Simulation-based training to teach nurses skills in falls assessment and prevention

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Abstract
A simulation-based training course was designed to support the development of nurses’ skills in falls assessment and prevention. National guidance on falls risk assessment and prevention was used to develop the course content. The course enabled participants to practise real-life scenarios in a safe environment, reflect on their performance and receive feedback from their peers. The post-course evaluations showed positive feedback with all the nurses reporting benefit from this style of learning. They all thought their participation would have a significant effect on their clinical practice and aid their ability to care for patients who had fallen. On an organisational level, the trust has seen an 11% reduction in the number of falls since the training was introduced in 2016.

Aims and objectives
The aim was to use simulation-based training to teach nurses skills in assessment and management of falls. The first objective was to develop the nurses’ knowledge and increase their confidence in assessing and managing patients who had fallen. By training nurses in falls prevention and educating them about the causes and consequences of falls, we aimed to reduce the hospital, meaning that they must be competent and trained to assess and manage this situation. If nurses understand why a patient has fallen they can begin to prevent further falls during that patient’s hospital admission. If they are competent at assessing patients for injuries, they can prevent further injury (NICE 2015). Traditionally, medical and nursing training has consisted of an apprentice-style, didactic way of learning, but more recently simulation training has been shown to have educational benefits (Williams et al 2016). Simulation training offers nurses the opportunity to practise clinical skills in a safe yet realistic clinical environment without fear of harming a patient. A meta-analysis in 2016 showed that simulation-based learning for nurses was an effective training method (Kim et al 2016).

Keywords
education, falls, older people, simulation
The one-day course was designed and developed at Barking, Havering and Redbridge University Hospitals NHS Trust by the consultant geriatrician lead for falls, the trust falls lead (a physiotherapist) and supported by the Darzi Fellows in the simulation centre. Additional support on the day is provided by a specialty trainee in geriatric medicine and the manual handling lead. At least three facilitators are required on each training day. Due to the positive feedback received after the pilot course in April 2016, the trust’s training and education team has committed to support and fund further training sessions every two months since.

The workshop has the capacity for nine participants. The number of participants is limited to ensure that each can take the lead during the scenarios. Initially, we focused on training nurses working in the care of the elderly department but then we invited nurses from other wards in Queen’s Hospital and King George Hospital, ensuring that at least one nurse from each ward had been trained. The workshop is delivered in a simulation centre that attempts to imitate a ward environment. The practical scenarios require the nurses to practise their assessment and management of a patient who has fallen. We use a manikin (SimMan®) during these scenarios. It has palpable pulses and can simulate basic observation changes, including respiration rate and pupillary reactions (Swamy et al 2013). A microphone in the manikin enables the facilitators to communicate from another room, which aids the role play. The simulation centre has cameras and microphones that transmit to a debriefing room where the other participants observe the scenario.

The participants are sent pre-course materials based on local trust protocols one week before the course, which include an introduction to simulated learning.

The day begins with a brief interactive discussion on how to assess patients for risk of falls based on the NICE (2013, 2015) guideline and quality standard. The participants are then divided into teams of two or three for the practical scenarios. During the day, four scenarios are covered, each with a different learning outcome. All the scenarios encourage development of communication skills, using situation-background-assessment-recommendation technique, team working, leadership skills and recognition of human factors when working in stressful environments.

The scenarios and learning outcomes are:

Scenario 1: The participant is asked to assess a patient who has just been admitted to the ward and who presented with a fall and a head injury.

Aims: To enhance the nurse’s skills at assessing a patient’s neurological status after a fall and management of a patient with a deteriorating score on the Glasgow Coma Scale (Teasdale and Jennett 1974).

Scenario 2: The participant is asked to assess a patient who has fallen onto the floor during a night shift and sustained a fractured neck of femur.

