advanced Coma Evaluation and Care (2011). Also, we released general neuroresuscitation faculty training system integrating all related courses in 2018. Based on neuroresuscitation faculty training system, we design general neuroresuscitation education program for care staff in “Integrated Community Care” system.

Results & Discussion

General neuroresuscitation education program for care staff in “Integrated Community Care” system was tested in several trials. Due to questionnaire, we modified level of contenrs in neuroresuscitation education program. Furthermore, integrated instructor reference of existing five neuroresuscitation training system is developed and released for public use.
Recent version of neuroresuscitation education program will be presented for discussion.

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Impact of debriefing on nurses' perception of guidelines for compliance in peripheral venous catheterization procedure

Format: Accepted for Poster Presentation
Subject: Debriefing

Authors

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Introduction & Aims

In a daily basis, peripheral venous catheterization is part of the routine care of a patient. Nurses face some difficulties when trying to put into practice what they know in theory. For this reason, professional development is of extreme importance. In a training context, debriefing ensures that the trainees reflect on their performance, allowing them to reinforce their knowledge and modify incorrect actions. It was intended of this research to verify the impact that the debriefing has in the nurses' perception of the guidelines when asked to place a peripheral venous catheter.

Methods

This is a quasi-experimental research, focus on a single group type, before and after study. Data was collected between January to April 2017, in three emergency departments, from a central hospital situated in the west region of Portugal. The study involved 48 nurses that were asked to complete a survey related to the guidelines for the peripheral venous catheterization, which were observed in the performing of this procedure before and after the debriefing. Data were analyzed using SPSS®.

Results & Discussion

With the results obtained it is possible to verify that the study group attributed importance to the debriefing when following the guidelines for peripheral venous catheterization, namely in hand hygiene-first moment (81,3% before debriefing and 100% after debriefing), patient instruction about procedure (87,5% before debriefing and 100% after debriefing) and patient instruction about start the procedure (79,2% before debriefing and 100% after debriefing). With the surveys, some risk factors that contribute to malpractice were identified, such as: lack of time or proper consumables, lack of knowledge and personal choice. A high level of internal consistency was found for the Debriefing Scale applied to the clinical skills (Alpha = 0,898). The results obtained are relevant not only for Nursing, but also for nurses themselves. The different departments and the institutions, need to discuss the management of care processes, professional development and organizational resources. Only with good management it is possible to provide good quality care and minimize the associated costs. It is desirable that more studies are performed in order to increase professional development of nurses related to this subject.

Implementation of galvanic skin responce (GSR) measurement and eye-tracking technology in stress assessment among medical students during resuscitation in simulation settings.

Format: Accepted for Poster Presentation
Subject: New Technologies and INNOVATION

Authors

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Introduction & Aims

Medical simulation may be a trigger of stress response in participants. The level of stress can be measured by evaluation of physiological reactions or retrospectively in questionnaires. The main aim of a study was to assess quality of stress assessment with galvanic skin response and eye blinkig rate. The other aim was to measure the relation between coping style, emotions, stress measured by sympathetic activation and effectiveness of management in a cardiac arrest simulation. The universal Advance Life Support (ALS) algorithm establishes very evident steps of management. We expected that higher stress level may cause increased error rate in treatment and may cause interruptions in the procedure. The study group comprises 77 last year medical students after advanced life support training.

Methods

The subjects were involved in in-hospital cardiac arrest simulation with shockable rhytm. The correctness of management and the time of unnecessary interruptions in ALS algorithm were measured. The stress level was evaluated by galvanic skin response (GSR), blinking rate (eye-tracking goggles), heart rate measured before and after simulation and by the self-assessment questionnaire. Additionally we assess coping style with Coping Inventory for Stressful Situations (CISS) and emotions with State-Trait Personality Inventory (STPI).

Results & Discussion

First analyses showed that the mean time from confirmation of cardiac arrest to defibrillation was 101,6 seconds and total time of interruptions in cardiopulmonary resuscitation was 23,8 seconds. Most frequent errors were occured in final steps of procedure (forget to put a gel on a chest [46%], not checking for safety before shock [26%]). Full galvanic skin response was obtained only from 25 subjects and individually analyzed. Blinking rate was assesed from 46 participants. Further analyses are in progress.
Galvanic skin responce meassurement limitations and eye tracking technology use in simulation will be discussed.

Implementing in situ simulation program. The nuts and bolts

Format: Accepted for Poster Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

In situ simulation is “simulation that takes place in the actual working environment and involving those who work there”. The nuts and bolts of preparing a successful in situ simulation program will be discussed with examples from the Lebanese American University (LAU) Clinical Simulation Center and the LAU Medical Center.

Description

The in situ simulation occurs in the clinical environment, it provides great realism and is considered as a rich resource to identify hazards and deficiencies in the clinical systems, the environment, and the provider team, that if dysfunctional, can compromise patient safety especially in high-risk areas.. In situ simulation may involve any simulation modality (e.g. manikin-based, simulated patients, task trainers, hybrid simulations), be high or low fidelity, and may be scheduled or performed impromptu. Despite the various benefits associated with in situ simulation, there are number of challenges that can be classified as technical issues, logistics, cultural obstacles, and medical-legal concerns.

Discussion

There are many advantages of in situ simulation such as improving teamwork and inter-professional communication using teams that actually work together, revealing local system errors and latent threats and introducing guidelines and protocols or to orient new staff about the environment and the processes in place.
Strategies for success often require tailoring simulations to the local environment and multidisciplinary staff.
Required resources include human resources, physical space and equipment. The implementation of in situ simulation program requires careful and thorough preparation. To ensure its success, the buy-in of the various stakeholders is a must.

Implementing the first University Diploma in simulation-based education in the MENA region: The nuts and bolts

Format: Accepted for Poster Presentation
Subject: Faculty Development

Authors

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nadia asmar	lebanese american university- School of Medicine
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Introduction & Aims

\Simulation-based education (SBE) is a relatively new education tool offering learning opportunities that are difficult to access by other educational methods. A key factor to high quality SBE is the preparedness of the instructors who are often experts in the relevant medical field, but have limited experience in SBE.

Description

A curriculum using Kern's six steps as conceptual framework was designed. Three modules extending over three days each were provided. A multi-layered evaluation strategy was adopted and included end of module evaluations, workshop observer reports and individual interviews with the participants, the curriculum faculty and the local coordinators.
The program was provided for two consecutive years to forty-four multidisciplinary healthcare providers by international faculty and local instructors. The content and educational methods were rated highly by participants who identified strengths and areas for development. Financial, organizational, political and social barriers were encountered by the local coordinators.

Discussion

Simulation Diploma is a significant and enduring learning resource. The curriculum design and evaluation should be approached with a conceptual framework to provide it with structured, grounded, and evidence-based methods. In addition, an evaluation strategy including various stakeholders is crucial for ensuring a high quality outcome and a plan for overcoming challenges should be anticipated to ensure its successful implementation. Moreover, the dissemination, maintenance and renewal of any new program should be planed.

In situ simulation for recovery room staff

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

Simulation based education has become a well-recognised educational tool for medical professionals. In situ simulation occurs outside of the simulation centre in the actual working environment involving the clinical team that is based there. There are few simulation based courses available to recovery room staff and it is a busy environment with a constant threat of emergency situations. In situ simulation allowed staff to run through potential emergencies in their own environment providing great realism and the potential to identify latent threats.

This course aims to provide recovery room staff comprising of nurses, anaesthetists and operating department practitioners with simulation based teaching every 2 months. This was to be carried out in a safe learning environment simulating real-to-life emergency situations that may occur in the post-operative period.

Description

A District General Hospital in the United Kingdom ran a planned in-situ scenario once every two months in the recovery room. The multi-disciplinary candidates were chosen and informed prior to each date. Each session consisted of a scenario lasting 30 minutes followed by an hour long debrief with faculty members. The debrief focused on both technical and non-technical elements and took the form of the Diamond Debrief. Each candidate completed a questionnaire before and after the scenario and the feedback was analysed.

Confidence in assessing and managing emergency situations in recovery will be compared pre and post course and non-technical skills will be addressed. From the feedback received so far, the results are likely to indicate that candidates felt more confident recognising and initiating the management of the deteriorating patient. They also felt the in situ simulation raised their awareness of multidisciplinary teamworking and improved effectiveness of communication when under pressure.

Discussion

The discussion will focus on the results of the pre and post course questionnaires and elaborate further on the technical and non-technical skills highlighted within these. The difficulties faced with forming a teaching program such as this will be addressed and the benefits versus the challenges with in situ simulation will be discussed. The further plans for course improvement will be outlined.

In situ simulation of trauma care and hand-offs: effectiveness of a multimodal design to improve the scribe's skills.

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

The role of the scribe (nurse writer, nurse recorder) in the trauma teams has been especially described in advance trauma life support courses and his or her inclusion as team member in Trauma Centers' organization is recommended. The scribe is responsible for keeping accurate all records including pre-hospital and in–hospital reports.
The aim of this study is to evaluate the efficiency of a multimodal curriculum that include a session of learning conversation upon video recorded trauma simulations in combination with a session of in situ Hi-Fi simulations to improve the scribe's soft skills.

Description

We recorded 3 different simulated sequences of handoff and primary survey of a polytrauma. The scene is pictured as if the audience occupied the place of the scribe. The character of the actors sets in each scenario different and challenging mood and varying quality level of team working, task management, situation awareness, decision making and communication. During the video training session, each trainee was asked to "in live interact" with the stakeholders seen on the screen. The facilitators answered instead of the characters allowing the "virtual scribe" to complete the real recording handrail.
After each video, a short learning conversation was conducted including all participants.
The video session was followed by 3 in-situ Hi-Fi trauma team simulations to test the scribe's NTS acquisition. Each scenario was debriefed using circular questions. At the end of our program, 30 nurse scribes will have been involved. Participants' satisfaction will have been evaluated by a Likert style survey and nurse scribes' NTS improvement will have been assessed and debriefed after each real trauma management.

Discussion

We are waiting for the final analysis of the survey. By now, global participants' satisfaction is encouraging. Active participation during the virtual simulations was already noticed and interaction with the facilitators seemed to be easy for the trainees, not only to get information, but also to adapt their communications' skills to the situation when team members' or leader's character is changing.
Exchanges between participant and the training team were fruitful particularly about a good communication and have

demonstrated a good level of this specific skill during the following in situ simulations. We noticed an enhanced closed loop and speak-up communication: no fear to interact with the team leader to get information or to suggest actions with a firm attitude to limit the team working commotion.

In-situ simulation for operating room staff preparedness

Format: Accepted for Poster Presentation
Subject: Interprofessional / Team Education

Authors

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Dr François Plante	CHUM
Nathalie Beaulieu	CHUM
Daniel Payette	CHUM

Introduction & Aims

In 2017, three university hospitals merged into a new facility, le Centre Hospitalier de l'Université de Montréal (CHUM). In-situ simulations have been developed to assist intradisciplinary teams to test the functionality of operating rooms and equipments to ensure patient safety

Description

200 health professionals (surgeons, anesthesiologists, respiratory therapists, nurses and patient attendants) participated in 25 simulation workshops in different specialties; cardiac surgery, neurosurgery, surgical oncology, urology, transplantation ...
The objectives were to raise awareness of their new working environment and also to test the procedures and to quickly identify the placement of equipment in case of emergency

Discussion

The simulation workshops introduced several health professionals to this learning strategy. The simulation allowed participants to be more confident in ensuring quality and safety of patient care.
In addition to environmental and material management, the simulation emphasized the importance of interprofessional collaboration and created an enabling environment to discuss staff anxiety about their new environment.

Innovación del proceso enseñanza-aprendizaje para le adquisición de competencias en la toma de decisiones en incidentes de múltiples víctimas

Format: Accepted for Poster Presentation
Subject: New Technologies and INNOVATION

Authors

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Pedro Agustin Pernias Peco	Dr.
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Introduction & Aims

El aprendizaje en la toma de decisiones, como habilidad no técnica, en los incidentes de múltiples víctimas y catástrofes (IMV), se incluye en la formación postgrado de profesionales sanitarios de los servicios de emergencias prehospitalarios. La metodología actual se basa en la realización de simulacros, más o menos complejos, con víctimas ficticias que actúan según lo planificado por el equipo docente. Pero este modelo de enseñanza-aprendizaje es complicado, requiere de múltiples actores, recursos materiales, espacios amplios y la reacción de los alumnos ante posibles circunstancias puede no ser la real. Tampoco aporta capacidad para poder aumentar el grado de dificultad según la evolución del alumno, teniendo en cuenta diferentes aspectos: mayor número y gravedad de víctimas, orografía del terreno, recursos disponibles, presencia o no de amenaza terrorista, sustancias químicas o biológicas, etc. La realidad virtual inmersiva (RVI) es una innovadora herramienta con la que los alumnos pueden interaccionar con el escenario de manera individual, en equipo o colectiva; manejar los grados de dificultad de las situaciones y evaluar de manera objetiva. Por otro lado, implica al alumno en su proceso de aprendizaje pudiendo repetir los escenarios hasta la adquisición de la capacidad de decidir en IMV.

Methods

Estudio cuasi-experimental en el que se realizará una sesión de aprendizaje con alumnos de Máster de Emergencias y Catástrofes en la Universidad de Alicante, con recursos de realidad virtual inmersiva, empleando un software elaborado para ello con grabación de imágenes con cámaras de 360º en simulacros reales. La selección de los participantes será intencionada. La intervención se llevará a cabo en una jornada lectiva, en la que los alumnos tendrán que cubrir unos objetivos docentes planificados previamente a través de la RVI. Se creará para la evaluación objetiva, criterios de evaluación dentro del software. Tras la experiencia, los alumnos responderán un cuestionario ad-hoc anónimo en donde

evaluarán el aprendizaje adquirido y la herramienta. En el análisis estadístico, para las variables cuantitativas se empleará la media y desviación estándar y, para las variables cualitativas, las frecuencias relativas y absolutas. Para la comparación de variables cuantitativas se empleará la T de Student y para las cualitativas la Chi Cuadrado. Se utilizará el programa SPSS Statistics (Versión 22.0. Armonk, NY: IBM Corp.).

Results & Discussion

Hemos diseñado y desarrollado el software. Estamos en fase de intervención. Esperamos tener los resultados y la discusión a lo largo de este año lectivo.

Integración del ingeniero biomédico en simulación clínica

Format: Accepted for Poster Presentation
Subject: Interprofessional / Team Education

Authors

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Marcela Tejada	Ingeniera Biomédica
Stephanie Ordoñez	Ingeniera Biomédica

Introduction & Aims

El Ingeniero biomédico busca proponer y solucionar problemas de las ciencias de la vida utilizando conceptos de ingeniería, uno de los objetivos de la gestión realizada por un ingeniero biomédico es garantizar la seguridad del paciente en el entorno clínico, mediante la administración eficiente y segura de la tecnología biomédica.
Los equipos biomédicos son esenciales en el ambiente clínico para realizar procedimientos médicos que se llevan a cabo con personal especializado encargado de la tecnología biomédica, siendo esta una razón muy importante para que el personal encargado este altamente capacitado para su uso disminuyendo así los incidentes en la prestación de servicios de salud en el paciente. La simulación clínica es una herramienta de aprendizaje fundamental para que los futuros profesionales de la salud se adquieran practicas seguras de atención al paciente. El ingeniero biomédico contribuye a este proceso de aprendizaje realizando desarrollos y una adecuada gestión en función de la seguridad paciente y la educación médica.

Description

Descripción cualitativa de la integración del ingeniero biomédico en la simulación clínica en un periodo de 3 años desde el año 2014 hasta el año 2017, teniendo en cuenta la evolución semestral de la gestión realizada por el ingeniero para realizar desarrollos e iniciativas innovadoras, contribuyendo desde la Ingeniería en la implementación local de la simulación clínica.

Discussion

En el año 2014 se consolidó un equipo de trabajo del Hospital Simulado de la “Pontificia Universidad Javeriana Cali” con un grupo de 3 ingenieras Biomédicas que aportó significativamente en la consolidación de la simulación como herramienta de enseñanza en los programas académicos de la Facultad de Ciencias de la Salud. En el año 2014, 12 asignaturas del programa de medicina ejecutaron 711 horas de simulación. A partir de un proceso de gestión tecnológica y el trabajo en conjunto con el cuerpo docente de la facultad, en el año 2017 en el Hospital Simulado, 17 asignaturas realizaron prácticas de simulación con 1368 horas.

La gestión e integración del ingeniero biomédico en la simulación clínica fue fundamental para la implementación de nuevas prácticas y escenarios de simulación. La creación de escenarios y un acompañamiento permanente en la ejecución de casos de simulación permitió realizar un trabajo en conjunto con los docentes, realizando un aporte significativo al cumplimiento de objetivos de las asignaturas a través de una herramienta de enseñanza-aprendizaje efectiva para el estudiante.

Integrated syllabus with simulation teaching

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Dali Chitaishvili	Tbilisi State medical University
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Introduction & Aims

Clinical Skills and Multidisciplinary Simulation Department at Tbilisi State Medical University has been provided simulation-based medical education (SBME). Students can obtain technical skills and non-technical skills, such as communication, team work, patient safety. Medical students can practice and improve their clinical skills by tutorials with Standardized Patients. SBME is effective for integration of clinical medicine and basic medicine. The major focus of our investigation is in describing how to design SBME, with an approach underpinned by both theory and evidence.

Description

We have compared 2 groups of VI course students, of medical faculty and their abilities to master clinical skills. The first group included students, whose clinical skills program was not integrated with theoretical (basic) subjects for (2013-2015 Academic Year) and the second group included the students, whose clinical skills syllabus was integrated with the basic subjects for (2015-2017 Academic Year). We compared the following subjects: Heart and Lung auscultation (with Nasco Life/Form simulator of auscultation), ECG recording and interpretation (with ECG training manikin torso simulation), Arrhythmia Management (with SimMan simulator). The students were given additional training materials related to the topics. Before the final assessment, by changing various clinical cases, the student could repeat performing the task to fulfill it.
Students' knowledge was evaluated by testing. The post-tests consisted of 20 questions related to the topic, out of which 51% correct answers were considered, that the test was passed. The quality of the students satisfaction of teaching was assessed by the Likert scale

Discussion

It has been determined, that after the course of teaching clinical skills, the number of correct answers, received by the evaluation of the first group students, was not reliable and was about 30% of the total number of students. While assessment of the second group results, was reliable (P <0, 05) and constituted 65% of the total number of students.
In topics “Heart and lung auscultation”, the number of correct responses in the second group has increased by 60 %, ECG recording and interpretation”-15 %, “Arrhythmia Management”-40 %.
Using integrated syllabus the indicators of teaching results increase significantly. Multiple usage of training materials and simulations activities with manikin and simulators in the process of education is the solid guarantee of obtaining knowledge. It is a simultaneous assessment of knowledge and skills.

Integrating simulation in Emergency Medicine curriculum: a pilot project of the Department of Medicine of the University of Padova

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

The Department of Medicine (DIMED) of the University of Padova provides education to the Emergency Medicine (EM) residents, in a 5 years long programme involving both lessons and active duty.
Nowadays the use of simulation is not common in teaching programmes in Italy: students are offered training courses on technical skills (TS) (eg. ACLS) while non-technical-skills (NTS) are not part of their curriculum.
In this presentation we will report the development of an experimental simulation curriculum for the EM residents at DIMED.

Description

In 2016, the department head decided to investigate the introduction of simulation to enrich its education programmes for EM residents designing a simulation programme.
Following the purchase of a high-fidelity manikin, a team was created, comprising a group of 5 residents and one technical assistant. This led to the development of a 3 year curriculum in which the resident lessons are complemented with simulation scenarios, teaching the students NTS alongside TS, preparing them to face “life in the fast lane”.
To our knowledge, this is one of the few experiment of this kind in Italy for EM.
The final design is a 3 years course aimed at the EM residents of the 3rd, 4th and 5th year; the course comprises 10 dates per year: 2 skill labs, 1 day of introduction to CRM (crisis resource management) and to the manikin, and 7 sim days where the trainees, divided in groups, had to perform High Fidelity scenarios followed by debriefing sessions. The project relied in part on anaesthesia simulation facilities already operating in the department.
In 2016 the project started as a pilot, addressing only the 3rd year residents; the team was trained on NTS and debriefing techniques, and the course was run from November 2016 to October 2017, scoring enthusiastic feedbacks from the trainees.
In 2017-2018 the project will include both the 3rd and the 4th year EM residents.

Discussion

The course development had to cope with several constraints, the first being time scarcity: since both the trainers and the trainees were not exempted by their normal workload, simulation had to run along their normal duties. This could finally be solved only thanks to generous sacrifice of personal free time.
Another challenge was the absence of a location where to run the simulation; this was solved building a "mobile system", with wireless audio/video devices enabling the team to quickly repurpose any room to a scenario room.

Integration and evaluation of the reflective journal in the OSCE of the nursing curriculum

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

One of the main transformations driven by the European Higher Education Area has been the introduction of competency-based learning. OSCEs (Objective Structured Clinical Examination) has been extended to ensure the acquisition of competencies, allowing the student to be assessed at all levels of the Miller's pyramid (knows-knows how-shows-does).

But Miller's pyramid deals only with the assessment of the student's performance, that is, in the "doing", but we think that for learning, a transformative experience must go one step further, and modify the essence of the person going from "doing" to "being". Only in this way the competence of the student will evolve from "conscious-competence" to "unconscious-competence" and will therefore be integrated into the essence of the student, and her habitual practice.

Description

This paper presents the global design and a pilot experience using Phymel-Methodology to include reflective learning in a structured way in the nursing curriculum in 3 phases:

*PHASE-I: Theoretical-practical training through the debriefing phase of SCEs (Simulated Clinical Experiences) using 30 SCEs that have been designed to include all key competences for a nurse. This SCEs are an adaptation for Europe of the the PNCI (Program For Nursing Integration program) created by CAE Healthcare.

*PHASE-II: In real clinical practice using an instrument called the reflective diary where the students reflect on their own learning, with a structure similar to debriefing but individually.

*PHASE-III: In the OSCE, where the last two phases are objectively evaluated: (1) evaluation of traditional competences that are carried out with simulations similar to those experienced in simulated and real practice and (2) adding as a novelty an additional station where the students makes a reflective journal.

To give coherence to the whole experience, all the evidence used in each phase (videos of the simulation, questionnaires of evaluation of the different stakeholders, and reflective journal) is gathered using a telematic tool called

Learning Space .

Discussion

To guide this process we have chosen, the PhyMEL methodology (Physical, Mental and Emotional Learning) for three reasons: (1) It offers a structured way of representing all the stages a student undergoes in his training-transformation period, (vocation, theoretical-practical training , clinical practice, OSCE). (2) This journey was not made from the point of view of the teacher, but from the point of view of the student, in this way “reflective learning” take a very relevant role throughout the process (3) it can be used by others as a practical guide

KEY ELEMENTS FOR THE STRATEGIC INCORPORATION OF SIMULATION AS AN ACADEMIC DEVELOPMENT TOOL FOR UNIVERSITY: THE CASE OF UMANRESA (UNIVERSITY OF VIC-CENTRAL UNIVERSITY OF CATALONIA)

Format: Accepted for Poster Presentation
Subject: Center Administration and Program Evaluation

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Introduction & Aims

Umanresa (University of Vic- Central University of Catalonia) has made an institutional commitment to implement the simulation methodology in all its degrees and postgraduate programs since 2012. The institutional deployment was initiated following the phases below:

a) Incorporation of the simulation as a key methodological element in the Strategic Plan of the Centre
b) Start of a training process for Teaching and Research Personnel.
c) Deployment of investments and timely measures to fulfil the objectives established in the strategic plan

Description

In 2012, UManresa built a new teaching and healthcare building that was equipped with a plant (1000 m2) for the clinical simulation.
Later, a postgraduate course was encouraged, later converted into a Master's Degree in Simulation Methodology.
Additionally, some awareness / information seminars are programmed for all the collaborating professors.

In 2015, a simulation technician and responsible for simulation were incorporated, to ensure the deployment of the simulation in the different studies and programs. Simulator coordinators were also assigned in each of the undergraduate degrees. Documents of good practices in simulation, guidelines and internal process and procedure on simulation were developed.

During the 16-17 year, the following activities were carried out (including degrees in nursing, physiotherapy, speech therapy, podiatry and ADE, as well as continuous training): 65 cases designed, 1665 participants, 1241 hours of simulation. In total 18 facilitators and 24 subject experts participated. In 87% of the sessions the teaching team was composed of a simulation facilitator and an expert in the subject.

Apart from investment in infrastructures and equipment, all this activity has led to an increase in the cost of professionals, collaborators and teachers in simulation. During 2015-2016 academic year, the institution will allocate € 61,300. This item increases by 70% in the following year, with € 104,500, and it is estimated that it will achieve the stable figure of 150,000€ during the 2017-2018 course (with all the activity already working).

Discussion

An immersive implantation of simulation in a center / university requires three key factors for the success: to be incorporated into the strategic center plan, to provide the necessary resources and infrastructures, to train a broad group of facilitating teachers to lead its development.

La simulación como práctica modelada por la cultura: Una aproximación teórica fenomenológica

Format: Accepted for Poster Presentation
Subject: Faculty Development

Authors

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Introduction & Aims

La simulación clínica es una experiencia de aprendizaje que está modelada culturalmente. El conocimiento y/o habilidades movidas y generadas en ella son a la vez un producto cultural del que se espera una transferencia a la práctica clínica. Ello obliga a preguntarse por el proceso de cambio experimentado por el participante durante la simulación y conduce a la necesidad de tener claridad conceptual de los términos relacionados con el proceso. El artículo introduce conceptos que son útiles para describir la experiencia vivida en una simulación y dar una posible respuesta teórica de porqué la simulación funciona como método de aprendizaje.

Description

Desde una aproximación fenomenológica en toda simulación se dan tres conceptos para acceder a la experiencia.
En primer lugar, el concepto de percepción de Thomas Csordas y conocer el lugar en el que ésta se inicia y finaliza ayuda al facilitador a 1) conocer como construye la realidad el participante y 2) preguntarse por aquello que no es percibido.
El concepto de proceso ético de Jarret Zigon permite entender el proceso que viven los participantes durante la experiencia de simulación, como movilizan sus emociones y acciones durante la reflexión pasando de la inconsciencia a la consciencia.
Conocer la teoría de Galen Strawson sobre el uso de la narrativa, su importancia y la clasificación de las personas según su habilidad narrativa proporciona 1) comprensión de la influencia de la cultura en la forma de expresión de los participantes y 2) conocimiento de la relación existente entre el yo, la experiencia y la temporalidad.

Discussion

La integración de los tres conceptos permite tomar en consideración el carácter cultural de la simulación. Somos conscientes que aún faltan estudios que validen su efectividad en la práctica real y, aunque se ha demostrado más como método de aprendizaje, la aproximación presentada contribuye a incrementar la teoría para dar respuesta a la pregunta a qué se debe la efectividad de la simulación como método de aprendizaje. Entre los argumentos emerge la visión de la simulación como una experiencia que permite ver “el mundo [clínico] de nuevo”, con otra mirada, y permite teorizar sobre la práctica clínica desde lo que es posible; localiza la “vida [profesional]-como-nosotros-la-conocemos” dentro de un marco más amplio, el de la “vida [profesional]-como-podría-ser”.

Lateral never events: Are we going in the right direction?

Format: Accepted for Poster Presentation
Subject: Patient Safety / Quality Improvement

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Introduction & Aims

We make Left-Right (LR) decisions on a daily basis. Some people make LR discriminations with ease, while others find them difficult. In healthcare, LR errors can be catastrophic for patients, for example, when wrong-sided surgery is performed.

To reduce LR errors a number of ‘systems’ have been developed, such as, the World Health Organisation’s 19-item surgical check list or the ‘sign your site protocol’ (i.e., marking the incision site with a permanent marker). Nonetheless, wrong-sided errors still occur. In the United Kingdom alone, more than 40 serious wrong-sided errors were reported in a single year, although lack of reporting on a national level means that this is likely only the tip of the iceberg. While most wrong-site events are successfully recovered, the question remains, if there are more effective human factor based methods to prevent them in the first place, for example, could a person-centred teaching system improve accuracy in medical practitioner’s LR discrimination.

The Applied Behavior Analysis (ABA) based training method, Precision Teaching (PT), has been developed to teach skills to high levels of fluency, for example, in special education settings as well as medical education. The hallmark of PT is the use of bespoke flashcards, called ‘Say All Fast, Minute Each Day, Shuffle’ (SAFMEDS), in brief-burst training sessions (1 minute timings) focused on speed and accuracy i.e. fluency of a skill.

This paper reports on the impact of SAFMEDS on medical students’ LR discrimination ability.

Methods

Fourth year medical students from the same campus/same year were recruited for the study. Both, control and intervention groups, received usual teaching during the study. The ‘Bergen Left Right Discrimination Test’ (BLRDT) was used to quantify baseline as well as outcome LR discrimination. The intervention group used bespoke LR discrimination SAFMEDS for 1 minute two times a day for 5 days.

Qualitative social validity outcome data were collected from intervention group participants via interviews and focus groups.

Results & Discussion

To date (Winter term 2017-2018), 79 and 32 participants participated in the intervention and control groups respectively. The study is ongoing with further participants being recruited during the Winter term 2017-2018.

Quantitative data are analysed using a between-groups Analysis of Covariance (ANCOVA).

To date, six focus groups and seven face-to-face interviews have been conducted. Thematic analysis data will be reported.

Manikin made from recyclable material in adult cardiorespiratory resuscitation

Format: Accepted for Poster Presentation
Subject: New Technologies and INNOVATION

Authors

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Introduction & Aims

Over the years, health education has undergone numerous conceptual and methodological changes in teaching, among them, simulation. Simulation allows training in real conditions, with simulators and actors, in an interactive way, in a controlled environment and with several themes, for example, cardiorespiratory arrest (CPA). Cardiorespiratory arrest is defined as na abrupt cessation of mechanical cardiac function, thereby causing other vital organs to stop. In its occurrence, simple measures such as knowing how to recognize CPA, the immediate Emergency Department activation and the early start of the Cardiopulmonary Resuscitation (CPR) are procedures listed among the factors that are determinants of patient survival. Thus, using methods that increase the knowledge about cardiopulmonary resuscitation for the untrained lay rescuers becomes a social responsibility of health care professionals, especially in regions of social vulnerability and with difficulties in accessing health services. Besides social factors, another obstacle in the process of technical training in health are the economic factors involved in this process. In this context, the objective of this research is to report the experience of the use of simulators made from recyclable materials and their use as a low cost strategic tool for community training in primary care to the victims of CPR in a municipality near the capital of Brazil.

Description

The activity was suggested by nursing professors from the Federal Institute of Goiás-Brazil along with students from the nursing technical course. The team produced mannequins using recyclable materials, and there was a theoretical moment for the group, including a theoretical-practical module on attending victims of cardiorespiratory arrest as well as the proper approach to be used in the activity that would be offered to internal and external community. After this moment a theoretical-practical workshop on cardiopulmonary resuscitation was offered to the internal community of the Campus, in which fifty students were trained. In another moment, the workshop was offered to the external community and had as target staff and adolescents from a center of assistance to young people and children in situation of social vulnerability, in this occasion were trained ten workers and fifty adolescents.

Discussion

The employment of educational technologies associated to the use of alternative and low-cost instruments allow a greater connection with future health care professionals with methods that favor the teaching-learning process, also

expanding the access of vulnerable communities to health information can be a determinant factor of victim survival.

Novel approaches towards delivering quality simulation that meets the learning needs of the candidate at Maidstone & Tunbridge Wells NHS Trust

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

Since the 2008 Sir Liam Donaldson Chief Medical Officer's report there has been an increasing drive to incorporate medical simulation into all levels of medical education1. This has been recognised by Medical Schools and increasingly the Royal Colleges. Medical simulation to be effective needs to meet the learning needs of the candidate. Traditionally simulation has been practiced within one specialty, pitched at one grade at a time with predictable scenarios. At Maidstone & Tunbridge Wells Simulation we feel this traditional approach fails to adapt to the changing learning needs of the candidate. Like many other Simulation centres we are an anaesthetic based simulation department, responsible for delivering all simulation in the trust.

Description

We have created two novel approaches that better meet the needs of the candidate. These are the undergraduate symptoms based approach to simulation and All Level multiProfessional simulation (ALPs).

Discussion

We have found that 4th year medical students often struggle transitioning from pre-clinical, to the clinical reality of implementing their knowledge. On the course we run multiple scenarios with similar presenting symptoms but different diagnoses. This emphasises the importance of a structured approach to the patient, concentrating on history taking, examination and differential formation so the correct treatment can be established. The feedback has demonstrated that the course helps to bridge the gap between their knowledge and clinical practice, allowing them to take forward the skills learned onto their placements.
By contrast the ALPs course has candidates from different specialties, grades and healthcare backgrounds. The junior initiates the assessment of the patient prior to escalation. This increases the realism of simulation. The course is designed to explore the influence of human factors and to promote the use of crisis resource management during the care of an acutely unwell patient. The learner led, facilitated debriefs utilise the candidates different backgrounds, allowing them to challenge one another's beliefs around patient care. This demonstrates their interdependence on each other and strategies to work together in the future. The feedback we have received emphasises that as clinicians become increasingly experienced their needs from simulation change. They value the opportunity not to concentrate on clinical knowledge but on developing the non-technical skills of crisis resource management.

Nurstress : Can simulation based training prevents stress at work for nurse students ?

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

Stress at work represents an important financial and social cost, especially for healthcare workers. Recent french researchs by the National Federation of Nursing Students have shown that students are particularly stressed and that some of them already are in burnout. Burnout is probably the result of a build-up of stress and has its source in unregulated work stress. We aimed to study the effect of simulation training in the prevention of stress at work in nurse students.

Methods

Nurse student (second years of study) underwent simulation training course consisting in one day of full scale simulation of critical situations (4 scenarii of 15-20 minutes followed by a debriefing session of 30-40 minutes).
Autoevaluation of student stress was evaluated using a questionnaire with a Likert scale of 0 to 10 (0 being the lowest level and 10 the highest level of stress) for critical situation faced before the training, just after the simulation session but also 4 months after the session, during clinical practice.

Results & Discussion

211 responses were initially collected. 48% of these participants have experienced a critical situation in clinical practice, with a mean stress level during this situation of 7.3 (SD = 2.4, ranging 0 to 10).

During the training, student stress related to critical experienced was estimated at 4.4 (SD = 2.4, ranging 0 to 10). Immediately after the training, expected stress to critical situations potentially experienced in the future practice was estimated at 5.6 (SD = 2.1, range 0-10).
A significant decrease in stress between “before” and after the simulation was observed ($p < 0.0001$, t test).
For the four months evaluation, 110 responses were collected. 45% of the students have faced a critical situation during this interval. They mean stress related to this situation was evaluated at 5.6 (SD = 2.0, range 1-9). This level stress was comparable to the one measured after the simulation session.
Simulation-based training appears to decrease the self-perceived stress related to critical situations for nurse students. Simulation training for nurse student could therefore have long term benefit, especially for chronic exposure to critical situations.

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Obstetric and gynaecology specific simulation – Enhancing O&G teaching for undergraduate medical students

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

Background
Medical student involvement in medical emergencies is limited; even more so in Obstetrics and Gynaecology (O&G). High fidelity simulation offers medical students the opportunity to utilise theoretical knowledge, clinical practise and non-technical skills in a safe learning environment. It's a teaching modality with increasing evidence of improving clinical practise.

We now deliver O&G specific simulation sessions to all (>40) Southampton medical students undertaking their clinical O&G placement at the Royal Surrey County Hospital high-fidelity simulation suite, using SimMan3G.

Description

Method
We created simulation scenarios focused on the RCOG undergraduate curriculum and foundation programme curriculum.

We collected quantitative and qualitative data through pre- and post- simulation questionnaires from the medical students on an O&G attachment at RSCH.

Discussion

Results
Scenarios
The students reported finding the scenarios challenging, thought provoking, and relevant to their learning and curriculum needs. Feedback included that [it] "felt very real and the scenarios were well designed".

Outcomes
Feedback showed a subjective significant improvement in their knowledge base, as well as feeling better equipped to recognise and manage an acutely unwell patient; and felt their clinical practise would improve as a result of the simulation session.

Majority of students asked for more simulation sessions, felt the session was enjoyable and strongly agreed that the debrief, individualised feedback and whole simulation session were useful.

Qualitative feedback included:
“Being on your own really forces you to think on your feet and not just rely on others.”
“[the most useful element] is being put in a position where you have to make decisions for yourself”
“Great learning environment”

Structure
The new simulation template format was well received by the simulation team; described as easier to follow and appropriately detailed, and expanded to other simulation scenarios.

Conclusion
The benefits of simulation have become increasingly recognised; however, given the amount of resources and faculty necessary – it is imperative that we optimise its usefulness.

O&G specific simulation tailored to an appropriate level is an excellent teaching tool which can facilitate an improvement in knowledge and confidence of O&G emergencies; consolidating what students have learnt thus far.

We have developed a well-received O&G simulation curriculum for undergraduate medical students which incorporates key O&G emergency presentations that junior doctors may face and reinforces the A – E structured approach of assessing and managing an acutely unwell patient.

We aim to continue to develop the current curriculum and to expand the simulation sessions to the O&G trainees.

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Overcoming cultural barriers: developing a training programme to teach handover in a Ghanaian emergency department

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

Tanya Lindsay — Royal Cornwall Hospital Trust

Introduction & Aims

Korle Bu Teaching Hospital is a large tertiary care and national referral centre in Accra, Ghana. During the months of October and November 2016 there was a mortality rate of 60% within the first 24 hours of a patient being admitted to the department. A departmental review showed concerns surrounding shift handovers.

These were initially to develop a tool to assess the quality of handovers and deliver a training programme to improve them.

Having spent time observing the shift changes, it became apparent that there was no handover occurring and the prototypical, evidence based tool devised for this task was not fit for the task.

Following this, the aims became to develop■ a tailored training programme for handover that would become embedded into the daily practice of the ED.

Description

The first session was lecture-based and covered information such as definitions and importance of handover.

An anonymous questionnaire was completed before the first session to assess confidence using a five-point likert scale.

An evaluation form was completed after the first session asking participants about their preferred teaching styles.

The following three sessions were developed based on the data from the questionnaires and ongoing observations.

Each shift handover was observed. A discussion with the clinical lead about the cases seen occurred at the end of each day.

Discussion

The first session included role play and more was requested on the questionnaires. A 19-year-old patient went into cardiac arrest during the observation period and the management of this was conducted very poorly. This became a focus for the latter sessions.

The medical presentations, protocols and terminology differed from those to Emergency Departments in the UK and knowledge of these were needed to make teaching relevant.

Pre-curriculum confidence rating scales scored highly. Therefore there was minimal recorded improvement in confidence and ability to handover on post-curriculum questionnaires.

The key factors required to develop a training programme in a culture very different from the UK were to consider departmental culture, medical presentations and hospital data. This required immersion in the department, flexibility with training styles and timings and a continual dialogue with the clinical lead.

Simulation was found to be an excellent and enjoyable tool for cross-cultural training.

Participants' take home messages in simulation based mastery skills learning

Format: Accepted for Poster Presentation
Subject: Center Administration and Program Evaluation

Authors

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Introduction & Aims

Simulation based mastery learning is a highly effective method for teaching even complex procedural skills. Standardised procedural checklists are an integral part of mastery learning sessions, giving the faculty and course organisers an objective view of participant performance. As well as allowing targeted feedback, these checklists allow the faculty to measure changes in the participant's performance. However, this doesn't necessarily give an indication of what the participants feel they have learned and what they plan to take to future practice.
This study aims to determine the participants' own take home messages following a simulation based mastery learning session and to determine how closely this aligns to changes in behaviour as measured by session faculty. It is hypothesised that participants may, in self reporting, focus on the technical aspects of the procedure.

Methods

Mastery skills learning sessions were delivered by faculty expert in the individual skill and trained in the mastery methodology. These sessions began with the participant performing the procedure to give a formative baseline, measured by checklist. Targeted teaching and feedback is then given and the session completed with a summative simulated performance again measured by checklist.
After the completion of each session participants were each asked, via anonymous electronic form, to record their own key learning points from the session. These comments were collated and subjected to thematic analysis using a six step technique. The resulting themes were then be compared to the changes of behaviour typically demonstrated during the sessions as measured by the standardised procedural checklist.

Results & Discussion

Data analysis is still underway; however, a few broad themes have already begun to emerge from participant feedback. Reported take home messages were not limited to the technical aspects of the procedure itself. Comments also related to aspects including procedure preparation, clinical decision making and the non-technical skills required for the procedure.
The procedures being taught as part of this simulation based mastery learning programme are all complex and carry risk of significant complications. To effectively reduce these risks, practitioners must be proficient in all aspects of the given procedure. This study gives evidence that this teaching modality successfully stimulates participants to internalise a broad range of behaviour changes not limited to the technical procedure itself.

Prehospital care is different! The need for a simulation-based research laboratory

Format: Accepted for Poster Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

Research in the prehospital context is challenging, due to the: nature of the work, mobility, and the diverse tasks and contexts. Issues related to informed consent, ethical considerations, participant sampling, inclusion criteria and replicability are major. We propose contextualized simulation as one way to address several of these challenges. When designed appropriately, this could enable the study of complex situations and effects of interventions in an efficient way, as well as prepare for real-life interventions through thorough pre-testing of study protocols and data collection instruments. The aim of the present project is to develop best possible requisites for simulation-based prehospital research.

Methods

To create prehospital simulation that provides a ground for high validity, close replication of work tasks, processes and practices is important. This is attained through increased contextualization of the simulation, in terms of width and depth. Width refers to including all phases and activities in an ambulance mission, from dispatch and driving to hand-over. Depth includes increased level of detail for activities and tasks, e.g. a fully equipped ambulance, realistic equipment for communication and documentation as well as different physical locations such as outdoor areas and on-scene rooms. Depth also includes contextualization through image projections, sound, temperature and weather, and olfactory cues. Finally, in this type of laboratory there is a need for equipment and resources to support collection, storing and analysis of many different types of data and data sets.

Results & Discussion

The proposed simulation approach could be used for many different purposes, e.g. development and evaluation of prehospital equipment and technology such as decision support systems and its effects on the whole prehospital process, even in premature stages where certificates for clinical use are lacking. Other areas include prehospital patient safety risks and to evaluate patient safety interventions, as well as recreation and analysis of adverse events. Through simulation-based studies and data collection such as experiments and video recordings, simulation can replace some data that would require hundreds of observation hours in clinical settings, and provide grounds for more efficient, safe, ethical and scientifically rigorous prehospital research.

Prehospital CPR performed with visual feedback

Format: Accepted for Poster Presentation
Subject: Patient Safety / Quality Improvement

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Introduction & Aims

Previous research has shown that prehospital emergency personnel is not always able to perform CPR with a correct and life-sustaining quality. One important measure to increase the possibility for survival of patients, is to evaluate and train Emergency Medical Technicians (EMT), such as fire fighters, in CPR. The training in this study was performed with a new type of manikin providing visual feedback consisting of lights indicating the CPR quality.
The aim of the study was to evaluate fire fighters' perception of visual feedback during CPR.

Methods

This study had a qualitative design. The participants consisted of 16 fire fighters with EMT training, 15 males and 1 female. Data was collected during CPR simulation, and a manikin providing visual feedback of CPR quality (Brayden Pro, Innosonian Europe), was used. The participants performed CPR for two minutes on the manikin, with the visual light as the only feedback of the CPR quality. Participants did not get any additional feedback during their performance from the instructor. After CPR, the fire fighters were asked to describe how they had perceived a manikin with visual feedback. Data was analyzed using an interpretative qualitative content analysis.

Results & Discussion

Compressions were considered easy due to the lights indicating proper performance. The participants described that it was easy to find a correct compression rate. Some described that the force needed for compressions was rather low, resulting in a feeling that the compression rate was slow. Some participants described uncertainty whether to increase or decrease the compression rate when not getting visual feedback.
The experience of ventilating the patient was positive, and the chest was described as easy to expand when the airway was open. It emerged how important it was to position the head in a correct position to establish a free airway and to successfully ventilate the patient.
The quality of the CPR is important for the patient's chance of survival. The staff often have a good CPR technique, but lack a feeling for correct compression rate and depth. Training with visual feedback may help participants to create a muscle memory for how a high quality CPR should feel.

Puerta de Hierro University Hospital obstetric simulation team knowledge gaps elicited during the obstetric emergencies courses

Format: Accepted for Poster Presentation
Subject: Interprofessional / Team Education

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Introduction & Aims

Puerta de Hierro Obstetrical Simulation Team is a multiprofessional team that includes midwives, obstetricians and anaesthesiologists. We are a total of 8 instructors; 4 of us have the Prompt T3 Course accreditation.

For the last 4 years we‘ve been organizing Obstetric Emergencies courses; some of them at the simulation unit of our hospital and in some cases we travelled to other hospitals with the objective to use their own obstetrical facilities, train more workers and make the scenarios more realistic.

We designed a survey about shoulder dystocia for the purpose of measuring the knowledge of the correct management of this obstetrical emergency. We passed the survey among the participants of the December 15th Shoulder dystocia symposium and following workshops before the learners would be involved in the training program. The survey was conducted anonymously using a Google doc electronic survey and had 20 questions about the Shoulder dystocia Management; some of them included videos and pictures. The survey was completed by 95 participants (midwives and obstetricians) from different hospitals in Spain.

We also designed a survey for the workers of the Madrid Emergency Ambulance Service to evaluate their general knowledge of obstetric emergency management, and passed it before they attended an Obstetric Emergency course that we offered them. The survey was conducted anonymously using a Google doc electronic survey and was completed by 63 participants (57% nurses- 43% doctors).

Description

To determine the knowledge gaps in shoulder dystocia management among Spanish midwives and obstetricians.

To determine the knowledge gaps in maternal care among the “servicios de urgencia extrahospitalarios”.

To present the results of our surveys for shoulder dystocia management and emergency maternal care by the “Puerta de Hierro Multiprofessional Obstetrics Team”.