Aims: To support the development of the nurse’s skills at identifying injuries after a fall and increase awareness of different manual handling techniques. We encourage participants to communicate empathetically with the patient and consider comfort measures that can be taken to improve the patient experience. A manual handling session is included to consolidate learning on what equipment is needed and how it is used to transfer patients safely from the floor to the bed depending on the injury they have sustained (Healey et al 2011). The participants can practise using a scoop to lift patients with significant injuries from the floor.

Scenario 3: The participant is asked to assess a patient who has fallen on the ward because of bradycardia.

Aims: To assess the nurse’s skills at recognising that acute illness can cause a fall. To highlight arrhythmias as a possible life-threatening cause of a fall and practise emergency care in a peri-arrest situation including escalating for senior support (Cronin and Kenny 2010).

Scenario 4: The participant is asked to speak with the relatives of the frail patient who fell on the ward overnight and sustained a neck of femur fracture.

Aim: To explore different communication techniques when breaking bad news, practising empathy and understanding the importance of duty of candour.

Practical session: The final practical session aims to highlight the importance of measuring patients’ lying and standing blood pressure and teaches participants how to measure it correctly. A brief interactive teaching session identifies the causes of postural hypotension, including common medications, and how to treat it (RCP 2017, 2018).

At the end of each scenario all the participants regroup in the debriefing room for
discussion and peer feedback. This encourages reflection and consolidation of learning.

Results
Since the pilot in 2016, 90 nurses have completed the course. After each course anonymised written feedback is collected from the participants in the form of a questionnaire. The questionnaire includes 18 questions, most using a Likert scale and some open questions to explore how the course could be improved. Feedback so far has been excellent. Of the nurses, 82% thought that the content, delivery, relevance and style of the course was ‘very good’ and the remaining 18% thought that it was ‘good’.

All the nurses reported that what they learned would benefit patient care and patient safety and the training had aided their ability to manage patients who had fallen.

Compared with the average rate of 6.63 falls per 1,000 bed days in England and Wales in 2014, the trust had 5.93 falls per 1,000 bed days (RCP 2015). A trust annual falls report (Watkins 2014, the trust had 5.93 falls per 1,000 bed days between April 2017 and March 2018. The course is part of several strategies that appear to be helping to reduce the number of inpatient falls. However, further evaluation is needed. The other strategies that are occurring simultaneously in the trust are multifactorial falls risk assessments and individualised care plans, the use of non-slip socks, low-rise beds and a falls lead who reviews all inpatients who fall during their admission.

Limitations
The course is resource intensive. It requires at least three facilitators and has the capacity to teach only nine nurses per course. The other main limitation is that occasionally it has been difficult to negotiate study leave for the nurses. Due to short staffing on the wards, sometimes the participants are called back to their ward.

Future developments
Given the success of the simulation-based training, we are keen to develop the course further. First, we intend to train all permanent nursing staff in the trust to ensure that the entire nursing population can manage patients who have fallen more effectively. Second, we are considering holding courses with the manikin on the wards that the nurses are working on, adding to the realism of the simulation and increasing the learning potential. We may also include other healthcare professionals in the simulation-based training to enable staff to take a multidisciplinary team approach to a patient who has fallen. This could help develop effective communication between different healthcare professionals and improve teamwork. We could also expand the training to the community teams, including staff who work in care homes.

We are interested in developing similar courses to address other areas of older people’s nursing, for example, dementia, delirium and continence care. These developments would be ambitious, may not be cost-effective and will be resource intensive, but they are worth exploring. We would need to explore other methods of measuring the effectiveness of these courses to justify the continued input of resources and funding from the trust.

Conclusion
The simulation-based training has received positive feedback from participants. According to their written feedback, the course appears to have improved nurses’ confidence in caring for patients who have had a fall. The feedback shows that the participants perceived this method to be an effective and enjoyable way of learning and developing clinical skills. Organisationally, there has been a reduction in the number of falls in the trust since the pilot and subsequent courses, which the trust’s training and education team are continuing to support.

References