Discussion

There is an important knowledge gap in Shoulder dystocia management among obstetricians and midwives who are working daily in our hospitals.

The participant obstetricians and midwives have problems correctly performing first line manoeuvres as Mac Roberts.

The Maternal code resuscitation protocol requires that the care provider manage a critical situation that most of the Emergency Service workers, had never experienced during training.

Emergency Service workers don’t receive training in maternal code that takes into consideration the Peri Mortem C Section option.

Multi professional training is highly recommended for all types of obstetrical emergencies.

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Quality and safety of care: And if the solution came from the interdisciplinary co-construction of educational tools? Feedback on the first module "virtual simulation and patient safety" at the Institute and High School of Nursing La Source (ELS)

Format: Accepted for Poster Presentation
Subject: New Technologies and INNOVATION

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Introduction & Aims

According to literature:
- The occurrence of avoidable serious adverse events can be minimized by frequent hands-on training.
- Blood transfusion is a commonplace act, but where error has no place.
- Virtual Reality is a powerful self-training tool that allows participants, present at the same place or geographically dispersed, to train together and at will on virtual patients.

The teaching of the transfusion act at the ELS, initially theoretical, has been enriched over the years by task training and then high fidelity simulation sessions.
This pedagogical scheme unfortunately allowed little individual or peer-to-peer drill, and thus the acquisition of the expertise expected at the exit of the school by employers and patients. .

Description

Not having found the perfect teaching tool, we decided to build, in collaboration with a startup, the first elective module "virtual simulation and patient safety" for our students in 2nd year of their Bachelors in nursing care.

Students, teachers, engineers and the management of our institution have successfully taken up the challenge of this extraordinary experience, combining education and industrial development.
The main educational objective for this module was to enable students to develop specific skills in the professional, educational and technological fields related to virtual reality and the safety of the blood transfusion act.
But the main point of this module was the co-construction of a virtual reality platform dedicated to learning the rules of implementation of a blood transfusion.

A tool for students made by students ....

Discussion

9 months after:
- We can validate the merits of our educational approach and the feasibility of this pilot experience due to the enthusiasm and fruitful interactions amongall participants.
- We referenced related learning such as the discovery of issues and means of interdisciplinary collaboration, but also the discovery of the entrepreneurial spirit inspiring the startup adventure which has been a real motivating factor for our students.
- We have also learned from our students, who have raised ethical questions related to the dematerialization of education.

So this experience has successfully led us far beyond our educational expectations. We now need to focus on measuring the impact of virtual reality scenarios on the knowledge and practical skills our students have acquired, in addition to classical training, in order to define what is the major determinant, virtual reality and / or co-construction, and how this approach can be integrated into the Bachelor program in Nursing.

Quality of team work and leadership during resuscitation: intra- and inter-observer reliabilities of the « Mayo High Performance Teamwork Scale – MHPTS » and « Leadership Behavior Description Questionnaire – LBDQ »

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

Introduction: Resuscitation training using high-fidelity simulation allows for the improvement of team work, communication skills and leadership.

Methods

Methods: In order to measure the effect of simulation training sessions on teamwork and leadership, we translated two existing scales into French language, the « Leadership Behavior Description Questionnaire » (LBDQ), and the « Mayo High Performance Teamwork Scale » (MHPTS), a choice based on their face and content validity, as well as on the available data in the literature on their construction validity. Using a series of 67 recordings of simulated resuscitation scenarios and teams, we analyzed the inter- and intra-observer reliability of the two translated scales.

Results & Discussion

Results: The inter-observer reliability of the total score per observation, measured with the type III intra-class coefficient (ICC), was moderate for the MHPTS (0.60; 95% CI, 0.38 – 0.74) and substantial for the LBDQ (0.71; 95% CI, 0.40 – 0.85). The intra-observer reliabilities for the four observers ranged from slight to almost perfect for the MHPTS (0.16 – 0.81) and from moderate to almost perfect for the LBDQ (0.55 – 0.90). Intra- and inter-observer reliabilities of the individual MHPTS items ranged from slight to fair (Kappa intra-observer 0.11 – 0.41) and from poor to fair (Kappa inter-observer -0.15 – 0.33). Intra- and inter-observer reliabilities of the individual LBDQ items ranged from slight to fair (Kappa intra-observer 0.15-0.45) and from poor to slight (Kappa inter-observer -0.15 – 0.13).

Discussion: Based on this study, the total scores of both the LBDQ and the MHPTS have acceptable intra- and inter-observer reliabilities. Nevertheless, given the much lower intra- and interobserver reliabilities of the individual score items, the total scores of both scales should be interpreted cautiously and their routine use as tools for assessing the quality of teamwork and leadership cannot be recommended.

Real simulation in the teaching of the first aid to politraumatized person to medical students

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

Introduction
Teaching the first medical assistance to trauma victims presents a challenge to educators since it requires high fidelity scenarios to enable students to perform all stages of the trauma international protocol.
The purpose of the study was to assess the medical students' learning after simulation of first aid to trauma victims.

Description

Methodology
This was a dual descriptive and quantitative study carried out by medical students from the Simulation Center of Estácio de Sá University in Rio de Janeiro. Fourteen subjects took part in the study: medical students from the 4th to 7th semesters. Pre and post-tests were used as assessment tools.
Participants attended an interactive explanation on the theme and a practical assistance demonstration.
In an external environment, an actor performing a trauma victim was laying on the ground. Caractherized by the Moulage technique, he presented a blunt lesion on the face plus an abdominal hematoma. He was also confused and complaining of pain during handling.
Eight students were asked to take part in the assessment session, so they were randomly divided in two groups of four students: the first group was designated for pre-hospital emergency care and victim transport and the second group, for in-hospital care.
The students' actions performed in the in-hospital care were recorded in a checklist form. Afterwards, the Debriefing session was carried out.

Discussion

Results
Concerning theoretical assessment, the post test presented a higher score of 7.1% ($p<0.05$). For practical assessment of in-hospital care, participants demonstrated failures in only two steps in the management of trauma protocol: jaw thrust manuever and hypothermia control.

Conclusion

The study suggests that the educators consider Simulation for a large educational experience. Additional research should replicate the study in other subjects.

Download: Download figure/table

Review of cleaning procedures used for Adult Basic Life Support (ABLS) manikins

Format: Accepted for Poster Presentation
Subject: Patient Safety / Quality Improvement

Authors

Dawn Upton	C&DTraining Ltd
Carol Haynes	C&DTraining Ltd

Introduction & Aims

The objective was to establish whether the cleaning of face skin and connector from a Brayden manikin is equivalent to the Laerdal Little Anne

Description

Materials & Methods
Over 100 BLS trainers surveyed to ascertain cleaning methods used, frequency of face skin changes and cleaning facilities available. From the results of survey two face skins were kept separately as controls and others were used to test a selection of cleaning methods identified, minimum of 2 faces per method. Each test carried out a minimum of 24 times. Following tests, face skins visually checked against the control faces and used on a manikin to check continued adequate performance.

Discussion

Results
Seven Brayden face skins and connectors were cleaned in a dishwasher , 2x70°, 2x60°,3x50°. One face skin cleaned using wipes only and one cleaned using sterilising solution only. All faces were cleaned 64 times. On visual inspection there were no obvious cracks, deformities or defects. All face skins retained their shape and structure and fitted back onto manikins easily. In addition two extra airway valves and mouth connectors were tested using sterilising solution and all worked effectively after testing. All of the samples were sent to Innosonian laboratory for further checks on discolouration, deformation and alteration of surface area. All samples passed laboratory checks.

Conclusions
By testing the most commonly used cleaning methods identified against control faces we were able to establish that the Brayden face skin does not degrade, discolour or become misshapen whether using wipes, sterilising solution or dishwasher at various temperatures. Care does need to be taken to ensure face skins cleaned in dishwasher do not come into contact with remnants of highly coloured food/dyes to avoid the chance of staining.

SESAM
PROMOTING SIMULATION IN MEDICAL EDUCATION
SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

Safety first: Embedding psychological safety at the heart of a novice anaesthesia course.

Format: Accepted for Poster Presentation
Subject: Debriefing

Authors

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Introduction & Aims

Simulation is a powerful tool for adult learning and has been pioneered and developed extensively within anaesthesia. The peer-lead Novice Anaesthesia course has been established in Bristol for nearly a decade and allows trainee anaesthetists the opportunity to practice airway skills and management of emergencies in a high-fidelity environment without exposing patients to risk. Despite the unique opportunities it offers, trainees consistently identified themselves as feeling nervous prior to simulation. Stress, fear of judgement by faculty or peers and unstructured debriefing can all contribute to a poor learning environment. The concept of Psychological safety is recognised in best practice guidelines and may be defined as ‘‘the ability behave or perform without fear of negative consequences to self-image, social standing, or career trajectory.’’ We sought to embed this concept at the heart of our course.

Description

We undertook following targeted interventions in preparation for the 2017/18 course:

• A full review of scenarios, timings and venue.
• Conducted a specific pre-course questionnaire to assess participants concerns regarding simulation and going on call.
• Formulated a pre-simulation brief specifically aimed at fostering a safe learning environment.
• Incorporated the “3D Debriefing model”, placing emphasis on allowing students to defuse the emotional elements of simulation.
• Provided a peer-observation of debriefing program to promote faculty development. This included training on psychological safety, debriefing and allowed transparency and continual review of the debriefing process.
• Designed a novel Post-course survey to gauge the psychological safety of the learning environment.

Discussion

Results of the post-course survey on the safety of the learning environment are detailed in fig.1.
Free-text comments included:

o “Best debriefing sessions EVER”
o “Felt comfortable in front of faculty and other members of course”
o “Excellent course – staff / faculty some of the most supportive I have done simulation with (& I hate sim!)”

The importance of creating a safe learning environment is now emphasised in national best practice guidelines. However, simulation amongst junior trainees can still evoke negative emotional responses that are not only deleterious to their learning, but also to their ongoing professional development. By embedding psychological safety at the heart of the Bristol Novice Anaesthesia Course we have created a challenging yet supportive learning environment that builds confidence and skills in anaesthesia trainees at the early formative part of their careers.

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Same, similar or different? Benefits and unexpected challenges in conducting international multi-site simulation research

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Kathie Lasater	Oregon Health and Science University, Portland
Kathy Holloway	Victoria University, Wellington
Ann Nielsen	Oregon Health and Science University, Portland
Sam Lapkin	St George Hospital, Sydney
Belinda McGrath	Whitireia Community Polytechnic

Introduction & Aims

There is rich cultural diversity across the nursing student body within and across countries. Such diversity needs to be taken into account when creating, delivering and debriefing simulations. One approach to prepare students for simulation experiences is to model ideal practice. Academic educators are challenged to foster development of clinical judgment in diverse learners. Attuning students' focus to noticing appears to guide students through to the second interpreting stage (Tanner, 2006). Simulation is a useful vehicle to help develop students' noticing skills but the influence of students' backgrounds on these areas has not previously been studied.

There are well-known challenges in conducting international multi-site studies. In addition to gaining sufficient numbers, the intent of sharing trigger AV materials modelling ideal practice learning activities across countries has raised interesting and unanticipated challenges.

The aims of this presentation are to:
• summarize the research processes used in this multi-site study
• share the challenges and benefits of the approaches used

Description

In this mixed methods, exploratory study, students at similar places in their nursing degree programs participated in the research. Three study sites included a university in the US, Australia, and New Zealand (NZ). IRB approval was obtained from each institution. The nursing programs within each site reflected an array of student diversity.

Preparation of the intervention (online learning activity) occurred through extensive collaboration amongst the researchers. The online learning activity was delivered within class time or offered as extra credit. All aspects of the learning activity were embedded in a survey tool, including a video of an expert US nurse, role modeling how to care for an elderly, post-operative patient (manikin). The patient exhibited numerous clinical cues relating to pain, confusion and agitation. The researchers at each site were also course faculty or had local responsibility for coordinating the project.

Data included 7 open-ended case study questions based on research (Corram, 2016; Tanner, 2006); 8 questions relating to participants' background; and 7 Likert scale questions evaluating the learning activity. Responses from all student participants came directly to a single online account.

Discussion

Despite extensive planning for how and when the online activity would be delivered, some technological differences between countries presented unanticipated challenges. Coordinating data analysis, particularly coding the responses, highlighted differences across countries within the professional discourse and commonly used clinical phrases, amongst the students as well as the researchers.

Seasonal Simulations: Enhancing enjoyment & enriching the educational experience in adult learners in a tertiary pediatric hospital.

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Thomas Bourke	Clinical Academic Consultant Paediatrician , QUB/RBHSC
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Introduction & Aims

Technology-Enhanced learning through Simulation-based teaching is a well-recognised method of medical education both at undergraduate and postgraduate level.
Simulation based learning offers the opportunity to develop specific clinical scenarios relevant to the learners needs assessed in safe, learning environment.
If a Simulation-based training programme is seen as unenjoyable, intimidating, or has potential to embarrass in front of colleagues 1, it will not only negatively impact on a learners experience but may jeopardize trainee-support for the educational programme itself.
It is important that teaching sessions offer constructive learning outcomes in an pleasant and relaxed environment.

Description

We have created a series of Seasonal Simulation teaching events in a Paediatric Hospital as an extension to the formal Simulation-based education programme.
Three specific seasonal simulations have been designed with focused learning objectives covering key paediatric curriculum topics for students2 and trainees.3
Each scenario features seasonal-based narrative and characters. These include a replicated Halloween themed simulation with a young vampire boy presenting with Hyperkalaemia and VF arrest following ingesting sweet treats which were poisoned by a ‘wicked witch’.4
Our original Christmas simulation involves a ‘Junior Elf’ accidentally falling from Santa’s sleigh presenting to our local ED on Christmas Eve with decreased GCS, having sustained a traumatic brain injury.
The final themed seasonal simulation includes the Easter Bunny’s child presenting unwell and requiring management of the 'acute abdomen'.
To date, the initial ‘Halloween’ Seasonal Simulation session has been extremely well received from both medical students and doctors.
Of the 11 candidates (7 medical students, 4 doctors) who attended our initial seasonal event, all responded to the survey. 11/11 (100%) thoroughly enjoyed the learning experience, and 100% would be keen for more theme-based fun educational experiences. All candidates felt the session was clinically relevant and would be useful for their future practice.
Qualitative feedback received included: ‘educational’, ‘enjoyable’, ‘fun’, ‘informative’ and ‘relevant’.

Discussion

In adult learners, having fun and experiencing enjoyment has been recognised by both learners and teachers as a motivator to attend teaching sessions and engage in learning. Furthermore, these feelings can promote and encourage learner concentration in the session. 5

Through our Seasonal Simulation programme, medical students and trainee doctors have benefitted from a variety of themed simulated teaching events, which have proved to be clinically relevant as well as enjoyable. We plan to further develop our Seasonal simulation catalogue with a view to delivering clinically-relevant, educational-valuable fun teaching sessions in a simulated environment.

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Self-perception versus OSCE performance among medical students

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

Health education challenges and an adequate assessment method have been the motive for the development of educational technologies and strategies for decades. An assessment in OSCE format allows a better identification of the student's competences, involving not only theoretical knowledge, but also their ability, competence and performance.The objective of the study was to compare the self-perception of medical students with their performance in the OSCE.

Methods

Retrospective study of data collected in the first semester of 2017 from the Medical Course in the Surgical Discipline in the city of Manaus, Amazonas State, Brazil. All students who were duly enrolled in the course were included and volunteered to respond to the instrument.The instrument was based on no studies by Katowa-Mukwato P. & Banda S.S. (2016) and adapted by the teachers to evaluate the self-perception of students regarding theoretical knowledge, practical and confidence.

Results & Discussion

A sample composed of 40 students, with a mean age of 25.8±2.9 years.They reported having sufficient theoretical knowledge to not require 60% supervision when related to anamnesis of a patient, 27.5% to identify a cardiac arrest(CPR) and 32.5% to indicate complementary tests. They reported knowledge, however, with the need to consult a professor 27,5% for anamnesis, 32,5% to identify PCR, 50% to indicate complementary tests, 55% to nasal plug(NP). As for self-perception of competence in practice, they reported being confident only in specific situations that need to be readily available teacher 40% in the case of CPR and 25% to NP, were not confident in real situations 27.5% in CPR and 15% in NP, and considered insufficient 20% for CPR and 17.5% for NP.They had never attended a CPR 82.5% and

performed NP 87.5%. When comparing the results of self-perception with OSCE performance, the students who reported being confident(82.5%) to indicate complementary tests had mean scores of 61.3±16.2% in the OSCE and those who considered themselves less confident(17.5%) reached 66.9±8.9(p=0.22).Regarding the anamnesis, 87.5% reported being confident, showing a hit of 80.8±6.7% and 12.5% not very confident with 76.2±5.0 (p=0.11).The 25% who reported little knowledge of NT had an average of 81.2±23.8% of correct answers and 75% who reported high self-perception of knowledge had an average of 85.4±15.4%(p=0,61).
It was concluded that there was no significant difference between the means in the OSCE of the academics who reported confidence in knowledge when compared with those who reported little knowledge regarding the request for complementary tests, anamnesis and nasal tampon.

Simulación de entrevista psiquiátrica

Format: Accepted for Poster Presentation
Subject: Interprofessional / Team Education

Authors

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Marcela Tejada	Ingeniera Biomédica
Valentina Corchuelo	Ingeniera Biomédica
Stephanie Ordoñez	Ingeniera Biomédica
Sandra Milena Ramirez	Psiquiatra

Introduction & Aims

La simulación clínica es una estrategia pedagógica fundamental para la formación de profesionales de la Salud en el Hospital Simulado de la "Pontificia Universidad Javeriana Cali". En este espacio los profesionales en formación, tienen la oportunidad de afianzar sus conocimientos a través de esquemas de simulación clínica aplicados por medio de estructuras curriculares diseñadas por los docentes en cada asignatura. Sin lugar a dudas, la simulación está directamente relacionada con la integración de estrategias pedagógicas para alcanzar objetivos educativos que preparen al estudiante para la práctica clínica; uno de los casos de éxito y con mayor trayectoria en el Hospital Simulado es la entrevista psiquiátrica, una experiencia en simulación que ha contribuido significativamente en la formación de los médicos en proceso de formación, preparándolos para la realidad del entorno clínico al que se ven enfrentados diariamente.

Description

Describir la experiencia en simulación de entrevista psiquiátrica en el Hospital Simulado de la "Pontificia Universidad Javeriana Cali" en el periodo comprendido entre los años 2014 a 2017. Dando a conocer a los actores involucrados en el proceso de simulación, integrado por: estudiantes de V semestre de la carrera de medicina, actores del grupo de teatro de la universidad – Altergesto, docentes formados en psiquiatría, equipo de ingeniería biomédica y el valioso recurso físico y tecnológico en el cual se llevan a cabo las actividades de simulación, Hospital Simulado.

Discussion

Se realizaron 442 entrevistas con 516 horas de simulación en un periodo de 4 años donde se logró articular completamente la estrategia pedagógica con los contenidos y los objetivos de la asignatura, obteniendo resultados significativos en la adaptación del estudiante a la entrevista psiquiátrica en entornos reales.

La simulación de alta fidelidad con la integración de actores que representan a pacientes psiquiátricos, un cuerpo docente y administrativo capacitado en simulación y la tecnología del Hospital Simulado, permitió cumplir los objetivos propuestos en la asignatura de Conducta Humana II del programa de Medicina de la "Pontificia Universidad Javeriana Cali". La articulación del contenido curricular de la asignatura Conducta humana II con actividades de simulación ha permitido una formación integral de 442 estudiantes del programa de medicina entre el periodo 2014 a 2017, los resultados han aportado componentes esenciales para la formación de profesionales con excelencia académica y calidad humana.

Simulation as a teaching method in nursing academic league - an experience report

Format: Accepted for Poster Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

The Academic League of Nursing in Trauma, Emergency and Simulation aims to mobilize nursing academics in favor of the development, promotion and dissemination of knowledge in health care emergencies. Realistic simulation can portray real events for students, enabling the achievement of notions for better understanding and resolution of situations that could be experienced in the real world. The nursing team plays an important role in the treatment of wounds, where the dressing must be done in a dynamic and gradual process, necessary to master the theoretical knowledge for an effective follow-up and treatment, seeing as the wrong choice of intervention can prolong the treatment of the wound.Objective: Describe the students' experiences during the preparation of realistic wound makeup.

Description

This is an experience report executed by students of the nursing academic league in emergency, trauma and simulation on the implications of the simulation in the construction of professional nursing character in the scope of wound management. The realistic simulation happened in two moments. In the first moment, the students of the academic league participated in a workshop teaching the production of realistic wound makeup; since another important aspect of this simulation is the proper nursing management in a patient affected by multicausal wounds, the students were trained for incisions, lacerations and abrasions. The second moment was carried out together with a social responsibility activity of the university. Instructed members performed simulated make-ups with varying degrees of laceration, incision, or abrasion on health-care students. After that, the participants were instructed on what each wound was and what immediate care they should provide. At the end of the making of simulated wounds, the students were asked about the veracity of the wounds as opposed to photos of real wounds with characteristics similar to theirs.

Discussion

It was identified that the simulated makeup resembled a real situation, emphasizing the importance of the professional knowledge in the immediate management in such situations. It was considered that the realistic simulation humanized the teaching and encouraged them to overcome difficulties. In this way the reported experience reinforces that the realistic simulation is an innovative methodology in the teaching and learning process of nursing students for

Professional activities in different fields of work.

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Simulation assessment of skills BESTA guru as a part of the state medical exam

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

Proficiency level of manual skills cannot be adequately assessed by portfolio of fulfilled/assisted manipulations and operations, so it should be tested in simulation environment. The most challenging is to standardize and digitalize assessment of the surgical skills. 31.789 future doctors – graduates of 88 Universities and medical faculties of Russia – have participated in the State Accreditation Exam in 2017. In the 2019 when the post-graduates will join the accreditation process this number will be increased by 50%. Large quantities and wide spectrum of specialized skills to be assessed is a great challenge for medical education institutions. Aims of the study were to establish the list of skills and their objective assessment methodology in simulation environment to check of practical proficiency level of large quantities of graduates and residents.

Description

The State Primary Accreditation (State Exam for the graduates) has been started in Russia in 2016. In the year 2019 the post-graduates (residents) will join the Accreditation procedure. They will have to demonstrate their practical skills in simulation environment. Russian Society for Simulation Education in Medicine ROSOMED [rossomed] established four Working groups for development of Simulation Assessment Stations for therapy, surgery, obstetrics and gynaecology, intensive therapy and anaesthesiology. Surgical working group offers to use several tasks of BESTA (Basic Endosurgical Simulation Training and Assessment) to check surgical skills. In order to standardize this assessment specialized software BESTA.guru has been developed.

Discussion

The Working Groups of ROSOMED in cooperation with professional societies have developed proposals on Simulation Stations for State Accreditation of Residents for the Ministry of Health Care. The software BESTA.guru for digital assessment of surgical skills based on video has been developed. Proficiency level can be automatically assessed during the State Accreditation in real time. Thus, practical skills' proficiency level of the medical graduates and post-graduates can be objectively assessed during the State Accreditation using BESTA.guru – software analysis of videos.

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Simulation program on relationship with the patient in the degree of medicine of the European university of Madrid

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

The health intervention model focused on the patient is the pillar on which the medical profession is based at present. This model implies shared patient-professional decision-making and must fulfill all the expectations of the patient and their relatives. The professional provides updated information, identifies the uncertainties, invites the patient to express their preference and verify that they have chosen what is most appropriate for them.
Carrying out this model implies the need for specific training in relation to the relationship with the patient. It is here where the simulation overcomes the limitations that the learning of these competences had until now. The aim of the experience presented is to describe the program of relationship with the patient implemented through simulation, in the degree of Medicine of the Universidad Europea.

Description

The Simulation methodology is a perfect tool for this learning, because it is based on the reflection of the personal experience. The relationship with the patient involves challenges related to the emotional components, safety and responsibility. These are not transmitted by argumentation, but through a different process. We can not pretend to change attitudes or manage our own emotions without being aware of that need and reflect on it. The simulation program in the degree of Medicine covers 380 hours, of which 56 hours correspond specifically to the relationship with the patient. Two main objectives are developed, divided consecutively into two periods: the first 3 years and the last 3 of the degree. The first objective is that the student have to be able to reflect on the difficulties of the therapeutic relationship. The second is that the student have to be aware of their attitudes and emotions and the influence of them in their action with the patient.

Discussion

Each hour of activity is associated with a complex simulation scenario with a standardized patient. The design is carried out by a coordinated team of psychologists and doctors who plan the learning objectives, discuss the clinical case, manage the actors and focus on the subsequent debriefing in order to reach the objetve, taking into account the different situations that may arise due to the experiences of the students.

The greatest difficulty for the implementation of the program is to make the "culture" of this methodology in the educational community, both for teachers and students.

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Simulation with colleagues a way of improving quality of students' simulation

Format: Accepted for Poster Presentation
Subject: Faculty Development

Authors

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Kristin Valen	Western Norway University of Applied Sciences
Karen Johanne Vae	Western Norway University of Applied Sciences
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Introduction & Aims

The use of simulation as an active learning approach has increased in the bachelor program in nursing at Western Norway University of Applied Science. After a simulation course for the staff in Haugesund autumn 2014, colleagues wanted to improve their facilitations skills.

The aim of this project is to develop and maintain the facilitation competence in the colleague group. Moreover, to give constructive feedback related to the facilitation process and learning outcome.

Description

A plan was provided containing par of colleagues who were responsible for the simulation each month. To achieve a realistic facilitation process, we choose to execute a full- scale simulation activity as close to clinical practice as possible.

The colleagues are not familiar with the role they receive in the simulation, in this way the teachers can experience the uncertainty some students may feel when they get assigned roles.
At the same time a goal in the facilitation process is to create an atmosphere of security and confidence among the participants and asking question to be reflected upon.

Discussion

The role as facilitator in simulation is quite different from normal classroom education. Teacher has an essential role to let simulation appear as a good alternative to other learning modes. To facilitate a simulation debriefing in an educational setting requires activities from the participants. The facilitators' role is not to instruct, but rather to create an atmosphere where the participants contribute and are encouraged to self- reflection. It is necessary to work on structuring the debriefing so it is possible to achieve a deeper reflection of what one has learned or experienced in the simulation. The open-ending questions in the debriefing may track for deeper reflection and is something that has to be emphasized and trained on.
To become a trained facilitator in the debriefing require training and is considered to be of great value. We have experienced setting goals for the facilitation process, getting out of ones' comfort zone and receiving constructive feedback has contributed to awareness in the debriefing with the students. The colleagues describe that they are more secure in their role as facilitators in addition to become more aligned.

Simulation-based learning in undergraduate nursing studies: How to implement it

Format: Accepted for Poster Presentation
Subject: Faculty Development

Authors

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Introduction & Aims

Changes in the user profile, elderly patients with more comorbidity that require more complex and technological attention, patients informed and protected by patient safety measures and changes in the health system (decrease in hospital stay and the closure of units) make unthinkable for a student to practice with a patient for the first time without having previously trained with a mannequin. The objective of this teaching innovation project is, based on current evidence, to implement simulated-based learning in undergraduate nursing studies.

Description

According to recent meta-analysis, the simulation causes changes in abilities and attitudes but less in the knowledge, there before, previously to the scenario, students have to work clinical cases online through the serious game —low fidelity simulation—. Subsequently, 2 sessions with high fidelity simulator are scheduled for 2nd, 3rd and 4th year, one hour duration (in minutes, PREBRIEFING: 10, SCENARIO: 20, REGISTER: 10, DEBRIEFING: 25), in groups of 6 students. Only non-technical skills are used (decision-making, communication and work in teams): on the 2nd year they are trained in nursing evaluation, on 3rd year in making decisions and on 4th year, in error-management training. They are evaluated (and also self-evaluated) with the Creighton Competency Evaluation Instrument. For debriefing, GREAT checklist is used.

Discussion

Two sessions have been programmed for each student because simulating-based team training is a dependent dose. Although the clinical case changes to each scenario, the acquisition of the own role and the communication with the rest of the members improves with the practice of a second scenario. The group consist of only 6 students: in a scenario three of them play their role and the following situation they are exchanged (team leader and assessment nurse, medication/documenter nurse and procedure nurse). On the 2nd course they only do the patient's assessment, do not administer medication. In 3rd and 4th year, nursing interventions (Nursing Intervention Classifications, NIC) are increasing complexity (Table 1). Patient safety items and Patient Assessment of the Creighton Competency Evaluation Instrument are evaluated in each course. Patient Intervention and Critical Thinking only in 3rd and 4th year.

Self-evaluation is recommended according to the current bibliography so that the student becomes aware of their own mistakes and can rectify them in future scenarios. The GREAT checklist serves as a strategy to review the evidence of the nursing care that they have decided to carry out.

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Simulation-based training in intravenous drug administration in a University Hospital

Format: Accepted for Poster Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

In the last decades we observed the expansion of the use of active methodologies in health education; among those, in situ simulation with scenarios that reproduce the practices. The simulation-based training is indicated to be an effective methodology in the education of nursing professionals developing decision-making, communication, and team work abilities. This technique addresses concepts and objectives similar to what the continuing education in healthcare proposes, because it focuses in the meaningful learning of the professional in their interaction with the workspace. In this context, the Nursing Education Service of Hospital de Clínicas de Porto Alegre (Brazil) develops educational actions ruled by the National Permanent Health Education Policy and has aggregated the Simulation Technique aiming to encourage the safety culture, as of practices that result in the improvement of healthcare indicators. This report aims to describe simulation-based strategies to nursing staff of a University Hospital about intravenous drug administration.

Description

The drug preparation and administration is one of the most critical processes in nursing care and was responsible for 30% of all adverse events notified in the institution in 2016. Because of this, this process has been reviewed permanently in educational practices, making use of different strategies, but without the expected results. The current proposal is to establish the simulation as a form of approximate the educational actions of the teams' realities. The hospital's nursing staff were questioned in a survey about the factors that compromise the drug administration safety, and they indicated 'the reading and interpretation of medical prescription'. The group of nurse educators, aided by pharmacists, built four scenarios of realistic simulation within this focus. In situ simulation scenarios are in execution phase and intend to reach nursing professionals.

Discussion

The use of the simulation technique constitutes a challenge to the group of educators for being a new methodology in this hospital environment. The methodology proposes the recovery of fundamental concepts and the identification of problems related to the written communication and the access to the preparation routines and administration of medicines. The in situ simulation demonstrates itself to be an useful strategy in the development of professional competences to improve patient's safety.

SESAM
PROMOTING SIMULATION IN MEDICAL EDUCATION
SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

Simulation-based training in intravenous drug administration in a University hospital

Format: Accepted for Poster Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

This study aimed to evaluate the feasibility and measure the impact of “In situ” interdisciplinary primary care for team quality improvement in simulation program in primary care.
The team in family practice often meets life-risk patients in their offices or outside. It is very important to treat them in accordance with guidelines and quality standards. It aims to ensure work quality and identifies potential errors and security risks in the treatment of a patient that could be avoid in advance in the Community health Centre Ljubljana (CHC Ljubljana). We describe an “In situ simulation”- based quality improvement program that was designed to continuously control the process of cardiac arrest response for hazards and defects and to detect opportunities for system optimization.

Description

Since 2013 we have continuously organized simulations for all teams of family medicine infirmaries and paediatricians. All teams (nurses and doctors: N= 441) in CHC Ljubljana must be together, qualified for implementation of the Protocol vitally threatened patient care and properly applied to all the necessary equipment and utilities. They must provide an adequate response time of team, properly apply all the necessary equipment and appropriate team cooperation and communication, also management software for the supply of vitally threatened patient.
From January 2016 to December 2016 we have organized 216 simulations in SIM centre and 12 “in situ” simulations in real clinical environment in CHC Ljubljana. It has participated 186 employees of Family medicine infirmary in CHC Ljubljana.
Participants solved the life-risk problems of virtual patient and the simulations were performed at their workplace and were used by their medical equipment. All simulations were carried out unannounced.
This kind of simulations can illuminate deviations, which can be developed during the patient’s treatment, in advance. In situ simulations are excellent opportunity to find out latent error (latent security risks - LST) in treatment process.

Discussion

In CHC Ljubljana we improve patient’s safety and outcomes of treatment for patients with learning simulations in health care, which was proved to be effective in described period of time. It is necessary to renew our knowledge, so we repeat education once per year, because only this way we can upgrade knowledge of our employees, self-confident and therefore patient’s quality treatment. Learning with simulations is suitable and effective learning method of vitally endangered patient on systematical level.

Stress induced by a full scale simulation on anesthesia and intensive care residents compared with a normal day work

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

Simulation is widely used in anesthesia and intensive care residents curricula in France.
Lot of studies get interests in stress induced by this kind of pedagogy but very few get interest on the specific anesthesia and intensive care residents population
We also know few work which get interest in comparing a normal daywork with a simulation course day.

Description

The aim of this study was to study the cardiac stress induced by a full scale simulation program and to compare it with a normal daywork.
It was a descriptive, monocentric study including ten residents.
We measured Heart Rate Variability (HRV) during thirty six hour including a normal workday, a day including simulation course and a rest day (after return from holidays)
Stress was assessed by liker scales from zero to ten.
We also use MBI (Maslach Burn-out Inventory) previously to the study to detect extrems scores.
This article got an agreement from the Toulouse University ethics committee.
There was no hierarchical link between residents and facilitators during the simulation course.

Discussion

This work demonstrate hight physiologic and psychologic stress in anesthesia and intensive care residents during simulation full scale day even it's an important part of the program from several years.
Time above tachycardia levels are represented in the figure 2.
This data are to consider carefully because it can lead to impair learnings.
We also show the feasibility of the measures during long holter (36 hours) ECG without any major interferences

We are now searching for some tools to diminish this stress in the field and during the simulation day.

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Synergy between simulation and innovation

Format: Accepted for Poster Presentation
Subject: New Technologies and INNOVATION

Authors

Hanne Selberg	University College Copenhagen
Ann Rasmussen	University College Copenhagen

Introduction & Aims

The newly established House of Practice and Innovation at UCC is a learning environment for students from a range of Bachelor´s Degree programmes and at the same time an innovative development and testing environment for private companies. The facilities offer the possibility of cross-sectoral scenarios in simulated hospital rooms, physical training and test labs, an authentic apartment and virtual environments. Classic simulation methods and structure are used in new contexts and in new surroundings creating a unique synergy between simulation and innovation. This synergy further comprises a fusion between interdisciplinary research and teaching environments' at MCC.

Description

Private companies can develop and test new innovative welfare and health care products and solutions in close collaboration with innovation consultants, researchers, lecturers and students, as well as personnel from hospitals and municipalities.
Simulation scenarios are designed to match the test of a prototype with emphasis on fidelity. As in the educational context we design the scenarios according to Dieckmann´s model (2009) consisting of a pre-briefing, where the company can introduce their prototype or finished product, followed by a briefing to the actual scenario and completion of the scenario involving simulated patients and relevant modalities.
The structured debriefing is followed by a final discussion where the company can ask clarifying questions and make decisions about further development and tests in collaboration with the participants.
The scenarios and debriefings are video recorded with the participants' permission in order to support the debriefing and for the company to take home for further reflection.
The set up using simulation-based scenarios enables the possibility of iterations in a safe and controlled environment.

Discussion

During 2017, fifteen business partnerships with various Danish companies have been completed and are currently being evaluated. Preliminary feedback from the companies indicates that the testing through simulation enables realistic and valuable insight in user scenarios and usability. Furthermore, companies value the possibility of testing their product ideas at a much earlier time than a test at a hospital or in a municipality would enable.
Feedback from students indicates that participation in the business cooperation with the use of simulation based workshops results in hands-on experience in product development and innovation as well as interdisciplinary competences. Students highlight the opportunity of being co-developers of future technologies and ensuring that future products put the patient / citizens' needs into focus. The discovery of new job opportunities is mentioned as an additional gain.

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SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

Teacher-free simulation training system Tele-Mentor

Format: Accepted for Poster Presentation
Subject: New Technologies and INNOVATION

Authors

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Introduction & Aims

About 40 thousand students are enrolled annually to the medical Universities in Russia. Each of them by the end of training should master a large number of practical medical skills. Effective skills acquisition cannot be achieved today without implementation of modern methods of practical training.

Methods

The educators of the Medical simulation center "Medicus Mentor" of the First Sechenovsky Medical University (Moscow, Russia) proposed in 2014 a new concept of development of practical skills acquisition in a teacher-free environment. The concept is based on the simulation self-learning system “Tele-Mentor”. The complex is fulfilled as a simulation platform with video monitors, camera and exchangeable phantoms and medical accessories for controlled self-training and advanced self-monitoring of the achieved proficiency in the wide range of medical procedures.

Results & Discussion

The prototype of the system has been tested and validated in our simulation center. Algorithms of the training and check-lists have been developed for numerous medical procedures. Nowadays, 25 medical procedures are presented in Tele-Mentor, including subcutaneous, intramuscular and intravenous injection, endotracheal intubation, different bandaging, gastric lavage, enemas. As a result of testing and further usage of "Tele-Mentor" the face, constructive and discriminative validity have been established.
Currently, five Tele-Mentors are operated in Sechenovsky University, they are widely used for the self-trainig, as well as for certification and accreditation of students. Significant reduction of the necessary educators working hours has been observed for the training of the same medical procedures. It has been proven that the students’ practical skills proficiency achieved using "Tele-Mentor" in comparison with the classical methodology tutoring has not decreased, and some parameters of proficiency has been increased.
Complex Tele-Mentor met the assumptions of developers and demonstrated high efficiency during research and further exploitation. Wider application of Tele-Mentor improves the quality of practical training of medical students without increasing the working hours of educators.

Teaching communication skills through medical simulation as the culmination of the newly-introduced 4-year medical communication course – experiences from Cracow.

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

In 2013, the process of introducing a 4-year course of medical communication, conducted by physycians, began in the Department of Medical Education, Medical College of Jagiellonian University in Cracow, Poland. This coincided with the creation of the Simulation Center at the Medical College, with all new-coming possibilities.

Description

The course consists of 4 parts:
- 2nd year of studies: medical interview with communication skills
- 3rd year of studies: advanced communication skills in medical interview, skills in related to informing patients
- 4th year of studies - difficult communication situations (simulated patients involved)
- 5th year - difficult communication situations - simulation scenarios in high fidelity environment, with simulated patients involved.

Discussion

We will discuss our experiences and methodology of the course focusing on teaching communication in high fidelity environment. Feedback from students and results from the pilot study regarding impact of the course on students' patient-centeredness will be presented.
An interesting phenomenon of mutual transfer of skills and methodology between simulation and communication teachers will be also discussed.

Teaching methods used in simulation and their efficiency in nurses training: An integrating literature overview

Format: Accepted for Poster Presentation
Subject: Assessment using Simulation

Authors

Jandra Ristikivi — Tallinn Health Care

Introduction & Aims

Simulation learning is considered to be the most used teaching strategy in teaching nursing education. The continuing increase in the number of nursing students practice bases, and the resulting overcrowding has made the simulation exercise for nurses in training all the more important, and resulted in the need to create a high-tech simulation. The topic was chosen due to a fact that existing literature describing simulation learning does not give a good overview of learning and teaching methods used in simulation and their productivity. At the same time, the choice of teaching methods is of essential importance in relation to achieving productivity in learning and teaching.

Description

In thesis topical scientific literature has been searched, combined and integrated to give an overview of the topic and create a conceptual model to describe the productivity of teaching methods used in simulation learning in nursing studies. The search for the materials to be investigated was conducted in databases MEDLINE and Science Direct from October, 2013 to January 2016. 15 articles met the selection criteria. In analysing data firstly the thought units were gathered, then different approaches were grouped and finally compared.

Discussion

As a result of thesis it was confirmed that different teaching methods are used in simulation and the choice of a specific method depends on the objectives of the learning and simulation stage. The efficiency of learning methods is evident in development of students affective, cognitive and psychomotoric skills. To develop a specific skill it is possible to choose suitable learning method.

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The effect stress management strategies have on performance in simulated medical emergencies

Format: Accepted for Poster Presentation
Subject: Debriefing

Authors

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Introduction & Aims

This is an ongoing study, results of which will be available for presentation at the SESAM conference. Survival of acutely unwell patients depends on prompt recognition and resuscitation (1). Time pressures, workload and the importance of managing such patients is a significant source of stress for junior doctors, making them feel underprepared for their role and contributing to error (2).

Our study aims to investigate the impact stress management strategies have on junior doctors undertaking simulated medical emergencies. We aim to explore how these interventions affect perceived cognitive load and stress, and establish their influence on junior doctors' speed and accuracy in the diagnosis of acutely unwell patients.

Methods

Participants (n=18) are doctors in their first and second years of specialised medical training; a transitional point in their careers when they are expected to begin to manage emergencies and begin to lead teams. Participants will be randomised into three groups: Group A-breathing and relaxation techniques, Group B- non technical skills, Group C- no intervention. Group A and B will receive teaching on their allocated stress management strategy during their first debrief.

Time to various transition points and diagnosis will be recorded for each participant pre- and post- intervention. Stress will also be assessed using heart rate variability, salivary cortisol, participant stress and cognitive load using self rating questionnaires.

Results & Discussion

Data collection is currently ongoing. Statistical analysis of the data will help us establish whether certain stress management strategies improve junior doctors coping mechanism during medical emergencies and whether one form of intervention is superior to the other.

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The end of residency as we know it

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

Since 1953, residency(internship) has been a staple of the Norwegian medical education. The purpose of the program was to facilitate the transition from medical school into licensed medical practice. Prior to its discontinuation, all Norwegian medical students were required to complete a residency program that consisted of equal periods spent in primary care facilities, internal medicine and surgical wards, while under close supervision. Similar programs exist throughout Europe, although the details may vary from country to country. In the fall of 2017, new legislation came into effect in Norway that discarded the medical residency program in its entirety. Instead, newly graduated doctors now enter directly into a specialization course; a process that is divided into three discrete steps, with formal requirements for progressing from each step to the next. While the changes implemented in clinical practice, when compared to the discontinued residency programs may be subtle, the change represents a new philosophy and a new way of assuring the quality of doctors' clinical skills.

This article is a commentary to the introduction of nationwide standardization of medical specializations, and specifically the implementation of new guidelines and requirements into clinical practice at one of Norway's largest hospitals. It also comments on the challenges of removing residency and placing doctors directly into the path to specialization.

Description

The experiences of previous residency participants can be gathered through existing research articles, such as discourse analyses available through university research archives. Since there is no corresponding material for the new students, this perspective will be represented by the authors of this text who are currently enrolled in the LIS program.

The tentative conclusion is that while the new standard has brought with it a number of challenges, our firm belief is that it will lead to a safer, more efficient

Discussion

The implementation of the LIS, short for Lege i Spesialisering(Doctor in specialization), program for medical graduates was initiated during the fall of 2017. Since this practice is so new, there is no pre-existing material research on its efficacy. Instead, this article aims to look at the experiences of doctors going through the old residency program, and then to compare them to the experiences of doctors who are now going through LIS, in the context of material released by the Ministry of Health and Care Services regarding the change.

The facilitators and barriers to implementing an interprofessional education point of care simulation activity for health care workers in a tertiary hospital in South Africa

Format: Accepted for Poster Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

Ensuring patient safety is at the centre of global healthcare and healthcare facilities need to ensure that their training adequately equips the students with the skills and knowledge required to effectively operate in a dynamic and challenging healthcare environment. Due to the burden of disease within South Africa and Africa, the resultant increase in health science student numbers, and the ethical concerns of performing skills on patients has led to the infrequent training exposure of students to acute adult or paediatric emergencies and other conditions. This creates a significant potential for patient safety to be compromised if these students are expected to perform without the necessary skills and knowledge to safely perform these clinical skills.
Simulation has been widely used within areas such as aviation, travel, and warfare, and has gained favour within the realms of medical education in recent years.
In situ or Point-of-Care simulation has evolved as a form of simulation, distinct from simulation that is conducted in a simulation centre. In situ simulation may be defined as, “Simulations that occur in the actual clinical environment and whose participants are on-duty clinical providers during their actual workday.”
In situ simulation; simulation that is physically integrated into the clinical environment, provides a method to improve reliability and safety in high-risk areas.
The World Health Organization (WHO) defines IPE as ‘when two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes”. Interprofessional education (IPE) refers to healthcare workers learning with, from and about one another to improve collaboration and the quality of patient care.

Study Aim:
To explore the facilitators and barriers to implementing an interprofessional education point of care/ in-situ simulation activity for health care workers in a tertiary hospital in Cape Town, South Africa.

Description

Data collection will be collected through two sources, namely: A) 3-5 Focus group interviews; and B) 2-3 Semi Structured one-on-one interviews.
A) The participants will participate in a predetermined simulated resuscitation scenario upon completing the scenario; the healthcare workers will be debriefed.
Participants will then be approached to partake in a focus group interview.
B) Semi structured one-on-one interviews will also be conducted with the clinical educators and managers within an emergency ward

Discussion

The study is currently during the data collection phase and is scheduled to be completed in beginning of December 2017, and the project write to be completed by January 2018.

The French national program in simulation training for pediatric surgery resident.

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

French resident in pediatric surgery have a national mandatory curriculum, based on hospital training and 2 weeks of thematic theorical courses.
However this program do not included communication and team training.
To complete the curriculum a national mandatory simulation training Program has been developped and included in the official curriculum for pediatric surgery résidents.

Description

After National University Council approuval , a 2 Day/year simulation training Program for all residents in pediatric surgery was implemented bases on 3 goals :
Skill training in pediactric laparoscopy and suturing techniques.
Communication with patient/family with consultations scenarii (6 scenarii with various complexity).
Team training in the operative room through a in situ scenario.

Discussion

Results :
40 residents (100 % of participation) participed, in 7 simulation centers in France.
Ratio was 1 to 2 faculty for 4 to 6 residents.
Pedagogic value, pedagogic program and organisational evaluation was rate > 9/10
All residents requested more sessions in simulation per year

Conclusion :
We present the first national mandatory integrated simulation curriculum for pediatric surgeons, including communications training and team training.
This program has been correctly evaluated and should to be extend to the others surgical specialities

The Human Factors of extricating an injured diver at the 2016 Olympic Games

Format: Accepted for Poster Presentation
Subject: Interprofessional / Team Education

Authors

Tanya Lindsay — Royal Cornwall Hospital Trust

Introduction & Aims

The National Spinal Cord Statistical Centre (NSCISC) estimated that between the years of 1973 and 1998 diving was the fourth leading cause of spinal cord injury.

Whilst working as field of play doctor at the Olympics in Rio, Brazil in 2016, one of the events that I covered was Diving.

As part of preparation for potential injury or incidents the field of play team decided to run simulation drills to plan the extrication of the injured diver from the pool and to the medical room.

Our aims were to
1) orientate ourselves with the location of the spinal board, transfer trolley and route to the medical room.

2) practice the removal of the injured diver from the pool with the lifeguard team.

Description

There were 50, 000 volunteers at Rio 2016, with the majority of these being from Brazil and the remaining from all over the World. This resulted in multiple languages or a lack of verbalising and therefore communication barriers to team working.

There were several strong characters, all competing to be team leaders as a result of a lack of allocation by organisational processes. This, combined with a lack of team consistency had multiple negative impacts on decision making and team working.

Multiple shifts, long shift times and an often large commute lead to worker fatigue.

Discussion

The simulations were fraught with issues and sometimes lead to equipment being damaged. However, the overall result was that on the days when the extrications were simulated, the training led to a cohesive plan that could be competently executed in practice. This led to increased confidence and likely ability to safely and efficiently manage a diver in the event of injury.

Whilst patient safety is paramount, a further consideration is that events are televised internationally and any errors would have wider consequences than a healthcare professional operating in a standard field of practice.

This low-resource, high-fidelity in-situ simulation was an excellent tool to prepare an acutely-built, multi-lingual team to safely manage an injured elite athlete on the World stage.

The significant simulation instructor dares to share

Format: Accepted for Poster Presentation
Subject: Debriefing

Authors

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Introduction & Aims

Research has shown that Team Psychological Safety (TPS) is essential for interprofessional learning(1). In simulation, TPS is a crucial attention point for the simulation instructor: Creating and enhancing TPS, can be a difficult and essential task in order to motivate participants to critically and open-mindedly explore and reflect on their frames in the debriefing(2).

The debriefing method TeamGAINS has shown to increase TPS among teams after attending simulation in a simulation centre(3). It has not been investigated if TeamGAINS can enhance TPS when used in situ, eg. in a Emergency Department (ED). The aim of this study was to explore how TeamGAINS might support the instructor to enhance TPS in debriefings of interprofessional ad hoc teams in an ED.

Description

Methods: 30 different ED ad hoc teams attended in situ simulations in the ED, which was videotaped. Using symbolic interactionism as a qualitative method, two debriefings was selected for thematic analysis by means of Argyris' theory of defensive reasoning and Edmondson´s theory on TPS.
Before attending simulations, the teams answered a safety attitude questionnaire(4) which was analyzed with respect to Edmondson's and Argyris' theories, and used to estimate the degree of TPS in the ED. Findings showed a lack of TPS.

Results: TeamGAINS may enhance TPS in the debriefing, because the structure, the instructors expert role and the questioning technique, advocacy inquiry, guides the instructor to be a part of the team, where he/she can show and share significant signs of TPS, which ad hoc team members may reflect upon and adopt.

Discussion

Hospitals are characterized by interprofessional ad hoc teams which challenge the achievement of common experiences of TPS. Instructors may not be aware of their own frames and defensive reasoning. This is also the case for participants.

This study suggests that theory on defensive reasoning and TPS should be part of the instructors´curriculum. Furthermore, using TeamGAINS in situ is feasible and may enhance TPS. TPS should be an overall goal when facilitating in situ simulation for interprofessional ad hoc teams.

Further research is required to: 1) Describe how TeamGAINS can support the instructor in enhancing TPS in debriefing of ad hoc teams; 2) Identify which competencies the instructor needs to perform the advanced debriefing method – TeamGAINS

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The simulation program of the medical degree at the Universidad Europea de Madrid

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

The learning process of the future doctor must guarantee the safety and privacy of the patient, being the simulation the methodology that guarantees these aspects in the first phases of his training. The Universidad Europea de Madrid is committed to this and that is why, in the different Health degrees, simulation is one of the fundamental points of its academic model. Although there has been a progressive increase of this technique in the last years, it is in this academic year, where there has been a quantum leap in qualitative and quantitative terms regarding its implementation in the degree of Medicine.

Description

A simulation program has been designed and integrated in the curriculum of Medicine degree with 380 hours, distributed from the first year (6%) to the sixth year (23%). It is composed of activities related to curricular subjects, technical skills and transversal competences among which we highlight: patient relationship and safety, ethical aspects, clinical reasoning and interprofessional relations. 25% of the program corresponds to the development of skills and procedures, being the rest simulation of complex scenarios, mostly with a standardized patient. The course ends with an Objective and Structured Clinical Evaluation (ECOE) in 3º, 4º, 5º and 6º course. A well-established technical team has been put in place, including a group of actors with different profiles to fulfill all the requirements of standardized patients in very varied scenarios. In total, we involve of more than 100 teachers and a coordination team to ensure the correct organization in the Simulated Hospital, and that guarantees no overlaps in the objectives of the different activities.

Discussion

For an adequate operating of the program, it is essential that the professors and health professionals are involved and correctly trained in the methodology. This allows continuing the formative program of the student favoring the reflection of the lived experiences and guiding them in their learning, both in the simulated scenario and in the real field where they perform their clinical practices.
A program completely integrated into the curriculum and correctly coordinated, will favor the progressive advancement of the student's knowledge and will allow understanding the difficulty of the different competences that a health professional must acquire throughout his / her training period.

The use of project management software to improve the organisation of simulation courses

Format: Accepted for Poster Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

The organisation of Clinical Simulation Training is complex. Dozens of tasks, many different people, and indeed frequently multiple courses must be simultaneously coordinated. Failure to complete even a single task can greatly reduce the quality of the Simulation course, but this very complexity makes it all too easy for items to be missed. The aim was to adopt an approach that would enable meticulous task management and transparent tracking of progress, whilst saving time. It would facilitate “SMART” (Specific, Measurable, Achievable, Realistic and Time-bound) task planning.

Description

I introduced the use of project management software for the organisation of simulation courses at the Royal Surrey Hospital Simulation Suite. A template project was created for each major course of the year. Deadlines were generated for each task, and tasks assigned to members of the team. Team members could see personal task lists, ordered by deadline, and also see an overview of the progress in all tasks. Within each task was a message board so all relevant information for a task was kept in one place. The ability to assign tasks to people removed the ambiguity of who was expected to complete a task. The overview provides a central reference point to monitor progress.

Discussion

The implementation of project management software has enabled transparent tracking of the organisational progress of Clinical Simulation Courses in our centre. It has enabled the consistent provision of well-organised simulation, and reduced administrative time. In turn this has provided more time for scenario development and other educational activities.
This software is in the process of being introduced to weekly faculty meetings, to enable real time production of action points, each with a clear assignee and deadline, reducing administrative follow-up on tasks and producing minutes.

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Undergraduate Nursing Students' Perspectives of Witnessed Simulated Cardiopulmonary Resuscitation and Death in a Patient with an Eating Disorder and Opioid Addiction

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Justin Pedneault	University of Connecticut

Introduction & Aims

Nursing students are frequently under-exposed to life threatening critical events during their undergraduate training leading to fear and anxiety when they are expected to care for high-risk patients in critical situations during their professional careers. Education programs that incorporate high-fidelity simulation offer a safe and effective milieu for exposure to critical and potentially traumatic events. High-fidelity simulation refers to situations that are realistic for the learner and can include multiple modes or methods of simulation including human, manikin, or virtual reality (Lopreiato, et al., 2016). Exploring undergraduate nursing students' perspectives of a witnessed interprofessional simulation video involving the use of a high-fidelity manikin and standardized patients to portray a critical incident holds the potential to successfully prepare nurses for the clinical judgment needed to handle the myriad of emotional responses that may occur in psychologically vulnerable clinical situations.
The focus of this study was undergraduate nursing students' perspectives of exposure to a simulated critical incident and the vulnerability of nurses working in this context. The critical incident was a patient with an eating disorder and opioid addiction who experienced sudden, unexpected death due cardiac arrest after failed life-saving measures.
The purpose of this focus group research study was to utilize a safe and controlled simulation environment for undergraduate nursing students to explore their responses to witnessed sudden, unexpected death in a patient with an eating disorder and opioid addiction despite life-saving measures from an interprofessional team of healthcare workers. The focus groups served as the debriefing to evaluate nursing students' perspectives through reflection-on-action. Reflection-on-action is the impression of the nurses' overall experience and how to apply that knowledge to learning (Lopreiato, 2016).
The research question was, "What are the perspectives of undergraduate nursing students' exposure to a simulated sudden, unexpected death in a patient with an eating disorder and opioid addiction despite life-saving measures resulting in failed cardiopulmonary resuscitation (CPR)?"

Learning Outcomes
1) Participants will identify unique simulation solutions to nursing students' limited clinical exposure.
2) Participants will comprehend advantages and disadvantages of exposing students to critical and potentially triggering events in a safe and controlled simulation environment.
3) Participants will understand how to utilize focus group research results to guide simulation curriculum development

Methods

Session Description

1. Recognizing that nurses have a great impact on patient care and outcomes, it is imperative that nursing schools utilize simulation education to help nursing students explore their own psychological vulnerability during stressful critical events.
2. Providing a safe and controlled environment through simulation and debriefing will allow students to establish positive psychological coping skills early in their careers, thus mitigating the potential for posttraumatic stress and career burnout.
3. This focus group research informed simulation curriculum development including ways to safely expose students to and mitigate the psychological vulnerability that is inherent to a nurse's professional career.

Educational Methods

1. Video review of simulation scenario utilized in the focus group research.
2. Presentation of results of focus group research including quotes from participants.
3. Engaged discussion with audience regarding responses to focus group research study process and results.

Results & Discussion

Expected Impact

Recognizing that nurses have a great impact on patient care and outcomes, it is imperative that nursing schools utilize simulation education to help nursing students explore their own psychological vulnerability during stressful critical events. Providing a safe and controlled environment through simulation and debriefing allowed students to establish positive psychological coping skills early in their careers, thus mitigating the potential for posttraumatic stress and career burnout.

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Usability evaluation of a postural freedom medical device for laparoscopic surgery.

Format: Accepted for Poster Presentation
Subject: New Technologies and INNOVATION

Authors

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Introduction & Aims

Although laparoscopic surgery has the advantages of Minimally Invasive Surgery (MIS), this practice requires greater effort, concentration and mental stress. During the procedure, surgeons are forced to adopt awkward and uncomfortable postures with fingers, hands, wrists and arms. These postures increase physical fatigue, producing tremors and potential errors that may harm the patient. The existing literature affirms that the current pistol grip handle design in conventional surgical instruments for MIS is the main cause of these problems, due to its poor adaptation to the needs of the surgeon. Some other instruments provide more "degrees of freedom" inside the abdominal cavity, although this does not address or solve the previously mentioned problems. This work presents an invention that provides surgeons with greater "postural freedom" outside the abdominal cavity. In addition, the new instrument performance has been assessed through a usability study.

Methods

For this study, 12 subjects without experience in laparoscopic surgery (medical residents) performed a surgical simulation. Two instrument configurations were employed: a conventional pistol grip instrument and a prototype of a patented design to improve the “Postural freedom”. This improvement is achieved by means of its design, which is mainly constituted by a ball-joint inside a spherical handle. This allows the surgeon to vary the working angle of the instrument while adopting a comfortable work position. After subjects carried out a pick-and-place test in a box-trainer, they were asked to complete a usability test.

Results & Discussion

The study presented really positive results. Every user gave a positive feed-back about the comfort (33.3% comfortable and 66.7% very comfortable). A similar result was obtained about the shape of the new handle (41.7% comfortable and 58.3% very comfortable). In addition, they also gave a positive feed-back about the idea of implementing a joint in the handle to vary the work angle and maintain a neutral position during the procedure (good 50% and very good 50%).

USE OF SIMULATION AS A METHOD FOR THE AIRWAY MANAGEMENT SKILL RETENTION OF THE EMERGENCY MEDICINE PHYSICIANS. A PILOT STUDY.

Format: Accepted for Poster Presentation
Subject: Patient Safety / Quality Improvement

Authors

Francesco Bassan	University of Padova
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Introduction & Aims

Technical and non-technical skills tend to decay in time. We proposed to Emergency Medicine physicians of the Padova Emergency Department the use of simulation as a method for the emergency airway management skill retention. None of them have participated before in a classical simulation session with a well-structured debriefing and non-technical skill consideration. They attended only advance life support courses without CRM support.

Methods

In this pilot study fifteen EM physicians chose to take part in the pre-test simulation session in February 2017 and post-test simulation session in June 2017. During pre and post session, every physician attended singularly an intubation-scenario (IOT session) and an emergency cricothyrotomy-scenario (CRICO session) with a nurse played by an EM resident. After the pre-test simulation session, two physicians (with experience in airway management and non-technical skills) ran a debriefing and airway skill lab at the same time. The debriefing was focused on the non-technical skills (e.g. decision making, communication) and airway technical skills.
To assess the knowledge about simulation we submitted a pre-test questionnaire and a post-test questionnaire to assess the value judgment of the project.

Results & Discussion

In the IOT scenario, the median desaturation time(desT) decreased from 399 s (241-708 s) (pre-test) to 279 s (159-730 s) (post test) ($P<0.05$); the duration (median) of the orotracheal intubation procedure (iotT) decreased from 371 s (188-641 s) (pre-test) to 231 s (123-678 s)(post-test)($P<0.05$). In the Crico scenario, the desaturation time's median (desT) decreased from 564 s(195-774 s) (pre- test) to 335 s (152-696 s) (post-test) ($P<0.05$); the duration (median) of the cricothyrotomy decreased from 121 s (55-240 s) (pre-test) to 80 s (51-161 s) (post-test) ($P<0.05$).Regarding the questionnaire about simulation we recorded that 73% of the sample declared to know what simulation is, but only 40 % were able to write an example of non-technical skill and only 20% declared to know what in situ simulation is. At the end of the project, the specimen rates the study's relevance 4.8, study's quality 4.7, and study's utility 4.5 (Likert scale).
This pilot study highlights an improvement of the airway management performance and a very positive feedback among the EM physician about the use of simulation as a skill retention method.

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Using simulated film-making to promote regional protected handover: a patient-safety quality improvement project.

Format: Accepted for Poster Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

Handover of care is one of the most hazardous procedures in medicine.1 An effective handover process is of vital importance for good patient care.
Furthermore, the Royal College of Paediatrics & Child Health guidance on ‘Good Handover Practice’ states that handover should be designated bleep free except for cases of life-threatening emergency.2
In a 2016 survey of Paediatric Trainee’s in Northern Ireland, ~75% of units in NI did not practice fully Bleep-Free Protected Handover periods.3
By implementing a technology-aided, multi-professional, inter-speciality quality improvement initiative, we aimed to limit the number of ‘non-urgent interruptions’ to Handover, and thus promote better communication and a safer handover process.

Description

Handover of care is one of the most hazardous procedures in medicine.1 An effective handover process is of vital importance for good patient care.
Furthermore, the Royal College of Paediatrics & Child Health guidance on ‘Good Handover Practice’ states that handover should be designated bleep free except for cases of life-threatening emergency.2
In a 2016 survey of Paediatric Trainee’s in Northern Ireland, ~75% of units in NI did not practice fully Bleep-Free Protected Handover periods.3
By implementing a technology-aided, multi-professional, inter-speciality quality improvement initiative, we aimed to limit the number of ‘non-urgent interruptions’ to Handover, and thus promote better communication and a safer handover process.

Discussion

In the initial pilot audit during a fortnight monitoring period, non-urgent bleeps reduced from 25/28 to 6/8 following a period of inter-departmental education and promotion. 6 months later, on re-audit the total number received in the same period was 7 non-urgent bleeps.
This change offers significant benefits to the patients, as safety is prioritised during handover periods. Equally, an

effective handover is also of educational better value to doctors, aids professional protection, and contributes to a more effective handover process for all members of the multi-disciplinary team.1

The use of digital media to film the simulated handover process has been extremely effective in terms of continued promotion and advertisement of our regional initiative. It has been used by our other Handover champions during their inter-departmental education sessions in their local Paediatric units and widely circulated on social media healthcare sites.

Using our various digital platforms in conjunction with the simulated Handover video, we aspire to create a culture of safety-conscious, patient-centred protected medical handovers in all Paediatric units in Northern Ireland.

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We need confident and competent young nurses who like their job! - A structured quality improvement approach in implementing simulation into a nurse trainee program

Format: Accepted for Poster Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

New nurses face a demanding working environment and many of them experience challenges in transition from student to professional. Statistics show high numbers of nurses leaving health care. Simulation is used as a method for strengthening nursing students' self-confidence. At Sahlgrenska University Hospital a structured quality improvement approach was used to convert nurse trainee lectures to a simulation-based program. Aim of this abstract is to exemplify a structured quality improvement (QI) -approach in designing a simulation-program.

Description

Institute of healthcare improvement´s QI-model (fig 1) was used for implementing the program. The overall aims of the nurse trainee program and the simulation program were formulated together with stakeholders. The simulation staff interviewed young nurses, their managers and supervisors about the young nurses needs and challenges in every-day work. (P=Plan) Nurses were facing different challenges depending on their former experience, personality and department. However, the challenges could be divided into two main categories; stress and uncertainty in emergency situations and loss of control in complex situations with need to prioritize. A blueprint for a 2-day simulation program was created based on the interviews covering a variety of medical issues (eg. clinical conditions), technical tasks (eg. administration of medication, using medical device) and non-technical issues (eg. ethical dilemmas and communication strategies).

A pilot with a small group was conducted. (D=Do) Written and oral questionnaires analyzed and the simulation staff and managers of the trainee program were invited to share their perspective of the pros and cons of the simulation program (S=Study). Results from the pilot were very positive. Minor changes were made in the program to meet the learning goals even better. Adjustments was done in the technical environment in the simulation lab. Some aspects of the complexity was added (eg. a fellow patient in the room). Thereafter a total number of 86 nurse trainees were run through the program. The main challenge in the program turned out to be a high level of nervousness before the simulation affecting the learning environment. Therefore a pre-session with the simulation staff was added to the program. (A=Act)

Discussion

A structured QI-approach is an effective way of designing and implementing simulation-based program in order to meet the needs of both participants and stakeholders. Nurse trainees expressed higher self-confidence and readiness for emergency and complex clinical situations. They valued both the medical, technical and non-technical training and the possibility of reflecting on their professional role and working environment.

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What they learn from 6 month faculty development ?

Format: Accepted for Poster Presentation
Subject: Faculty Development

Authors

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Introduction & Aims

We have conducted introductory and advanced simulation educator faculty development 2days workshops in Japan since 2011. Post course surveys revealed that <50% of FunSim participants were actively using simulation and identified participated educators need for increased and additional skills to confidently apply simulation methods. We developed monthly based 6 month faculty development new course Applied Simulation Instructor Skills Teaching (ASIST) focusing on four competencies; scenario development, facilitation and debriefing skills, and assessment. We introduce new course structure based on competencies and learning outcome.

Description

Our new course is that all participants gather once a month for lecture, group work, own project presentation, role play for 4-5 hours, 6 times (6 month). Their main assignment is mini simulation program project, including scenario development with assessment sheet for own curriculum, program evaluation They are expected to bring their performance video for peer review and discussion and demonstrate own scenario training with debriefing to have feedback from us in the class.
After completed the course, we gave them the questioner (18 questions) web based survy.

Discussion

The Survey response rate is 100% (6 participants). The demographics is 5 Nursing faculties, 2 physicians (teaching faculties), 50% of participants have less than 3 years simulation teaching experiences and others are more experienced faculties. 83% feels the amount of project is just right or bit too much, 66% to 99% of them accepted the level of each content, especially program assessment, scenario development and assessment development are very useful areas. In the class, discussion with faculties / other students and advice on the own project are most useful and effective activities.
83% of them answer this course is beneficial as expected or more. Their free comments suggest

Every participants point out assessment tool development and strategy as a new learning area. Their barrier to implement simulation education at own institutions is luck of simulation faculties.

All participants have satisfied and more confidence after completed the course. Mini project develop their skills but also discussions, feedback and peer reviews are useful and effective for them. This shows it is no chance to have feedback from colleagues constantly and they desire the chance of peer feedback to improve own performance not only self-reflection. We need more research and analysis for simulation faculty skill development.

Why and in what way can the introduction of gamification by Playmobil® type toys, in the Bachelor program in nursing, be able to encourage and evaluate, through mediation, integrative learning?

Format: Accepted for Poster Presentation
Subject: New Technologies and INNOVATION

Authors

Dominique TRUCHOT-CARDOT	Institut et Haute Ecole de Santé La Source
Christophe BORALEY	Institut et Haute Ecole de Santé La Source

Introduction & Aims

"You can know more about someone in an hour of play than in a year of conversation. According to quote attributed to Platon 428/427 BC. JC. - 348/347 av. JC.

Most young mammals have been observed to be what we could interpret as playing: turning things, such as pebbles, as if they were toys.
This seems innate in some living species observed as mammals (great apes, felines ...), and especially in humans where toys have a history probably as old as the civilization itself.
According to the authors :
But beyond play, toys, whatever they may be, are more than just entertainment, and the way they are used deeply influences many aspects of life.
The toy differs from the game by the much more flexible interpretations that can be produced. The toy is not governed by rules of play, objectives to be achieved or predefined use references, except for safety rules, it does not meet performance or success objectives.
The toy, as a device but also as associated activity, is epistemic, in the sense that it can be perceived and used as a "scientific" tool for analyzing what makes sense.
Tool for analyzing the subconscious with a high transitional value added, referring to the meaning described by Dr. D. Winnicott.

Description

For the past three years, we have included in our interprofessional health care course (in collaboration with the Faculty of Medicine of Lausanne) a life-size but playmobil® exercise.
We created a Playmobil®-sized Emergency Response Service Plan and established patient cases from reports of serious adverse events.
All students have Playmobil® and a definite role to play (Patient, caregiver, family ...).
We therefore perform a simulation including a briefing, reflexive contextual elements and a debriefing.
Our first returns are very encouraging with:
- a major emotional involvement of the participants.
- a very strong transfer of thought and action from the participants to the Playmobils® (visualized clearly on the video recordings).
- but also transfers made from Playmobils® to the participants during the debriefing (also visible on the video recordings).

Discussion

Our pilot experiences have shown the power of using the Playmobil® toy as a teaching tool and the strong involvement of the participants.
We have to now continue our research to propose a taxonomy of learning processes during a gamified approach and more specifically through a mediation by the toy.

‘On the CUSP of being doctors’ implementing a psychologically safe comprehensive undergraduate simulation programme to improve error wisdom and clinical skills in 3rd year medical students

Format: Accepted for Poster Presentation
Subject: Curriculum Development

Authors

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Emma Harknett	Epsom and St Helier Trust
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Jennifer Blair	Epsom and St Helier Trust

Introduction & Aims

Between February and August 2017, the Simulation Faculty at Epsom Hospital designed a Comprehensive Undergraduate Simulation Programme for 3rd year medical students from the American University of the Caribbean (AUC) entitled ‘On the CUSP of being Doctors’. The first CUSP implementation cycle began in September 2017. Here, we aim to describe the barriers to successful course implementation and solutions to these barriers, with reference to ensuring psychological safety, teaching clinical themes and human factors.

Description

Ensuring Psychological Safety
Barriers to psychological safety include the unfamiliarity of AUC students with each other and faculty, with the UK health system and simulation-based education and the diamond debrief. This was overcome by implementing a mandatory introduction and ground rules for all new starters, addressing hopes and concerns and allowing ample time throughout the day for open discussion. An overarching emphasis was placed on ensuring a learner-oriented environment rather than a performance-oriented environment.

Teaching Clinical Themes
A key barrier to providing effective simulation-based clinical teaching was the students’ limited first hand experience of performing an initial assessment and intervention on an unwell patient. This was overcome by ‘forward feeding’ students prior to scenarios with clinical workshops. Students were also offered opportunities to ‘time out’ during a simulation scenario. Some students demonstrated performance anxiety and to alleviate this, students were paired for scenarios.

Teaching Human Factors
Clinical experience traditionally forms the basis for self-reflection and human factors awareness. 3rd year medical students have minimal clinical exposure, thus educating this cohort on human factors such as situational awareness, interprofessional communication and teamworking was challenging. Our assumption was that students would place greater importance on clinical teaching. However, we found adaptation of the diamond debrief model and use of interactive reflective practice exercises provided students with a suitable framework to construct new knowledge.

Discussion

We acknowledge the importance of establishing psychological safety between student-student and also student-faculty. This has been key to successful implementation of the CUSP course in the first cycle, as reflected by student feedback.

We have also begun to instill error wisdom in this relatively junior cohort, and provide a safe learning environment to teach clinical skills using a combination of simulation based education, reflective practice and workshop based teaching.

A good death isn't a bad thing: How to simulate for the times - a Delphi consensus

Format: Accepted for Oral Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

Introduction

Throughout the history of Simulation based learning (SBL), the death of an artificial patient or simulated patient has been often viewed as a catastrophic event which can often elicit powerful responses from learners.
Often, learners feel that the death of a simulated patient is a reflection of their adverse ‘performance’ during simulation.
As such, the current simulation based learning landscape continues to perpetuate the notion that a death in simulation is an adverse event, despite the increasing amount of evidence highlighting that a good death is an important part of life, and one that can prepared for.
This narrative, whilst occurring in end of life simulation often involving palliative care clinicians and nurses, does not exist across clinical practice.
There has been a paucity of published research into how we train the healthcare workforce using SBL on the importance of a good death.

Aims

To develop expert consensus on key components of an educational programme with simulation which addresses end of life care and 'a good death' for health professionals

Methods

A three-step modified Delphi method was used to establish consensus. Twenty national and international experts were invited to participate as the expert panel.
In round one 40 items illustrating contents and best practices were distributed to the panel. Panel members were asked to agree/disagree for the inclusion of each item or practice and to provide comments
In round two a revised item list based on initial responses was sent to the panel who were asked to priorities each on a scale of one to five.

Round 3 we presented the initial consensus results and asked for comments.

Results & Discussion

We present the consensus results of an innovative expert panel which identifies and prioritises the key components of an educational programme with simulation for health professionals on the multiple factors underpinning a good death and invite contributions from the audience on this under-theorised area of teaching and learning in healthcare.

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A mental health simulation course for primary care administrative staff

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

Dr Rosemary Mills — Maudsley Simulation

Introduction & Aims

Nine out of ten adults with mental health problems in the UK are supported in primary care(1). As frontline workers, administrative staff play an important and perhaps undervalued role in our patients' journey through services and can potentially have a large impact on how patients access and experience healthcare.
The 'Five Year Forward View for Mental Health' recommends extra training for primary care staff in supporting people with severe mental illness (1).

A half-day training course was designed for primary care administrative staff with the following learning objectives:

- Improved knowledge and awareness of common mental health conditions.
- Improved confidence in their approach to support patients with mental health needs.
- Improved knowledge and confidence in communication skills

Description

The course was designed with four simulated clinical scenarios set up as a primary care reception area.

Specially trained actors played patients arriving in the primary care centre. Each simulation was designed to show a different challenging type of communication situation; for example patient aggression, distress, confusion and hypomania. These encounters were linked with specific mental health diagnoses. Each scenario can be run with two to three participants, whilst the rest of the group actively observe via AV link.

The simulation was followed by a structured group debrief where the whole group were encouraged to reflect upon the communication issues raised in the simulation. Some accompanying didactic teaching provided additional information about specific mental health conditions related to the case, with clear emphasis on the patient experience.

The participants completed a human factors in healthcare questionnaire designed for non-clinical staff, both before and after the simulation training. Our intention is to also follow up the participants after three months in order to evaluate the impact of the training on the participants practice in the longer term.

Discussion

This course is an example of how mental health simulation can be used as an educational tool to teach non-clinicians about communication skills and mental health diagnoses. Initial evaluation suggests that simulation is an effective method for communication skills training in this context. This course provides further evidence to support the use of simulation training for non-clinical staff either as a uniprofessional group or as part of multidisciplinary team training.

There is potential for exploration of this topic in terms of new audiences for healthcare simulation.

Reference

1) Five Year Forward View for Mental Health
www.england.nhs.uk/wp-content/uploads/2016/02/Mental-Health-Taskforce-FYFV-final.pdf

A SIMPLE way of improving patient care

Format: Accepted for Oral Presentation
Subject: Patient Safety / Quality Improvement

Authors

Dr. Paul McFadden	Belfast Health & Social Care Trust
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Introduction & Aims

A team of Emergency Medicine trainees is currently developing SIM-PLE (SIMulation & Patient-Led-Education), a project to improve patient care in the Emergency Department (ED) at Royal Victoria Hospital (RVH), part of Belfast Health & Social Care Trust. Reviewing Significant Event Analysis reports (SEAs) revealed two points. Most SEAs identify inadequate communication as causal. Also, learning outcomes are disseminated to staff via email. Often these remain unread, meaning staff aren't learning from incidents which could potentially reoccur. We are transforming learning outcomes into objectives for simulation cases, aiming to improve both technical and non-technical skills of ED staff, in an environment providing psychological safety for all involved. We also aim to improve existing pathways for disseminating learning outcomes ensuring a greater departmental impact and improved management of future patients.

Description

Case scenarios are compiled to reflect reality. All personal information from original cases remain confidential. Scenarios are conducted in resus. Participants complete a pre-scenario questionnaire evaluating their confidence with managing similar cases. A candidate is chosen and s/he leads the team to complete the scenario. Afterwards, the team relocate to a non-clinical area, where debriefing and post-scenario questionnaires are completed. Lessons learned from SIM-PLE sessions are disseminated via ED intranet and as display posters for patient, relatives and staff to view. Individuals are encouraged to provide feedback to authors with ideas on good ED practice, potential improvements, and future topics for SIM-PLE. A database of simulated cases and feedback is being compiled and participants are provided with certificates for portfolios. We aim to further involve patients in SIM-PLE by engaging advocate groups in scenario development, adding the unique patient prospective to our simulations, drawing focus to the human elements of managing ED patients.

Discussion

It is anticipated that regular SIM-PLE will reduce negative outcomes for ED patients, improving both the technical and non-technical skills of staff. We hope that disseminating lessons from each case by above methods will result in a wider audience than previously achieved. Some challenges exist to running regular simulation, including staff rotas and ED capacity issues however, to this point, the feedback received is highly positive. Inviting medical and surgical specialties to partake in SIM-PLE has revealed different perspectives on patient management and an expansion of information learned from scenarios. We note that interspecialty relationships are developing in a positive fashion. The SIM-PLE model is reproducible in many healthcare environments including CAU, medical/surgical wards and critical-care.

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Adaptación al castellano y estudio de fiabilidad y validez de la escala de evaluación de competencias enfermeras en simulación de creighton (C-SEI).

Format: Accepted for Oral Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

Objetivo: Adaptar y validar la versión en castellano del instrumento de evaluación de competencias “Creighton Simulation Evaluation InstrumentTM (C-SEI)” en estudiantes del Grado en Enfermería.

Methods

Estudio descriptivo de carácter métrico. Se llevó a cabo en el Campus Docent Sant Joan de Déu, desde septiembre de 2014 hasta octubre de 2017 y participaron n=249 estudiantes. En la primera fase, se adpató al castellano el instrumento de evaluación de competencias C-SEI mediante un proceso de traducción-retrotraducción por pares/panel de expertos bilingües. En la segunda, se procedió al estudio de fiabilidad y validez de la versión nueva del instrumento que constaba de 22 ítems binarios, repartidos en 4 dimensiones diferentes (V: Valoración, C: Comunicación, PC: Pensamiento Crítico, CT: Competencias Técnicas). Se procedió a analizar la consistencia interna, el análisis de la concordancia interobservador y el análisis de la validez de constructo. Por otro lado, se estudió la validez convergente y discriminante.
Durante el procedimiento cada uno de los estudiantes participantes fue evaluado durante un escenario simulado por dos evaluadores independientes con el C-SEI traducido al castellano.

Results & Discussion

Respecto los resultados de la primera fase, el instrumento se adaptó al castellano conservándose las cuatro dimensiones y los 22 ítems del instrumento original. El coeficiente alfa de Cronbach para el total de la escala fue de 0,839 y para cada dimensión se obtuvieron valores superiores a 0,68 en dos de las 4 dimensiones de la escala C-SEI

traducida al castellano. El Coeficiente de correlación intraclase total fue de 0,973 y para todas las dimensiones de la escala, este coeficiente también fue superior a 0,90.
La medida de adecuación de Kaiser-Meier-Olkin (KMO) fue de 0.762 y la prueba de esfericidad de Bartlett fue significativa. El gráfico de sedimentación indica que hay cuatro componentes con autovalores mayores a 1.
Las correlaciones más fuertes se mostraron entre la mayoría de las dimensiones y el instrumento total. La dimensión Pensamiento Crítico fue la que correlacionó más fuerte con el instrumento total (r=0,870), mientras que la Valoración correlacionó más débilmente (r=0,629). Todas las correlaciones fueron estadísticamente significativas ($p < 0,05$).

El instrumento C-SEI traducido al castellano, ha demostrado poseer unas adecuadas propiedades métricas de fiabilidad y validez para ser utilizado en población castellano parlante. Esto permitirá evaluar las competencias de los estudiantes del Grado en enfermería en escenarios de simulación. Con los resultados obtenidos de dichas evaluaciones, se podrán planificar programas estratégicos de formación adaptados a las necesidades de los graduados.

Adaptación al castellano y estudio de validez y fiabilidad de la kidsim team performance scale en escenarios de simulación interprofessional.

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

La simulación con equipos interprofesionales pretende mejorar el trabajo en equipo como un elemento esencial para transformar la atención sanitaria. En la literatura se identifica la KidSim Team Performance scale (KTPs) para medir el grado de actuación del equipo en estudiantes universitarios.
El objetivo de este estudio es desarrollar la versión castellana del KTPs – Escala de Valoración de la Actuación en Equipo, EVAE y analizar sus propiedades psicométricas de validez y fiabilidad en nuestro contexto

Methods

Estudio observacional, descriptivo, de validación de un instrumento de medida de la actuación en equipo desarrollado en dos fases. En la primera fase, se realizó la traducción, retrotraducción y adaptación transcultural de la KTPs y en la segunda se procedió al estudio de validez y fiabilidad de la EVAE. El estudio se realizó entre octubre de 2016 y junio de 2017 en la Universidad Internacional de Cataluña. Se seleccionó una muestra de 104 equipos multidisciplinares formados por estudiantes del Grado en enfermería y medicina de la misma universidad bajo consentimiento informado. Las actuaciones de los equipos fueron grabadas evaluadas por dos evaluadores distintos.

Results & Discussion

La EVAE consta de 12 ítems con una puntuación del 1 al 5, repartidos en tres dimensiones (rol, comunicación y atención centrada en el paciente). Se obtuvo una versión castellana lingüística y conceptualmente equivalente a la escala original con una puntuación de A (totalmente equivalente) para todos los ítems. Después de la prueba piloto se anuló la dimensión ‘Atención centrada en el paciente’ por dificultad de evaluarla en el análisis de los vídeos.
La validez de criterio, con la correlación entre la EVAE con el Gold Standard para la dimensión de rol y comunicación, resultó significativa ($r=0.78$, $p<0.001$; $r=0.81$, $p<0.001$; respectivamente). En cuanto a la validez de constructo, el análisis factorial extrajo dos dimensiones, donde la primera explica el 89.0% de la varianza. La EVAE, mostró excelentes resultados en consistencia interna (alfa de Cronbach = 0.85) pero con una concordancia interobservador de ICC = 0.304.

A partir de este estudio se ha obtenido un instrumento válido y fiable de valoración de la actuación del equipo en escenarios de simulación interprofesional en nuestro contexto. Con el objetivo de mejorar la concordancia interobservador es necesario diseñar un manual de uso de la escala y aumentar el tamaño muestral. Con los resultados obtenidos de dichas evaluaciones, se podrán planificar programas estratégicos de formación de equipos adaptados a las necesidades de la práctica clínica.

An exploratory study of experts' experiences of how to embed a sustainable simulation-based education program and/or centre in a teaching hospital.

Format: Accepted for Oral Presentation
Subject: Faculty Development

Authors

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Robert O'Brien	University of Melbourne
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Introduction & Aims

“Simulation is defined as a technique to replace or amplify real experiences with guided experiences that evoke or replicate substantial aspects of the real world in a fully interactive manner”. There is extensive research demonstrating efficacy of simulation to teach practical skills, human factor skills and teamwork and emerging evidence to demonstrate that this translates to patient outcomes. Implementation science scholars argue that the introduction of novel practices into established health care organizations requires much effort and needs to be “informed by an assessment of the likely barriers and enablers.”

Aims:

1. to explore experts’ experiences of barriers and enablers to implementation of a sustainable simulation-based education (SBE) program and/or centre in a teaching hospital;

2. to determine how to embed a SBE program and/or centre in a teaching hospital.

Methods

The study used a mixed method design with a dominant qualitative component to explore experts’ experiences of how to embed a sustainable SBE program and/or centre in a teaching hospital. Known experts across Australia and North America were recruited. Ten Australian participants and seven North American participants (2 Canadian, 5 American) were included. To enhance the robustness of analysis a sample of three of the semi-structured interviews (one from each country) was chosen to create an analytical framework using thematic analysis to be used to analyse the remainder of the large data set in the next phase of this research.

Results & Discussion

The analytical framework created has demonstrated 6 interlinked themes encompassing both barriers and enablers – 1. Engagement of people, 2. Funding challenges, 3. Executive ‘buy-in’, 4. Context plays a key role, 5. Research and 6. Natural evolution of a program.

Barriers and enablers are intimately intertwined. Faculty development and promotion of SBE are the most important enablers and funding challenges particularly demonstrating ‘worth’ and ‘return on investment’ are the most significant barriers.

Whilst knowledge of barriers and enablers of SBE is important these will always exist particularly in complex organisations with uncertainty. Leadership traits and skills of SBE directors are vital to overcome any existing or future barriers and to magnify enablers. Increasing understanding of the roles of complexity theory, uncertainty and healthcare as well as change management and leadership to further embed SBE warrants both further consideration and research.

Participants were only from three countries - Australia, USA and Canada. SBE experts from Asia, South America, Europe and Israel may provide different perspectives.

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An Obstetric Journey towards opening a New Women and Childrens Hospital in Doha, Qatar

Format: Accepted for Oral Presentation
Subject: New Technologies and INNOVATION

Authors

Joanne Davies	Sidra Medicine
Dr Joseph Shumway	Sidra Medicine
Ella Scott	Sidra Medicine
Hellene Gabor	Sidra Medicine

Introduction & Aims

Objectives
1. To discuss the framework to utilize simulation to open a new women and children's hospital.
2. Describe the journey using the obstetric units as a working example.
3. Highlight key lessons learnt from the data collated from hundreds of simulation sessions.

This presentation will highlight our simulation program and process towards the activation readiness for a 450 bedded Women's and Children's hospital with the opening in mid- Jan 2018 for our first patients with a key component of patient , family and staff safety. Simulation of day-to-day hospital activities were conducted across 10 essential units as part of a day 1 opening scenario with a goal of testing staff readiness,facility and environmental readiness.

Description

We describe the process of hospital activation through hundreds of daily briefings using a standardized tool which captured team, equipment & facilities process gaps across all clinical and support service areas. Building over time from unit readiness, to multi-unit readiness and ending with numerous end to end simulations capturing real time data. As this was a Greenfield site, particular attention was focused on creating a common language and working culture among our 63 nationalities represented within our staff (who also anticipated serving a equally diverse patient population with significant cultural and language barriers).

Building weekly with increasing complexity of the simulation scenarios, essential elements of the hospital, staff and services were tested systematically. Ultimately an enterprise wide system testing of the facility is planned to assess overall readiness.

Discussion

We will discuss our summary data from the Obstetric Units including an Obstetric Triage, a Birthing Unit, Operating Rooms, and a Postnatal unit and preliminary metrics used in this process. Significant staff and operational issues were raised and mitigations including additional education and practice simulations delivered to support patient safety concerns. A major challenge included facility readiness, staffing and our electronic medical record not performing as robustly as expected. Our system design however was highly effective in a identifying these gaps early to allow identification and mitigation in a timely manner. Such mitigations were identified utilizing our simulation framework and debriefing tools to capture and organize the data. Most importantly our data provided essential vital metrics to assure readiness of our facilities to administrative certifying body's, clinical leadership, and to our governance structure that our

physical plant and its systems, and our staff were ready and capable to commence safe operations.

Reference list available on request.

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Assessment of the Wong-Baker pain rating scale inter-rater reliability applied to adult standardised patients by paramedics in a multicultural context

Format: Accepted for Oral Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

The appropriate assessment of pain has been identified as a Key Performance Indicator in our Ambulance Service. Currently, patients' pain level is assessed by our paramedics using the Wong-Baker FACES® Pain Rating Scale as it has been adopted throughout the entire governmental hospital and pre-hospital system in Qatar. Recent findings indicated that the assessment of patients presenting with acute pain by our paramedics is sometimes sub-optimal so we aimed to test this in a controlled and simulated environment.

Methods

This prospective, quantitative pilot study was reviewed by the institution’s review board and classified as an improvement study. Five members of staff from the Ambulance Service training department were given a script and prepared as adult standardised patients presenting with differing levels of pain. The study recruited volunteer operational paramedics while they were on standby at various ambulance stations throughout the country. Each participant was exposed to the same five standardised adult patients and the same range of facial expressions in a randomized order. Data was gathered using survey questionnaires to assess inter-rater reliability of their pain assessment.

Results & Discussion

35 consenting paramedics were recruited to the study and indicated the pain intensity score of the five standardised adult patients using the Wong-Baker FACES® Pain Rating Scale. This provided a total of 175 pain assessment scores. Overall the inter-rater reliability determined using Fleiss Kappa indicated only a poor to slight agreement of the allocated pain scores, with a wide grouping of responses around the reference pain score levels set for each standardised patient. Most of the allocations were 1 to 2 pain score levels away from the reference standard, although not in a normal distribution with some of the higher reference pain levels receiving lower scores, and vice versa. Overall the sensitivity was poor to very poor throughout.
This study showed that the inter-rater reliability of the participant sample when applying the Wong-Baker FACES® Pain Rating Scale to determine the pain levels of five adult standardised patient cases was poor which could lead to suboptimal pain management of patients. The scoring discrepancy could be attributed to various factors including the multinational population with cultural biases, language barriers, lack of familiarization with the Wong-Baker FACES® Pain Rating Scale, and other environmental factors. Further studies with a larger sample population should be conducted to make the results generalizable and to identify is staff retraining on pain assessment is required.

Behavioral impact on communication during routine patient care in a pediatric intensive care unit following simulation training

Format: Accepted for Oral Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

Effective communication helps minimize medical errors leading to improved team-performance among healthcare professionals when treating critically ill patients. Closed loop communication (CLC) is routinely applied in high-risk industries but remains underutilized in healthcare. CLC prevalence in pediatric intensive care units (PICU) remains unknown. Interprofessional and multidisciplinary in-situ simulation serves as an educational tool to introduce, practice and appreciate the efficacy of CLC. This observational before and after study investigates behavioral changes in communication in the clinical setting brought on by high-fidelity simulation.

Methods

Following ethics approval and informed consent, the communication patterns of PICU nurses, who had no prior simulation experience, were observed during routine clinical bed-side patient care. One month before (baseline), as well as 1 and 3 months after simulation, 2 trained raters independently recorded nurse communication relative to call-out (CO), uttered by the sender, and check-back (ChB), uttered by the recipient. The impact of simulation on communication patterns was analyzed quantitatively; sender and recipient communications were analyzed separately. Wilcoxon signed-rank test and Friedman test compared observed changes in communication; data are presented as median an interquartile range.

Results & Discussion

Results
Fifteen PICU nurses were included. At baseline the ratio of direct to nondirected call outs was 17:1 (11:1–35:1) for senders and 18:1 (10:1–38:1) for recipients. A significant decrease in no-ChB communication was observed when study participants acted as both recipients (p=0.001) and senders (p=0.005). In the remaining ChB-categories nonverbal ChBs decreased, verbal ChBs and call-backs increased without reaching statistical significance. Among senders, verbal-ChBs

increased significantly when preceded by a directed command (p=0.021) or directed information (p=0.005), as did call-backs that were preceded by a directed question (p=0.012). The Inter-Rater Reliability was 0.51 (0.35-0.63) (Spearman's correlation coefficient).

Discussion

To our knowledge this is the first study describing prevalence and pattern of communication among PICU nurses during routine patient care. Simulation naïve PICU nurses are more likely to employ verbal ChBs in response to directed information and directed commands, more likely to answer using call backs in response to directed questions and less likely to respond with nonverbal ChBs as a result of simulation training. These findings suggest that simulation training alters staff communication behaviors in the clinical setting by discouraging communication patterns that are prone to lead to misunderstandings and by promoting communication patterns that strengthen the unaltered flow of information in the intensive care unit, which is likely to enhance patient safety.

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Blurring the boundaries: sexuality and power in standardised patients' boundary negotiations

Format: Accepted for Oral Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

In clinical consultations, power and agency are well-known considerations; this is less well recognised within simulated teaching contexts involving standardised patients (SPs). This is pertinent given the rise of simulation-based education with SPs.

SPs are not homogenous, they have different motivating factors for involvement in teaching. While intimate examinations (breast or prostate examination) are often protected by a particular degree of ceremony, other semi-intimate examinations such as the close proximity of an eye examination or a chest examination in a female patient, may be perceived as intrusive and involve unacknowledged sexual undercurrents. We aimed to explore SPs' perceptions of power-sharing and boundary-crossing in such routine examinations within a simulated teaching context.

Methods

We collected data from 22 SPs, through five focus groups. Analysis was an iterative process, informed by constructivist grounded theory principles, sensitised by Foucault's concept of the clinical gaze. Data collection and reflexive analysis continued iteratively.

Results & Discussion

Students and SPs construct simulated teaching consultations by negotiating the unequal distribution of power between teachers and learners. SPs' became disempowered when students deviated from the negotiated terms of consent and used their own agency to resist. Strong sexual metaphors reflected the subjection of the SPs as the consultations were confronted with discourses of sexuality and gender.

Conclusion
Power dynamics, the clinical gaze and sexuality can have important consequences in simulated teaching contexts; any examination, however mundane, can be underpinned by discourses of sexuality and gendered undertones. In learning to navigate the blurred lines between sexual contact and benevolent touch, students must take account of power relations in the consultation.

Building a community of engaged simulationists in Qatar

Format: Accepted for Oral Presentation
Subject: Faculty Development

Authors

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Introduction & Aims

Qatar is a diverse country with a large percentage of the population consisting of expatriates. This unique characteristic provides a steady supply of expertise rapidly entering and leaving the country. Weill Cornell Medicine – Qatar (WCMQ) identified a lack of awareness in the community of the simulation activities and expertise available within the country. To address this gap, the team of the Clinical Skills and Simulation Lab (CSSL) at WCMQ is implementing a strategy to initiate contact and engage with the simulation community.

Description

WCMQ has initiated a phased multi-year community engagement strategy with its inaugural simulation-based education (SBE) symposium held in September of 2017. The inaugural symposium was developed according to the needs of the SBE community, and serves as a platform for professional engagement within the community by involving the simulation stakeholders from local academic institutions and hospitals. In addition to the informed educational offerings based on the needs of the community, the symposium has also provided a quality improvement opportunity for attendees through asking attendees to identify professional development plans (PDP) at the conclusion of the symposium. WCMQ prompted attendees to root their PDPs in the learning from the symposium within the context of the personal needs within their institutions. WCMQ will be following up as to the progress of the de-identified PDPs from attendees as a mechanism to capture the evolve needs of the community.

Discussion

This initiative was designed to connect and develop the SBE community within Qatar. WMCQ intends to provide a mechanism through which the SBE community in Qatar can give back to the knowledge of SBE regionally and globally through academically productive endeavors. In addition to the annual symposium, the next phases of the strategy will be to oversee the implementation of an inclusive journal club in an effort to steer the focus of the community towards standards of best practice and opportunities for collaboration.

WCMQ will be collecting the follow-up information regarding the progress of the PDPs of symposium attendees in March of 2018. This data will be analyzed and themes will be identified and shared for this poster presentation.

Catch the ball and close the loop: A simulation icebreaker to improve team communication

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

Effective team working and communication has been shown to be an important aspect of patient safety.(1) One example of good communication practice is the use of 'Closed-Loop Communication'.(2) This consists of three components; the call-out, check-back, and closed-loop.(2) Increased use of this technique has been associated with higher team performance,(3)(4) however knowledge of this technique alone does not translate directly to increased use in practice.(5)

This quality improvement project aims to increase the frequency of closed-loop communication during simulation scenarios for junior doctors at North Bristol NHS Trust (Bristol, UK). These sessions consist of a briefing and icebreaker activity followed by simulated medical emergency scenarios, each with a debriefing discussion. The existing icebreaker was adapted to demonstrate closed-loop communication, and the use of this technique in subsequent scenarios was assessed.

Methods

During four sessions in October 2017 this icebreaker consisted of a 'catch-the-ball' activity; participants were asked to catch a tennis ball, read out a word written on it, and then throw it to another participant (Catch-The-Ball Only [CTBO]). In the third and fourth sessions, participants were asked to repeat this activity using closed loop communication; participants were asked to designate a person, receive a response, and close the loop before throwing the ball (Catch-The-Ball with Closed Loop [CTBCL]).

During the simulation scenarios a faculty member recorded all instances of participant-to-participant or participant-to-confederate information or action requests. These instances were categorised as call-out, call-out with response, or closed-loop communication (CLC).

Results & Discussion

We observed 263 instances of participant initiated communication across 10 simulated medical emergencies involving 19 junior doctors. The 5 scripted scenarios used in the first two sessions were identical to those used in the second two sessions.

In the two sessions using the CTBO icebreaker, we observed 118 instances of participant initiated communication of which 20 (17%) used CLC. There was a significant ($p<0.001$) increase in the use of CLC following the CTBCL icebreaker (145 instances, 68 [47%] CLC).

We are encouraged by these results, and will continue to use this modified icebreaker in simulation sessions to improve the quality of team communication. This appears to be an effective learning tool and may help bridge the gap between knowledge of effective communication techniques and establishing their use in practice.

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PROMOTING SIMULATION IN MEDICAL EDUCATION
SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

Clinical effects of the in-situ simulation in obstetrics (pilot study)

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

In-Situ Simulation (ISS) is an effective way of practical training and hospital staff assessment. The goal is evaluation of the clinical effectiveness of the team training in the obstetric hospital.

Methods

The study was conducting during 2016 - 2017. ISS (n=15) were conducted in the Perinatal Center of the Seversk Clinical Hospital from July to October 2016. The subject of the training was severe pre-eclampsia (SPE). The participants - obstetricians and anesthesiologists (n=40), midwives and anesthetist (n=96); others professionals working on the day of the training - ambulance, laboratory technicians, physicians and other consultants. The High Fidelity mannequin, mobile audio/video and real hospital equipment were used. Stages of the ISS: the emergency room; intensive care unit; the delivery room. Type of training was continuous. Patients were moved from stage to stage in real time. Control was separate checklists for obstetricians and anesthesiologists at each stage. Debriefing was collective. In 2017, a retrospective analysis of the history of diseases of pregnant women with SPE was conducted. Two groups were formed. Group 1 (n = 5) - the women in labor with SPE who entered to the obstetric department within 6 months before the ISS and Group 2 (n = 8) - women who entered within 6 months after the training. The technical skills and communication of the members of the medical team in the treatment of pregnant women with SPE of Groups 1 and 2 were assessed before and after the trainings.

Results & Discussion

Groups of pregnant women with SPE did not differ in the physical parameters - age, height, weight; obstetric anamnesis - gestational age, number of pregnancies, complications of previous pregnancies; indicators of physical examination - the level of systolic and diastolic blood pressure (BP), the presence of protein in the urine, edema and other signs of pre-eclampsia; the presence of concomitant diseases - hypertension, obesity, kidney diseases. The main differences in the actions of medical teams are presented in the table.
CONCLUSIONS:
1. Practical skills acquired during ISS are effectively transmitted to clinical obstetric practice.
2. In-Situ Simulation is effective for improving communication and team building skills.
3. Participants ISS - anesthetists and obstetricians - improve their technical and non-technical skills by more than 2

times.
4. Acquired practical skills are maintained at a high level for 6 months after the training.
5. Additional studies are needed to determine the frequency of repeated training to maintain high-level practical skills.

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Comparative upper limb motion study of surgeons during a simulated laparoscopic test

Format: Accepted for Oral Presentation
Subject: New Technologies and INNOVATION

Authors

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Introduction & Aims

Laparoscopic technique has demonstrated numerous advantages compared to open conventional surgery. Nevertheless, this procedure increases the surgeon fatigue and thus the potential to commit errors that may harm the patient during the operation. The post-surgery pain also increases as the configuration of the instruments force the surgeons to adopt non-neutral postures during the practice. "Postural Freedom" is defined as the capacity of the surgeons to adapt their position and movements in front of the operation table to reach comfort. This study reveals how this could help surgeons to improve the postural hygiene and how previous experience in laparoscopic surgery may influence the results.

Methods

14 subjects participated in the study, 6 of them with no previous experience in laparoscopic surgery. They performed a surgical simulation with two instrument configurations, a conventional pistol grip instrument and a prototype with an articulated element. The articulated prototype allowed the subjects to adopt more comfortable postures (neutral positions). During the test, the subjects were recorded to analyze their motions with an adaptation of Rapid Entire Body Assessment (REBA) method. In order to evaluate the positions adopted for the surgeon, a motion capture set tracked their movements during a circuit traced inside a box-trainer.

Results & Discussion

This study showed a significant improvement in the number of neutral positions adopted by subjects working with the articulated prototype. More specifically, these improvements were 34,88% higher in arm abduction-adduction, 30,56% higher in forearm flexion and 20,99% higher in arm flexion-extension. Collected data also showed significant differences when the subjects had previous experience in Minimally Invasive Surgery (MIS) procedures. The fact that these subjects adopted worse postures with the articulate prototype would probably be due to the influence of the experience acquired with conventional instruments. The current study demonstrates that, when "Postural Freedom" is improved, surgeons achieve greater percentages of neutral positions. In addition, we have seen that the implementation of an articulated element between handle and stylus could be a key element to avoid risk postures during laparoscopic surgery.

Debriefing with team deliberate practice: An instructional design to enhance the performance of undergraduate nursing students in recognising the deteriorating patient.

Format: Accepted for Oral Presentation
Subject: Debriefing

Authors

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Dr L Prescott-Clements	NHS Litigation Authority

Introduction & Aims

The purpose of this paper is to give an overview of the development of debriefing with team deliberate practice (DwTDP) as an innovative instructional design. The author will present their research findings and discuss its application to healthcare education.

A key competency that undergraduate nurses have to achieve is that of the early recognition of clinical deterioration of patients the Nursing and Midwifery Council1, and as advocated by the Chief Medical Officer2 simulation-based education is an important methodology in achieving this. Despite a growing evidence base for the use of simulation as a learning and teaching methodology Anderson and colleagues3 found a wide variation in the quality of delivery and recommended further research into those instructional design features that enhance learning. To meet this challenge, the author developed an innovative simulation-based educational enhancement entitled DwTDP. This was based on the deliberate practice framework4 and incorporated key elements from team working and debriefing theory.

Methods

Using a quasi-experimental longitudinal pre-post design, the researcher explored the effect of DwTDP on the performance of second year adult nursing students (N = 93) over a one-year period. Naturally occurring student groups were randomised into either the intervention arm (n = 8), who received DwTDP, or the comparison arm (n = 8) who received a traditional SBE.

Results & Discussion

Pre and post video data of the students' performance was captured and collected at three time points over the course of the year. This was analyzed using a series of statistical techniques. An Independent t-test found that there was no statistically significant effect on the participant's performance during the individual phases. However, a mixed ANOVA analysis identified that over time the DwTDP intervention led to a statistically significant improvement in the performance of the participants ($F(1, 6) = 19.12$, $p = .005$).

In phase 1 the participant's time on task from the intervention group also showed statistical improvement ($t(14) = 5.12$, $p = <.001$), with a very large effect size ($d = 2.56$). Although the effect sizes remained large in the other two phases the Independent t-tests were not statistically significant.

The results inferred that the DwTDP intervention was a feasible approach to use within nurse education. It enhanced the participant's performance in recognising a deteriorating patient overtime and initially improved their response times. The author therefore recommends the use of this approach within adult nursing pre-registration curricula and further research into its efficacy with other healthcare professionals.

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PROMOTING SIMULATION IN MEDICAL EDUCATION

Decision-making in nursing: How undergraduate students see their learning in high-fidelity simulation

Format: Accepted for Oral Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

Clinical decision-making in nursing is complex. It involves critical integration of evidence, the patient's preference, the experience, the context, and the available resources among others. There is a demand in health care settings for nurses to use responsibility, autonomy and critical judgement in decision making. The aim of this research is to evaluate the student`s self-perception about decision-making competences developed during high-fidelity simulation practice (HFSP).

Methods

This quantitative, cross-sectorial and descriptive study aims to answer the research question: "What is HFSP's contribution to decision-making learning in nursing undergraduate students?"
The subscale "Decision-Making in Nursing", from the Scale to "Evaluate the Contributions of High-Fidelity Simulation Practice in Learning the Nursing Process' Steps", was used. This subscale has nine (9) items scored on a Likert scale with four (4) options. The questionnaire was sent by Google Drive® to a sample of students who met the inclusion criteria: attend the 5th semester, during clinical practice in medical or surgical wards. Participation consent was requested and data anonymity confidentiality were assured.

Results & Discussion

The sample of 135 students answered the questionnaire. The majority, 90.3%, are female; mean age is 20.8 years (standard deviation of 2.72). With internal consistency alpha-Cronbach 0.916 for the nine (9) items, the instrument shows very good internal consistency, a single factor explains 60,119 of the variance. Pearson's correlation coefficient values, relating each item with the scale total without the item, ranged between 0.752 and 0.825.
In the descriptive analysis it was verified that the students evaluated positively HFSP contribution to decision-making, since in average the subscale scores 30.47 ± 4.47 in 36 possible points. The indicators of the subscale: mobilizing knowledge, structuring clinical reasoning, improving clinical thinking and developing decision-making stand out with a median of 4.
HFSP contributes to the clinical decision-making of the undergraduate students. Future studies should explore methods and techniques that can measure the impact of the simulation in the decision- making in nursing.

Development of a venipuncture simulator manikin for health education

Format: Accepted for Oral Presentation
Subject: New Technologies and INNOVATION

Authors

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Introduction & Aims

Simulation has been adopted as the standard in highly complex and technical professions, where there is a high risk to human life, such as, for example, aerospace, military, healthcare and other professions. In general, simulated practices in teaching laboratories use manikins, anatomical models and equipment similar to those of hospital units, creating the most realistic environment possible. In order to contribute to this issue, we aimed to answer the following research question: “How can healthcare educators practice the procedure of parenteral injection and venipuncture in the most realistic way possible?”. Thus, the purpose of this paper was to describe the beginning of the process of creating a new arm simulator manikin for venipuncture from the requirements survey regarding educational, commercial and technological aspects.

Methods

We searched scientific databases filtering for years, from 2003 to 2013, for literature review, where 225 results returned and 26 papers were selected, according to inclusion and exclusion criteria. World patent banks (USA, China, South Korea, etc.) were also surveyed in the period from 1952 to 2013, returning 13 patent registrations, the proportion being the United States (54%), followed by China (31%) and Korea (15%). Finally, we carried out a research with manufacturers of healthcare simulators cited in the literature review, patents and Internet searches. Of the 20 companies listed, 11 manufactured venipuncture arms (Laerdal®, Limbs and Things®, Koken®, etc.), whose product characteristics were analyzed.

Results & Discussion

The information was analyzed and summarized in a table of requirements, presenting the development of a venipuncture simulator from educational, commercial and technological aspects. Five categories were described according to (i) functionality, (ii) hybrid simulation, (iii) provision of skills, (iv) ethical aspects and (v) realistic aspects, considered as primary requirements. The definition of requirements is an important step in the development of new products to promote innovation, since they establish an agreement between the customer and the team that develops the product. The requirements are used as a reference for the final validation of the product and they reduce development costs since they avoid rework for not understanding the consumer’s needs (ÁVILA; SPÍNOLA, 2015). The main result of this research was the product requirements table as a contribution to the Industrial Engineering, especially for the process of development of new simulators for the healthcare education area. The evidence found supported the development of an arm simulator manikin for venipuncture with innovative features as shown in the first draft depicted in Figure 1.

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Does debriefing get the attention it deserves? A medical simulation literature review.

Format: Accepted for Oral Presentation
Subject: Debriefing

Authors

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Introduction & Aims

Debriefing following a simulated scenario is crucial to learning in educational simulation. A trained debriefer aides the participants in their reflection of, and learning from, the preceding scenario. There are numerous frameworks and techniques for this debriefing, but common amongst them is the assertion that skilled debriefing aids effective learning. However, developments in simulation typically focus on the content of the scenario, rather than the process of developing effective debriefing skills amongst the faculty.
The aims of this review are first to determine how commonly the development of debrief is the focus of publication in the educational medical simulation literature. Secondly, to review and summarised novel measures currently being employed to develop debriefing skills amongst faculty.

Methods

The medical simulation literature is reviewed using search terms specifically intended to produce results relating to developments or novel approaches in medical educational simulation. This is then refined to specifically to focus on those papers that particularly focus on development of debriefing. As an initial, crude measure, the frequency at which debriefing is the focus of publications within the medical simulation literature is assessed. Those publications focusing on debriefing are then reviewed in greater detail to determine the recurring themes in development of debriefing practice.

Results & Discussion

Results of this review are being finalised, but it is clear that developments focused specifically on the debrief form only very a small portion of published advancements in medical educational simulation. This may seem surprising given the importance typically ascribed to the role debriefing in the learning process. However, efforts at developing these skills amongst faculty are more often more time consuming and produce results more challenging to quantify than improvements in technology or novel scenario designs. The authors feel strongly, though, that this does not diminish the importance of developing and sharing methods for improving debriefing skills.

Enhancing perceptions of paediatrics and promoting speciality recruitment using high fidelity simulation

Format: Accepted for Oral Presentation
Subject: Center Administration and Program Evaluation

Authors

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Introduction & Aims

Paediatrics, like many specialties, is experiencing a decline in applications for specialty training.1
Reasons include perceptions of poor flexibility; arduous training programme and lack of adequate career guidance and support.2 The Royal College of Paediatrics and Child Health (RCPCH) suggest strategies to increase recruitment should include exposure to educational opportunities. 2 In the UK, the transition between foundation level training and specialty training is an uncertain and stressful time. 3 We believe that allowing access to high fidelity simulation training affords a unique opportunity to showcase our specialty.

Description

We designed, delivered and evaluated ‘A Foundation in Acute Paediatrics Simulation’ (FAPS) course aimed at offering junior doctors an introduction into the management of common paediatric conditions. A highly experienced inter-professional faculty provides an insight into a career in paediatrics, their own career perspectives and an opportunity for group discussion and tailored personal career advice. Clinically relevant interactive simulation scenarios offer the candidates the opportunity to work alongside colleagues and encounter common paediatric conditions, potentially developing their clinical acumen and enhancing non-technical skills such as teamwork and communication.

16 candidates took part in the pilot FAPS course. Prior to the course 11/16 (69%) candidates were unsure whether they were going to apply for paediatrics. After the course all 11 candidates indicated that that they were more likely to apply [mean score 2.9 before Vs 4.0 after; 1-very unlikely, 3-undecided, 5-Very likely to apply]. 15/16 candidates (94%) felt more confident in the assessment of the unwell child following the course, and all candidates (100%) would recommend this course to peers. Qualitative comments included ‘Excellent concept, relevant scenarios and useful course. Thoroughly enjoyable.’

Discussion

This is the first use of high fidelity simulation to enhance specialty recruitment that we are aware of. This course affords an opportunity to gain access to motivated clinicians while experiencing common paediatric conditions in a safe, simulated learning environment. The tailored career advice may be of use for their future speciality direction. This course actively helps in addressing the current plight of low trainee recruitment and retention in Paediatrics and could be easily replicated in other areas.

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Evaluation of the efficacy of training in cardiac auscultation in medical students at the Agostinho Neto University, Faculty of Medicine, Angola, 2017

Format: Accepted for Oral Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

Medical simulation is an important tool in the teaching and learning process in medicine, offering students knowledge for the management of well-being, discarding in this phase of learning the potential risks to the patient and the student, giving possibility of repetition from exercise to gaining skills and competence without the handling of patients. The aim of this study was to evaluate the efficacy of cardiac auscultation learning by simulation, comparing it to the regular / traditional teaching of the 3rd year students of the Agostinho Neto University School of Medicine (FMUAN) in the academic year 2017/2018.

Description

A controlled clinical trial of educational intervention was carried out with 117 students, divided into two groups: group A 59 (control) and group B 58 (case) and both were submitted to a pre-test in simulators. Group A had traditional classes (in the ward) and group B classes in simulators (laboratory) on cardiac auscultation. All groups had 6 hours of training divided into 2 hours per day on 3 consecutive days. Real patients - with physiological and pathological sounds were randomly selected in the cardiology ward by the team of instructors. For training and testing with simulators were used mannequins of cardiac auscultation type NASCO auscultation trainer and SmartScope, which generates 12 different sounds, namely: normal heart, holosystolic blows, protosystolic, mesosystolic, holodiastolic, protodiastolic, mesodiastolic S3 and S4 gallops, systolic clicks , atrial septal defect, patent ductus arteriosus, ventricular septal defect, on the anterior aspect of the thorax. After the classes were submitted to a test in real patients. Data processing was done through

SPSS 23 edition. To compare learning effectiveness, the chi-square test and the McNamar test with a significance level of 0.05 were used.

Discussion

Correct responses in cardiac auscultation assessment in real patients between group A and group B after training averaged for group A was 2.15 ± 0.84 and for group B was 3.16 ± 0.62 with statistical significance ($P<0.05$).
Group B had better ability in cardiac auscultation and ability to differentiate between normal and pathological sounds compared to group A. Simulation teaching should be incorporated into the formal teaching process in FMUAN

Exploration of students' learning gain following immersive simulation – making feedback count

Format: Accepted for Oral Presentation
Subject: Debriefing

Authors

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Introduction & Aims

An under developed aspect of the use of simulation is an understanding of how students use formative feedback, or 'the debrief', to feedforward into their own professional practice (Shinnick et al 2011, 2012).

Methods

120 third year student nurses from University of Surrey undertook an immersive simulated experience prior to their final placement before registration. Using a mixed method approach the presenters investigated students' perception of their learning, how the debrief was used and how students could more effectively transfer their learning gained during simulation into real like practice.

Results & Discussion

Data highlighted the requirement for two different, and interdependent, feedback strategies for students to capitalise on their immediate learning during the simulation, as well as being able to take their learning into future practice.
The first feedback, 'the debrief', was categorised by students as specific, immediate and personalised. The reactive nature of the feedback was enhanced using all players in the simulation; staff, actors and the students themselves.
The second phase of the feedback required students to recontextualise the feedback into a relevant action plan that guided their future performance into practice. Data indicated that this was predominantly actioned informally by students and, the potential to build on the simulation debrief, was diluted by students' difficulty in deconstructing meaningful feedback, their concealment of areas for improvement from their future practice supervisors and their lack of awareness of the importance of feedforward to their long-term development.
It could be that students felt that, by drawing attention to their deficiencies, rather than recognising that this would enable their on-going development. This could be related to 'Imposter's Syndrome' and students concerns that if they shared too many areas for development with their mentors they may not appear credible entering their last placement before qualifying.
Students were further hampered by difficulty identifying goals from more general, non specific insights. Not all students discussed the simulation event with their mentor or used the completion of the practice assessment documentation as an opportunity to consider their learning and development with their mentor. It is important students are helped to identify learning goals and how to discuss these with their mentors so they feel both comfortable and develop skills recognising their on-going learning and development. Dialogic feedback is key to this process and raises questions about the training mentors receive and the need to raise their awareness, as well as that of the students.

EXTRACORPOREAL MEMBRANE OXYGENATION (ECMO) SIMULATION TRAINING IN A REGIONAL ECMO PROGRAM

Format: Accepted for Oral Presentation
Subject: Patient Safety / Quality Improvement

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Introduction & Aims

We present a prototype for extracorporeal membrane oxygenation (ECMO) prepared for high-fidelity medical simulation in extracorporeal life support. It will be incorporated to the first regional ECMO program - "ECMO for Greater Poland". The objective of the program will be to take advantage of the indications for ECMO therapy for inhabitants of the Greater Poland region.

Description

ECMO therapy is a complex and expensive tool in patient care. We have constructed an advanced ECMO simulation training program, which can prepare for real-life experiences. The “ECMO for Greater Poland” program uses high-fidelity simulation as a superior tool to re-create non-existent scenarios. In addition, it allows for easy and repeatable high-quality personal and procedural training in rare, complicated and expensive procedures. The training course is standardized and allows for repeatable training, improvement of skills, and an objective verification of said skills.

The importance of simulation-based learning in medicine has a two-fold importance. Firstly, as a tool for testing users in various clinical scenarios and secondly, as a mechanism for recreating rare or non-existent procedures. The authors present all of the possible areas where ECMO simulation therapy may be applied. ECMO team training “in situ” simulation scenarios have been created and preliminarily examined by specialists – Table 1. The primary objectives of the scenarios include:
Ability to diagnose problems during ECMO treatment using clinical signs, echo or ultrasound examinations, gasometry and other necessary blood exam interpretations,
Ability to communicate with other members of the ECMO team
Describe successive changes in clinical parameters and accompanying changes in vital signs of the patient and ECMO,
Ability to protect the patient without compromising their safety during the procedure

Discussion

The advantages of simulation as an educational tool is invaluable. Medical simulation allows for standardized training, practicing new or common procedures, skill upgrading but also to simulate rare cases. The economic result of simulation-based training is optimized at the expense of improving theoretical and practical skills. In Greater Poland region, full responsibility should be confirmed by testing the effectiveness of training activities based on simulation, practical and theoretical training developed within the Program. The training has a direct impact when applied to

sophisticated procedures, such as perfusion therapy. The immense benefits of creating the ECMO simulation training program course can suggest improved outcomes for patients receiving ECMO without compromising patient safety.

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Five years of fine needle aspiration cytology Simulation: a single center overview

Format: Accepted for Oral Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

Since the development and implementation of fine needle aspiration cytology (FNAC) simulators, incorporated in the curriculum for third-year undergraduate medical students, several considerations have come to light. The aim of this review is to discuss these results.

Description

Handmade training models for FNAC skills (patented models WO2016185077 and WO2017109241) were designed. They consisted of two reusable water-resistant manikins: a head & neck and a trunk manikin with 8 simulated lesions (cervical midline, retromandibular, supraclavicular, axillary, breast (x2), thigh and groin) which allowed the trainee to practice palpation, asepsis-antisepsis management and the FNAC procedure, including sample extraction and smear preparation. The simulation included a prior introduction to FNAC and a subsequent debriefing and a clinicopathological correlation using whole slide images from scanned cytology and histology slides.
During the 5 years, from 2013 to 2017, a total of 265 students distributed in 60 groups have performed the training exercise. The mean number of students per group was 4 (range 2-8). Simulators' loads were replaced after around 30 procedures. The average time for the FNAC training station (without clinicopathological correlation) was 2'43'' (range 1'48''-4'16''). The following were the weakest points obtained (and their rate of proper execution): Patient information (15%), informed consent form filling out (22%), system assembling (38%), and compression after FNAC procedure (45%). Smear preparation was properly performed in 68% of the cases. With a sample of students, a debriefing assessment (DASH, Harvard) was carried out with a mean total score of 36.83 (out of 42).

Discussion

- Fine Needle Aspiration Cytology simulation is considered appropriate for teaching purposes and is easily implementable in the undergraduate curricula.

- This kind of training provides students with skills, greater knowledge and an appreciation of Pathology as a central subject and as a medical specialty.

- Facilitators and debriefing are mandatory to achieve an improvement in the learning curve.

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Frequent simulation bag mask ventilation (BMV) training with immediate feedback improves skills and confidence among midwives in a rural low resource setting (LRS), Tanzania

Format: Accepted for Oral Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

Introduction: In LRS around 8% of newborns need ventilation at birth. BMV is a potential life-saving intervention, which all birth providers should master, but it is documented to be difficult and poorly performed after standard Helping Babies Breathe (HBB) training. A new simulator with different lung compliances (LC), heart rate (HR) responses, and feedback was developed (Laerdal Global Health) to facilitate frequent self-training and improve BMV skills.
Aim: To document the frequency of self-training, BMV skills, and evaluation/confidence among midwives in a LRS using the new training equipment.

Description

Methodology: A simulator connected to an IPad was installed in the labor ward, readily accessible for self-training. Midwives sign in, choose level of training: 1) normal LC/normal HR, 2) normal LC/low HR, 3) low LC/normal HR, or 4) Low LC/Low HR, and follow displayed instructions. The IPad records each session, and displays performance feedback for improvement in the next training session. Effective BMV generates chest-rise and increased HR. Upon effective continuous BMV for at least one minute the manikin cries, indicating spontaneous breathing. Evaluations of the simulator/training system and confidence were assessed using a self-administered questionnaire.

Discussion

Results: For 3 months, 17/20 midwives in the hospital did at least 1 training session. There were 340 recorded sessions, in average 20 sessions (6.7 sessions per month) per trainees. 251/340 (74%) achieved “well done” (i.e. head tilting, adequate pressure + mask seal + ventilation rate + continuation of BMV). Effective ventilations (i.e. chest rising) were achieved in 98% of the sessions. 16 midwives filled the questionnaire; 9/16 tested all 4 training levels, 12/16 experienced a gradual improvement in skills over several sessions, and 9/16 gained more confidence in BMV. More than 50% found the technology very realistic for BMV training and all of them would recommend it to others.
Conclusion: The new simulator with different newborn LC, HR responses to BMV and immediate feedback/guidance, motivated providers to perform self-training frequently and to gradually improve their simulated performance of BMV. Further studies are needed to evaluate whether the acquired BMV skills translate into clinical practice.

From the (Sim) patient's point of view…

Format: Accepted for Oral Presentation
Subject: New Technologies and INNOVATION

Authors

Kiran Virk	Maudsley Simulation
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Introduction & Aims

To ensure the highest possible level of actor fidelity in mental health simulation, Maudsley Simulation runs a 2 day workshop for professional actors to allow them to develop an understanding of mental health conditions and the way they manifest, as well as to add depth to the portrayal of characters.

Our current Audio Visual (AV) system comprises two overhead cameras per simulation space which ensures real time capture of participants interacting with the simulated patient in a scenario. However, there is a need for a more intimate "patient view" perspective – to better understand the nuances of interaction.

The aim is therefore to understand whether the addition of a patient view camera (PVC) is a helpful learning tool for participants.

Description

Maudsley Simulation have integrated an additional camera source into our AV set up. This is streamed using a local area network which bypasses the hospital network. The feed is received by the webcasting software, Wirecast and integrated into SMOTS (Scotia Medical Education and Training System) through an available input on the SMOTS encoder box. The camera source is a mobile phone which slots into a customised hat worn by the simulated patient.

A 'pilot' evaluation of the PVC was done on the Police and Paramedics course, and this evaluation was then scaled up to more courses based on initial findings.
The patient view camera has been used on a variety of courses run in-centre by Maudsley Simulation. Participants range from healthcare professionals to Police and Paramedics and are of varying levels of experience and professional role.

Feedback was collected through anonymised evaluation forms consisting of open-ended and closed-ended questions. In relation to the PVC, participants were asked whether they found the PVC helpful, with the option to provide qualitative feedback.

Discussion

Some participants reported that the head camera was difficult to watch comfortably particularly alongside two other camera feeds, due to the constant movement of the patient. However, most felt that it was helpful and gave them a greater insight into the mind-set of the patient.

There is clear potential for the PVC to be a valuable learning tool, in gaining a unique insight from a patient's perspective. For some courses, the PVC may aid in reaching the course learning objectives, such as improving communication and collaboration skills within a multi-disciplinary team and between professions.

Getting into the shoes of a person with dementia: Sensory overload

Format: Accepted for Oral Presentation
Subject: New Technologies and INNOVATION

Authors

Alison Smart	Edinburgh Napier University
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Introduction & Aims

Nurses' are at the forefront of healthcare and with this, working with people with Dementia is inevitable. The literature suggests nursing students often feel unsupported and ill prepared in dealing with dementia despite a theoretical understanding of the disease process (Robinson & Cubit, 2007).Increasing the student's level of knowledge and attitudes on dementia could be an important step for enhancing dementia care.
The research aim was to evaluate a specific Simulation Based Experience (SBE), designed to simulate sensory overload and to increase the students understanding and knowledge and shift attitudes of people with Dementia. Other aims were to, ascertain the students' current attitudes and knowledge base in relation to People with Dementia and evaluate the effect simulation can have on student nurses attitudes and knowledge toward people with Dementia?

Methods

Prior to the SBE a questionnaire was completed the Dementia Attitudes Scale (DAS) a validated tool (N=46). The questions evaluate social comfort and knowledge in relation to Alzheimer's disease and related disease (ADRD).
The SBE involved the students wearing equipment, headsets which simulate white noise, vision impairment goggles, gloves and slippers with inserts and then enter a noisy home environment. This experience stimulates the senses and simulates "sensory overload" a common challenge for people living with Dementia. Following, the SBE a de-brief of the experience took place with the participants.
SPSS was used to analyse the data and then copied to Microsoft excel to format the reverse scored questions and to group the two sets of 10 questions that referred to the two subdomains (social comfort and confidence and knowledge). The data gathered was then made into a score out of 50 and compared.
The study is currently still ongoing and a three month follow questionnaire of the Dementia Attitudes Scale is due to be completed by December.

Results & Discussion

Prior to completing the simulation based experience, the students evaluated differently within knowledge and social comfort. The student evaluated a total score of 37.59/50 (social comfort) and 44.09/50 (knowledge) and an overall score of 86.8/100. This illustrates before the simulation based experience, while the student nurses self-report good knowledge and understanding of ADRD, the students have a lower confidence and lack of being comfortable around people with dementia. The second questionnaire results are required to further report and to evaluate if this simulation based experience can have an effect on student nurses attitude and knowledge in relation to working with people with dementia.

Grappling with evaluation - analysis of the impact of a simulation train-the-trainer course

Format: Accepted for Oral Presentation
Subject: Faculty Development

Authors

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Introduction & Aims

As an educational strategy clinical simulation in hospitals provides the opportunity for learning that is both immersive and experiential. Thus to improve education and ultimately enhance patient safety, clinical teachers are attending Train-the Trainer courses to expand their repertoire of teaching skill so that they can include simulated patients, mental simulation, manikin simulators and task trainers into their teaching

We aimed to evaluate the impact of a two-day clinical simulation Train-the Trainer courses on 50 clinical teachers (including nurses and doctors) over a 12 month period following their training.

We looked at impact in terms of frequency, modality and teachers' theories of use. We also identified barriers and facilitators that influenced whether participants were able to embed simulation in their clinical contexts.

Description

Using mixed methods our data gathering included:

1. A post course evaluation survey delivered to participants at between 3-12 months following their training
2. Two focus groups with participants
3. Simulation centre data over 12 months on frequency and type of simulator borrowings for mobile in situ simulations in the hospital.

Discussion

The Train-the-Trainer course provides exposure to a mix of simulation modalities and theories of use but how this impacts on clinical teaching practice following training is often difficult to gauge.. In our 12 month follow up we identified a number of impacts including barriers and facilitators for the adoption by clinical teachers of simulation in clinical areas. Time and logistical barriers created special challenges for front line clinical teachers who want to adopt simulation-based learning
The use of 'mental rehearsal' or 'mental simulation' was the most easily transferable outcome from the Trainer course. Course. Participant composition had an important effect on impact. Junior doctors reported fewer opportunities and more

variable experiences in using simulators. In contrast, practice nurse educators represented a solid group of end users and were more likely to adopt and embed simulation - part task and simulator - in in situ training. In cash strapped hospital systems this may suggest a strategic case for identifying professional groups, in the hospital who have front line teaching responsibilities for preferential inclusion in Train-the-Trainer courses.

High quality CPR - Assessment and educational intervention for hospital code teams: A NESERC multicenter simulation based study

Format: Accepted for Oral Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

The American Heart Association (AHA) reports only 25% survival rate with in-hospital cardiac arrests (IHCA). Other publications have previously documented the correlation between survival and high-quality CPR (hqCPR). Nevertheless, hqCPR performance: rate 100-120, depth 5-6cm, compression fraction (time in CPR >60%), and peri-shock pauses (<10 sec), varies and research indicates that it is suboptimal despite certification training.

To address this complex issue of technical proficiency and team-work during a code, we developed a 3-hour standardized interprofessional educational intervention, incorporating simulation, didactics, and deliberate practice with a CPR feedback device (ZOLL R-series defibrillator). Our intervention targeted members of hospital code teams at four medical centers, affiliated with the New England Simulation, Education, and Research Consortium (NESERC).

Methods

Participant inclusion criteria required current certification (BLS or ACLS) and membership in their hospital's code team. We recruited ten groups of four participants from each of the four sites (40 teams and 160 participants). Teams managed simulated codes at baseline and post-intervention that had CPR data recorded (utilizing the ZOLL R-series). Additionally, after training, individuals had 2-3 attempts to score >80% for the composite target rate and depth (hqCPR) over 2 minutes. We utilized the paired t-test to assess changes from pre- to post-intervention.

Results & Discussion

We analyzed data on 152 individuals across four sites: 43% physicians, 26% nurses, 16% CCTs, 6% RTs, 9% other. Demographics included: median age 29.5; median 2 years on code team; 75% completed AHA certification <12mo; 47% observed CPR during an IHCA <1mo; 37% had performed CPR in >20 IHCA (>50% were involved in >10); 84% rated themselves as confident to extremely confident to perform hqCPR. 97% did not use CPR feedback-devices during hospital codes.

We present data on pre- and post-intervention mean(SD) in the accompanying table.

Participants in this study were all hospital code team experienced, AHA certified, and very confident in their hqCPR abilities. Individually, their baseline hqCPR score for 2 minutes was only 11.9%. Explanations for such low baseline performance in qualified participants include: challenges of combining target depth and rate simultaneously for 2 min; overconfidence; and underestimating the difficulty of hqCPR. After our brief intervention, we found statistically significant improvements with individual hqCPR (+42.8%) and team hqCPR (+21.7%). Teams also made statistically significant improvements in compression fraction (+5.8%) and peri-shock pause (-5.6s).

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High-Flow IPE Sim: Using simulation-based multi-disciplinary teaching to introduce ward-level high flow oxygen care in bronchiolitis.

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

Acute Bronchiolitis is the most common respiratory condition in infants under one year of life. In the UK, approximately 1 in 3 infants will develop Bronchiolitis in the first year of life and ~2-3% of all infants require hospitalisation.1
In severe cases, management often involves transfer to Paediatric Intensive Care for ventilation and supportive care. This has significant workload and resource implications.
Recent studies suggest that, whilst the use of High Flow Nasal Cannula Oxygen (HFNCO) does not modify the underlying process in cases of moderately severe bronchiolitis, it may have a role as rescue therapy to reduce the proportion of children requiring High-cost intensive care.2

In NI's Tertiary Level Paediatric Hospital, following a coordinated multi-professional strategic approach, provision has been made to facilitate initially one High-Flow unit in the acute Medical ward over winter 2017. This presents issues for ward nursing and medical staff requiring training and support for this new service.

Description

The Paediatric Respiratory and Simulation Education departments designed and co-ordinated various Staff Education sessions to train medical and nursing staff as well as healthcare assistants.
Participants completed a questionnaire following the training sessions to collect both quantitative and qualitative data on the educational experience.
33 staff members received HFNCO teaching – 14 medics (10 Trainees, 4 Consultants), 1 Advanced Paediatric Nurse Practitioner, 15 Nurses and 3 Healthcare assistants.
95% (31/33) of staff felt significantly more confident in approaching HFNCO following the session, with 100% feeling that the session would be useful for their day jobs, and 100% stating that practical use and demonstration in Simulated environment helped improve their practical skills and improved confidence.

Discussion

The introduction of any new service to a Hospital unit can be an arduous journey. Staff members can often feel anxious with regards to pre-existing service demands, lack of theoretical knowledge or lack of familiarity with procedural skills (e.g. setting up equipment) , and thus successful implementation can be met with many barriers.
Simulation training, combined with an interactive training session, has been suggested to be a ‘useful tool for improving procedural competence and decreasing anxiety levels, particularly among those at an earlier stage of training’.3

This locally-novel concept has been shown to be an extremely effective educational tool in this hospital, has improved procedural exposure and enhanced staff perceptions. It will hopefully aid and embed successful service provision, in a bid to promote improving patient care.

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Implementation of debriefing in surgical areas using the TALK© Framework

Format: Accepted for Oral Presentation
Subject: Debriefing

Authors

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Introduction & Aims

Current standards for patient safety in opering theatre environments in the United Kingdom include routine debriefing, and it is the fifth step within “Five Steps for Safer Surgery” (5SfSS), 2010. However, clinical debriefing is not yet widely embedded in routine theatre behaviors.

Debriefing is the process of an individual or team formally reflecting on their performance after a particular task, a shift or a critical event (World Health Organisation 2009). The TALK framework is a simple and practical approach to structured feedback and team self- debriefing. It facilitates reflection and guides a short, constructive and non-judgmental dialogue after a case or clinical session whenever new insights might be learnt.

The aim of this study is to analyse the impact of introducing the TALK framework on compliance with 5SfSS in a university hospital. This study is part of a wider TALK research and implementation project funded by the European Commission under a Horizon 2020 MCSA-RISE grant.

Methods

Study design: Interventional study
Setting: Short surgical stay unit and main theatres in the University Hospital of Wales.
Intervention: The implementation phase included training sessions, departmental presentations and reflective discussion with multi-professional theatre staff.
Sample: Elective lists that discharged patients to post-anaesthetic recovery areas were included. Emergency and cardiac lists were excluded.
Variables included compliance with 5SfSS, consideration of debriefing, number of debriefing events, facilitation and participation details..
Data collection: Baseline data were collected prior to implementation, and follow-up measurements are being collected.
Ethics: Informed consent was obtained from All staff members involved.

Results & Discussion

Initial preliminary data show ≥ 97% baseline and post-intervention compliance with team briefing and WHO checklist. Consideration of debriefing increased markedly immediately after intervention. Debriefing was performed in 20% of the pre-implementation lists (n=14/72), and in 34% of the post-implementation lists (n=29/85). Follow-up data are being collected, and will be presented at the conference.

In situ multidisciplinary theatre team tea trolley simulation training

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

We identified a difficulty for the theatre multidisciplinary team to access simulation-based training during normal working hours. However, there was a sim man available in the anaesthetic department 24 hours a day.

Aim:
To provide in-situ simulation training to the multidisciplinary theatre team during normal working hours, with minimal interruptions to theatre flow, in a non-threatening environment. We aimed to cover anaesthetic and medical emergencies, based on any recent critical incidents and on the latest guidelines/protocols. We also wanted to provide refreshments in the form of tea and biscuits during the sessions.

Description

We transferred sim man on a trolley, with all necessary equipment, relevant guidelines and tea and biscuits, to the theatre complex. We visited each anaesthetic room and offered training whilst one of the trainers looked after the patient in theatre. We also visited theatre recovery and critical care. The anaesthetist, anaesthetic assistant and any theatre team member that wasn't required in theatre was invited to partake. We then ran through 15 min scenarios for example, the management of arrhythmias including transcutaneous pacing and electrical cardioversion. We provided tea and biscuits and collected instant feedback using the Survey Monkey App on iPads.

Discussion

In the first month we ran two four hour sessions, involving 24 members of staff. When asked, on a scale of 1-10, how confident did you feel in managing these scenarios prior to this training, the average response was 5.7. When asked how confident do you feel in managing these scenarios now, the average response was 8.1. When asked how useful did you find this teaching, the average response was 9.3. 92% of candidates would definitely want more sim tea trolley training with the remaining 8% saying that they would maybe want more.

One anaesthetic trainee, who had attended the session, was in theatre with a senior when the exact scenario occurred in real life, 'I was really pleased I had attended the training as it gave me confidence to speak up and advise turning up the pacer as it wasn't capturing, I also suggested giving calcium, which we had also covered in the training, and it helped!'

The feedback we received was excellent and most participants wanted more teaching. The recovery staff in particular found it very useful. We plan to continue to provide in-situ sim training and try to base the scenarios around real cases and critical incidents which occur within the department.

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Innovation in patient safety: realistic clinical simulation to design future safer work spaces

Format: Accepted for Oral Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

The Agency for Healthcare Research and Quality defines “high reliability organizations” as organizations that operate in complex, high-hazard domains for extended periods of time without serious accidents or catastrophic failures. It assigns 5 characteristics to this type of organizations: preoccupation with failure, reluctance to simplify, sensitivity to operations, deference to expertise and commitment to resilience. In this mental framework of culture for safety, our Simulation Program has a specific service line that uses simulation as a test tool to help design spaces and ways of working safer and with a better experience of professionals and families
The aim of this study was to analyze, through a highly realistic clinical simulation, the design of the future Neonatal Intensive Care Unit (NICU), still to be built, in relation to the minimum single box size.

Description

The activity was designed and executed jointly between the Sant Joan de Déu Simulation Program and the Boston Children's Hospital Simulator Program. A working group was created, consisting of health care professionals, experts in clinical simulation and engineering professionals.
In the preparation phase a main objective was identified (to study if it was possible and safe to perform complex procedures in a single box of 15, 18 or 21 m2) and a secondary objective (to identify critical elements in the layout of the equipment and in the dynamics of work in relation to spaces).
Using specific high fidelity mannequins, 3 scenarios were executed: stabilization of a newborn with advanced life support, entry in ECMO (jugular cannulation and circuit and pump connection) and open abdominal surgery within the NICU. The scenarios were tested in the different sizes of box proposed. The event lasted 2 days and 38 people took part, including the organizers, the technical team, the clinical participants and the observers.
Relevant conclusions were reached about the minimum size of box (resuscitation was possible in 15 m2, surgery in 18 m2 and ECMO in 21 m2) and necessary determinants were identified in terms of disposition of equipment and work dynamics to maintain safety.

Discussion

Highly realistic clinical simulation is a very useful methodology to help design safer workspaces. It allows the participation of professionals of different profiles, who share their visions based not on predefined ideas, but on experiences lived through simulation.

Integrated Learning of basic sciences and nursing procedures through a clinical case study in a simulated context.

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

It is important that nursing students experience how important is to acquire a solid and integrated knowledge on Biochemistry and Physiology to perform the procedures and interventions with accuracy and critical thinking. This activity, designed by a multidisciplinary team from the Biomedical Science and the Nursing Departments at the European University, combines the advantages of an integrated curricula with the simulation methodology through the WSLA approach (Working Station Learning Activities).

Description

A total of 112 first year students of the Nursing grade (21 teams), focused on the case of a patient that through the diagnosis of her type I Diabetes declines into a ketoacidosis and is hospitalized. Teams worked different aspects of the disease, such as insulin signaling deficiency, adaptation and coordination of the metabolism and respiratory physiopathology and also reviewed analytic data from the patient. In the simulated hospital, students applied their theoretical knowledge and performed a urinary
catheterization to a SVA Simulator and a urinalysis test to demonstrate the presence of glucose and ketone bodies in the artificial urine. The acquisition of the specific learning objectives for each working station was evaluated as well as the interest and perception of the students for this activity.

Discussion

Our data demonstrate that 81% teams succeeded to
acquire the expected learning objectives. Moreover, 77% students participated in a voluntary and anonymous survey and 71% considered that the activity had helped them to integrate concepts from different subjects.
We conclude that activities that promote the integration of basic sciences such as Biochemistry and Physiology with Nursing Procedures in a simulated context has a positive impact on the learning of our students.

International EMS training camp

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

Kjetil Torgeirsen SAFER

Introduction & Aims

SAFER arranged an international EMS training camp with participants from the Netherlands and from Norway. Both teams were the winners of their national EMS challenge. The training camp was a part of their first prize. Main objective was learning from each other's experience and practice.

Description

The design of the course was based on the circle of learning .Preparation for simulation training included developing and distributing a curriculum of relevant articles. Relevant podcasts/SMACC talks and videos was published for individual view and reflection. Participants were asked to reflect on the content and impact on their own clinical practice. These videos and reflections were later discussed in webinars. We arranged two webinars before our training camp. We also conducted a survey to learn about the participants educational level and clinical experience and their learning needs especially for medical skills. The training camp was arranged at SAFER sim center in Stavanger, Norway during 4 days in April.

Discussion

A training camp built on simulation methodology is an effective way of sharing experiences and learn from others clinical practice. There are no established arenas for this kind of international EMS training. The learning outcome and experience from this training shows the need for establishing of such training arenas. Another important lesson learned from this training camp is that it is resource intensive to arrange. By sharing the workload between collaborating simulation centers, there is also a potential for adding another dimension to the concept: An international faculty will add an important learning experience for the faculty members as well as the participants. We hope to establish collaboration with other and include international faculty members for the next SAFER EMS training camp, planned in 2019. METS (Netherlands) is already a collaborator and contributor to faculty. Participants trained medical skills and human factors. One of the learning experiences highlighted by the participants was efficient team work, and how human factors influences the team dynamics. The ambition was to provide skills and training, useful in the participants clinical practice. In addition, our faculty hoped to show the participants efficient training methods that could be implemented in their local EMS services. Judging from the participant feedback, we succeeded with this.

Kit-off simulation drills to improve trauma outcomes

Format: Accepted for Oral Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

To improve outcomes for seriously injured patients, assessment of injuries must be completed expeditiously. Getting the patient to the right place, at the right time, for the right treatment is facilitated by Computed Tomography (CT) trauma scans. As such, the National Health Service (NHS) Contract stipulates that a scan should be undertaken and reported within 60 minutes of the patient arriving.

We found that our trust was only meeting these targets 50% of the time. The median time between 2016-2017 was in fact 180 mins.

One of the major barriers to getting the patient to this time-critical investigation is transfer of patients to the CT scanner. An element of this process is the act of disrobing the patient so that they are skin to trauma mattress with required protection applied. Completing this task in one single act allows further assessment pre-scan to be completed uninterrupted with minimal movement of the trauma patient.

The aim was to reduce the time to disrobe the trauma patient in our Emergency Department.

Description

A video was created displaying the process and disseminated to the department.

For a two-week period, daily in-situ simulation drills were conducted. During these, the multidisciplinary team were shown the video and timed carrying out the procedure on a manikin.

There was a downward trend in time from the start to the end of the period. The slowest time was 6 minutes 31 seconds and the fastest was 2 minutes 46 seconds.

Through these simulation drills, other unexpected learning took place. These included knowledge, non-technical skills and systems education.

Discussion

Using a simulation manikin enabled a safe means to practice this skill daily, in a Major Trauma Unit where seriously injured patients are less common. The daily drills for the whole department also facilitated more of the team to be trained in this skill, including those that do not routinely work in the resuscitation room but may be called to help in the arrival of a major trauma case.

A reduction in time to disrobe the patient by 3 minutes and 45 seconds is significant for the trauma patient. In reducing the time taken to complete this initial procedure by 58% means that the patient can receive a primary survey and be transferred to the CT scanner faster, enabling timely diagnosis and management.

In-situ simulation provided an excellent tool to achieve the aim with secondary education and therefore improve departmental functioning.

Learning to assess in high fidelity simulation practice – nursing students self-perception

Format: Accepted for Oral Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

Nursing students' decision making learning implies the development of competences in assessing clients' situations. With the aim to assess the contribution of high fidelity simulation practice (HFSP) to nursing assessment learning, four scenarios with different adult client situations were created (nursing intervention in gastrointestinal changes, thoracic pain, unstable glycaemia and ostomy care). Those highlighted signs and symptoms, health history and the present clinical situation of the adult client. This research's aim is to evaluate nursing students' self-perception about competence development in assessment during HFSP.

Methods

The study is exploratory, descriptive, and cross-sectional. The "Assessment in Nursing" subscale from "Evaluate the Contributions of High-Fidelity Simulation Practice in Learning the Nursing Process' Steps" scale was used. This subscale has six items scored on a 4 point Likert scale. The inclusion criteria were: students in the 1st semester, 3rd year education during the first clinical practice in medical or surgical wards. Participation consent was requested and data anonymity and confidentiality was assured.

Results & Discussion

The sample of 135 students answered the questionnaire. 90.3%, are female and 9.3% are male, mean age is 20.8 years (standard deviation of 2.72). The questionnaire revealed good internal consistency for the six items with alpha-Cronbach 0,832. One single item explains the variance of 55,688.
Pearson's correlation coefficient values, relating each item with the scale total without the item, ranged between 0,603 and 0,800. As stated by the students HFSP promotes the clients' holistic assessment (3,45±0,6), emphasizes the clients' symptoms (3,67±0,51), identifies clients' complaints and doubts (3,66±0,51), identifies signs of health impairment (3,5±0,61), identifies significant changes in different contexts (personal, familiar and professional) (3,06±0,7), and selection of pertinent information (3,45±0,67).
The result analyses leads to the conclusion that HFSP contributes to the development of assessment competences.

Live ward simulation:Preparing for regristration

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

Mooney (2007) highlights that newly registered nurses lack teamwork, critical thinking, delegation and prioritisation of care skills mainly due to lack of learning opportunities in clinical practice and so they are ill prepared for their clinical role. The use of simulation in healthcare education is widespread with the key aims of improving learners' competence and confidence. Recent research demonstrates that simulation can be used to improve student performance in managing clinical deterioration (Hart et al 2014).Little evidence exists around using simulation to manage the care of an entire ward. Thus, we designed a simulation session attempting to improve our students' clinical ability by recreating a clinical ward environment.

Description

The simulated acute medical ward 'shift' utilised fictitious patient cases. Following a pre- brief and handover, the students nominated a team leader who in turn delegated team members to each of the patient cases. Students were required to provide care without any interruptions from the facilitator. Learning outcomes focused on, teamwork, communication, problem solving, decision-making and escalation of care. A confederate (staff nurse) imbedded within the ward carried out tasks that were out with the student's scope, which increased the realism of the environment. Allied health care professionals were available via the telephone and a junior doctor was available for consultation both on the telephone and face-to-face. A mix of low to high fidelity was utilised incorporating standardised patients to promote authenticity. A debriefing activity followed where the facilitator encouraged reflective thinking. All final year adult student nurses completed the session n=300 over a period of 6 weeks.

Discussion

After each session a further discussion was had with all students to ascertain the students opinions. Results via verbal discussion indicated an increase in self-confidence, knowledge promotion and self-awareness post simulation. Findings highlighted a clear lack of confidence when escalating patients to medical staff. This was consistent with discussions in the de-brief where students revealed an inability to articulate concerns -causing a delay in patient care. This awareness was deemed a positive outcome of the session as students identified their personal learning needs. The study highlights the clear benefits of this simulation exercise where it creates realism and allows the students to practice in a safe environment promoting teamwork, delegation communication and critical thinking through active learning. A formal evaluation in the form of questionnaires followed by focussed groups will of be conducted over the summer months with a different group of students.

SESAM
PROMOTING SIMULATION IN MEDICAL EDUCATION
SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

Motion tracking to support surgical skill feedback and evaluation

Format: Accepted for Oral Presentation
Subject: New Technologies and INNOVATION

Authors

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Introduction & Aims

Performance evaluation of technical surgical skill is done by direct observation by expert surgeons. This is time intensive, costly, and requires training of assessors. Motion tracking could complement direct observation to provide immediate feedback during training and to support objective performance assessment. A recent study by Ahmed et al. (2017) showed that expert feedback combined with validated metrics resulted in greater performance improvement for novices. However, current motion tracking methods are expensive, non-portable, or very sensitive to disturbances from the environment. We hypothesize that combining technologies solves these limitations. The goal of the current study was to design a wireless, low-cost motion tracking system to support 1) real-time individual performance feedback and 2) objective assessment of technical surgical skills.

Description

An iterative, research-based design process with rapid prototyping was followed. First, we performed a needs assessment with a literature review and survey to a broad range of surgeons to identify relevant motion parameters. Second, various prototypes using an Inertial Measurement Unit (IMU) and a Leap motion sensor were tested in an authentic surgical environment for 1) robustness and 2) accuracy.

Outcomes
Twelve surgeons (experience range = 2 - 27 years) from five different hospitals and a range of surgical specialties completed the survey and rated ‘precision of movement’ and ‘minimizing unnecessary movements’ as most important motion parameters of surgical skill. Furthermore, unnecessary or excessive movements and secondary tissue damage were reported as most common errors.

The final prototype can be seen in Figure 1. The IMU is embedded in a sleeve and detects fine motor skills such as small hand movements, tremors, and strokes. The Leap Motion sensors complement this with infrared tracking of the hand in 3D space and time. The devices proved robust under changing lighting and gowning conditions. Accuracy of motion tracking was however influenced by instrument use.

Discussion

Our device offers the possibility for immediate performance feedback aiding trainees’ self-assessment during training. By discriminating good from poor performers in training early on, training can be adapted to an individual trainee’s needs and facilitate deliberate practice. Future research includes expert benchmarking and parameter selection. Motion tracking analysis complements subjective assessment that is prone to bias and reduces assessors’ workload.

Novelty of methodology
Motion tracking to support surgical skill assessment is not yet common practice. The device offers a robust, affordable, and wearable alternative to current motion tracking devices.

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SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

Multi-disciplinary simulation training in the use of cognitive Aids

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

The Royal Surrey County Hospital has undertaken a major intervention within all theatres by implementing the use of cognitive aids, or prompt cards, analogous to those used in aviation, for use in theatre emergencies. Multidisciplinary team simulation has been shown to improve both technical and non-technical skills and the implementation of new technologies (Ref.1). This poster looks at the development and delivery of the simulation training programme for multi-disciplinary theatre teams to support the intervention and the challenges, themes and solutions identified.

1) Tan SB et al., Multidisciplinary team simulation for the operating theatre: a review of the literature.
ANZ J Surg 2014 Jul-Aug (7-8):515-22

Description

In order to initiate this programme, a working group was setup to identify:
1) The most effective and cost efficient location for uninterrupted high fidelity simulation accessible to a MDT;
2) Ideal session length to maximise educational value versus service impact;
3) Appropriate number and subject matter of scenarios for a MDT;
4) Setup of the scenarios (plant versus no plant);
5) Facilitator selection for debriefing of MDT sessions.
Upon completion of this group's findings, the simulation training programme was delivered and feedback obtained using a standardised form asking whether participants agreed with a number of statements.

Discussion

There were a number of emergent themes and challenges in setting up and delivering the multidisciplinary simulation programme. These included: differing experience of simulation; different knowledge levels and skill sets; the pros and cons of using a mock theatre as opposed to a real one; differing levels of fidelity for differing specialities; some organisational challenges including difficulties obtaining study leave for scrub nurses; and that different MDT specialities would be required to facilitate the debrief whilst keeping the number of debriefers to a minimum. The development and delivery of MDT simulation raises a number of challenges to which we have both developed some innovative solutions and been looking to undertake further refinement. These reflect the current challenges faced by the simulation community associated with increasing delivery to MDTs and moving away from "silo" training.

Multiprofessional adolescent health (MPAH) simulation day

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

Adolescents face a unique set of health challenges which often exist at the interface of physical and mental health. Healthcare providers can be ill-equipped to deal with this complexity not least due to these patients not belonging firmly to any one discipline. Their complex needs are best managed by teams working as a system for the adolescent. This system can include medical, nursing and allied-health teams from emergency medicine (EM), paediatrics, sexual healthcare and child and adolescent mental health care services (CAMHS).
In this study we describe an approach to multi-professional translational simulation training in adolescent healthcare. Our aims were to improve confidence and communication skills with adolescents for professionals and encourage greater understanding of other professional's roles and expertise.

Description

Ten healthcare professionals from EM, Paediatrics, CAMHS and sexual health attended a full day adolescent health simulation course. The professional actors received feedback from a group of adolescents similarly affected prior to the training day.
The course began with forum theatre whereby an adolescent presented with a knife wound. Participants were encouraged to interject and suggest how the "doctor" actor should interact with the "patient" actor.
The day then consisted of one scenario comprising five different simulated consultations, following the young person on her journey from the emergency department to the ward, being seen by EM nurses and doctors, CAMHS team, paediatric nurses and doctors and the sexual health team. The following was covered: management of overdose and abdominal pain, mental health and safeguarding assessment and revelation of vaginal discharge and sexual health assessment. Confidentiality and capacity were covered in addition to a family-feedback session.
Each consultation was observed by video-link by those not directly involved in that session. A multi-professional debrief with all including the actors followed each consultation. Pre and post-course questionnaires were completed. Professionals were encouraged to reflect on their learning and to share this with the group.

Discussion

The day was extremely well received with reported high levels of improvement in ability to interact with and assess adolescents, awareness of complexities involved and the work of other specialties. The gruelling journey an adolescent can experience when presenting with self-harm was acknowledged. This course has potential to bridge the gap in understanding how teams can respond to the adolescents needs.

SESAM
PROMOTING SIMULATION IN MEDICAL EDUCATION
SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

National Pediatric Acute Care Assessment in Latvia using Simulation

Format: Accepted for Oral Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

Pediatric preparedness in Latvian emergency departments (EDs) is currently unknown. There is one pediatric hospital in the country taking care of the most critically ill children. In most hospitals in Latvia, pediatric emergencies are attended by a general pediatrician, while more severe cases referred to adult intensivists, surgeons, or anesthesiologists.
The purpose of this study is to 1) measure pediatric emergency preparedness in Latvia using in-situ simulations and surveys of emergency departments, and 2) improve preparedness through gap analysis and action plans.

Methods

This prospective multi-center cohort study involves all 16 Latvian EDs. This program includes 1) designation of a pediatric champion in each ED 2) assessment of performance by inter-professional teams caring for four standardized simulated pediatric patients (each followed by a debriefing) using case specific performance checklists and teamwork/communication
assessment. Each site champion works with the study team to complete a validated survey to assess pediatric preparedness across six domains (QI, policies, safety, staffing, equipment, coordination). Two weeks after the session the pediatric champion is provided report out summarizing the hospitals performance on the assessment, a gap analysis, and action plans for improvement.

Results & Discussion

RESULTS:
To date, we have conducted the study at 6/16 sites, one pediatric emergency department (PED) with 70,000 pediatric visits/year) and one general emergency department (GED) with 2,029 pediatric visits/year (Figure 1).

Pediatric readiness survey assessment:
PED (79.3%) GED (33.7%). The lowest domain was equipment (63%) in the PED and policies/procedures (8.1%) and pediatric staffing (2.5%) in the GED (Figure 2).

Simulation-based assessment:
Performance during simulation cases in GED and PED are shown in Figure 3.

Family-centered care was practiced during the last two cases in the PED and during the last case in the GED. The CTS teamwork and communication was 76% at the PED and 40% at the GED.

DISCUSSION:
Pediatric preparedness in the PED was higher than in the GED measured by simulations and surveys. Standardized length-based weight assessment was not available in either hospital likely explaining the lack of appropriate weight assessment. The report outs have been well received by both departments and have already resulted in some improvements.

CONCLUSION:
Pediatric preparedness in Latvia seems to differ when comparing a PED with a GED. Further PED and GED visits in other areas of the country will help further characterize this finding.

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Non-technical skills checklist in postpartum hemorrhage (PPH).

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

Postpartum Haemorrhage (PPH) is the leading cause of maternal death in the world. Around 100 000 women die each year because of PPH (AbouZahr, 2003). PPH can be considered as a critical situation that generate errors then accidents (St Pierre, Hofinger & Buerschaper, 2008). Beyond impact of the lack of technical competences, some author highlights the role of Non-Technical Skills (NTS) in medical errors (Donaldson, Corrigan, & Kohn, 2000; Makary & Daniel, 2016). Considered as a combination of cognitive, social knowledge and personal resources that complement medical skills, they contribute to an efficient and safe performance in medical activity.

Methods

We created a modeling of NTS including behavioral and cognitive markers in PPH situation. From a literature review of NTS in the medical field, we selected all the items that can be relevant in this situation. This first list was completed by video analysis of training sessions using High-Fidelity simulation to validate the relevance of each item. Finally, a questionnaire was submitted to experts in simulation (midwives, obstetricians, anesthetists and maternity nurses) in order to validate our model. The purpose of this questionnaire was to validate the relevance of behavioral markers and mental processes that we previously identified.

Results & Discussion

Our exhaustive list of NTS mobilized during PPH, developed from the literature review of the existing tool and completed by video analysis, has highlighted 114 items. All items were included in a questionnaire. Experts evaluated each behavioral and cognitive marker on a 4 point Likert scale, from absent /Not important (1) to Very important (4). Our result show in the questionnaire that 69 items are evaluated as very Important (>3,5), 36 items are evaluated as important (between 3 and 3,5), and 9 items are evaluated as less important (<3). The Content Validity Index (CVI) is used to identify the relevance of our behavioral and cognitive markers : 109 items (/114) had a CVI of greater than 0,75 (acceptable). The others were modified or deleted. We finally kept 111 items in 6 categories: Situation Awareness/Decision Making/Team working/Leadership/Communication and Managing Emotions.
Some studies reveal that 80% of PPH deaths in France can be avoided (Bouvier-Colle, 2007). We present a tool (checklist), to evaluate NTS of midwives, obstetricians, anesthetists, maternity nurses and also the complete team during PPH. Simulation trainers can use this tool to help practitioners to improve their NTS in this critical situation. Next step, is to test reliability and validity of our tool.

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Peer-coaching of debriefing: How we transformed our simulation course

Format: Accepted for Oral Presentation
Subject: Faculty Development

Authors

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Introduction & Aims

Recent best practice guidelines highlight the importance of faculty being trained in debriefing and undergoing continuing professional development. While many simulation faculty have undertaken introductory “train-the-trainers” courses or similar, further development opportunities are rare or prohibitively expensive as a doctor in training. Peer-observation is embedded in medical education, forming a valuable quality control and professional development tool for educators. The concept of peer-coaching of debriefing has recently been described in the healthcare simulation literature. For the 2017 Bristol Novice Anaesthesia Course, we have put this theory into practice, and established a peer-coaching program to make the most of the learning opportunities.

Description

Pre-course and post-course questionnaires sought to understand faculty members’ training, experience, use of different debriefing styles and the impact of the course. Using this information, we designed a specific program, which we embedded around the existing course timetable.
This included.

o Pre-Course material including “top 5 papers” and signposting to further debriefing resources.
o A Pre-course briefing to review styles, share ideas, and agree a framework for peer-observation. We emphasised the importance of establishing a safe learning environment for both the students and the faculty.
o A specific peer-observation tool to review debriefing domains and training in its use.
o Forming faculty into 3 or 4-person peer-coaching groups.
o Allocating time between scenarios for “targeted coaching” and at the end of the day for a full faculty debrief and forum to share learning.

Discussion

Our course faculty were diverse in their previous debriefing experience and training, varying from relatively novice to experienced debriefers. Despite this, all members actively engaged in the peer-coaching program and learnt not only from one-another but also from reflecting on their practice. Pre-and post-course questionnaires demonstrated improvements in self-rated debriefing domains (fig.1). Most faculty felt their performance improve throughout the day

including one of the course leads:

“I have learnt more about my debriefing in the last two days than in the last two years of running this course”

All 18 members of the faculty felt comfortable being observed by and receiving feedback from their peers and 16 thought the progam a viable alternative to specific debriefing courses.
We believe we have managed to successfully embed an enthusing, innovative, and cost-neutral professional development strategy which is hugely beneficial to both faculty and the course students. It has transformed out course and we strongly encourage you to do the same!

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PROMOTING SIMULATION IN MEDICAL EDUCATION
SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

Postpartum bleeding simulation model is a chameleon

Format: Accepted for Oral Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Darja Trošt	MD
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Introduction & Aims

Postpartum haemorrhage is an obstetric emergency usually affecting up to 5 % of women within two hours after delivery, when they are still in delivery units. Effective management is dependent on multi-disciplinary teamwork and collaboration. Multidisciplinary teams from delivery unit are trained in simulation centre. The postpartum bleeding rarely happens in the postpartum hospital ward where the woman is transferred later. As such it is connected to higher maternal morbidity because more complicated logistic management is needed.
Our aim was to test the operational readiness and performance of multi-disciplinary team members on duty in managing postpartum bleeding on the ward.

Description

Postpartum bleeding simulation module designed and used for education and training in simulation centre was used in obstetric intensive care hospital ward as in situ simulation. A high-fidelity simulation with two standardised scenarios based on actual events were used for each of the four teams on duty in the Department of perinatology, University medical centre Ljubljana. Participants were residents and senior obstetricians and anaesthesiologists, midwifes, nurses and transport staff on duty at the time of simulation test. As in simulation centre checklists were used to evaluate the team performance and compliance to protocols. Structured debriefing was conducted with the participants to discuss communication and team functioning. Better performance of the team was expected in situ as in simulation centre, because of known every-day environment and familiar team members. The compliance to the haemorrhage protocol was excellent by all employees, but in every team there were system flaws revealed, which were not challenged in simulation centre environment. Participants proposed organisational changes for safer and more efficient management of obstetric haemorrhage on ward.

Discussion

The same standardised simulation model was used in different environments to show different improvement possibilities. Besides reflecting participants own knowledge and skills, in situ simulation revealed system flaws that were not recognised before. The participants recognised and proposed practical organisational changes in the hospital environment. In our experiment the setting of the simulation defined the purpose of the simulation as a chameleon.

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SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

Relational styles in a simulation program to improve bad news delivery

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

A group of professionals from the Hospital Sant Joan de Déu (SJD) prepared a Guide on how to communicate bad news. During the process of preparing the Guide the group carried out different workshops with more than 40 professionals and with relatives of patients who lived a serious illness. In these workshops, the professionals expressed their concern to face the moment of communicating the first news in an appropriate way and requested specific training. The objective of the course is to provide tools that facilitate the communication of bad news and improve the family experience.
Throughout the course the participants will acquire the following competences:
1. Prepare an adequate environment to transmit the information
2. Transmit information with professionalism and connecting with the emotions of the family
3. Go through the process with the family

Description

The SJD hospital simulation program has designed a two-part training to improve the communication of bad news.
In the first part a workshop on relational styles of 5 hours is offered. We aply Bridge Model, created in 2009. The authors describe 4 relational styles that represent elements of nature: earth, fire, water and air. This model provide tools to know our interlocutor style in order to adapt our communication.
In the second part of the training, the skills acquired are trained through simulation scenarios interpreted by actors who play an established role. Each scenario is designed specially for each participant, in order to be as close as reality as posible. A debriefing after each scenario allows participants to share their thoughts and feelings in a safe environment.
We conducted a pilot with authors of the guideline and a regular course with 16 participants.
Those 16 participants filled out a survey before and after relaying the training. The survey mainly assessed their ability to prepare and prepare the environment before giving the bad news, their ability to transmit it taking into account the relational style of their interlocutor and to detect the needs of the family.

Discussion

We have designed an experiential training in which a space is offered to reflect on the profound motives of our behaviors. We seek deep reflection on different points of view and real difficulties, not the acquisition of a standard technique of communication.
We believe that self-knowledge and sharing reflections in a safe space will favor the relational skills of the participants.

RISK: Responsive in situ simulation in kids. Maximising learning and improvement from clinical incidents

Format: Accepted for Oral Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

Reporting and investigation of clinical incidents occurs throughout NHS Trusts in the UK. In order for this to translate to improved patient safety, there must be robust systems to ensure learning and change in practice in response to these incidents. The RISK Project has been developed at a London teaching hospital to provide in situ simulation training directly in response to reported Paediatric clinical incidents. The programme aims to embed sustained, relevant learning for all members of the multidisciplinary team, and identify and rectify latent errors contributing to clinical risk.

Description

Senior clinical staff within the Paediatric Department of a London teaching hospital analyse monthly ‘Datix’ clinical incident reports. Clinical cases reported as a result of clinical management, human factors or system errors are identified. Scenarios are developed in response, replicating key issues in the appropriate environment. These are run without prior warning, using ‘low-fidelity’ mannequins and a remotely-operated tablet for monitoring and involve the full multidisciplinary team. The RISK faculty consists of consultant paediatricians, an anaesthetist and senior nurse educators, with multidisciplinary learning objectives tailored for each specialty.
A major haemorrhage scenario was run in the Emergency Department in response to a real case involving major haemorrhage in a child. The resulting simulation involved paediatric, nursing, anaesthetic, surgical, haematology, critical care, blood transfusion and switchboard staff. Issues with pathways, response times, awareness of protocols and blood-issuing processes were identified and subsequently addressed. Data collection from a 6 month pilot is ongoing and indicates a high level of satisfaction and learning from all specialities involved. A number of latent threats, including missing equipment, unfamiliarity of team members with clinical environment, difficulty in accessing protocols and issues surrounding operational processes have been identified. These have been disseminated and rectified with system change through Departmental Governance processes.

Discussion

Responsive in situ simulation is an effective method of learning from real-life clinical incidents and allows change in practice and process to prevent future similar events. The RISK team are successfully identifying clinical incidents from hospital reporting systems and translating these into in situ simulations for a wide range of staff involved in the care of critically ill children. These scenarios have allowed the RISK team to identify latent errors and address these within existing governance frameworks, reducing likelihood of future similar incidents. We believe that this is a highly effective and novel method of responding to clinical incident reporting.

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Sequential simulation (SqS): an empirical and theoretical model

Format: Accepted for Oral Presentation
Subject: New Technologies and INNOVATION

Authors

Sharon Marie Weldon — University of Greenwich / Barts Health NHS Trust

Introduction & Aims

Sequential Simulation (SqS) is the physical re-enactment of healthcare-related scenarios. Its main feature is that it recreates connected components of care in place of single episodes. It, therefore, represents the healthcare system from the perspective of those who journey through it (the patients and their carers) and those who populate it (healthcare professionals and other employees), aiming to bridge gaps and discrepancies that often only they experience.
Due to the various care pathways that a patient could journey through, this form of simulation is complex to design and has not often been utilised. This paper, therefore, aims to explore its structure and potential, to provide clinical educators with a model to aid in the design process, and a better understanding of its effectiveness and affordances.

Methods

Existing simulation and other sector theories were combined with empirical data of SqS simulations to identify the key components of a successful design. The design concepts (key components of the simulation design) identified through a literature framework and systematic coding of the various collected process and observational data, were tested and refined through a modified Delphi-technique tool that research subjects used and completed while designing successful (e.g. objectives achieved) SqS Simulations. Comparative analysis of the different applications of the model, narrative case studies of the model in use, and the presentation of a conceptual and process model bring together the studies various iterations, as well as concluding the research through the presentation of the model.

Results & Discussion

The key outcomes of this research are the identification of the key components that constitute SqS simulations and its affordances; the different considerations required for the different simulation objectives; the presentation of three validated and refined conceptual and process models that can be used in practice to design SqS simulations.
The unique affordances of the model developed are that it is grounded in existing multi-sector knowledge (theoretical data); it is grounded in detailed observations of actual simulation practice (empirical data); it embraces the complexities of the design and enables a structured design process; it provides an adaptable and documented framework; it is validated and tested in practice by clinicians; and it provides key design features and differences between the required objectives.
Therefore, this research has outlined the structure and affordances of a sophisticated approach to simulation design that should allow others to further test and refine the SqS concept.

Sim LP-creation of NI's inaugural paediatric lumbar puncture course using interprofessional education & high fidelity simulation technology

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

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Carol Junk	Advanced Paediatric Nurse Practitioner
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Andrew Thompson	Lead Educational Supervisor & Consultant Paediatrician

Introduction & Aims

Lumbar Puncture (LP) is a commonly used and necessary diagnostic and therapeutic tool in Paediatrics.
Often it is difficult for practitioners to achieve competence in this skill. Reasons for this include lack of exposure or experience, and low procedural confidence.
Repeat LP's are distressing for the child, parents and staff involved. They also have potential implications on the patient including prolonged antibiotic courses, longer hospital stays, or potential exposure to General Anaesthetic for Theatre LP. Equally, the need for theatre slots for unsuccessful ward LPs has resource and workload implications.
The traditional 'see one, do one, teach one' model of procedural skill teaching in trainee doctors has been linked to variable skill acquisition and reported lack of self-confidence.1
Simulation-based training for procedural skills has been shown to be effective for trainees and has been widely used in many training programs.2

Description

We created NI's first Paediatric Simulation Lumbar Puncture Course. It is an interactive, multi-disciplinary course aimed at offering Paediatric Healthcare professionals hands on practice with High-Fidelity Simulation LP Model. It also provides theory correlation with Case-Based Tutorials, and Specialist Input from APNP and clinicians with interest in Infectious Disease, and Anaesthetics.
Candidates were surveyed about previous experience, previous teaching and confidence levels with this skill.

Discussion

Of the nine candidates on our inaugural course, there were 7 Paediatric trainees, 1 ED Trainee and 1 APNP. None had attended prior specific simulated Lumbar Puncture teaching. On average, from the candidates' experiences, 40% of their previous LP's were successful or interpretable on first attempt.
Following the course, 78% of candidates strongly felt more confident approaching Paediatric LP, with 100% feeling the course would be useful in their day job, and 100% of candidates feeling simulated practice with model has helped their technical skills. Qualitative comments were extremely positive.

LP simulation training, combined with an interactive training session has been suggested to be a 'useful tool for improving procedural competence and decreasing anxiety levels, particularly among those at an earlier stage of

training’.3
We have extended this course with further dates again targeting inter-professional candidate representation, and aim for it to be a regular part of the departments' educational programme.
Our aim is to provide a safe, learning environment to enable trainee’s to develop and sustain new skills in a simulated setting which may potentially increase trainee confidence, decrease procedural anxiety and help develop procedural competence.

Word count: 398 words

References attached on doc.

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Simulation instructors' role as transcultural facilitators – experiences from workshops with recently immigrated health care personnel

Format: Accepted for Oral Presentation
Subject: Faculty Development

Authors

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Introduction & Aims

In 2016 due to high amount of refugees from the Middle East the Public Employment Service and Region Västra Götaland in Sweden started a program for new arrivals with a degree in medicine or nursing from a country outside of the EU. The purpose is to shorten and facilitate the participants' process of applying for a Swedish license. There are several barriers in this often time-consuming process (language, bureaucracy, professional differences, miss match of expectations). Local simulation centre was engaged in the course with two education sessions about work-place culture and team-work. The project turned out to be very valuable for the participants but also important for professional development of the simulation faculty. The aim of this presentation is to describe the project from the instructor perspective as an experience-based faculty development project.

Description

Common goals and aims for the workshop was formulated in collaboration with stakeholders and a group of faculty with experience of courses for foreign physicians and nurses other context. An interprofessional instructor team (2 nurses and 2 physicians) designed a 2 x 4-hour interactive workshop that was run for 7 groups (8-16 participants each). The instructors are used to high-fidelity simulation but chose other modalities (interactive video-based discussions, role-plays, multi-modal exercises) based on the expected needs and learning outcomes. However, the instructors based the workshop design on same educational principles as their every-day simulation practice; adult learning principals, experimental learning and debriefing practice (3d-model).
The instructor team with experience from simulation, lecturing and clinical tutoring noticed that running this course was developing them as individual instructors and as a team. They became more aware of the educational methods and principals they used in simulation as they were put in a new context. They were reflective about their instructor role and behaviors. Example of the adult learning principles in simulation versus in interactive workshop with poor language skills are shown in table 1. An oral evaluation with the participants and their group mentor showed high level of satisfaction despite the complex themes discussed.

Discussion

Engaging simulation instructors in education of other groups and other education modalities than simulation seems to be a possible approach to experience-based faculty development. Simulation instructors' previous experience from debriefing heterogeneous groups seems to be a strength in educating groups of newly immigrated health care professionals.

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Simulation team training in acute medicine at the Royal Infirmary of Edinburgh (RIE): Gauging immediate learning and long term application to clinical practice

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

Simulation-based medical education (SBME) is used in healthcare to improve training(1), with a growing body of evidence to support its integration into Postgraduate curriculum(2). The World Health Organisation (WHO) patient safety guide recognises its use in team training, acknowledging the value of education in these situations(3)

Acute medicine is a dynamic environment with high demands on teamwork, requiring safe and quick clinical decision-making under time pressure. Our aim was to provide Core Medical Training (CMT) curriculum(4) mapped SBME for teams working in Acute Medicine at the RIE and investigate the immediate learning benefit and longer term acquisition of skills and application in clinical practice for which there is currently minimal evidence(5).

Methods

Simulation sessions are delivered to teams comprising of junior training grades from Foundation Year 1 to Specialist Registrars.

To assess immediate learning, post session feedback questionnaires combining both likert and free text questions are used to provide a mixture of quantitative and qualitative data.

To gauge longer term application of learning into practice, at least 6 weeks post session, participants are emailed to ask if they have applied any learning into practice and to provide anonymised examples.

For qualitative data, the authors independently carry out a thematic analysis to investigate what learning themes emerge. Statistical analysis is performed using Microsoft Excel.

Results & Discussion

Preliminary results from 8 sessions, with 45 participants, run from January 2017 shows:

I) Immediate Learning:

a) Quantitative:
1. 98% report learning from the sessions will positively affect practice with regards to patient safety

2. 100% report sessions are relevant to clinical practice, and meet their learning needs

b) Qualitative:

45 participants offered 140 comments:
1. Learning and application of non-technical skills, e.g., escalation and teamwork, was the most frequent theme that emerged (52%)
2. Learning and practice of technical skills e.g., management of medical emergencies, use of guidelines, and resuscitation skills was also reported (48%)

II) Long term Learning:
To date, 2 participants have responded with accounts of applying learning to clinical practice. Themes that have emerged focus on improved safe management of acutely unwell patients.

Provisional analysis shows that SBME improves learning of technical and nontechnical skills required in safe decision making in acute medicine, with definite longer term acquisition of skills and application in clinical practice.

Further results from sessions, focusing mainly on evaluation of long-term application of learning into clinical practice, will be presented.

Simulation training in stroke thrombolysis: Reducing door to needle times to less than 15 minutes

Format: Accepted for Oral Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

Stroke is one of the leading causes of morbidity and mortality worldwide. In eligible patients with acute ischemic stroke, early treatment with intravenous thrombolysis is crucial for a good patient outcome. We introduced simulation training sessions in conjunction with an improved treatment protocol as part of a quality improvement project to reduce door-to-needle times in stroke thrombolysis.

Methods

A questionnaire assessing our preexisting treatment protocol was sent to all members of the stroke team. A panel of experts reviewed the responses and suggested potential changes to streamline the treatment protocol. In February

2017, we introduced the new protocol along with weekly videotaped in-situ scenario based simulation sessions with all stroke team members as participants. Previous stroke patients acted as markers. Kirkpatrick's four-level training evaluation model was used for assessment. Here we present 1) Participant reactions (level 1) on a Likert item from 0-10, and 2) Median door-to-needle times in stroke thrombolysis, a measure of clinical behavioral change (level 3), using a statistical process control method. Simulated performance and long term patient outcomes will be assessed in future analysis.

Results & Discussion

Participant reactions were predominantly positive. Self-perceived learning scored a median of 8 (IQR 7-9). We compared door-to-needle times for 478 prospectively included patients with acute ischemic stroke treated with intravenous thrombolysis at our hospital from January 2014 – July 2017. There was a significant reduction in median door-to-needle time from 27 (IQR 19-41) to 13 minutes (IQR 9-21, $p<0.001$) for the 78 patients in the post-intervention group. The results remained significant regardless of time of admission. There were no significant changes in the rate of stroke mimics, prehospital time or fatal intracranial hemorrhage.

Simulation training in conjunction with protocol improvement led to an immediate and significant reduction of median door-to-needle time in stroke thrombolysis (Figure 1). To our knowledge, no other published data have shown lower median treatment times. Combining simulation training with protocol change holds promise as a method both for effective implementation and significant results in attempts to reduce in-hospital delays in stroke thrombolysis. Effects on non-technical skills, provider variability and long term patient outcomes are yet to be evaluated.

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SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

Simulation-based cerebral angiography coiling training performance in novices

Format: Accepted for Oral Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

Endovascular surgical procedures require visuospatial coordination in work spaces with restricted motion and temporally limited imaging. The development of the skills needed for these procedures can be facilitated by 3-D simulator-based training. Commercial simulators have been developed, but there were no rigorous studies or their value for training. A few studies have been done looking at the ability for the ANGIO Mentor to be an effective training tool in diagnostic cerebral angiography, however, this simulator has not been tested thoroughly in its ability to train aneurysm coiling. Coiling is a particularly difficult task to learn for novices as it requires spatial awareness, fine manipulation, and planning to effectively and successfully pack the aneurysm. We hypothesized that we would see a similar training curve when learning to coil as seen in diagnostic angiography using the simulator. We studied the results in the context of procedural performance compared to visuospatial ability.

Methods

In this study, 12 novice medical students were given simulation-based diagnostic cerebral angiography training until a procedural plateau in performance, established in our previous work (Zaika et al., 2016). Subsequently, they were trained using video tutorials and written instructions to identify, measure and intervene with cerebral aneurysms using endovascular coils. Over the span of 6 sessions, participants were assessed on their procedural pace, coiling quantity and quality, and perforation rates. Concurrently, their spatial ability was assessed using a mental rotations test (MRT).

Results & Discussion

All individuals were able to perform the procedure faster after 6 sessions, reducing their average time from 42 to 24 minutes. Coil success rate improved over from 82% to 88% and coil packing rate remained consistent at 30% throughout testing. High perforation rate seen at the start of the study showed a trend of decreasing over the latter sessions, however, over half of aneurysms were still being perforated by the novice participants. No change in aneurysm coiling quality was found, with a slight decrease in number of parent artery coil protrusions. High MRT individuals were better able to establish necessary tools prior to coiling, however, no other MRT-specific changes were seen. This work identifies the utility of simulation-based cerebral angiography training in identifying the particular difficulties trainees experience in learning procedural skills, including prevention of perforations, proper positioning and success of coil establishment within the aneurysm.

STRUCTURING NON-TECHNICAL PROFESSIONAL SKILLS BY USING THE ADVANCED CLINICAL SIMULATION

Format: Accepted for Oral Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

Studies show that simulation laboratory training is an effective way to develop professional skills in nursing. However, there is still insufficient evidence to demonstrate that the level of clinical simulation may favor the development of non-technical professional skills in nursing. Among the main non-technical competences, communication and management are highlighted. The objective of this study was to evaluate the effects of the advanced clinical simulation strategy on the structuring of professional communication skills in nursing students.

Methods

Descriptive study with the purpose of measuring the professional competence communication through a measuring instrument. The sample consisted of 24 students of the last year of the nursing course, 21 (87.5%) female and 22.9 (± 1.3) years. The study was carried out at the Laboratory of Simulation of Clinical Practices in Nursing and Health of the Federal University of Piauí, city of Teresina, northeastern region of Brazil. Data collection took place between January and February 2016.
The measurement instrument has 46 items, 18 of which are for knowledge, 12 skills and 16 professional nursing communication attitudes. Responses are of the five-point Likert type. The students were evaluated in three moments: before the simulation strategy (pre-test), after a simulation scenario (intrateste) and after debriefing. Student's t test was used, with a confidence interval of 95% and a significance level of 5%.

Results & Discussion

The students presented improvements in the overall score of the instrument compared to the pre-test and post-test, with the average for students' competence varying from 163.7 (± 20.6) to 169 (± 26.6), representing 5.3 (2.3%) points ($p < 0.05$). The "attitude" component contributed the highest value to the overall performance of the nursing communication competency in order to increase the frequencies for the total score between the pretest (72.7%) and the posttest (75, 7%) ($p < 0.05$).
The results indicate that there is evidence that the clinical simulation scenario may be promising to improve confidence levels and self-esteem for effective communication. These gains can be explained by the effects of the debriefing, in which the student exercises reflective thinking in the face of his / her individual and group behaviors, increasing the self-confidence that enables him / her to take more successful behaviors in complex situations.

Students' anxiety with simulated clinical experiences: construction and validation of an assessment scale

Format: Accepted for Oral Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

Background: Simulation is a teaching strategy that represents the context of real experiences in an interactively controlled environment. The students' anxiety levels increase due to the realism and their expectations of managing to follow the scenario until the end. The realism of the scenarios and their surroundings, makes students very anxious. However, they consider that all the pressure experienced in the simulated practice is positive in helping them to control real life stress.
Objectives: To validate an instrument used to assess students' anxiety with simulated clinical experiences.

Methods

Methodology: This was a methodological research study, with the application of a 17-item scale to a convenience sample of 267 nursing students from the Teaching Diploma Program in Nursing, after a set of simulated clinical experiences. Factorial analysis with orthogonal varimax rotation was used, and the internal consistency was estimated to determine the validity of the instrument. The study was authorized from the School Board and approved by the Ethics Committee of the Health Sciences Research Unit: Nursing, hosted by the Nursing School of Coimbra.

Results & Discussion

Results: High item-total correlations were found in almost all items of the scale, which had an alpha value of .945. Reliability analysis of the three factors (presence of pairs - 3 items, resolution of scenarios -10 items; reflection and transferability - 4 items), shows an internal consistency ranging from .774 to .951.
Discussion: The instrument shows a high reliability and validity; thus, it has the potential to assess nursing students' anxiety with simulated clinical experiences. It has good psychometric and conceptual properties, and it is a simple and easy instrument to answer which contributes to its application in future studies.

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PROMOTING SIMULATION IN MEDICAL EDUCATION
SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

Supporting return to work in paediatrics with simulation

Format: Accepted for Oral Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

Many paediatric trainees have time away from clinical roles for maternity leave, research, career breaks or other Out Of Programme (OOP) experience. Trainees often have concerns regarding returning to work, including a lack of confidence, perceived reduction in abilities after time away and the emotional aspects of managing unwell children following maternity leave. Many are also entering a senior role on their return to practice.

A paediatric Return To Work Simulation course was developed to address these concerns, and has been running since a successful pilot in 2013-2014.

Description

All OOP trainees in the Deanery are invited to attend a one day course of high-fidelity simulation, in a purpose built simulation centre in the West Midlands region.

Clinical scenarios are mapped to the RCPCH Curriculum, to meet various competences in aspects of Paediatrics including management of the acutely unwell child, safeguarding, leadership skills, communication and human factors.

A total of 54 trainees (ST2-ST8) have attended the Return To Work Simulation Course to date, with three courses running each year. Some candidates found it beneficial to attend more than one course after having a second break from training.

The simulation was evaluated with a questionnaire, including a combination of Likert scales and free text questions. All candidates evaluated the course as meeting their intended learning outcomes, with an appropriate level of content for their level of training. 100% of trainees reported that attending the course would lead to change in their clinical practice, and that they would recommend the course to a colleague.

Free text comments were all extremely positive – highlighting improved confidence, leadership skills and clinical knowledge of relevant scenarios. Multiple candidates emphasised the benefit of covering the “most dreaded” scenarios of cardiac arrests, resuscitation and SUDIC.

Discussion

This paediatric simulation day is successful at improving trainee confidence and self-assessed skills prior to returning to work. The course may help ensure trainees are up to date with relevant clinical practice. It is fully funded for regional trainees, and may be included as a Keeping In Touch day.

The principles of this course could be adapted for various healthcare disciplines (such as nursing staff), other specialities and nationally. Ongoing work could progress into these areas, and evaluate whether these benefits have an effect on patient safety and clinical outcomes.

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Teaching new dogs old tricks: Using in-situ simulation to enhance Intensive Care induction

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

Frequent rotation of postgraduate trainee doctors between intensive care units (ICUs) results in lack of familiarity with local processes, equipment and permanent staff. This is perceived to have a negative impact on patient safety as well as training (1).
Based on positive feedback from ad-hoc in-situ simulator-based training (2), we decided to enhance our face-to-face induction programme by incorporating online material, in-situ simulator-based and mental simulation in our ICUs.
We aim to strengthen the orientation of trainees to the environment and cultivate inter-disciplinary relationships as well as evaluate the impact of the programme on their familiarity with the physical environment, their confidence levels and their exposure to inter-professional working.

Description

We studied the induction experience of approximately 30 trainees over 6 months on an ICU rotation within our hospital.
The induction programme consisted of:
1. Face-to-face classroom presentations
2. Online material
3. In-situ interdisciplinary simulator-based sessions
4. In-situ mental simulation activities

A multiple-choice questionnaire (MCQ) was circulated after the classroom-based induction to assess baseline knowledge and confidence levels of trainees.
Early in the rotation, we delivered in-situ, inter-disciplinary simulation sessions in which staff were required to use basic emergency equipment. We introduced online resources for trainees who did not attend face-to-face induction. In-situ

mental simulation activities were used to consolidate learning and as a mitigation strategy to overcome logistical challenges delivering simulator-based tasks.
Post-course MCQs and qualitative questionnaires were compared to pre-course data. We conducted two cycles of the programme over six months.

Discussion

The use of in-situ (simulator-based and mental) simulation provides protected opportunities for repeated exposure for trainees to the socio-technical environments across the different ICUs in our hospital.
We present qualitative and quantitative data to describe the impact of our enhanced induction programme on improving trainees' knowledge of equipment and departmental processes, on strengthening interdisciplinary relationships, and on their anxiety levels when they start work in unfamiliar environments.

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Teamwork and facilitated reflection: in situ trauma theatre simulation

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

Effective teamwork and communication skills are important factors in determining patient outcome, and facilitate both risk reduction through effective system design and effective performance when challenging situations arise. Bone cement implantation syndrome (BCIS) during hemiarthroplasty is a significant risk in the frail elderly trauma population and consensus guidance includes such teamwork recommendations. We implemented interdisciplinary in situ simulation supported by a validated teamwork assessment tool, TEAM. This is used to facilitate debriefing from two perspectives: faculty and team. Our experiences are presented as a work in progress.

Description

We designed an interdisciplinary in situ simulation for specific teamwork learning outcomes, with an elderly patient undergoing hemiarthroplasty complicated by grade 3 BCIS. This runs in real time in the trauma theatre with the standard theatre team.

Faculty and participants are familiarised with the TEAM tool at pre-briefing. The tool is completed by a dedicated faculty member during the scenario and participants also complete the tool as a self-reflective process at scenario conclusion. During debriefing, the facilitator uses the completed tool to provide an objective framework for exploring teamwork factors. The team self-assessment is also used to illustrate any potential differences in internal, external and intra-team perspectives, providing material for discussion of performance insight gaps.

Faculty and participants then complete a questionnaire evaluating the utility of this process (figure 1). This includes specific and global rating using a 5 point Likert scale.

Discussion

The clinical setting and subject material were selected based on identified local clinical factors, where more effective teamwork could potentially improve patient outcomes. Early experience suggests the use of a validated teamwork assessment tool assists in the perception of more robust objectivity when debriefing, which we have found useful in dismantling silo-based thinking. Completing the tool from multiple perspectives creates better triangulation of assessment and provides more data for debriefing. Subjectively, this also initiates highly reflective discussions about the differing teamwork awareness and perceptions of team members, supporting an intensive process of reflection on action. In addition, multiple perspectives assist when debriefing certain challenging participants, through more objective peer or near peer assessment of teamwork performance.

Download: Download figure/table

The perceived teamwork effectiveness, occupational self-efficacy and work-related stress after the multidisciplinary medical staff teamwork in-situ simulation training.

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

Pelgulinna Simulation Center, created in 2015, provides in-situ simulation trainings for obstetric and neonatology teams. The goal is to practice technical skills and gain knowledge as a team providing an effective medical service. To analyze the effectiveness a questionnaire-based study was conducted in the framework of Organizational Behavior Master's program at Tallinn University, Estonia. The specific aim of this study was to explore the changes in teamwork effectiveness, occupational self-efficacy and work-related stress after the multidisciplinary teamwork training.

Methods

The survey was performed during the period of January-April, 2017. In conjunction with a total of 11 interactive in-situ simulation trainings, taking place at different Estonian hospitals, 100 specialists were submitted to a questionnaire measuring work-related stress, occupational self-efficacy and teamwork effectiveness. An identical anonymous (coded) questionnaire was filled out by participants before, as well as three weeks after the training. Statistical analysis (mean equivalence, T-test, Pearson correlation coefficient and Cronbach's alpha) was performed using the IBM SPSS Statistic 24.0 program, considering a confidence level of $p < 0.05$ as significant.

Results & Discussion

Among the 69% of attendees answering to the questionnaire, several occupational groups were represented (largest groups being midwives (45%) and gynaecologists (19%)). On average, the staff had been actively practicing on their field for 15 years (M=12,0; SD=12,99), whereas 71% of them had a previous simulation training experience. The study revealed that healthcare workers perceived the teamwork as more efficient, and the team coordination, cooperation and exchange of information as improved after the training ($p=0,032$). It was evident that employees perceived an improvement in the team's performance, measured by significant changes in self-efficacy before and after the training ($p=0,01$). A clear increased job satisfaction ($p<0,05$) was revealed, whereas there were no statistical differences detected between the levels of perceived work stress before and after the training ($p=0,24$). Trainings had no effect on the responsibility pressure ($p=0,22$), as well as on the conflict of roles ($p=0,81$). No differences were found between individuals with or without previous experience of simulations, neither between representatives of various disciplines.
In conclusion, the results of the study showed the effectiveness of simulation-based training by improving the perceived teamwork effectiveness in terms of collaboration, interaction and work environment adaptation. Also, a positive change in perceived work-related self-efficacy, job performance and satisfaction among employees was observed. The study showed the need for such simulations for medical staff and for the development of relevant statistical models measuring the training outcomes.

The Pit-Crew Approach to Medical Emergencies: Using High-Fidelity In-Situ Simulation for Interprofessional Development.

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

Medical Emergency Teams (MET) have been implemented to improve the management of acutely unwell hospital inpatients. Early identification of clinical deterioration and expedited involvement of senior medical staff and critical care services has reduced patient morbidity and mortality.

However, although team roles within the MET remain constant, the individual members involved are roster dependent. Consequently, there exists wide variation in experience, medical or surgical specialism and technical and non-technical skills possessed by the team. At present in our institution, there exists no formal programme for ongoing education and development of the MET.

The nature of the MET assembly may result in the staggered arrival of members to the deteriorating patient and several potential successive changes in leadership. These factors present potential barriers to developing shared team understanding, role assignment and task allocation. The pit-crew approach, utilising pre-determined role allocation and task delegation, has been adopted in various healthcare settings including major trauma, acute stroke thrombolysis and out-of-hospital cardiac arrest.

We aim to ascertain whether the application of pit-crew principles to the MET can improve team performance in managing acute medical emergencies in a series of in-situ, high fidelity simulated scenarios.

Description

We intend to implement the principles of a pit-crew approach to the MET to determine whether it can improve team performance.

Team performance will be assessed at baseline using three measures; self-assessment questionnaire, independent observational assessment scoring of team behaviour and the occurrence and timing of event-based measures encompassing defined technical and non-technical clinical standards. The CATS (Communication and Teamwork Skills Assessment) scale will be utilised to score team behaviour relating to coordination, cooperation, situational awareness and communication.

Our intervention, following the baseline scenario, incorporates a human factors debrief of the initial scenario and training in team-resource management utilising a pit-crew approach. Appropriate utilisation of the MET member skillsets will be explored and pre-emptive allocation of specific tasks commonly required to individual members.

Team performance will be assessed following our intervention through a series of simulated clinical scenarios to determine whether improvements in behaviour are observed.

Discussion

Simulation-based learning incorporating human factors training is established within surgical, anaesthestic and emergency medicine, yet remains relatively underrepresented in general medical training. Despite the application of pit-crew principles in various healthcare settings, we are currently unaware of its use when managing inpatient medical emergencies. If improvements in team performance are witnessed, it will merit trailing of this approach beyond the realms of simulation.

The role of nurse faculty in interprofessional education - a multisite study.

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

Sabrina Koh — University of Nottingham

Introduction & Aims

The study aim to provide fundamental understanding on how IPE faculty team members synergize to collaborate the planning, activity structuring, co-facilitation and debriefing the learners. The main focus is on the nursing faculty's perception & reflection on her role as a faculty in IPE. IPE refers to the multi-cultural healthcare setting in Singapore whereby IPE sessions are attended by medical and nursing staff. The IPE sessions are conducted in the hospital training facility.

Description

This is a multiple case study with three identified cases who are nurse educators from three healthcare institutions. Data collection is through direct IPE activity observation and structured interviews. The nurse faculty will be observed for opportunities to engage IPE learners. Objectives for direct observation:
1. Observe for coordination in facilitation work among faculty in an IPE session involving 2 or more professions.
2. Observe for engagement of participants for facilitated discussion during the SBE debriefing?
3. Observe faculty role relationship, role conflict/s and the nature of such conflicts.
The observation is followed by structured interviews with the involved nurse faculty, 1 IPE faculty and 2 learners. Interview transcriptions are analyzed for thematic identification with review done to determine regrouping of themes into more appropriate categories to facilitate discussion and for cross case synthesis.

Discussion

3 most common themes (interim) emerged:
1. Hierarchy
2. Readiness to lead
3. Critical need for IPE
IPE is a relatively new healthcare education concept for educators in Singapore though IPE programs have been introduced since 2005. The preparation of the nurse faculty towards IPE facilitation relies on the frequency of exposure opportunities to IPE. Issues surfaced include the value of the nurse faculty to debrief and address IPE learners as a whole.
Disparity in perceptions on input from nurse faculty. The nurse faculty often feel unsure of her input to learners; learners expressed that they have gained much from the nurse faculty. The medical faculty are consistently leading the scenario initiation and debriefing. Nursing faculty felt that "things are taken cared of". The mere exposure to IPE is sufficient to build experience to facilitate.
All participants felt that IPE has an important role in shaping their career in healthcare.

Conclusion:
The perspectives contributed insights that help to identify components that are useful in IPE facilitation development, contributing to IPE trainer curricula evolvement that is suitable for use in Singapore or the Asia region.

Three-dimensional visualization technology used in pancreatic surgery: A valuable tool for surgical trainees

Format: Accepted for Oral Presentation
Subject: New Technologies and INNOVATION

Authors

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Introduction & Aims

Pancreatic cancer is one of the most aggressive malignancy, and currently surgical resection is the only curative approach. The success of the surgery depends on the precise evaluation of the tumor respectability, which requires detailed knowledge of the tumor anatomy as well as its relationship with the adjacent tissues. Thus, the assessment of tumor invasion, vessel involvement and anatomical variation is crucial for pancreatic surgery planning. Therefore, we conducted a randomized study to explore the value of three-dimensional(3D) visualized pancreatic model in tumor evaluation and surgery planning for surgical trainees.

Methods

Three cases of pancreatic cancer were used in this study. Fourteen questions in the respect of anatomy, diagnosis, tumor staging and surgery planning were developed by a group of pancreas surgeon experts in each case. Eighty-eight surgical residents participated in this study. The participants were randomly assigned into two groups. Both group began with a training on how to evaluate the resectability of pancreatic tumor, which was based on the NCCN clinical practice guidelines and then a clinical case was taken as sample and practiced. After the training, the 3D group learned the sample case on the 3D real-time reconstruction multi-touch visualization table by themselves; meanwhile, the 2D group studied the same case through the conventional cross sectional computed tomography(CT) images. Finally, both groups completed the same test consisting of two pancreatic cases with axial CT images. After the test, all the participants completed a questionnaire.

Results & Discussion

Differences in the scores between the groups were tested with the unpaired t test. No differences was found in the scores of anatomy part, however, the mean scores for questions, associated with diagnosis, tumor staging and preoperative planning, were consistently and significantly higher in the 3D group compared with the 2D group for both cases. Year of training, sex and previous pancreatic surgery experience had no effect on the scores. In addition, participants in 3D group agreed that the 3D visualized pancreatic model was more beneficial for trainees in understanding and making pancreatic surgery planning.
The 3D visualization table may have the potential to be a valuable supplemental learning tool in building anatomy-image-surgery knowledge system and thus making surgery planning for surgeon trainees, as it provided a better 3D understanding of the tumor and its surroundings, and demonstrated advantages for interacting with cross sectional images.

Training healthcare teams with help from the arts

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

An innovative three-year collaboration sought to bring some of the techniques used in the performing arts into a team-based training programme in a simulation setting. The programme created a series of unique arts-based training courses designed to enhance care and compassion in healthcare professionals, focusing on skills like resilience, self-care, teamwork, stress-management, non-verbal communication, decision-making, and care and compassion. This research presents the results of programme evaluation, which gathered extensive qualitative and quantitative data on the courses as they were designed and delivered. The evaluation team also presents data gathered from the evaluation of the process of bringing an arts-based organisation together with a team from a healthcare simulation facility to engage in a collaborative development programme.

Description

Participants on the innovative training courses, designed collaboratively by simulation educators and performing artists, completed pre- and post-course surveys designed to measure their self-reported confidence on a number of factors and knowledge measures related to the learning outcomes of the courses. Participants volunteered to be contacted for longitudinal follow-up interviews and were asked about the extent to which learning was transferred to practice, and whether behaviour change related to course learning outcomes had occurred. Educators from both teams (simulation and performing arts) were interviewed extensively about the design and collaboration of the programme throughout its development.

Discussion

On self-reported measures, participants rated all aspects of the courses very highly (over 90% on most items). At 3 and 6 months after the course, those participants who agreed to be interviewed were positive about the course and were confident that they had changed their thinking and/or behaviour. In particular these positive behavioural shifts were around communication, in particular non-verbal communication, awareness of others, how to deal with emotions, and physical awareness.
From the interviews with the development team, it is clear that although the development process was difficult at times, simulation faculty reported that they had gained a range of skills and changed the ways in which they conceptualise care and compassion and that this has provided a framework that they already include in courses outside of the project. The intervention of a group with totally different ways of thinking and working had provided a fresh perspective and had caused them to question what they do and think about how to do this differently.

SESAM
PROMOTING SIMULATION IN MEDICAL EDUCATION
SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

Using funding creatively: A shared learning experience between army and clinical personnel

Format: Accepted for Oral Presentation
Subject: Interprofessional / Team Education

Authors

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Introduction & Aims

We work in a major NHS University Hospital in the UK. Nurses are required to fulfill a minimum of 20 hours of participatory training over 3 years for revalidation purposes. Our nursing and theatre staff have few opportunities for training and career development. This is due to minimal funding and study leave time, as there are serious staff shortages in the area. Lack of training opportunities has an effect on skills and also on morale and confidence and has also caused a drop in staff retention.

We needed to identify funding and a suitable time to breach this gap. Army Reservists often have access to training opportunities, in particular they receive simulation training with the air ambulance and the royal college of nursing amongst others.

Funding was provided by the Army Reserve, through 203 Field Hospital, to deliver a community engagement session. Simulation facilities were provided by the University of South Wales.

The Mission was to introduce the members of 203 Field Hospital, NHS colleagues and visiting academic staff from the University of Barcelona. This also represented another opportunity to engage with the healthcare profession community.

Learning objectives included use of ABCDE approach to identify and manage critical illness in anaphylaxis, hypoglycaemia and major trauma, as well as using the TALK framework for clinical debriefing.

Description

We delivered an evening training session to individuals representing different clinical environments: theatres, ward, ICU and emergency department. The multi-professional faculty included military and civilians. This event was attended by 50 individuals, after normal working hours and free of charge.

The participants were divided groups, which rotated through 3 scenarios. The TALK framework was used to guide group discussions on performance during the case and to identify further educational needs.

Discussion

From an educational point of view, all participants enjoyed practising and discussing the scenarios. Delegates identified further learning needs such as management of septic patients having procedures under local anaesthetic and management of common out of hours emergencies. Our staff have engaged into collaborating to set up local in situ

simulation team training sessions and identifying the most relevant topics for their practice.

From a networking perspective, using external resources to the NHS such as Army based funding opportunities seems like a good solution to some of our problems, and it meets targets for all stakeholders.

SESAM
PROMOTING SIMULATION IN MEDICAL EDUCATION
SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

Using medical simulation training to develop clinical practice

Format: Accepted for Oral Presentation
Subject: Patient Safety / Quality Improvement

Authors

Juuso Jaskari none

Introduction & Aims

Töölö hospital in Helsinki, Finland is one of biggest trauma centers in Northern Europe and Scandinavia with around 15 000 emergency room visits and 400 trauma team deployments annually. Since 2002 we have trained trauma teams via medical simulation training and refined our trauma resuscitation protocol through those simulations. Although our trauma team worked seamlessly we wanted to improve our clinical practice with the most critical patients. Our goal was to create a protocol for that critical part when hemodynamically unstable patient is rushed from emergency room to operation room for emergency operation. We decided to use medical simulations for that development.

Description

In autumn 2015 a interprofessional group was gathered to plan how increase collaboration between emergency room and operation room in case of damage control laparotomy or thoracotomy. By the end of 2015 we have made first, raw version of emergency operation protocol and already in January 2016 we started to do simulation training around it. We have been simulated once a month since that first simulation. After each simulation, we gathered feedback about simulation and also the protocol itself. Based on those feedbacks we modified the protocol each time and tested it again in next simulation. By November 2016 we decided to publish our refined protocol and make it as clinical practice in our hospital.

In each simulation session, we have had similar case: 30-year-old male, head-on collision with a truck. Hemodynamics is unstable despite of massive transfusion of blood products. E-FAST ultrasound shows massive bleeding in abdomen cavity. Patient is transferred to operation room for emergency laparotomy. Before actual transfer advance notice is been called to operation room from emergency department. After patient arrived in operation room everyone’s priority is to have bleeding in surgical control as soon as possible. Simulations are done in-situ and as realistic as possible: real incision, actual hematoma and active bleeding, fluid resuscitation etc.

Discussion

These kinds of standard operation protocols are needed to secure patient safety and improve our quality. In despite of the fact we have been able to reduce our average door-to-cut time in operation room from 37 minutes to 12 minutes after protocol was created and simulation training started, we still have to do more implementation via simulation training. In the future, we will need thorough research study to see how our improvements have actually effected.

Using virtual patients exam to assess outcomes of clinical reasoning ability training based on WeChat-PBL

Format: Accepted for Oral Presentation
Subject: Assessment using Simulation

Authors

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Introduction & Aims

Empirical researches have revealed that students who learnt in the problem-based learning (PBL) environment are better able to apply their knowledge to novel problems than those who learnt from the traditional lecture-based course. However, the implementation of PBL relies heavily on multiple conditions, and PBL is a time-consuming teaching process. Confronted with these challenges, teachers at Nantong University School of Medicine have begun to use WeChat, Chinese social media mobile platform, to enhance the PBL environment. We evaluated medical student's clinical reasoning ability in a WeChat-PBL environment using a virtual patients (VPs) based exam with variable parameters for assessment purposes.

Methods

4-grade medical students (n=48) randomly divided themselves into study (WeChat-PBL mode) or control group (no WeChat-PBL mode), of 24 students each group. Both two groups were exposed to the same teaching. After receiving basic patient information (age■gender, chief complaint, symptoms, and laboratory examinations) and several questions, the students from study group explored these materials individually and discuss the questions with each other in their small WeChat group. During the discussion, teachers only made the necessary comments and delivered scientific guidance. Six months later, all students from two groups get test with virtual patient system (DxR Clinician). The case components included diagnostic performance, clinical reasoning, and patient management. The scores of these three categories were weighted and then combined to give the overall performance score. A paired t-tests was used to compare test scores ($p<0.05$).

Results & Discussion

Our results demonstrated that WeChat-PBL could improve medical student clinical reasoning ability. Table1 summarized the effectiveness of the teaching methodology in comparison to the two groups. There was a statistically significant difference in the scores of the virtual patient case test between the two groups ($p=0.0002$).The current students in Chinese medical university are time-fragmented learners who are comfortable using social media mobile platform for both socialization and learning. WeChat provides online social networking service that can be accessed from any Internet-enabled device. It is more convenient to utilize WeChat to organize PBL teaching in clinical reasoning ability training thanks to no spatial and temporal limitations. VPs are commonly recommended for teaching clinical reasoning and clinical decision-making. We believe that the use of VPs for assessing medical student ability is extremely beneficial.

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Validation of two new simulators of neuraxial anaesthesia: students vs anaesthetists.

Format: Accepted for Oral Presentation
Subject: New Technologies and INNOVATION

Authors

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Introduction & Aims

During the learning process, an anaesthetist must achieve multiple skills. Spinal lumbar punctures (SLp) are often learnt as an undergraduate, while epidural thoracic puncture (ETp), is more specific of anaesthetists and is learnt during residency training. Simulation is a recognized tool in the learning process of these abilities, but it is difficult to find simulators that mimic real life sensations accurately. For that reason, we developed two prototypes, and the aim of this study is the validation of the simulators for those two techniques.

Methods

Prospective observational study with 19 medical students and 20 anaesthetists divided in 4 groups: for the SLp simulator, students were compared against specialists; for the ETp simulator, 8 anaesthetists not familiarized with thoracic epidurals and 9 anaesthetist with enough experience were selected.
The validation methodology (face, content and construct) was used. For face and content validities, quantitate questionnaires with the Likert Score (1-5) were applied. For the construct validity, time and a checklist of the steps to perform a correct puncture were taken into account.
The statistical analysis was performed using nonparametric analyses: U-Mann Whitney. P-values under 0.05 and medias more or equal than 4/5 were considered significative and valid, respectively.

Results & Discussion

For the SLp simulator, both groups had similar scores in usefulness. The group formed by anaesthetists didn't consider it essential for the learning process ($p<0.05$). The simulator scored high in realism, especially in the palpation of anatomical structures (4.6/5) and the fluid outflow (4.5/5). It is also able to discern novices and experts through time ($p<0.05$).
In the case of ETp simulator, the two groups involved found it useful, as well as essential for training. The simulator scored high in consistency with reality for both groups, obtaining high scores simulating the contact of the needle with the bone (4.5/5), the identification of the ligamentum flavum (4.5/5) and the loss of resistance of the epidural space (4.5/5).
Both simulator scored low for reproducing the needle pass through skin and subcutaneous tissue.
To sum up, both simulators have achieved the face, content and construct validities, although they still have room for

improvement. This study shows that these simulators can be useful for training due to their high realism.

Virtual simulator for anorectal ultrasound

Format: Accepted for Oral Presentation
Subject: New Technologies and INNOVATION

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Introduction & Aims

Anorectal ultrasound is a diagnostic technique of inferior rectus and anus pathologies. It is frequently used in inflammatory events related to fistula/abscess disease and in tumor pathologies. The aim of this technique is to define the degree of affectation and infiltration of the anorectal structure. However, the technique is reliant on the explorer so that the diagnostic evaluation is influenced by his experience. Therefore, the skill acquisition in virtual models would increase the sensitivity and specificity of the diagnosis without increasing the discomfort caused to the patient. The aim of this project is the development of a Virtual Simulator for Anorectal Ultrasound (SVEAR) to recognize anatomical structures of anus and rectum. When the transducer is introduced into the anus-rectum, the device shows the specific ultrasound plane that corresponds to its position. Moreover, there is a possibility of implementing help images. These images show the anatomical and pathological structures in a more clear way by highlighting the contours and differentiating the colours.

Methods

Actual ultrasonic explorations in real patients were acquired in text files, converted into three-dimensional images and then incorporated into the developed computer application. This software allows us to process the images, breaking them down into different depth planes and displaying them on the screen according to the position of the simulated transducer. The distance to this position is calculated through the tracking of a marker adapted to the simulated transducer handle. As we want the environment to seem as realistic as possible, a lower torso phantom is also used. Finally, the images are reprocessed to outline and colour anatomical structures so that the differences between anatomical and pathological elements are shown more clearly. These images are also incorporated into the software and can be displayed on the screen along with the actual images just in case of needing help.

Results & Discussion

The development of the desirable software has been accomplished. It incorporates actual images of anorectal ultrasound explorations as well as help images to clarify the structures and pathologies in a simulated environment. Thanks to this device, it is possible to gather experience in diagnosis through an extensive library of clinical cases and through practicing without causing discomfort to patients.

What do meerkats have to do with the early recognition of the deteriorating adult patient?

Format: Accepted for Oral Presentation
Subject: Patient Safety / Quality Improvement

Authors

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Introduction & Aims

Early warning systems (EWS) are an integral part of a hospital wide systems approach to improve the early identification and management of deteriorating patients. One-off training programmes do not always prove sufficient to consolidate learning in clinical areas where staff turnover can be high.

We deployed an outreach education team and incorporated an inter professional simulation-based learning component within a longitudinal education programme to improve staff recognition of, and response to the adult deteriorating patient. A key component of the programme was feed back loops to strengthen individual practices and learning in clinical areas.

Description

The project was specifically aimed at two groups on acute medical and surgical wards:

1. Nurse shift leaders (Band 5/6 nurses)
2. Health Care Assistants (HCAs)

The one-day clinical simulation component of the programme included postgraduate trainees doctors and medical students

Interventions and activities

The multifaceted intervention in the programme included:

• Local Critical Care liaison nurses working to support practices at the bed side
• e-Mast training on EWS.
• Interprofessional simulation-based training with trainee doctors and medical students.
• Standardised observational tools for peer-to-peer feedback.
• Monitored peer-to-peer feedback practices on the shop floor supported by shift leaders.
• Coordinated follow up & monitoring of individual performance and program outputs.
• Improved communication across education providers and with managers about program objectives, individual progress and evaluation measures.
• Incentives for nursing staff: certificates, revalidation, visibility badges, professional development portfolios, individualised feedback.

Discussion

Our theory of change involved connecting and coordinating systematically multiple educational supports in the hospital. By also limiting programme reach to acute medical wards only (where it is expected 80-100% of shift leaders and HCAs will be released and exposed to all the programme activities over a 12 month period) we were able to concentrate the interventions and gather information on individual and group performance and evaluate impacts.

We expected that learning impacts of the programme would be augmented through the cascade effect of peer-to-peer feedback from shift leaders and HCAs to other nurses and healthcare professionals on the wards.

We present preliminary data on these impacts including participant and facilitator feedback from focus groups and hospital audit data on recognition of the deteriorating adult patient and avoidable death rates across the areas of our intervention.

When to introduce three-dimensional visualization technology into surgical residency: a randomized controlled trial

Format: Accepted for Oral Presentation
Subject: Curriculum Development

Authors

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Introduction & Aims

Three-dimensional (3D) reconstructed images have been increasingly applied for medical education. Although many studies have described the benefits of such applications, the best time to introduce 3D technology into surgical training has not been determined. Therefore, we conducted a randomized study to determine a suitable period for the introduction of this technology.

Methods

Seventy-one surgical residents were randomized into 2 groups (two-dimensional computed tomography (CT) group and 3D image group), and they completed a test on anatomy and imaging as well as a questionnaire.

Results & Discussion

Results: Post-graduate year 1 (PGY1) residents in the 3D group performed significantly better than those in the CT group, although the third-year residents did not present significant differences in either the score or the time spent answering the questions. Although residents in different years of training held different attitudes toward the difficulty of anatomy and imaging learning, they all showed a high level of acceptance of the 3D training.
Discussion: Although the 3D technology applied in medical education has achieved initial success, few studies have explored the appropriate introduction time of 3D technology to residency programs; thus, we designed this study to explore the optimal timing for introducing 3D technology into a surgical residency program.
In the traditional learning model, which could be summarized as “2D → 3D → 2D” , trainees must imagine 3D structures with 2D cross-sectional images. This process is long and difficult and often results in the memorization of inaccurate or even incorrect 3D structures because of the lack of an ability to immediately correct these representations. Our findings suggest that 3D images might be superior in assisting junior residents in establishing 3D models. This new learning model combines 3D and 2D images and might accelerate the learning process by improving the accuracy of 3D structures and deepening the memory of anatomy. We summarize it as “2D + 3D → 3D → 2D” .
Although anatomy and imaging did not appear to be difficult for senior residents, most of them agreed that it could strengthen their systematic training. This result revealed the importance of anatomy and imaging for surgeons and indicated that a gap occurs between the urgent demand for training and the current insufficiency in training.
Conclusion: This study revealed that 3D images improved the junior residents’ performance in imaging reasoning. Thus, systematically introducing 3D images early in a surgical resident training program may help produce a better anatomy-imaging-surgery system.

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Why doctors chose to do a simulation fellowship? A comparison of 2 different systems

Format: Accepted for Oral Presentation
Subject: Faculty Development

Authors

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Dr. Lorraine Bouzan	Northern Ireland Medical and Dental Training Agency
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Dr. Mike Morrow	Simulation Lead, Northern Ireland Medical and Dental Training Agency

Introduction & Aims

Simulation is widely used in post-graduate clinical education, particularly in anaesthesia and emergency medicine. Fellowships in simulation are becoming increasingly available to trainees throughout the Republic of Ireland and Northern Ireland. Currently, there is little data available on the impact these fellowships have on the career trajectories of those completing them.
The aim of this study is to elucidate the perceptions of previous and current simulation fellows on their fellowships and the impact they have on their career.

Methods

To date, 25 doctors in Ireland and Northern Ireland have completed or are currently completing a fellowship in Simulation. The participants are from a range of specialties, including Anaesthesia, Emergency Medicine and Paediatrics. An eighteen-item online survey was administered to participants.
Survey items consisted of information regarding participants' post-graduate and simulation training, participants' perception of the fellowship, and career trajectory.
Descriptive statistics were used to summarize the results.

Results & Discussion

Of the 25 doctors invited to participate, 18 responded to the survey (72%). 10 of these were from Ireland and 7 were from Northern Ireland. 16 respondents completed a 1 year fellowship. All of the Irish Fellows were from an anaesthetic background and either in their final year of training or have finished their training. The Northern Irish Fellows were from various specialties, paediatrics (n=5), Emergency medicine (n=1) and anaesthetics (n=1) and held more junior registrar positions (ST4-6). 90% of the Irish Fellows completed this year alongside clinical work which took up 80% of their time, compared to Northern Irish fellows, who did this as a combination of 50% clinical (n=3), 20% clinical (n=2) and ad hoc locum work (n=2). The main reasons for applying for fellowships were having an interest in simulation-based education (94.12%) and to enhance their CV (52.94%). 16 respondents taught on courses, 14 organized courses and 10 also designed courses. 100% of the Fellows felt this improved their communication, teaching, debrief and technical skills and 10 respondents also completed a further certificate or masters in medical education. All respondents finished or were in

the process of completing their fellowships and said they would recommend simulation fellowships to another trainee. All respondents who were finished their training obtained a consultant post within 2 years and 16 respondents said they would like to encompass simulation based education into their future career.
This survey highlights the increasing interest in simulation training, and the positive perceptions of participants towards their experiences of simulation fellowships.

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“The Metadebrief Club” – A standardised and effective format for debriefing your debrief in safe and constructive environment

Format: Accepted for Oral Presentation
Subject: Faculty Development

Authors

Christopher Schnieke-Kind	NHS Lothian
Christopher O'Shea	NHS Lothian

Introduction & Aims

It is recognised that the crucial time for learning from simulated medical scenarios is during the facilitated debrief that follows. However, in developing simulation programmes, focus of development is typically on fidelity of the scenario. To address this imbalance locally, we set about creating a programme for faculty development focusing specifically on the process of debriefing.
Here we aim to share the process of creating the “MetaDebrief Club” and the results it has produced.

Description

Over the course of a year, a small group of novice debriefers delivered approximately 300 simulated scenarios to junior doctors and final year medical students within NHS Lothian, each followed by a structured debrief. The debriefs were recorded - with the consent of participants - and the footage was then reviewed as part of a scheduled metadebrief session.
During a metadebrief, the debriefer shared the footage of their debrief in it’s entirety. As the footage was played, all present were encouraged to offer comment, critique or ask clarifying questions. A verbal agreement was made at the start of each session to maintain a safe, constructive learning environment and the venue and format were designed to support this. The goal was to produce a list of implementable changes for that debriefer to make to improve their practice during their next debrief. This next debrief was also recorded and again metadebriefed in the same way, assessing the impact of changes and generating new changes in a continuous cycle. This format was then expanded to include the wider simulation faculty and incorporating new tools to aid discussion and reflection, including the use of social media.
To assess the effect of this programme we looked at participant and debriefer feedback as well as the structure of the debriefs themselves, using a ‘phases-of-debrief’ tool.

Discussion

Through creating a safe and constructive learning environment, NHS Lothian simulation faculty were keen to engage in the process of metadebriefing, giving overwhelmingly positive feedback.
Positive changes in individual debriefing practices implemented following attendance at metadebriefing sessions have been demonstrated semi-objectively by using the ‘phases-of-debrief’ tool.
Measured impact through debriefer and participant feedback is currently being assessed.
Our own practice of delivering simulation debriefing has been improved through the process of metadebriefing. The generation of a safe and constructive learning environment for sim faculty has encouraged broader participation in our

centre and the standardised format used has begun to produce demonstrable improvements in debriefing practice.

A-team. Targets for Training, Feedback and Assessment of all members teamwork. A workshop

Format: Workshop
Subject: Debriefing

Facilitators / Moderators

Petter Westfelt

Introduction & Aims

The A-team scale is a suitable tool for the exploration of the interaction between leaders and followers
The A-team scale is possible to use in evaluating the relationship between teamwork process and teamwork outcome, as well as it can be used for feedback during training.
This workshop will give the participators the opportunity to hands-on and interactively train on how to use this scale in assessing filmed scenarios

(ref: A-team; chapter 9 in Safer Surgery, Rhona Flin et al 2009)

Learning objectives

To train to "objectively" assess team behavioural by using the A-team scale.
To illuminate the importance to thoroughly assess also the followers in the team.
To better and more careful evaluate teamwork in order to enhance the debriefing sessions by being more specific in the feedback

Session description (planned activities)

Initiallt a short lecture about the A-team scale and how to use it.
Second part of the workshop is a hands on workshop, when the participators, in groups, take part of medical scenarios. After the scenarios there will be a discussion in groups concerning the team behaviours in the scenario, using the A-teamscale as a tool.

Educational methods (e.g. group dynamics, interactive methods)

Lecture
Workshop on behavioural assessment using video filmed scenarios

Expected impact

To give a method and a tool in order to develop the analyse of teamwork/CRM and make it more objective and based on a scientifically used behavioural team assessment scale

Target audience

Medical staff, physicians, nurses, behavioural scientists, simulator instructors/facilitators engaged i teamtraining (CRM) using fullscale simulators or standard patients.

Maximum number of participants

20-30

Equipment requests

AV-system for Video
-Projector
-Audiosystem

Advanced Cinematic Simulation Scenario Writing

Format: Workshop
Subject: Faculty Development

Facilitators / Moderators

Mostafa Elbaba

Introduction & Aims

Writing a scenario is different than writing a novel or writing a medical case discussion. Based on the author's learning from his courses in cinematic arts, the simulation scenario can be written in more professional technique. The screenwriting for cinema or theater add more to the art of writing the simulation script. This technique enhances the sim scenario by looking in depth for every detail.

Learning objectives

1. Recognize the basics of simulation scenario writing
2. Apply the cinema's screenwriting and screenplay to the simulation script
3. Create a new format of advanced and enhanced simulation scenario

Session description (planned activities)

1. The basics of simulation scenario writing from just an idea of a medical story
2. Design a simulation script generated from the art of screenwriting
3. Final adjustment of the advanced simulation scenario

Educational methods (e.g. group dynamics, interactive methods)

1. Introduction and priming
2. Three sessions
3. Closing

Each session is started by didactic talk followed by small group activities

Expected impact

Performance checklist with rubrics
Post workshop survey

Target audience

All Health professionals interested in simulation design from novice to advanced

Maximum number of participants

50

Equipment requests

Only audio-visual facilities
round table for small groups

Behind the screens: Students in advanced simulation

Format: Workshop
Subject: Faculty Development

Facilitators / Moderators

Anne Mielke, Anne Lippert and Peter Dieckmann

Introduction & Aims

Many simulation centers struggle to find qualified workforce to implement their courses, and pre-graduate students often welcome the idea of extra learning opportunities. We argue that both the students and the center can benefit from integrating students in their faculty. We aim to show the participants the pros and cons of utilizing students, how best to establish a student faculty and to teach participants how to facilitate students in various scenarios.

Learning objectives

1. Describe the tasks and roles of students in advanced simulation, the setting and simulation room itself, both behind the screen and from course participants' point of view.
2. Succeed at an interactive, full, hands-on experience to get the experience of being behind the screen during a simulation with a student.
3. Gain knowledge on how to collaborate with students in the most appropriate roles.

Session description (planned activities)

Programme
15 min Active introduction: Speed-dating style
The aim is to break the ice and construct a creative learning environment through simulated speed-dating sessions. This involves a formally set table with questions for us, focusing on an introduction to the learning objectives and theories that will be used throughout the workshop and the roles of students. These roles range from preparing and running simulations, to being simulation operators, to acting as simulated patients, peer-to-peer teaching and research assistants. All questions discussed in the theoretical stage will be predefined, to make sure that they fulfil the learning objectives.

20 min Simulator briefing: Getting to know the manikin using the ABCDE approach
After the introduction, the workshop will start with a hands-on session on getting to know the manikin. This focuses on the importance of qualified students who can make sure the course participants understand the manikin and the simulation room.

25 min Authenticity of the simulator: Hands on
and
20 min Simulation setting
These points are a discussion on how to make the best of the combined knowledge between facilitator and student and the vital points in preparing and setting the room to keep in line with the simulation contract – and try it themselves!

20 min Behind the screens: Students as simulation operator
This is a demonstration of how well the facilitator and student work together during simulations – the load on the facilitator lightens when the operator can act on what goes on in the room, without the facilitator asking first.

20 min Deconstructing the script: Controlling a scenario
We will then take them through how to deconstruct the script and controlling the scenario while balancing learning goals and group dynamics in collaboration with the student. This part includes “simulation improvisation,” where the course participants will draw three cards: one with a symptom, one with a comorbidity and one with a setting. Then a few of the other course participants will receive role cards according to the setting. Then the scenario will be briefly discussed with the student, and they will try running the scenario they have just generated with the student as the patient. This illustrates the versatility of working with a student.

20 min A primer on peer-to-peer teaching
Students can teach students with great results – they are also in touch with the curriculum and know what knowledge is needed and warranted.

30 min Try it: Run your own scenario with a student
Lastly, participants will prepare and run their own scenario actively using students as operator in pre-planned scenarios.

10 min Closing discussion
In the end, we sum up and have a brief discussion on what the participants take home.

Educational methods (e.g. group dynamics, interactive methods)

This course offers insight on students as part of faculty. We focus on interactive learning, with an entertaining introduction - speed dating the course directors to get to know the theory behind. Later on they will prepare and run a scenario on their own, divided into groups. They will try scenarios with both simulated patients and with a manikin.
The theoretical setup for the workshop is based on the simulation-setting-model by Dieckmann.
Additionally, at the end of the workshop, the course participants will receive a small guide to the implementation of students into their faculty.

Expected impact

We focus on the bi-directional learning that occurs when different levels of learners and expertise interact. We expect the workshop to broaden the participants view on what a faculty consists of and to see the many mutual benefits for the simulation center, the student and the faculty.

Target audience

The target audience is broad - we welcome everyone from students to people who seek new members of their faculty.

Maximum number of participants

20

Equipment requests

Laerdal is willing to lend us a manikin, but we would like a projector with HDMI cable. Furthermore, we need a place with room for advanced simulation – if a proper simulation room with the equipment for advanced simulation is available that would of course be ideal.

Best Practice as applied to Standardized Patient Methodology

Format: Workshop
Subject: Curriculum Development

Facilitators / Moderators

Valerie Fulmer, Tonya Thompson, Amelia Wallace, Dena Higbee

Introduction & Aims

As the international organization for professionals in the field of simulated and Standardized Patient methodology, ASPE is excited to offer this immersive workshop on foundational concepts and skills for SP methodologists. In this experiential workshop, led by ASPE experts, participants will explore the methodology that defines the rapidly expanding contribution of SPs to the field of simulation-based education. Standards of Best Practice (SOBP) and evidence-supported approaches to key SP practices, including SP selection, case development, SP training, and essential elements of feedback training will be explored.

Learning objectives

Define key simulation concepts as defined by ASPE's SOBP.

Create strategies for implementation of basic SP selection, case development, training techniques and basic feedback training components.

Identify resources, references and tools for continued learning and networking.

Session description (planned activities)

20 min- Introductions and define key standards (SOBP) as applied to the following areas:
20 mn- Characteristics of a strong SP
60 mn- Case development with template
60 mn- Training techniques with demonstration
30 mn- Essentials for SP Feedback with training exercise
- Interactive discussions will occur within each section.
20 mn- Closing discussion Q and A

Educational methods (e.g. group dynamics, interactive methods)

This workshop leans on interactive and experiential learning design. Demonstrations, group discussions, exercises and participation in training techniques will be encouraged.

Expected impact

Participants will have the opportunity to develop techniques, tools and strategies for working with SPs in education. ASPE's standards of best practice will reinforce each training theme and a variety of formats will keep the workshop interactive. Discussion is encouraged and demonstration simulations, group conversation circles and other opportunities

for reflection will be abundant. Participants will work with templates, key resources and references as a starting point.

Target audience

Those new to SP Education will benefit most from this workshop. However, more experienced participants may appreciate a deeper understanding of the fundamentals of SP methodology as it applies to individual practice and standard alignment.

Maximum number of participants

30

Equipment requests

Overhead projector for power point slides

Flip chart and markers

Best practices and lessons learned from building a new simulation center

Format: Workshop
Subject: Center Administration and Program Evaluation

Facilitators / Moderators

Kellie Bryant DN, WHNP CHSE and Eileen Thomas EdD,

Introduction & Aims

Simulation is one of the most prominent innovation in nursing and medical education over the past 15 years. Many universities and hospitals are taking on the daunting task of building new simulation centers that will provide their students with the best learning environment to prepare them to work in today's complex healthcare system. This course will focus on the necessary steps need to designing a simulation center that will create a safe learning environment for students that replicates the clinical environment and creates a space for faculty to use the best practices in simulation education. The purpose of this round table discussion is to share the expertise of simulation administrators who have developed state of the art simulation centers at two of the most prestigious nursing schools in the country. The presenters will provide an overview of the process of developing a new simulation center from the planning phase to the opening of a new center including ways to overcome challenges faced during the process.

The presenters will discuss key steps to the planning process including:
1. Conducting a needs assessment to determining the best design and anticipated use for the center.
2. Screening process for selecting the best construction team for the project.
3. Creating a budget for the simulation project and finding sources for funding.
4. Steps to consider when designing the layout of the simulation center.
5. Best methods for selecting the most cost-efficient equipment for the center based on the needs of the learners and simulation curriculum.
6. Determining staffing needs and positions within the center.
7.Moving into the new center and equipping the center.
8.Developing a training program for staff and faculty.

Session description (planned activities)

1. Round table discussion including a brief powerpoint presentation about the process of building a simulation center.
2. Interactive exercises on performing a needs assessment that will be used to design the center to meet the needs of the simulation curriculum.
3. Interactive exercise to determine staffing of center.
4. Round table discussion on the challenges the expert panel faced during the process and steps they took to overcome the obstacles.
5. Opportunity for question and answer session with the panel.

Expected impact

The expected impact from the presentation are that the participants will be able to :
1. Describe steps to designing a simulation center.

2. Discuss process for selecting most appropriate equipment based on the needs assessment of the simulation program.
3. Identify challenges and obstacles in designing a new simulation center.

Target audience

Simulation administrators, educators, hospital administrators,simulation designers, and any other individuals who are stakeholders in the designing or building of simulation centers.

Maximum number of participants

20

Equipment requests

computer, screen, whiteboard, markers

Bringing non-technical skills (NTS) to life by linking observations to debriefings

Format: Workshop
Subject: Faculty Development

Facilitators / Moderators

Peter Dieckmann, Anne-Mette Helsø, Anne Lippert, Sofie Mundt, Ralf Krage, Helge Lorentzen

Introduction & Aims

Observing Non-Technical Skills (NTS) in scenarios and using these observations in an analytical fashion during debriefings is a challenging task. Many parallel thoughts and actions might blur the focus of the discussion. Therefore, it is helpful to help debriefers to focus individual points of interest and to deepen the analysis of related issues. The workshop will place a strong focus on "passivity competence" - the ability to analyze a situation through the eyes, emotions, thoughts, etc. of another person by refraining from hasty conclusions.

Learning objectives

1) Be able to identify non-technical skills in various situations, including healthcare simulation.

2) Describe heuristics to identify non-technical skills and their impact on how healthcare unfolds.

3) Distinguish between the impact of non-technical skills on actions and consequences and impacts on how healthcare unfolds.

4) Discuss advantages and challenges in "passivity competence".

Session description (planned activities)

05 min Presentation of the faculty

20 min Seeing the same and yet seeing different things: interactive discussion of how to observe NTS

15 min Case presentation

30 min Deep-going analysis of case presentation with graphical re-presentations in small groups: Which were the key actions? What frames did form their basis? What consequences did they have?

20 min Comparing discussion from the groups

Educational methods (e.g. group dynamics, interactive methods)

Presentations
Interactive discussion
Small group analysis of a case, using graphical methods
Feedback

Expected impact

Insights into the value of taking the time to understand another person.

Enlarged repertoire of interaction techniques for the participants.

Ability to stand silence more in a debriefing and to see it as valuable interaction method,

Target audience

Simulation facilitators with some to intermediate experience in running simulation scenarios and debriefings.

Maximum number of participants

30

Equipment requests

We would please need about 4 flip charts.
Project with loudspeakers
Ideally a room with "island" table sorting

Cancer, mental health & end of life simulation (CaMhELS) - Inter-professional, innovative & integrative

Format: Workshop
Subject: Interprofessional / Team Education

Facilitators / Moderators

Dr Asanga Fernando (Consultant Cancer Psychiatrist, Simulation Director), Dr Agyro Zoumprouli (Consultant Intensive Care, Simulation Director), Dr Tim Benepal (Consultant Oncologist), Dr Ollie Minton (Consultant in Palliative Medicine), Mr Nick Gosling (Simulation centre manager), Mr Chris Broom (Simulation staff), Mr Huon Snelgrove (Medical Educationalist), Louise Breeze (Practice Nurse Educator in Cancer care), Jasmine Burnett (Simulation staff)

Introduction & Aims

This highly interactive session uses pre-teach priming and simulated scenarios with actors to focus on management of mental health comorbidity, in cancer and end of life patients. The workshop will draw on resources providing the latest guidelines and evidence base in a pan European context.

The workshop has been built on the success of a Health Education England funded simulation programme at St George's, London which draws together hospital staff from various fields as learners, together with faculty from the clinical domains of Cancer, Mental Health and End of Life care, and will aim to empower participants as clinicians, as learners and as teachers.

The workshop aims to:

1. Improve healthcare professionals' knowledge, confidence and ability in assessing and managing mental health needs for cancer and end of life patients as clinicians and learners.

2. To equip and empower participants as teachers in designing similarly integrative courses, sharing lessons on design, engagement, educational validity, evaluation and sustainability.

3. To develop a collaborative network amongst participants for sharing and developing teaching and learning resources for clinicians, teachers and learners.

4. To become active contributors to curriculum development of integrated teaching and learning of mental health co-morbidity in cancer and end of life care.

Learning objectives

1. To improve awareness, knowledge, and confidence in assessment and management of common mental health co-morbidity in cancer patients and end of life care, including how to translate these improvements into clinical outcomes.

2. To equip and empower participants to engage in the design, implementation and evaluation of similar innovative, inter-professional, interactive and engaging training sessions.

3. To incorporate existing guidelines and policy to create successful, fully integrative and embedded simulation programmes.

4. To use the conceptual lens of human factor ergonomics to analyse practices in the clinical settings to provide better care for patients with mental health and physical health comorbidity.

Session description (planned activities)

The interactive workshop will consist of a series of snapshot pre-teach priming session highlighting the complexities of managing mental health in cancer and end of life care.
This will be followed by a series of live simulations, using actors and video.
Participants will then work in small groups accompanied by a facilitator to identify aspects of best management, and implications for design, delivery and evaluation of simulation based programmes.

Educational methods (e.g. group dynamics, interactive methods)

This is a highly interactive workshop, with a mix of facilitator led and small group discussions, and simulation activities.

The components of the workshop include:

1. Pre-teaching evidence based snapshots on clinical management sessions relevant to a pan European audience.
2. Drawing on participant experiences to elicit narratives of care at the interface of cancer, mental health and end of life care.
3. Mental simulation and anticipatory thinking to prime simulation activities followed by debriefing
4. The use of live actors and video

Expected impact

The workshop will be of high impact for participants, who will benefit in terms of improved knowledge, confidence and ability in managing mental-physical health co-morbidity clinically.

Participants will also be able to adapt and design similar programmes relevant to their learning needs and institutions using resources and templates provided in the workshop.

The workshop will encourage a collaboratively networked community of practitioners to share best practices and resources for future course development.

Finally we aim for participants to become active contributors to curriculum development of integrated teaching and learning of mental health co-morbidity in cancer and end of life care.

Target audience

Drs at all stages of training and practice
Nurses at all stages of training and practice
Allied Healthcare Professionals
Oncology and Haematology Drs
Drs and Nurses managing end of life care
Intensive care unit staff
Primary care staff
Hospice staff
Ward nurses
General Medical Drs
Surgeons
Mental health Drs
Medical Educationalists
Simulation directors and centre staff
Nurse Educators

Maximum number of participants

Equipment requests

Large Projector
AV fidelity
Microphones
Flip chart paper and coloured marker pens
Tables arranged in cabaret style

Circle of care: A new model for human factors in healthcare

Format: Workshop
Subject: Interprofessional / Team Education

Facilitators / Moderators

Peter Jaye, Colette Laws-Chapman, Gabriel Reedy

Introduction & Aims

We will describe the circle of care - a new model for team and individual human factors in healthcare developed by healthcare professionals and contextualised in a healthcare setting. We will argue that CRM and NTS as conceptual frameworks for considering non-clinical aspects of healthcare do not fully encompass the reality of clinical practice. We describe a model that incorporates compassionate care and describes the circular relationship between healthcare providers, their colleagues and their patients and careers. The circle of care describes 9 skills. some of which are derived from CRM and NTS, as well as others which come from the performing arts and the compassionate care literature.

Learning objectives

Describe the circle of care model

Discuss how these skills can be used within a simulation setting and other environments in healthcare

Consider how these skills can be taught

Session description (planned activities)

Provide Context and Introduce the model
Explore potential applications of the model in small groups
Discuss ways of using simulation as an experiential learning setting for the model
Discuss potential for using the model in other settings

Educational methods (e.g. group dynamics, interactive methods)

Large group teaching
Small group discussion with prompts
Large group discussion

Expected impact

This workshop will help to change the focus of simulation-based educational interventions to incorporate the skills of the circle of care, a holistic approach to the non-clinical skills healthcare professionals need.

Target audience

Simulation Educators and Researchers with an interest in teaching human factors in healthcare

Maximum number of participants

30

Equipment requests

None

Conflict resolution techniques applied to simulation debriefings

Format: Workshop
Subject: Faculty Development

Facilitators / Moderators

Peter Dieckmann, Anna Sofie Mundt, Annette Berit Larsen

Introduction & Aims

A key competence that conflict coaches and and debriefers share is the deep-going exploration of another person's perspective and a situation. Conflict resolution provides frameworks and techniques that are relevant for debriefings as well – not only, when the debrieifing explores or involves a conflict. A current conflict model explores the structural framework of conflicts as the foundation on which facts, feelings, needs and wishes unfold. The model will be used as the basis to guide the analysis phases of debriefings that try to link actions of participants to underlying frames and exploring the resulting consequences. Participants will work interactively in role play situations also to understand escalating and de-escalating communication.

Learning objectives

1) Describe a model for conflict resolution and its relation to debriefings.

2) Apply the model to understand challenges in debriefings and to optimize their resolution.

3) Apply de-escalationg communication strategies in debriefings.

Session description (planned activities)

05 min Presentation of the faculty

20 min Presenting the conflict model

15 min Case presentation

30 min Analysis exercise: Participants use the model presented to explore the perspective of role players and compare them between the different persons involved

20 min Concluding discussion and applications to debriefings

Educational methods (e.g. group dynamics, interactive methods)

Presentations
Interactive discussion
Role play
Feedback

Expected impact

Improved debriefing abilities

Managing challengig situations in debriefings.

Target audience

Intermediate level simulation facilitators.

Maximum number of participants

25

Equipment requests

Flip charts
Projector and loudspeakers
Ideally "Island Set-up" of tables and chairs

Cracking the code: How to create a sustainable business model for simulation based educational interventions by using a return on investment methodology

Format: Workshop
Subject: Center Administration and Program Evaluation

Authors

Jeffrey H Barsuk	Northwestern University
Doug Beighle	Simulab Corporation

Facilitators / Moderators

Jeffrey H. Barsuk, MD, MS, and Doug Beighle, BA

Introduction & Aims

Several countries are evaluating business models of healthcare delivery to determine how to shift to value-based payment methods that emphasize improved outcomes per money spent. Rigorous simulation-based education interventions have the ability to improve healthcare for populations. However, many stakeholders view education as a weak tool to improve healthcare quality or value.

Learning objectives

In this workshop, we will combine didactics with hands-on exercises to help participants understand how they might show the value of simulation-based healthcare education to stakeholders at their organizations.

Session description (planned activities)

Participants will learn how to build a business case for one of their organization's largest quality problems. In small groups, they will determine the cost of these healthcare problems, while focusing on how simulation-based education can be a solution and provide an acceptable return on investment (ROI). Subsequently, participants will learn about change theory and a 5-step approach to stakeholder engagement. Learners will again form small groups to practice applying both of these methods for the specific healthcare problem at their institution. Finally, participants will learn about a common ROI methodology which incorporates seven steps: 2 inputs; Access and Cost, and 5 outputs; Reaction, Learning, Application and Implementation, Impact, and ROI. This methodology acts as a process improvement modality that is data driven to ensure organizations get the most impact from their quality initiatives. Participants will perform a final small group activity to illustrate how they will use the ROI methodology to address the specific healthcare problems at their own institutions and report their findings to the other participants.

Expected impact

We have given this workshop four times 2017-2018 and learner feedback was extremely positive.

SESAM
PROMOTING SIMULATION IN MEDICAL EDUCATION
SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

Crisis resource management in obstetrics

Format: Workshop
Subject: Interprofessional / Team Education

Facilitators / Moderators

OSCAR MARTINEZ, CRISTINA ROBLEDO JUAREZ, AMELIA SANZ LORENZANA , ANA ALVAREZ BERNABEU

Introduction & Aims

Los estudios muestran que entre un 3% y un 16% de los pacientes experimentarán un evento adverso durante su estancia en un hospital y de estos hay que destacar que entre un 28% y un 51% podrían prevenirse.

Los eventos adversos más prevenibles son los causados por errores humanos (5). Las debilidades del factor humano son un tema que se ha estudiado de manera extensa en el campo de la aviación; desde los años 80 se sabe que las deficiencias en el comportamiento humano, particularmente las de trabajo en equipo son responsables de hasta la mitad de los accidentes.

Por este motivo, hoy en días, la mejora de las habilidades del trabajo en equipo y el manejo de los errores humanos, se encuentran entre los temas más solicitados en los programas de entrenamiento en los hospitales, tanto es así que muchas instituciones se han convertido en obligatorios. Estos programas se denominan comúnmente “Crew Resource Managment” por su origen en la aviación, y en sanidad se han adaptado siendo denominados “Crisis Resource Managment”. Estos programas ponen su énfasis en el proceso de entrenamiento de equipos en habilidades de comunicación y coordinación para la reducción de errores mediante la optimización en el uso de los recursos humanos, especialmente durante las situaciones de emergencia.

El American College of Obstetrics and Gynecology ha establecido en un documento de abril del 2009 (Committee Opinion 477) que el entrenamiento multidisciplinar de equipos a través de la simulación (Multidisciplinar SBTT o MD-SBTT) soluciona los problemas de comunicación, y mejora la identificación de conflictos ocultos y barreras asistenciales (8). El CMQCC (California Maternal Quality Care Collaborative) revisó 98 muertes maternas entre el 2002 y 2003 y establece que para reducir esta mortalidad serían precisos programas que mejorasen la comunicación y el trabajo en equipo
Presentamos nuestro Programa de CRM en Obstetricia

Learning objectives

• Aprender cómo entrenar el manejo en equipo, una hemorragia posparto masiva mediante la simulación clínica de alta fidelidad

• Conocer los métodos pata entrenar la Mejorar a respuesta del equipo obstétrico implicado en ésta y otras emergencias

• Comprender y aplicar la utilidad de la simulación par aumentar la seguridad del paciente obstétrico durante una emergencia.

Session description (planned activities)

Introducción

TEORIA
en obstetricia: 20 minutos

¿Como entrenar las distintas partes del CRM? 20 minutos

Diseño de escenarios in situ : 20 minutos

Evaluación: 20 minutos

Puntos de Debriefing : 20 minutos

PRACTICA

TALLER 1 ; Actividades para romper el hielo en CRM

TALLER 2 Revision de videos

TALLER 3 : Elaboración de escenarios utilizando plantillas

Educational methods (e.g. group dynamics, interactive methods)

Presentaciones. todos
Tras la teoría

DIstribución de los alumnos en 4 GRUPOS

TALLER 1 ; Actividades para romper el hielo en CRM
Videos.Materiales docentes impresos.

TALLER 2 Revision de videos. Uso de listas de comprobacion.Uso de metodologia DASH para analisis de debriefing tras simulaciones

TALLER 3 : Elaboración de escenarios utilizando plantillas .Establecimiento de objetivos

TALLER 4 Tipos de simuladores y sistemas de grabación
Practica real con simuladores de alta definicion. Uso de sistemas de grabación y gestión de simulaciones

Expected impact

Desarrollo de programas de CRM in situ en unidades asistenciales multiprofesionales

Target audience

Instructores de simulación interesados en la simulación en obstetricia .

Instructores de simulación interesados en CRM

Maximum number of participants

24

Equipment requests

MANIQUI DE ALTA FIDELIDAD MATERNO FETAL

SISTEMAS DE VIDEO

SISTEMAS DE GESTION DE ARCHIVOS VIDEO TIPO LEARNING SPACE

MATERIAL DOCENTE EN PAPEL

Culturally diverse learners and practitioners – ensuring meaningful outcomes from simulations

Format: Workshop
Subject: Faculty Development

Facilitators / Moderators

Associate Professor Michelle Kelly; Dr Elizabeth Berragan; Dr Sissel Eikeland Husebø and Dr Kristian Krogh

Introduction & Aims

Irrespective of which country we live and work in, there are degrees of cultural diversity amongst health professions' learners and practitioners. Differing expectations about learning can lead to conflict and confusion amongst those experiencing and those facilitating health simulations (Kelly et al., in press). Being mindful of diversity and differing learner expectations can positively influence simulation outcomes. The first step is to understand and then apply varied pedagogical approaches to support learner experiences (Kelly et al., 2016).
The aims of this roundtable are to:
- share experiences of how to effectively 'arrange for learning' within simulations considering the cultural diversity of learners
- offer strategies of how to maximise the impact of simulation for learning in relation to practice

References
Kelly, M.A., Ashokka, B., & Krishnasamy, N. (in press). Cultural considerations in simulation-based education. The Asia Pacific Scholar.
Kelly, M.A., Berragan, E., Husebø, S.E., & Orr, F. (2016). Simulation in Nursing Education—International Perspectives and Contemporary Scope of Practice. Journal of Nursing Scholarship, 48(3), 312-321. doi: 10.1111/jnu.12208.

Session description (planned activities)

Introduction – participants and facilitators (10 mins)
Short presentation of key experiences in working with culturally diverse groups (5 minutes each facilitator = 20 mins)
Small groups – participants discuss and share their own experiences, challenges and solutions related to the roundtable topic. Each facilitator circulates amongst the groups. (20 mins)
A representative from each group provides 2 examples of situations and strategies encountered for wider audience discussion. (20 mins)
Collation and summary of group responses with strategies to apply I subsequent simulations (15 mins)
Summary and further questions (5 mins)

Expected impact

Participants will gain appreciation of 'what the learner brings to the simulation' including expectations of learning.
Participants will have a greater awareness of strategies for engaging diverse groups in simulation based education for positive outcomes (learning and practice)
Strategies will be embedded within subsequent simulation design and delivery, with participants being able to share roundtable outcomes with others in their workplace.

Target audience

From novice to experienced from any health or education discipline

Maximum number of participants

30

Equipment requests

Roundtables with chairs – to seat up to 8 people each table
Front table with chairs, computer and data projector, large sheets of paper and maker pens (for each group)

Culture matters when implementing experiential learning: An experiential workshop

Format: Workshop
Subject: Debriefing

Facilitators / Moderators

Francis Ulmer; Peter Dieckmann and Rana Sharara-Chami

Introduction & Aims

Reflection during debriefing after a simulation experience presents key learning opportunities for course participants. The depth of the reflection is proportional to the safety of the learning environment. However, the definition of what is safe and what is not may vary in different national and organisational cultures. This workshop will focus on how different cultures can influence the experiences and actions of participants.

During the workshop, participants will reflect on the Hofstede model of cultural dimensions including individualism vs. collectivism, masculinity vs. femininity, uncertainty avoidance, and long term orientation vs. short term orientation, power distance and indulgence vs. restraint. Participants will have the opportunity to practice and improve their understanding of how culture and experiential learning are related. The workshop aims to raise awareness and invoke discussion around cultural influences on debriefing in different cultures.

Learning objectives

1. understand the concept of cultural dimensions and how they are linked to national identity
2. increase participants' awareness of cultural influences on communication and debriefing
3. interact with workshop participants with disparate cultural backgrounds to identify relevant themes
4. explore potential strategies to adapt debriefing approaches and styles according to the culture in which the debriefing takes place

Session description (planned activities)

Workshop Duration: 2 hours

Introduction: 15 minutes

The workshop will begin with a brief introduction of who we are and how we became interested in culture as a research topic in the context of simulation, e.g. how our demography, migration and social geography have impacted our exposure to this topic and how it brought us together. Then we will briefly describe the concept of culture, provide examples of cultural stereotypes and explain Hofstede's model and each of his 6 cultural dimensions.

Activity: ~90 minutes

Introduction of activity: 10 minutes
We will explain the steps of the workshop activities and what they will entail.

Demonstration of the scene: 20 minutes
The workshop faculty will demonstrate a short role-play scenario. The scenario will cover implementation of a treatment algorithm with a multidisciplinary team. The faculty will choose to play the scenario in either a high or low power distance environment and each member will play his or her role based on a specific cultural dimension and its corresponding behavior based on the power distance spectrum. Then participants will be separated into small groups (up to 6 participants per group) with the workshop faculty.

Small group interactions: 30 minutes
Each small group will be asked to re-enact the scenario based on their choice of a high or low power distance culture and by varying the cultural dimensions as they would be practiced in their chosen culture e.g. varying femininity vs. masculinity in a low PD country. The situation will then shift to a different cultural background (effectively altering the cultural dimension to a higher or lower degree). By rotating through the different cultural backgrounds, participants will be given an opportunity to recognize the different dimensions and practice how to consider a participants cultural background during simulation debriefing and or teaching.

Presentations of the various scenes: ~30 minutes (depending on the number of participants present)
Following the interactive exercise each group will present their role-play scene and the group impressions of the different manifestations of the dimensions in specific cultures.

Concluding Discussion: 15 minutes
The facilitators will reflect back on each groups activity and provide a summary of the activity.

Educational methods (e.g. group dynamics, interactive methods)

Group dynamics and interactive methods

Expected impact

At the end of the workshop we expect participants to take away a sense of the importance and influence of culture in simulation practice, to integrate these nuances in their daily interactions and discover a new sphere of inquiry in simulation debriefing.

Target audience

All conference attendees can participate in the workshop, especially simulation debriefers working in a multicultural, inter-professional setting.
In order to provide direct interaction between facilitators and participant during the activity, we would consider the optimal number of maximum participants 30.

Maximum number of participants

30

Equipment requests

A projector and screen for the power point presentation.

Debriefing interprofessional groups

Format: Workshop
Subject: Debriefing

Facilitators / Moderators

Jose M. Maestre, Elena Rojo, Esther Leon, Ignacio del Moral, Demian Szyld

Introduction & Aims

How do I debrief learners from other professions? What if one person doesn't do well; how do I not single out that profession? How many content experts do I need? These are common questions that arise for debriefers who are preparing to debrief or debriefing interprofessional groups. This session will discuss challenges and practice strategies in effectively debriefing interprofessional groups.

Learning objectives

Learning Obj #1
The participant will analyze challenges that arise in debriefing interprofessional groups.

Learning Obj #2
The participant will discuss strategies to overcome challenges in debriefing interprofessional groups.

Learning Obj #3
The participant will actively experience challenges that arise in debriefing interprofessional groups as an opportunity to practice discussed debriefing strategies.

Session description (planned activities)

- Intro to participants and workshop.
- Different perspectives.
- Debriefing different perspectives.
- Framework for understanding others.
- Participant´s needs assessment.
- Simulated debriefing.
- Challenges and strategies for debriefing Interprofessional groups.
- Questions and answers.

Educational methods (e.g. group dynamics, interactive methods)

We will use a sequence of interactive educational strategies (as think/pair/share, simulated debriefings with videos and role plays, and feedback) to facilitate cognitive interactivity, variation of difficulty and small group practice.

Expected impact

After this workshop participants will be able to:
1. Identify the most common challenges that arise in debriefing interprofessional groups.

2. Understand strategies to overcome those challenges.
3. Apply and practice the discussed debriefing strategies.

Target audience

People from any kind of background involved in interprofessional education in healthcare (nurses, nurses assistants, physicians, physician assistants, educators, psychologists, physical therapists, paramedics, firefighters, policemen, administrators, ...).

Maximum number of participants

30

Equipment requests

- Projector & screen
- Speakers
- Microphones
- Whiteboard & markers
- 5 tables
- 7 chairs at each table

Debriefing team interactions

Format: Workshop
Subject: Debriefing

Facilitators / Moderators

Michaela Kolbe, Bastian Grande

Introduction & Aims

In one of the most effective debriefing strategies, the 'Debriefing with Good Judgment', debriefers pair advocacy with inquiry. We propose that this approach can be complemented with techniques based on systemic family therapy (e.g., circular questions) which focus on patterns and dynamics of interactions and relationships. In this course we will demonstrate circular questions and provide opportunities for deliberately practicing them.

Learning objectives

After this workshop the participants will be able to

1. Provide a rationale and an approach for debriefing teams via combining advocacy-inquiry with circular questions and provide an indication for use;
2. Develop and demonstrate circular questions, and
3. Explain advantages and disadvantages of this method.

Session description (planned activities)

The session's key features which provide hands-on practice are: 1) Demonstrating circular questions by the faculty. 2) Practicing circular questions and debriefing skills through giving and receiving feedback. Workshop faculty will engage participants in structured role-play exercises to practice circular questions and provide feedback. 3) Short videos of clinical cases will be used as an instructional tool to provide the basis and background for debriefing via circular questions. 4) Faculty will provide handouts listing different types of circular questions as a resource to the participants to help them structure their debriefing

The workshop timeline will be as follows:
1. Workshop introduction, faculty introduction, disclosures (3')
2. Introduction into systemic debriefing techniques and avenues for combining them with advocacy-inquiry (5')
3. Short demonstration of systemic debriefing techniques (7')
4. Showing video footage of a simulated case (5')
5. Workshop participants simulate debriefing of this case using systemic techniques (50')
6. Brief, structured discussion of strengths and challenges of this method (10')
7. Wrap up, take-aways, evaluations by participants (10')

Educational methods (e.g. group dynamics, interactive methods)

Demonstrations,
Deliberate practice,
Simulated debriefings,
Debriefing of debriefing,
Discussions

Expected impact

As desired outcome of the workshop, instructors will have experienced that by asking circular questions, they could explore interactions, challenge linear perceptions of causality and introduce a circular perspective. This does not only help the learners learn about the recursiveness of behavior patterns and view itself systemically. It also helps revealing that views about problems and solutions may not be identical and that learners/team members may have contrasting frames, thus enabling reflection on social phenomena such as the false consensus effect.
In the final 10 minutes of this workshop we will invite the participants to verbalize what they have learned and how they plan to apply the competencies gained during this workshop to their real-life practice.

Target audience

Simulation instructors with some experience

Maximum number of participants

25

Equipment requests

Beamer
Flipchart

Developing a better understanding of Human factors through simulation in pre-hospital care

Format: Workshop
Subject: Patient Safety / Quality Improvement

Facilitators / Moderators

Guillaume Alinier, Vitor Almeida, John Meyer, Ulufer Sivrikaya

Introduction & Aims

In all industries and aspects of life, human factors are associated with the majority of adverse events. There is however a general lack of awareness or recognition on the part of individuals and teams of what constitutes human factors and how matters could be improved. Basing training interventions on real life cases using video re-enactments, simulation, or case reviews is highly valuable but could be considered to be a reactive approach to an “old problem” depending on how one sees it. It can however be argued that whether it involves the primary individuals involved in the original event or other individuals, much can be learnt by considering the context of previous experiences and their human factors elements through debriefing or “external investigation”. The aim of this session is consider how simulation, in various forms, can be used to help pre-hospital healthcare professionals and administrators develop a better understanding of Human Factors and how it could positively improve patient care and outcome.

Session description (planned activities)

A panel of experienced pre-hospital care professionals and educators from the SESAM PHSIG (Pre-Hospital Special Interest Group) will run this session. The panellists will share their experiences and opinions with regards to focusing simulation-based methodologies on Human Factors elements in various contexts. Through a series of short presentations, they will reveal the type of training activities they have put in place using various simulation modalities and what attributes of Human Factors they are aiming at addressing, and to what degree they believe they may have been successful in changing the culture of their workplace for example.
Participation from the audience will be invited to contribute so other experiences can be shared and discussed. This will enable all session participants to consider various opportunities and solutions.

Expected impact

Every pre-hospital care system is unique in many aspects but from the activities described by the panellists, the audience will be able to identify a range of opportunities and potential solutions that they will be able to share with their own institution for consideration and implementation. Human Factors is the “intersection” where issues can emerge between so many elements that eventually affect patient care. Human Factors training is hopefully a way of raising awareness to promote safer practice and better collaboration, and more patient-centred care.

Target audience

Emergency medicine and pre-hospital care professionals and educators

Maximum number of participants

Equipment requests

Data projector and laptop for presentations.
Microphone for audience if the room is very large.

Diversity and gender: how to get the best of your team

Format: Workshop
Subject: Faculty Development

Facilitators / Moderators

Antoine Tesniere, David Grant (possible moderators) Carmen Gomar, Cristina Honorato (possible presenters)

Introduction & Aims

Diversity and gender equality are hot topics, because they present real challenges in everyday life. Promoting diversity is known to improve outcomes in business and healthcare. Simulation professionals are diverse and tend to a dic¡verse crowd; how can we promote their talents and abilities to promote better working and teaching environments?

Session description (planned activities)

Expert panel: the moderator would introduce the importance of the topic and how it affects SESAM members.
First expert would talk about mentoring and diversity.
Second speaker would talk about impostor syndrome, how it affects all of us, and how to tackle it.

Expected impact

Awareness of the hurdles faced everyday and how to manage them can have an enormous impact on all aspects of the simulation environment. Propmoting talent and cultural understanding for different groups can improve the efficacy of teaching.

Target audience

All SESAM members

Maximum number of participants

as many as possible

Equipment requests

None

This is a proposal for a panel. I have not contacted any of the proposed speakers, and there might be people I don´t know who would be great at this. Suggestions will be welcome.

Emergency Crisis Resource Management. Un nuevo proyecto formativo de la Sociedad Española de Medicina de Urgencias y Emergencias

Format: Workshop
Subject: Patient Safety / Quality Improvement

Facilitators / Moderators

Salvador Espinosa Ramirez, Jose María Quintillá Martínez, Lukas Drabauer, María Gracia Adanez Martínez, Victor Fernández Gallego

Introduction & Aims

Todos somos conscientes de que en nuestro trabajo las cosas no siempre salen como esperamos. El manejo de una crisis es complejo y su resolución no depende únicamente de nuestra competencia en reconocer determinadas situaciones clínicas o en aplicar de forma correcta ciertos tratamientos y técnicas. El hecho de que los profesionales conozcan perfectamente los síntomas y signos con los que se manifiestan una serie de situaciones fisiopatológicas y tengan además conocimiento sobre los protocolos actualizados de manejo de las mismas no asegura que apliquen esos conocimientos de la forma más efectiva en una situación real, con los condicionantes que tiene la realidad.
Seguro que recordamos situaciones que pueden ilustrar este fenómeno, en las que, por ejemplo, se ha pasado por alto información relevante, se han asumido como ciertos hechos no comprobados o se han cometido errores derivados de una comunicación poco efectiva entre profesionales. Incluso en situaciones críticas que percibimos como bien resueltas, en las que se ha conseguido la estabilización del paciente, es frecuente que encontremos detalles que a posteriori valoremos como no tratados de la mejor manera o en el tiempo más óptimo.
No somos máquinas, no somos robots, somos humanos. Y no trabajamos solos. En una crisis tenemos que interactuar diferentes personas, con experiencias diferentes, distintos estilos comunicativos, diversas formas de analizar y resolver problemas, incluso diferentes posiciones jerárquicas. En nuestras acciones y decisiones influyen cuestiones como el estrés, el cansancio, la falta de sueño, el estado de ánimo, la percepción de la propia seguridad y competencia, la relación que tenemos con cada uno de nuestros colegas, y otros muchos condicionantes que podríamos continuar enumerando. Todo esto es lo que llamamos el factor humano.
En definitiva, en la resolución eficiente de una situación crítica intervienen tres grandes factores:
1. Diagnóstico acertado de lo que les pasa y lo que necesitan el paciente y su entorno
2. Tratamiento apropiado a las necesidades detectadas
3. Gestión adecuada de los factores humanos (lo que se conoce como habilidades no técnicas)

Learning objectives

Los asistentes reconocerán los 6 puntos clave del ECRM
Debatirán sobre la estructura y la dinámica de las sesiones formativas ECRM-SEMES

Session description (planned activities)

1. Dinámica de grupo rompehielos
2. Presentación del proyecto ECRM-SEMES
3. Discusión sobre los puntos del ECRM-SEMES
4. Agrupación en 6 puntos clave

5. Discusión
6. Conclusiones

Educational methods (e.g. group dynamics, interactive methods)

Durante el Work Shop, habrá dinámicas de grupo, métodos de discusión en grupos

Expected impact

Esperamos que los asistentes puedan descubrir los puntos clave diferenciadores del CRM utilizado en el ámbito de la urgencia, frente a otros puntos de otras disciplinas

Target audience

Médicos, enfermeras, Técnicos de emergencias médicas

Maximum number of participants

25 participantes

Equipment requests

Cañón de proyección
PC
Pizarra con rotuladores o Rotafolio con rotuladores.

Enhancing communication for effective teamwork

Format: Workshop
Subject: Interprofessional / Team Education

Facilitators / Moderators

Elizabete Loureiro, Carla Sa-Couto

Introduction & Aims

Effective teamwork has been consistently identified as a requirement for achieving positive clinical outcomes and high quality healthcare. There is an increasing demand to reflect on the complexity that characterizes the work of healthcare teams, stimulating the development of teamwork skills that contribute to a greater awareness of the dynamics of teams (team awareness), collaborative practices (team performance) and conflict management. In undergraduate healthcare professional courses the high number of students to teach these skills is often a constraint and therefore simulation based strategies may help overcome these issues and help emphasize the importance communication skills as a mainstream activity in teamwork.

Learning objectives

1. Identify and develop skills that lead to become a more effective member within a team;

2. Share and discuss different teaching methods for large groups in the scope of healthcare teamwork communication;

3. Experience a teaching method for large groups in the scope of healthcare teamwork communication involving simulation;

4. Optimize teamwork skills (ex. SBAR method) that enable the implementation of effective changes in the workplace resulting in patient and relationship centered perspective, job satisfaction, quality and efficiency of healthcare.

Session description (planned activities)

(5 minutes) Introduction of Faculty and learning objectives

(10 minutes) Meeting participants and needs assessment

(5 minutes) Individual exercise (worksheet – Activity 1)

(10 minutes) Small group work: Participants are divided into 3 small groups and each discusses:
1. What makes a poor team?
2. What makes an excellent team?
3. What ideas come to mind about teaching communication skills in teamwork in healthcare with large groups in undergraduate training?

(10 minutes) Reconvene in the large group.
Facilitators bridge the different activities

(25 minutes) Group dynamics
1. Explanation of scenario and rules
2. Participants are divided into 4 small groups and discuss the roles attributed
3. Selection of who “participates” in the scenario and who observes
4. Observe scenario (video)
5. Reflective Practice
a. What are the objectives of this discussion
b. Process description by “participants”
c. Analysis with observer intervention
d. Take home-messages

(5 minutes)Didactics

(20 minutes) Evaluation and wrap-up:
1. What are your goals for your own communication skills in teamwork teaching in your contexts?
2. What are the skills needed to be taught in this scope?
3. Strategies - Can this method be used with your undergraduate students? Are there other useful strategies? Discuss teaching methods using simulation for communication in teamwork in small groups
4. Main take home messages

Educational methods (e.g. group dynamics, interactive methods)

Group Dynamics Exercise with Video; Worksheets; Role-play;

Expected impact

At the end of the workshop, participants will be able to:
1. Recognize the relevant tools in effective team communication;
2. Use strategies to promote communication skills training to large groups;

Target audience

Healthcare professionals, Educators, Facilitators

Maximum number of participants

20

Equipment requests

Flip-chart
Computer and projector
Room with movable chairs

Everything you wanted to know about s***, but were NOT afraid to ask....**

Format: Workshop
Subject: Debriefing

Facilitators / Moderators

Ron Brendel, Heleen Kromwijk, Ruben Verlangen

Introduction & Aims

For the past 9 years we conduct the (Dutch) EuSim LEVEL 1 Simulation Instructor Course. During this 3-day course, participants receive tools to
organise, develop and expand simulation education in all its facets.
After the course, a lot of participants wonder how they can keep their knowledge and skills up to date and ask the question: ”How can I get more experience in
how to ask questions in order to discuss CRM points at the debriefing”. This workshop will contribute to these debriefingskills.

Learning objectives

After this workshop:
• Participants knows what we mean by ‘blind debriefing’
• Participants can identify the advantages of ‘being curious’
• Participants can identify the disadvantages of ‘being non-judgemental’
• Participants are able to adjust this workshop to a workshop in your own centre
At the same time, participants learn how to deepen in the facilitator role versus the instructor role.

Session description (planned activities)

• 05 min Start: introduction about non judgemental debriefings, instructor role versus facilitator role and difficultys with it in the debriefing.
• 15 min Presentation to explain the design of the workshop;
The group is split into smaller groups up to 10 participants. The rest of the attendees will observe and will not take part during the debriefing;
The facilitator who is ‘learning’ will leave the room for 10 minutes;
• 10 min The rest of the group will view a short video with a scenario, and will be allocated a role they will play in order to be debriefed;
• 30 min The learning facilitator returns to the group and will, according to the DAA structure (description, analyze and application), come to a meaningful
debriefing with the course members;
• 20 min The debriefing is ended with a debriefing of the debriefing by the moderator of the workshop;
• 10 min The workshop ends with an evaluation and the possibility to ask questions.
Educational methods

Educational methods (e.g. group dynamics, interactive methods)

Lecture: introduction about non judgemental debriefings, instructor role versus facilitator role and difficulties with it in the debriefing.
Presentation to explain the design of the workshop;
Observation: The group is split into smaller groups up to 10 participants; they will all have an active part during the debriefing;
The facilitator who is ‘learning’ will leave the room for 10 minutes;
The rest of the group will view a short video with a scenario, and will be allocated a role they will play in order to be debriefed;
Debriefing: The learning facilitator returns to the group and will, according to the DAA structure (description, analyze and application), come to a meaningful
debriefing with the participants;
The debriefing is ended with a debriefing of the debriefing by the a facilitator of the workshop;
Evaluation: The workshop ends with an evaluation and the possibility to ask questions.

Expected impact

How was the debriefer experience?
How was the ‘participants’ experience?
What are the advantages?
What are the disadvantages?
Can you use this working form?
This is an interactive workshop with experienced simulation practitioners who will create a dynamic and enjoyable learning experience.

Target audience

Facilitators/debriefers, both experienced and not-experienced, teachers , simulation enthusiasts and instructors.

Maximum number of participants

30

Equipment requests

Room; 33 chairs
Laptop,
projector,
screen,
sound

Healthcare simulation environment 2027

Format: Workshop
Subject: New Technologies and INNOVATION

Facilitators / Moderators

Willem van Meurs, Timothy Antonius, Hugo Azevedo, Lex van Loon, Sebastiaan Waanders

Introduction & Aims

Simulated patients, patient simulators, and real patients may be competing or complementary training modalities (see parallel roundtable). Their use often implies compromises. Major, largely unmet objectives include:

• Covering education and training needs involving new and more complex medical conditions, and evolving medical devices, drugs, and procedures.
• Overcoming the low compatibility of simulation tools from multiple providers.
• Integrate the education and training processes.
• Guaranteed transfer of skills to the clinical environment.

An international multidisciplinary group met twice and in a white paper proposes a "no-compromise solution" capable of:

1. Control over which cases are presented.
2. Authentic communication with the patient simulator.
3. Invasive procedures that can be applied without constraint.
4. Feedback on trainee behavior and communication.
5. Feedback on performance via the simulated physiologic state.
6. Convergence between outcomes in the simulated and clinical environments.

The aim of this roundtable is to outline this solution and to debate it with a broader audience.

Session description (planned activities)

Presentation and debate.

Expected impact

A clearer joint picture of how the healthcare simulation environment could look like in 2027.

Target audience

Simulation and simulator innovators.

Maximum number of participants

50

Equipment requests

LCD projector, white-board or flip chart.

Improving debriefing skills through peer observation and feedback

Format: Workshop
Subject: Faculty Development

Facilitators / Moderators

Demian Szyld, Mary Fey, Walter Eppich, Gabriel Reedy, Sasa Sopka, Elena Rojo, Ignacio DelMoral, Jose Maria Maestre, Jenny Rudolph

Introduction & Aims

Simulation educators can strengthen debriefing skills if they create "communities of practice," or peers who use observation and feedback to help each other improve. “Debriefing the debriefer,” a process by which peers or mentors give feedback on each other’s debriefing allows both critic and debriefer to grow and cultivate their ability to reflect on their own strengths, weaknesses, comfort and stretch zones.

The faculty team from the Center for Medical Simulation and colleauges will utilize proven methods for faculty development to engage advanced debriefers in a 90 minute workshop. This workshop has been presented at IMSH for the past five years. The goal is to help debriefers improve their skills through peer observation and feedback. We seek to offer an easily accessible, practical, and low cost ways to achieve this.

Two conceptual frameworks underpin the methodology used in this workshop: “Debriefing with Good Judgment” and “Community of Practice”. Community of practice refers to a group of people, often peers, who share a profession or an interest in something they do, who perform better and better as they interact and provide feedback to each other (Wenger, 1998). In this workshop, we will leverage the participants’ shared interest in improving debriefing practice, and we will present some tools used in the Debriefing with Good Judgment method to facilitate giving and getting feedback on debriefing skills.

Debriefing with Good Judgment is described in the seminal paper by Rudolph et al. (2006). It is a debriefing technique in which the debriefers use advocacy-inquiry to clearly state their point of view, with the goal of uncovering the debriefee’s mental frames. “Good judgment” lies in contrast to the nonjudgmental method which displays no outward judgment about the learner’s performance, but is often ineffective because the “non-judgmental” debriefers do not name the performance gap. Similarly the judgmental approach often alienates learners as it provides no opportunity for learners to reveal their perspective and underlying drivers of performance gaps. While good judgment debriefing is typically used in clinical simulations, here we model how this framework can be used by debriefers to give and get feedback in on their debriefing skills amongst their peers, focusing on using advocacy-inquiry to explore the debriefer’s mental frames.

Learning Theory:
The underpinning theories for this workshop are: Knowles’ Theory of Andragogy (1975, 1984) and Kolb’s Theory of Experiential Learning (1984). Knowles posits that adults are internally motivated, practical, self-directed learners with a diverse range of previous experiences. Instructors are most effective when they structure learning activities to accomplish the following: activate the adult learners’ internal motivation and prior knowledge, establish and link learning goals that are relevant to their real-life practices, and provide ample opportunities for active participation and hands-on practice.
Kolb posits that learning occurs when knowledge is created through the transformation of experience. He proposed a cyclical model of learning, consisting of 4 stages: concrete experience, reflection, conceptualization, and active

experimentation. The instructor's goal is to facilitate the learners through the cycle. This workshop demonstrates the application of Knowles and Kolbs theories in that it provides hands-on practice in debriefing for the participants, facilitates participants' reflection on their own and other's debriefing skills, and the participants receive relevant feedback from peers and mentors which they can directly apply to their real-life practices.

Learning objectives

1. Apply effective observation and inquiry techniques in debriefing through structured role play exercises
2. Explain the role of the debriefers' hidden assumptions in driving both functional and dysfunctional debriefings
3. Demonstrate participation in a "community of practice" which allows for a safe yet challenging context to examine one's own debriefing skills

Session description (planned activities)

Timeline:
1. Workshop introduction, faculty introduction, disclosures (10 minutes)
2. Didactic: Presentation of Theory and Frameworks: Good Judgment, Community of practice, application to feedback and faculty development (15 minutes)
3. Small group practice. Workshop faculty facilitate small group role-play exercises to practice debriefing the debriefer, allowing participants to practice giving and receiving feedback. (55 minutes)
4. Wrap up, take-aways, and learner evaluation. (10 minutes)

Total: 90 minutes

Educational methods (e.g. group dynamics, interactive methods)

The workshop will begin with a 15 minute presentation on these two conceptual frameworks. Afterwards, the bulk of the workshop is dedicated to practicing giving and receiving feedback using the good judgment approach. Participants will be seated in tables of up to 12 people, with a workshop faculty at each table. Participants will engage in multiple rounds of role play with the faculty to practice inquiring into the faculty's mental frames, and give feedback and coaching based on the uncovered mental frames. After each round of role play, the faculty and peers will give feedback on the feedback.

In the final 10 minutes participants and faculty will give their closing remarks and invite participants to share lessons learned and ask further questions. We present a portable, feasible, inexpensive format for faculty development that we hope helps debriefers improve their skills in a community of practice.

Expected impact

A flourishing communities of practice will flourish locally, regionally and globally based on self- and peer-development and a shared goal of improving health and social outcomes through debriefing.

Target audience

Intermediate and advanced simulation based educators wishing to develop their own skills as well as their peers.

Maximum number of participants

80

Equipment requests

The session's operational highlights and key features which provide hands on practice are: 1) The bulk of the session is dedicated to active practicing of debriefing-the-debriefer skills through giving and receiving feedback. The participants will be seated in tables of 10-12 people, each table facilitated by a workshop faculty. 2) Workshop faculty will engage participants in structured role-play exercises to practice debriefing-the debriefer, as well as giving and receiving

feedback. 3) Short videos of simulated debriefings will be will be used as an instructional tool to provide the basis and background for debriefing-the-debriefer. 4) Faculty will provide worksheets as a resource to the participants to help them structure their debriefing of the debriefer.

Is there a valid tool or do I need to develop one to assess competency of my trainee in simulation?

Format: Workshop
Subject: Assessment using Simulation

Facilitators / Moderators

Briseida Mema, Anne Kawamura, Dominique Piquette

Introduction & Aims

Competency based medical education (CBME) involves outcomes driven education and assessment. CBME needs strong multifaceted assessment tools. Noel at al found that faculty fails to detect 68% of errors when observing a trainee and the use of a tool increases error detection significantly. However, assessment tools and judgments that are made as a consequence of those assessments are important and should be compatible with assessment strength (validity). In a recent systematic review of simulation based assessment Cook et al found that from 217 eligible studies only 6 provided a unified five source validity framework and call for more robust studies with good validity evidence. We share our experience of having built an assessment tool using a modified Delphi method for content and having validated the tool using Messick's five-point, unified construct validity framework.
The workshop focuses on how to develop an assessment tool by using a modified Delphi method and preparing the necessary data for validity evidence of the tool based on Messick's five-point, unified construct validity framework. The participants will then judge the validity of some the already published tools.

Learning objectives

■ Practice developing an assessment tool using a modified Delphi technique
■ Identify the sources of Validity evidence for assessment scores using Messick's unified validity framework
■ Practice judging the validity evidence of an already published tool

Session description (planned activities)

1. Introduction to unified validity framework (sources of evidence)
a. Mini lecture
2. Introduction to Content evidence
a. Mini-lecture
b. Activity in groups : Modified Delphi, reaching consensus on items of a tool
3. Introduction to Response process evidence
a. Mini-lecture
b. Activity in groups: assessing a role-play performance with the "consensus" tool. Discuss in small groups potential issues with rater's scoring with the tool
4. Introduction to Internal structure, Relationship to other variables and Consequences
a. Mini-lecture & discussion in large groups on what data is needed
5. Judging validity of a published tool:
a. Activity in group

Educational methods (e.g. group dynamics, interactive methods)

Dispersed mini lectures with many interactive small and large group activities such as: participating in a modified Delphi, assessing a performance in a simulated scenario, judging the validity of a published tool and brainstorming about validity data

Expected impact

Participants will be able to judge validity of published tools or be able to design a validity study for an assessment tool that they will use in simulation

Target audience

Educators and researchers

Maximum number of participants

30

Equipment requests

standard AV with a projector

Learning to debrief in clinical environments using the TALK framework

Format: Workshop
Subject: Debriefing

Facilitators / Moderators

Cristina Diaz-Navarro, University Hospital of Wales; Esther León Castelao, Universitat de Barcelona; Sigrun Qvindesland, SAFER Simulation Centre; Iago Enjo Perez, Universitat de Barcelona; Angela Jones, University Hospital of Wales; Andrew Hadfield, University of Sussex; Munt Garcia Font, Universitat de Barcelona

Introduction & Aims

Debriefing is the process of an individual or team formally reflecting on their performance after a particular task, a shift or a critical event (World Health Organisation 2009). TALK proposes an easy way to guide a constructive conversation between team members whenever new insights might be learnt from clinical experience. This includes cases or sessions in which things went well but also near misses and untoward events.

TALK© is a communication tool which aims to guide multi-professional clinical teams learning and improving quality of patient care and patient safety together. It is a simple and practical approach to multi- professional structured feedback and debriefing, to be used after unplanned learning events in clinical environments.

This project is currently funded by a Marie-Slodowska-Curie- Actions RISE grant awarded by the European Commission under the Horizon2020 programme. This grant supports a 3 year research and innovation project on the use of the TALK framework for clinical debriefing, www.talkdebrief.org.

Learning objectives

During this session, delegates will gain familiarity with the TALK framework, discuss how to overcome barriers and practice the skills required to facilitate short clinical debriefings in their working environments.

Session description (planned activities)

The session will consist of an initial interactive lecture and facilitated discussions and debriefings following videos and simulation scenarios.

Preliminary programme:
Introduction and initial practice 60’ 00:00 – 00:40
3 Rotating sessions: Scenarios or video 15 min, team self-debriefing with TALK 15 min, meta reflection on TALK use 15 min (timing below)
Session 1: 45’ + 5’ rotate 00:40 – 1:30
Break: 20’ 1:30 – 1:50
Session 2: 45’ + 5’ rotate 1:50 – 2:40
Session 3: 45’ + 5’ rotate 2:40 – 3:30
Finish and Evaluation: 30’ 3:30 – 4:00

Educational methods (e.g. group dynamics, interactive methods)

Interactive lecture, facilitated discussions, scenarios and videos. Debriefing and meta-debriefing.

Expected impact

The introduction of TALK into clinical environments aims to promote guided reflection within clinical teams as a way to improve and maintain patient safety, increase efficiency and to contribute to a supportive culture of dialogue and learning, which would in turn enhance staff wellbeing. Furthermore, it encourages individuals to take responsibility for identifying improvement opportunities and implementing the necessary changes.

Target audience

This workshop will be of interest to any individuals with an interest in debriefing in clinical environments.

Maximum number of participants

30

Equipment requests

1 lecture room with space for 30 people and 2 small adjacent rooms for senarios.
Tables and chairs that can be organised flexibly.
AV equipment to allow powerpoint presentations and videos.
Simulation mannequins and props will be organised by the workshop coordinators.

Llevando tu centro de simulación al próximo nivel: pensamiento estratégico y plan de acción

Format: Workshop
Subject: Center Administration and Program Evaluation

Authors

I Del Moral	x
D Szyld	x
E Rojo	x
JMM Maestre	x
JW Rudolph	x

Facilitators / Moderators

Del Moral I, Szyld D, Rojo E, Maestre JMM, Rudolph JW

Introduction & Aims

El desarrollo y crecimiento de un centro de simulación clínica conlleva unas decisiones estratégicas que determinan el éxito o el fracaso de la institución. Una estrategia acertada, un mensaje claro y el desarrollo de la operatividad necesaria, son garantía para el éxito y crecimiento.
La teoría de Mark Moore muestra un marco de trabajo para la elaboración de una estrategia de creación de valor que permite avanzar en tu programa de simulación. Te permite analizar, clarificar y planificar tu mensaje y estrategia.
Durante este taller vamos a dar herramientas a los participantes para tomar decisiones de manera estratégica en relación a su misión, y así facilitar la sostenibilidad y crecimiento de tu centro de simulación, y cómo buscar fondos para hacer sostenible la actividad.

Learning objectives

Los participantes comprenderán un modelo estratégico para el éxito y sostenibilidad de programas basados en simulación clínica.
Los participates serán capaces de aplicar la teoría de Mark Moore a sus circunstancias particulares para llevar a cabo programas sostenibles en sus instituciones.
Los participantes reflexionarán acerca de la importancia de alinear las actividades de la institución a las expectativas de los stakeholders para generar legitimidad de la institución.

Session description (planned activities)

Flujo de actividades:
1. Descripción general: "fuentes de renovación"; introducción de tipos de problemas de la audiencia.
2. Ordenar en grupos de los tipos de problemas más destacados
3. Introducción a la teoría de triángulo de Moore y las ilustraciones de Moore con ejemplos del mundo de la simulación.
4. "Valor sustantivo" para uno y para los demás: Proceso bidireccional
o Valor personal: su misión, su pasión, sus valores. Ejercicio desde el sitio web de Franklin Covey: su misión personal

(informar si los participantes desean hacerlo).
o Valor para los demás: construcciones genéricas de valor de simulación de Jim Gordon (usando dolor, objetivos, mensaje)
5. Viabilidad operacional: fuentes de renovación, fuentes de drenaje, contar dos historias de contrastes: ¿un centro vibrante y un centro de agotamiento?
6. Construyendo Legitimidad Política
o Parte I: Fuentes de legitimidad: genérico-
o Ejemplo del trabajo de calidad de investigación y su impacto en la legitimidad del centro
7. Trabajo con los participantes con apoyo de los instructores para desarrollo de un plan de acción:
Cosas bien hechas / no importantes
Cosas bien hechas / importantes
Cosas que no se hacen bien / no son importantes
Cosas no bien hechas / importantes.
8. Reflexionando sobre el trabajo en el taller:
o Interno: reconsidere su misión personal, su visión, su objetivo para el próximo año y anótelo; esto le ayuda a decidir qué decir sí y qué decir no también ... o cómo adaptarle a las cosas
o Externo: escriba un correo electrónico a una persona o grupo clave sobre el que necesite influir para mantener su programa
o Delinee una charla con una persona o grupo clave sobre el que necesite influir para mantener su programa

Educational methods (e.g. group dynamics, interactive methods)

Lectures
Small groups reflections
Business case presentatio
Modeling

Expected impact

Al finalizar el taller los participantes serán capaces de:
-Clarificar su mensaje: determinar cuál es el valor añadido que su centro va a proveer.
-Elaborar un plan para las operaciones: pensar qué es necesario y calcular que es posible -desde el punto de vista de las operaciones-, para la realización de sus actividades.
-Crear una legitimidad institucional: examinar y planificar para influir a tu alrededor y crear una red que apoye su misión.

Target audience

Líderes de simulación y profesionales interesados en el desarrollo de sus programas de simulación y la estrategia de sus centros.

Maximum number of participants

40

Equipment requests

Proyector y pantalla

Measuring effects of simulation training

Format: Workshop
Subject: Center Administration and Program Evaluation

Facilitators / Moderators

: Helge Lorentzen, Sigrun Anna Qvindesland, Dagrunn Naaden Dyrstad, Hege Langli Ersdal

Introduction & Aims

All educational activities including simulationshould consider the effectiveness and impact they deliver. For example how activities affect learning, clinical performance, patient outcomes, health systems, and society.
We will work on an augumented Donald Kirkpatrick's framework for evaluating training. This is important to support planning and conducting evaluation processes using simulation-based learning

Learning objectives

After this session, the attendants should:
- Be aware of the importance of evaluating simulation based activities
- Be aware of important perspectives when evaluating
- Be able to consider relevant stakeholders to include when evaluating
- Be aware of a stepwise approach for planning and conducting measurements of effects
- Be aware of how to connect evaluation to planning and conducting simulation
- Be aware of examples of evaluation methods from literature

Session description (planned activities)

Short introduction of background and aims
Introduction of the framework and how to use it, followed by examples
Guided exercise in how to plan the evaluation of simulation based interventions
Summary and discussions

Educational methods (e.g. group dynamics, interactive methods)

Introductions: short oral presentation
Continuing: Group work supported by interactive facilitating
Discussions in groups and plenum

Expected impact

To expand horizons and discover possibilities for measuring outcome from simulations
To share experiences

Target audience

Course designers
Course directors
Facilitators at all levels of experience
Center managers
Administrators for simulation centers or healthcare systems

Maximum number of participants

none

Equipment requests

Chairs and tables, preferably in groups
Computer and projector

Multi-centre research simulation studies in prehospital emergency care

Format: Workshop
Subject: Patient Safety / Quality Improvement

Facilitators / Moderators

Lars Lundberg - PreHospen - Centre for Prehospital Research, University of Borås, Sweden; Guillaume Alinier - Hamad Medical Corporation Ambulance Service, Doha Qatar, and University of Hertfordshire, Hatfield, UK; Kenneth Boe Krarup - Department of Anaesthesia and Intensive Care, and Simulation Centre, Odense University Hospital, Denmark; John Meyer - Cape Peninsula University of Technology - Emergency Medical Sciences, Cape Town, South Africa

Introduction & Aims

There is a need to improve research in the field of prehospital emergency care, and simulation is an obvious method to perform such research in a controlled manner but also to help overcome some potential ethical issues in relation to differences in treatment provision. The prehospital context is considerably different in comparison to in-hospital emergency care in the sense that prehospital emergency care is generally provided in an unfamiliar, changing, and unstable environment, but this can be accounted for and recreated in a simulation context. In addition, there are phases and tasks not present in hospital care, such as driving an ambulance and communication by radio. As most simulation centres generally train small volumes of students and have few course participants at a time, research would benefit from collaboration between multiple international simulation centres engaging in common projects.
The aim of presenting this topic is to gather individuals with a research interest in the field of prehospital emergency care, with the ambition to identify possible research topics for multi-centre research studies.

Session description (planned activities)

The session will start with an overview of the present status of research in the field of prehospital emergency care, with input from presenters with special insight in this knowledge area. The audience will be invited to participate by sharing their experience and to suggest topics to be studied in such multi-centre research projects. Representatives from international simulation centres and academic institutions will be invited to express interest in participating in future multi-centre studies. Contact details of the participants potentially interested in future collaborative opportunities will be collected and shared after the session.

Expected impact

Identification of possible research topics for future multi-centre research studies.

Target audience

Representatives for simulation centres with an interest for prehospital emergency care.

Maximum number of participants

20

Equipment requests

Regular equipment for presentations (computer + projector)

Multimedia in simulation: using it in light of how human mind works

Format: Workshop
Subject: Faculty Development

Facilitators / Moderators

Luciana Rodriguez Guerineau (Barcelona, Spain), Briseida Mema (Toronto, Canada)

Introduction & Aims

Multimedia learning refers to learning from words and pictures. PowerPoint is the most commonly used multimedia tool. According to Microsoft, there are more than 30 million PPT presentations made each day. While used universally, it is often not used optimally, hence the notorious name of “death by PPT”. The PPT lecture and video use is a common instructional method in simulation. Despite their popularity, it is unclear whether they offer an advantage to learning over traditional methods such as the once ubiquitous “chalk talk”. In part, this may be due to ineffective application of multimedia principles. The “Effective use of Educational Technology in Education” report was published by the Association American Medical Colleges in order to mitigate the suboptimal use of multimedia tools. The guiding framework used in this report was Mayer’s cognitive theory of multimedia learning.
Mayer’s cognitive theory of multimedia learning is based on three principles: dual channel (separate channels that process verbal and visual material), limited capacity (only a few elements can be processed at one channel at one time), active processing (attending to relevant material, organizing it and activating it with long term knowledge). By combining these principles with the science of instruction: reducing extraneous processing, managing essential processing and fostering generative processing we explain during our workshop principles behind effective use of multimedia and engage participants in many interactive activities where these principles are applied.

Learning objectives

1. Identify the three main principles of the Cognitive theory of multimedia learning
2. Discuss effective instruction in simulation that optimizes demands on learner’s cognitive system
3. Apply principles of effective multimedia use to a short PPT lecture and video that are part of a simulation curricula

Session description (planned activities)

Multiple dispersed mini- lectures where the principles of cognitive theory of multimedia learning are explained: 15 min

Demonstration of effective PPT and video used in Simulation curricula, that apply the principles effective multimedia are used for large group discussion and reflection: 20 min

Small group assignment: groups are given poorly done PPT and video used as “pre-reading” in simulation curricula for the group to correct and make them effective: 20 min

Small group assignment: prepare a short PPT (that is being used for a simulation curriculum) for the class applying the principles of cognitive theory of multimedia learning: 35 min

Educational methods (e.g. group dynamics, interactive methods)

Mini-lectures, large group discussions, small group exercises, analysis of pre-prepared PPT, preparation of short PPT.

Expected impact

In almost every simulation curricula, there is a knowledge prerequisite. That knowledge/ content often is given as a pre-reading or in class materials via PPT or video. That is an integral part of the curriculum. Often this pre-reading materials suffer and therefore impact the simulation piece. Our workshop teaches effective use of these modalities.

Target audience

Educators building and maintaining simulation curricula

Maximum number of participants

30-40

Equipment requests

Standard audio-visual

Needs analysis – the art of balancing the various wishes by stakeholders

Format: Workshop
Subject: Curriculum Development

Facilitators / Moderators

Peter Dieckmann, Anne-Mette Helsø, Doris Østergaard, Anne Lippert, Eva Thomas, Sigrun Anna Qvindesland, Kai Kranz

Introduction & Aims

Learning should be goal-oriented, they say. Identifying goals, however, requires to understand the perspectives by those who formulate them. The perspectives might be substantially different from each other, partly contradicting each other.

In this workshop, will participants practice to understand learning needs as expressed by stakeholders involved in trainings, including participants, department leaders, patients, commissioning authorities.

Learning objectives

1) Identify relevant stakeholders for a needs analysis.

2) Describe challenges in performing a needs analysis in regards to the different requirements of stakeholders.

3) Identify contradicting requests by stakeholders and describe methods of resolving the contradictions.

Session description (planned activities)

05 min Presentation of the faculty

10 min Key issues in conducting needs analyses and different methods

25 min Interview-based needs analysis in small groups: the faculty will take the role of the different stakeholders. Workshop participants will rotate between the stakeholders, interviewing them around their perception of learning needs

25 min Condensing the information from the interview rounds into a description of the learning needs as perceived via the interviews

20 min Presentation of findings from the groups

05 min Concluding remarcks

Educational methods (e.g. group dynamics, interactive methods)

Presentations
Interactive discussions
Role play

Plenum reflections
Visual protocols of the discussion and findings

Expected impact

Improved needs analysis

Optimized courses

Target audience

Participants, who are involved in designing courses and programs from advanced beginners in that role to intermediate experts

Maximum number of participants

25

Equipment requests

Flip charts
Projector and loud speakers
If possible, Island setup up

Peer coaching of debriefing workshop: A how-to guide

Format: Workshop
Subject: Faculty Development

Facilitators / Moderators

Rebecca Williams, Edward Gomm & Edward Miles. Specialist Trainees in Anaesthesia, Severn School of Anaesthesia. Bristol Novice Anaesthesia Course Coordinators.

Introduction & Aims

Recent national best practice guidelines in the U.K highlight the importance of faculty being trained in debriefing and undertaking continuing professional development. However, while many faculty have undertaken the introductory “train-the-trainers” courses or similar, further learning opportunities can be rare or prohibitively expensive, especially as a doctor in training. At the Bristol Novice Anaesthesia course we introduced a peer-coaching program and have managed to successfully embed an enthusing, innovative, and cost-neutral professional development strategy, which has been hugely beneficial to both faculty and the course students. We feel it has transformed our program for the better, and we would like to share our story so others can too.

Learning objectives

1. To describe the benefits of peer-coaching for faculty and students
2. To give participants the tools and strategy to develop their own program
3. To give participant’s the opportunity to practice peer-coaching

Session description (planned activities)

The session will comprise four parts:

1. Introduction: Here we will explain the rationale behind introducing a peer-coaching program and the impact it has had on our course.
2. A "how-to" guide of the important elements to consider in a peer-coaching program and some of the challenges we faced.
3. A chance to appraise and review available peer-observation tools or rating systems and their benefits/disadvantages
4. Time for participants to practice peer-coaching of debriefing in small groups based on role-play scenarios.

Educational methods (e.g. group dynamics, interactive methods)

Parts 1 and 2 will be delivered as an interactive lecture and will include an ice-breaker activity for participants to work in groups and get to know their peers. Part 3 will include a small group round-table exercise where participants examine the different tool available to help structure peer-observation or rating of debriefing. The final part will involve scripted role-plays for participants to act out a small simulation, debrief the scenarios and practice peer-coaching of the debriefer.

Expected impact

We hope to give delegates a understanding of the power of peer-coaching for continued faculty development. Our aim is that they finish the session enthused to introduce peer-coaching program to their simulation practice and have be given the tools to allow them to implement it.

Target audience

Simulation educators with an interest in debriefing and faculty development strategies.

Maximum number of participants

16-24. Ideally 4 groups of 4-6 persons

Equipment requests

1. Tables and chairs for 4-6 people x4
2. Writing paper (large pieces) and marker pens
3. Projector/AV equipment
4. Basic life support manikins x4 (optional)
5. Access to printing

Planning the best simulation: how to understand and apply the innovative SimZones system to design and execute effective simulations, adapted to the real needs of the participants

Format: Workshop
Subject: Curriculum Development

Facilitators / Moderators

José M Quintillá (Simulation Program - Hospital Sant Joan de Déu Barcelone), Christopher Roussin (Boston Children's Hospital Simulator Program)

Introduction & Aims

If we want to achieve highly effective simulation activities, we must adapt its design and execution to the type of teaching objectives and the profile of the participants. Many times we apply the same mental scheme to all the activities we design and this is risky. If we do this, we are leaving out important aspects that greatly influence the learning experience. The main objective of the workshop is to provide the simulation facilitators with useful tools to plan highly effective simulation activities, adapting their design and execution to the type of teaching objectives and the profile of the participants.

Learning objectives

At the end of the workshop, participants will be able to:
1. Describe the characteristics of each of the “learning zones” included in the SimZones system.
2. Evaluate simulation activities and improve their effectiveness adapting their design according to the SimZones system.
3. Apply the SimZones system to plan the design and execution of new simulation-based teaching curricula.

Session description (planned activities)

• Presentation (10 min)
• Explanation of the SimZones system (20 min)
• Exercise in groups: evaluation and adaptation of simulation activities to the SimZones system (30 min)
• Exercise in groups: creation of new curricula according to the SimZones system (30 min)

Educational methods (e.g. group dynamics, interactive methods)

The workshop combines two teaching methodologies:
• Objective 1 (describe the SimZones system) is worked through an oral presentation with participative discussion.
• Objectives 2 and 3 (application of the SimZones system) are addressed by working in small groups guided by a facilitator and sharing the most relevant aspects.

Expected impact

The expected impact is to provoke an innovative and practical change in the planning schemes of simulation activities, to achieve more effective results and a better experience of facilitators and participants.

Target audience

Simulation facilitators, activity designers, planners, managers of simulation centers.

Maximum number of participants

30 people

Equipment requests

- Room with capacity for 50 people.
- Chairs
- Paper and pens
- Computer and projector
- Slate and markers

Remotely facilitated faculty development

Format: Workshop
Subject: Faculty Development

Facilitators / Moderators

Kjetil Torgeirsen, Lena Heimvik, Thomas Lindner, Dr. Munir Shakirov

Introduction & Aims

SAFER, has initiated a remotely (audio/video) facilitated program for faculty development project between SAFER Stavanger Norway and CCM (Center for Corporate Medicine)Tomsk, Russia. Using live stream audio/video feed, SAFER faculty could follow simulation scenarios and debriefings in real time and thereafter provided feedback and debriefing for the Russian facilitators from Stavanger, Norway. This experience has provided insights for remote faculty development that we would like to share and discuss. Potential benefits could be cost efficiency, sharing of knowledge and experience between training/teaching institutions and long term follow up of members of remote site faculty.

Learning objectives

1.Explain the concept of remotely facilitated faculty development.

2. Share our step-wise plan for remotely facilitated faculty development.

3. Share the technical model and requirements.

4. Outline the economical benefits of such concepts

5. Discuss possibilities, limitations, and experience from remotely facilitated faculty development.

Session description (planned activities)

- Presentation of experience using powerpoint, pictures and video.

- Demonstration of the concept,

- Group discussions

Educational methods (e.g. group dynamics, interactive methods)

Demonstration and group discussions. If a large number of participants, they could be divided into smaller groups to facilitate discussions.

Expected impact

Remote faculty development is a new concept showing a huge potential to reach out to places without access to a simulation center and simulation competence/experience. The concept could allow implementation of simulation

methodology to new training/teaching institutions and building skilled local faculty with regular follow up through video/audio live stream and feedback.

Target audience

All levels of expertise in simulation from novices to experts with an interest in technology and simulation.

Maximum number of participants

30

Equipment requests

Video projector, flip over

Shaping skills for shift survival: using coaching circles, diamonds and squares to enhance team education

Format: Workshop
Subject: Interprofessional / Team Education

Authors

Colette Laws-Chapman	-
Gabriel Reedy	-
Pete Jaye	-
Mary Lavelle	-

Facilitators / Moderators

Colette Laws-Chapman, Gabe Reedy, PeteJaye and Mary Lavelle

Introduction & Aims

The importance of team working and leadership is recognised as having a significant impact on patient safety. The health and well-being of staff is now seen as important for both the patient and the staff experience. In this innovative programme involving hundreds of nursing staff across a large hospital system, standardised communication tools were introduced to assist ward teams in reducing variation. In-situ observations identified inconsistent communication and team behaviour regarding nursing shifts, including not managing disruptions, failing to take breaks or ask for help, and rarely leaving a shift on time. We created a varied simulation-based education (SBE) course to enable staff to think ahead, plan and work more effectively together, to help them finish their shifts on time. The course used simulated scenarios with debriefing, and interactive teaching methods. The course aim was to empower staff to utilise the safety briefing and mid-shift huddle tools to achieve early escalation, redeployment, and strengthening their resilience in a 12-hour shift. In a 6-month time period 75% (n=1053) of nursing staff in their ward teams attended the 85 days of training demonstrating significant improvement in self-efficacy of human factor skills in healthcare ($p < .001$) (Reedy et. al 2017).
This project was awarded Best Poster SESAM 2017 for Nurturing Nurses Patient Safety presentation of course overview & preliminary data

Learning objectives

Learning Objectives:

Explore ways to encourage staff to consider their own well being, develop their communication skills, and develop an appreciation of colleagues' work, all to improve team-working.
Discuss ways to train staff to develop verbal and non-verbal skills.
Experience using the coaching circle as a method of team training for human factor behaviours.
Discuss multi-method approaches to developing teams.

Session description (planned activities)

This workshop will be in four parts:

1:- Introduction
2:- Training methods used for verbal and non-verbal communication; learners will move into small groups to discuss, share and reflect on methods
3:- Coaching circle: learners will be asked to facilitate role players conducting a mid-shift huddle
4:- Closing circle: shared learning, summary and close of session

Educational methods (e.g. group dynamics, interactive methods)

Didactic introduction
Small group work
Demonstration with full group participation in a coaching circle
Application of learning

Expected impact

As a result of this workshop, participants will have a better understanding of some of the key tools used to improve staff working in ward areas. And how interactive methods can develop human factor skills

Target audience

Simulation and Human factor educators/ facilitators

Maximum number of participants

24-30

Equipment requests

Cabaret style room layout, with space to create a circle with chairs for all participants or easy to move tables (NOT a lecture theatre please)
flip chart & pens with data projector and screen, audio for audio-video

SimEPAs - Entrustable professional activities for instructors of simulation-based team training in healthcare

Format: Workshop
Subject: Faculty Development

Facilitators / Moderators

Adi Marty, Michaela Kolbe, Bastian Grande

Introduction & Aims

Introduction
We are living in an era of competency-based Medical Education where time of training and numbers of cases become variable and the rigorous assessment of competence is the focus. Different theoretical frameworks have been developed and implemented for example CanMEDS.[1] The reliable measurement of trainee's competency in the busy clinical setting remains a challenge. The concept of Entrustable Professional Activities (EPAs) holds promise to close this gap for medical training by focusing on tasks to be entrusted for unsupervised practice once the trainee gained enough competence.[2,3]
As directors or teaching faculty of Simulation Centers we are supervising and supporting instructors with various training backgrounds and competencies. As with residents, we often need to make decisions on how much supervision they will need for running a simulation training (performing a task). To allocate our resources as teaching faculty of a Simulation Center optimally we need a system that helps us bring transparency into the competencies of instructors which will allow us to define who needs how much supervision in which phase of a sim training. Rating frameworks for sim instructors (e.g. DASH)[4] tend to have a ceiling effect especially if they are used by untrained raters: every instructor is rated above average. Using EPAs and the level of supervision for assessing instructors might be more reliable and provide specific information on individual areas for improvement or lacks in the training system (e.g. inefficient instructor training).[5,6] These gaps could then be addressed with individualized faculty development courses.
As a research project, we are in the process of developing EPAs for instructors of simulations-based team training using a modified Delphi process. By identifying EPAs for simulation instructors, we provide healthcare organizations with a systematic framework for evaluating and educating instructors. Thereby, we aim to improve the quality and effectiveness of team-training in healthcare, and ultimately, to contribute to improving patient care.

The workshop has two aims:
1. During the workshop, we disseminate and discuss the idea of using SimEPAs for instructors of simulation-based team training
2. The workshop is part of the validation process for the locally developed SimEPAs

References
[1] Frank, Jason R., and Deborah Danoff. "The CanMEDS Initiative: Implementing an Outcomes-Based Framework of Physician Competencies." Medical Teacher 29, no. 7 (January 2007): 642–47. doi:10.1080/01421590701746983.

[2] Cate, Olle ten, and Fedde Scheele. "Viewpoint: Competency-Based Postgraduate Training: Can We Bridge the Gap between Theory and Clinical Practice?" Academic Medicine 82, no. 6 (2007): 542–47.

[3] Cate, Olle ten. "Nuts and Bolts of Entrustable Professional Activities."
Journal of Graduate Medical Education 5, no. 1 (March 2013): 157–58. doi:10.4300/JGME-D-12-00380.1.

[4] Simon R, Raemer DB, Rudolph JW. Debriefing Assessment for Simulation in Healthcare (DASH)© – Rater Version. Center for Medical Simulation, Boston, Massachusetts. https://harvardmedsim.org/wp-content/uploads/2017/01/DASH.RV.ShortScoresheet.2011.pdf. 2011. English, French, German, Japanese.

[5] Weller, J. M., M. Misur, S. Nicolson, J. Morris, S. Ure, J. Crossley, and B. Jolly. “Can I Leave the Theatre? A Key to More Reliable Workplace-Based Assessment.” British Journal of Anaesthesia 112, no. 6 (June 1, 2014): 1083–91. doi:10.1093/bja/aeu052.

[6] Ten Cate, Olle, H. Carrie Chen, Reinier G. Hoff, Harm Peters, Harold Bok, and Marieke van der Schaaf. “Curriculum Development for the Workplace Using Entrustable Professional Activities (EPAs): AMEE Guide No. 99.” Medical Teacher 37, no. 11 (2015): 983–1002.

Learning objectives

After this workshop, the participants will be able to
1. Design EPAs
2. Describe implementation strategies
3. Discuss strengths and weaknesses of SimEPAs as an assessment approach

Session description (planned activities)

We plan for 90minutes:
- We will start with a short introduction and expectations round
- Then, participants will develop a complete EPA in 2 sequential small group activities each followed by a short debriefing of the activity. (Application of Guidelines by Olle ten Cate)
- Short multimedia input session explaining the “why” and the “how” of the work we’ve done so far developing SimEPAs.
- In small groups and plenary discussions, the newly developed SimEPAs will be analyzed and refined.
- The last part will be about implementation and how to create EPA-profiles for each Instructor and how tailor the support and faculty development to their needs. This will be done in a guided plenary discussion after the participants rated themselves on the set of SimEPA using an audience-response system
- We will allow for enough time for Q&A and making sure that expectations were met.
- A wrap-up will mark the end of the workshop.

Educational methods (e.g. group dynamics, interactive methods)

- Small group sessions
- Guided plenary discussions
- Multi-media presentation (Prezi, Video, audience-response system)
- Brainstorming
- Metaconition (Self-reflection/Self-assessment)

Expected impact

- Starting a discussion around SimEPAs
- Creating a community of practice around development and use of SimEPAs

Target audience

- Directors of Simulation Centers
- Facilitators of instructor courses for instructors of simulation based team trainings
- Instructors of simulation-based team trainings

Maximum number of participants

30

Equipment requests

- Beamer
- Loudspeaker
- Flip-chart and color pencils
- Post-it notes

Simulated patients, patient simulators, and real patients: Competing or complementary training modalities?

Format: Workshop
Subject: Curriculum Development

Facilitators / Moderators

Willem van Meurs, Timothy Antonius, Hugo Azevedo, Lex van Loon, Sebastiaan Waanders

Introduction & Aims

1. What are the strengths and weaknesses of simulated patients, patient simulators, and real patients when used as teaching modalities?
2. What do they have in common and what differentiates them?
3. How can they best be used in the curricula?
4. Can their use evolve to optimize learning? (Time permitting)

Session description (planned activities)

After a brief review of the main strengths and limitations of the different modalities, panel members and the public will debate the questions formulated in the title and the aims.

Expected impact

Move the debate from which of the modalities is “better” to where the modalities best fit in the curricula. Possible indications for how use of the different modalities can evolve to optimize the learning environment.

Target audience

All interested in a broad view of medical education.

Maximum number of participants

50

Equipment requests

LCD projector, white-board or flip chart.

Teachable moment or missed opportunity? Applying lessons learned from healthcare simulation to real-world clinical debriefing

Format: Workshop
Subject: Debriefing

Facilitators / Moderators

Ross J. Scalese, M.D., FACP

Introduction & Aims

Experiential learning theory underpins the way we learn, not only in controlled educational environments such as simulation-based training, but also in real-world clinical education settings. Feedback, especially with guided reflection, is an essential element in experiential learning and also plays a crucial role in the acquisition and maintenance of expert performance through deliberate practice. Accordingly, debriefing constitutes a critical component of simulation-based education, and the role of debriefing facilitator is recognized as one of the most challenging for simulation educators. Debriefings occur after nearly every simulation training event, and the simulation literature, conference proceedings, and faculty development efforts devote much attention to this important topic. Surprisingly, however, debriefings in clinical training settings occur far less commonly, with very few studies reported outside certain (critical care/emergency medicine) specialties. Educators cite lack of time, appropriate (safe psychological and physical) space, and training for facilitators as barriers to debriefing in clinical contexts. This workshop aims to encourage and equip simulation educators – who have the most training and experience in debriefing – with tools and strategies to lead the way in creating a culture that promotes routine debriefing practice to enhance learning in the clinical environment.

Learning objectives

At the conclusion of this workshop, participants will be able to:
1) Distinguish debriefing from feedback, and describe its essential role in experiential learning and deliberate practice, both in simulated and real-world clinical settings;
2) List barriers to debriefing in day-to-day clinical practice and discuss strategies to mitigate these challenges; and
3) Choose and implement appropriate debriefing frameworks and techniques to promote learning among different trainees in various healthcare education contexts.

Session description (planned activities)

Participants will engage in interactive discussion of experiential learning theory and the deliberate practice model and how these apply to learning in both simulated and real-world clinical settings. They will also discuss the important role of feedback and reflection in experiential learning, and distinguish debriefing from feedback. They will use an audience response system (ARS) to answer questions about their personal experience with debriefing from both facilitator and learner perspectives, especially in actual clinical care contexts. Participants will watch videos of clinical training encounters and identify challenges to debriefing in these environments. They will then share strategies to overcome such barriers and actually practice clinical debriefing through role-play.

Educational methods (e.g. group dynamics, interactive methods)

The workshop format is highly interactive and incorporates the "FAIR principles" of adult learning: 1) Feedback is provided during large-group facilitated discussions and by using the ARS; 2) Activity is encouraged through watching videos, using the ARS, and role-play/practice debriefings; 3) Individualization is achieved by providing each participant with a response keypad; and 4) Relevance will be highlighted throughout by linking workshop tasks to participants' current clinical educator roles and past personal experience with debriefing in simulation and clinical settings.

By design the workshop format is very flexible and can accommodate different room set-ups: in "theater style," use of videos and the ARS will maintain interactivity, as will the important "cross-talk" that participants will engage in as they share their thoughts with the group; if configured with tables for breakout activities, small groups will discuss and prepare roles to enact various clinical training scenarios, while members of other groups will implement different debriefing strategies as they might in their day-to-day clinical/educational practice.

Expected impact

Using the Kirkpatrick scheme to evaluate the impact of this workshop, participants will:
1) Feel more comfortable conducting debriefing in clinical settings;
2) Increase their knowledge and skills in planning and choosing strategies for clinical debriefing; and
3) Implement these methods for clinical debriefing routinely in their educational practice.

Target audience

All clinical educators

Maximum number of participants

Limited only by the number of ARS keypads, as below. (Not every participant need have his/her own keypad, but that will maximize individualized interactivity.)

Equipment requests

If the conference will otherwise be using an ARS, I would request its use during my workshop. Otherwise, I can supply my own system (Turning Point) and can reasonably carry 60 keypads in my personal luggage. (I have encountered problems with customs when trying to ship these in advance to overseas destinations.) I will need A-V capability to play videos with sound.

The Association of Standardized Patient Educator's Standards of Best Practice (SOBP)

Format: Workshop
Subject: Center Administration and Program Evaluation

Facilitators / Moderators

Tonya M Thompson, Amelia Wallace, Valerie Fulmer

Introduction & Aims

Recently the Association of Standardized Patient Educators developed Standards of Best practice which were published in the journal Advances in Simulation, 2017.

Upon completion of this educational activity, participants will be able to:

1. Name the values and domains of the ASPE SOBP

2. Describe the rationale for using the ASPE SOBP

3. Apply the principles to a common SP Educator challenges

Session description (planned activities)

A brief overview presentation of the ASPE standards of Best Practice will be followed by an in-depth panel discussion lead by the President of ASPE and two authors of the SOBP publication.

Expected impact

To assist beginning and expert programs and their institutions develop SP programs using SP best practice methodology.

Target audience

Programs and individuals interested in the employment of Standardized patients/participants utilizing best practices.

Maximum number of participants

50

Equipment requests

A/V and computer for PowerPoint presentation. ■

The game of teamwork: teamwork-training with non-medical methods

Format: Workshop
Subject: Interprofessional / Team Education

Facilitators / Moderators

Benedikt Sandmeyer, Kai Kranz, Nicole Kissling

Introduction & Aims

In settings where a successful completion of a task demands the knowledge and the skills of different specialists, proper teamwork becomes a key element of success. It is known that a breakdown in teamwork leads to errors and often a negative outcome for the patient. Therefore teamwork behaviour needs to be trained like the technical skills of every profession. Teamwork training is often challenging because the behaviour is less obvious as technical skills and often linked to the task and situation. In our training we propose to separate technical skills and teamwork skills. By this a team is able to fully focus on the teamwork aspect of a task.

Learning objectives

This workshop aims to enrich the participants tool box for teamwork training.

Session description (planned activities)

The workshop provides the opportunity to actively be part of different exercises targeting teamwork behaviour. In a first step, a team selected out of the audience is asked to complete a non-medical task as a basis for discussing teamwork behaviour in their everyday life. After completion the process will be reflected, successes, problems and findings identified before the participants transfer the findings into their personal environment. The final step addresses the consequences of the exercise from an educational perspective an a discussion of implementation.

Educational methods (e.g. group dynamics, interactive methods)

interactive teamwork games
group discussions

Expected impact

Teamwork behaviour can and also should be trained in a non-medical setting. This allows people to experience facets of teamwork in a psychological safe environment across a medical setting where people sometimes fear to embarrass themselves. In addition to other methods like simulations scenarios or group discussions those exercises can be excellently used in the education and training of healthcare professionals.

Target audience

helthcare-educaters willing to enrich their educational toolbox

Maximum number of participants

16

Equipment requests

basic cpr Manikin (if possible)

Thinking qualitatively about educational research

Format: Workshop
Subject: Faculty Development

Facilitators / Moderators

Walter Eppich, Gabriel Reedy

Introduction & Aims

Quantitative paradigms dominate research in healthcare professions education and contribute significantly to the science of teaching and learning. As the healthcare simulation field matures, however, questions emerge that may best be explored and answered at least in part through qualitative methodologies. During this session, participants will gain an overview of qualitative research in terms of methodology and methods. Subsequently, we will take a closer look at constructivist grounded theory (GT), a qualitative methodology frequently featured in health professions education research. Participants will gain some initial experience in coding qualitative data.

Learning objectives

After this session, participants will be able to answer the following questions:
(1) What is qualitative research?
(2) How does worldview impact research paradigms?
(3) What qualitative methodologies/methods are available? (4) How is qualitative data analyzed using constructivist grounded theory?

Session description (planned activities)

•Introductions, session overview, ground rules
•Principles of qualitative research
•Synopsis of qualitative methodologies and methods
•Brief overview of constructivist grounded theory
•Interactive work: coding a transcribed interview (excerpt)
•Tracing of a coded segment through the analysis process
•Summary, take-aways and wrap-up

Educational methods (e.g. group dynamics, interactive methods)

The session will include a range of educational methods including:
•Short interactive didactic sessions
•Brief individual work
•Small group work
•Interactive group discussion

Participants will perform an initial coding of an excerpt from a transcribed interview to experience what it means to code qualitative data.

Expected impact

After this session, workshop participants will see the potential for qualitative approaches in healthcare simulation research and describe what qualitative research is and what it is not. In addition, they will identify the types of research questions amenable to qualitative approaches.

Target audience

Healthcare simulation researchers seeking to learn about qualitative approaches

Maximum number of participants

25

Equipment requests

LCD projector
Speaker

SESAM
PROMOTING SIMULATION IN MEDICAL EDUCATION
SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

To be innovative by being negative

Format: Workshop
Subject: New Technologies and INNOVATION

Facilitators / Moderators

Marlene Mohr, MD, Course director, Copenhagen Academy of Medical Education in Simulation & Lotte Abildgren, Critical care nurse, Msc. Nursing, course director and Operating Manager, SimC OUH

Introduction & Aims

When leaders need to change daily processes (e.g. negative habits, inappropriate behavior), they will often meet resistance among employees and even among their own colleagues.
Working with critical incidences or adverse events is often a sensitive process for the staff to participate in. Often the employees will refuse the argument of the better good of the new behavior or process.

Learning objectives

Changes of working procedure raise the level of anxiety in all people, because they might fear that they cannot succeed as well in the new procedure compared to the old one. Being asked to talk about errors in the organization activates feelings as shame and fear of being blamed, which most of us will do almost anything to get rid of.

Session description (planned activities)

Workshop total time - 75 min.
Small group activities
15 min. introduction to the method
10 min. introduction to the case
35 min. to Work in Groups. Use the method with
the case, to priorities resolutions to
Work with.
15 min. Debate in plenum

Educational methods (e.g. group dynamics, interactive methods)

In this workshop we will demonstrate, how it is possible to create an innovative atmosphere, even when the task is very sensitive for the organization and the humans within it. The method is called “Negative brain writing”, and it is very effective, when an organization needs to create solutions in areas, where the employees are the ones who know the most about the existing procedure, but at the same time are deeply involved in the unwanted habit.

Expected impact

The participants in this workshop will learn how to use this method to get detailed information about what is going on in the organization. They will experience, that by being negative it is possible to create an atmosphere, which are filled with energy, creativity and hope for the future.

Target audience

everybody
Instructors, teachers, leaders etc.

ABSTRACT
To be innovative by being negative
When leaders need to change daily processes (e.g. negative habits, inappropriate behavior), they will often meet resistance among employees and even among their own colleagues.
Working with critical incidences or adverse events is often a sensitive process for the staff to participate in. Often the employees will refuse the argument of the better good of the new behavior or process.
Changes of working procedure raise the level of anxiety in all people, because they might fear that they cannot succeed as well in the new procedure compared to the old one. Being asked to talk about errors in the organization activates feelings as shame and fear of being blamed, which most of us will do almost anything to get rid of.
In this workshop we will demonstrate, how it is possible to create an innovative atmosphere, even when the task is very sensitive for the organization and the humans within it. The method is called “Negative brain writing”, and it is very effective, when an organization needs to create solutions in areas, where the employees are the ones who know the most about the existing procedure, but at the same time are deeply involved in the unwanted habit.
The participants in this workshop will learn how to use this method to get detailed information about what is going on in the organization. They will experience, that by being negative it is possible to create an atmosphere, which are filled with energy, creativity and hope for the future.
So let’s be negative together!

Maximum number of participants

30

Equipment requests

Projector
Whiteboard
Whiteboard pens and permanent pens
A3 paper (to the Groups) 30 pieces

SESAM
PROMOTING SIMULATION IN MEDICAL EDUCATION
SOCIETY IN EUROPE FOR SIMULATION APPLIED TO MEDICINE

Using simulation to enhance the patient centred perspective

Format: Workshop
Subject: Faculty Development

Facilitators / Moderators

Lloyd Campbell, Kiran Virk, Gareth Evans

Introduction & Aims

There are many differing opinions on what the term ‘Patient-Centred’ (PC) actually describes although there is general consensus that it refers to a model of care that places at its core collaboration, the therapeutic relationship and an understanding of the patient experience (Lewin, 2001; Stewart, 2001). The PC approach is widely advocated yet the patient perspective is an often neglected point of view when designing a simulation based intervention, despite the experiential nature of simulation training being well suited to provide a forum for such a focus.

Over the last four years Maudsley Simulation has pioneered a broad portfolio of simulation courses with a strong focus on mental health across a variety of healthcare settings. Many of these courses have been designed to provide insight into the patient experience as a lens through which to view PC care and our approach to improving it. This combined with our use of specially trained simulated patients, application of innovative technologies and a tailored debriefing style have allowed us to achieve the high standard of both emotional fidelity and perspective-taking based reflection needed to enable a rich consideration of the PC perspective.

References:
Lewin, S.A., Skea, Z.C., Entwistle, V., Zwarenstein, M. and Dick, J., 2001. Interventions for providers to promote a patient-centred approach in clinical consultations. Cochrane Database Syst Rev, 4(10).

Stewart, M., 2001. Towards a global definition of patient centred care: the patient should be the judge of patient centred care. BMJ: British Medical Journal, 322(7284), p.444.

Learning objectives

Our workshop will provide a stimulating forum to reflect on how faculty can promote emotional fidelity, empathy and perspective taking in simulation training, and how our understanding of scenario design, application of technology and debriefing can enhance participants’ experience and learning.

By the end of the workshop, participants will be able to:
1. Understand the importance and impact of promoting perspective taking with patients
2. Identify areas that present opportunities to enhance the patient perspective
3. Develop ideas and strategies for enhancing the patient perspective

Session description (planned activities)

The proposed workshop will introduce the key principles of how a focus on the patient perspective can benefit a simulation based intervention and the various methods at faculty’s disposal to achieve this such as:

• Emotional fidelity
• Scenario design
• Debriefing style
• Environmental fidelity
• Technological innovation

Specific mention of the benefits of a coordinated approach between faculty and technical staff will be made. Video extracts from courses will be used to demonstrate these methods, which include the use of a patient view camera and sensory enhancements.

It will explore interactively with participants how these principles can be applied to acute, general and mental health settings.
Small group tasks will be introduced to facilitate this exploration and provide participants with a forum to consider how they might apply some of these principles to their own practice.

Educational methods (e.g. group dynamics, interactive methods)

The proposed workshop will rely on a combination of classroom presentation to introduce the theme, active observation of video extracts with group discussion, and small group tasks.

Expected impact

The proposed workshop will aim at enhancing simulation faculty's awareness and knowledge around how they can promote emotional fidelity, empathy and perspective taking through the use of course design, use of simulated patients, debriefing choices and application of technology.

Target audience

This workshop is aimed at simulation faculty across specialties, including technicians, with some experience of simulation training development, scenario design, technical support and/or debriefing.

Maximum number of participants

40

Equipment requests

Paper board (Flip chart)
Video projector with AV output
Laptop

Virtual reality simulation - why and how?

Format: Workshop
Subject: New Technologies and INNOVATION

Facilitators / Moderators

Jack Pottle

Introduction & Aims

EXPERT PANEL

As medical simulation has gained widespread acceptance as a learning methodology, the challenge has shifted towards improving quality, increasing access and integrating simulation with systems to impact performance.

As this shift has occurred, the increasing commercial availability of virtual reality headsets provides the opportunity to deliver completely immersive, interactive simulation scenarios.

Using virtual reality to deliver simulation based education can increase learner throughput, improve simulation accessibility and reduce the cost of delivering simulation.

However, though there has been an increase in research on virtual reality simulation over the last two years, many questions remain. This panel would aim to explore these questions, with input from the audience.

Session description (planned activities)

After an introduction to immersive virtual reality, we would explore VR simulation in five themes. Each of these themes would be discussed by the panel before opening to the floor:

1. Target audience
- What areas of simulation would be most suited to VR simulation? Why? Discussed in terms of users, setting and scenario choice.
1.1 Users
- Medical students, clinicians, nurses?
1.2 Setting
- ED, ward, family practice, community?
1.3 Scenario choice
- Common (high impact) to rare (so infrequently trained).

2. Presence (why VR?)
What is psychological presence and what contributes to presence and immersion in VR?
2.1 Hardware
- Immersive: High-end head-mounted display vs phone/tablet vs screen-based
- Value of immersive ('true VR') vs screen-based simulation – discussion of evidence of learning transfer
2.2 Interaction
- There are many ways to interact in a virtual environment. Discussion would be structured in terms of usability, cost and

accessibility.

3. Fidelity
What is fidelity in simulation? How does this apply to virtual reality? What is the value of different types of fidelity:
3.1 Graphical and animation fidelity
3.2 Emotional and situational fidelity

4. Gamification
The ability to encourage engagement and repetition and therefore reinforce learning is valuable. However, how much is too much and should simulation's inherent utility be enough to encourage users to repeat?
4.1 What is gamification?
4.2 Types of gamification and relative value:
- Score
- Peer comparison
- Badges for performance

5. Research
5.1 What kinds of research are most needed in VR simulation?
- Validity
- Efficacy (learner outcomes)
- Impact on patient outcomes
5.2 ROI
- How could researchers and faculty examine ROI in VR simulation

Summary
- Drawing together of discussion, taking further questions from audience.

Expected impact

1. Increased awareness of issues around VR. Currently there is a general interest but little structure to discussion around VR.
-This expert panel would provide a framework to allow ongoing technical, psychological and pedagogical discussion

2. Increased knowledge about VR development. This will allow delegates to make informed:
- Design decisions
- Purchasing decisions
- Research decisions

3. Increased discussion and collaboration
- This would allow a forum for faculty and sim experts to discuss VR with industry experts

Target audience

All those with an interest in simulation innovation:
1. Clinicians and simulation faculty
2. Educationalists
3. Centre managers
2. Researchers

Maximum number of participants

6 (in panel), unlimited in audience

Equipment requests

Projector with laptop

‘I have a germ of an idea for a brilliant research project!’ Developing a credible qualitative research question

Format: Workshop
Subject: Faculty Development

Facilitators / Moderators

Gerry Gormley, Debra Nestel and Walter Eppich

Introduction & Aims

Best practice in simulation based education is dynamic. As modern healthcare develops, so should our educational methods also develop to best prepare our healthcare professionals for clinical practice. As an educational community, there is an imperative for us to conduct research that generates new knowledge that best guides our simulation practice. To date there has been a predominance of positivist research in the field of simulation based education. Without question, such research has had a positive impact on simulation based education. Qualitative research is rapidly emerging in simulation based education and has much to offer. As with all forms of research, developing a well-defined research question is of critical importance – the foundation of a study. In this workshop, we support participants in developing a credible research question and provide signposts on the next steps in performing a qualitative study. Participants should come to the session with ideas for research.

Learning objectives

Participants will be able to:
1. Describe important steps of developing a research aim and question - including
a.Problematization / purpose of the research
b.Gap analysis
c.What your proposed study will add?
2. Respond to the following questions about their research ‘idea’:
a.What is important about this topic? Why is it of interest?
b.What exactly is the problem that needs to be addressed? What is problematic about it?
c.What is and is not known about your topic under investigation?
d.What questions you would like to answer? What objectives would you like to achieve?
e.Who would you like to benefit from your research?
3.Signpost the next stage of carrying out a qualitative research project
4.Describe differences between ‘qualitative evaluation’ and ‘qualitative research’

Session description (planned activities)

•General introductions, ‘ground rules’ and overview of session
•Introduction to qualitative research including ontological and epistemological positions
•Buzz group activity regarding participants ‘research ideas’
-Interactive work on
-Problematization
-Gap analysis
-Research question development and refinement

•‘Dragon Dens’ presentation and ‘pitch’ of research idea
•Conclusion. Participants will complete ‘postcard reminders’ were they will write down their ‘research question’ and dates they would like to initiate their plans. This postcard will be posted to individuals on this date.

Educational methods (e.g. group dynamics, interactive methods)

A range of educational techniques will be used in this session including:
•Buzz groups
•‘Sandpit’ activities
•Small group work

Expected impact

The intended impact of this workshop is to aid participants in developing a sound and grounded research question for a qualitative research project.

Target audience

Health profession researchers and educators who are keen to develop a qualitative research project

Maximum number of participants

15

Equipment requests

Laptop, data projector, audio, flip chart and pens.