

Developing an in situ simulation programme on renal emergencies to facilitate improvement in multidisciplinary working

Dr Ailish Nimmo¹, Mr Ian Price¹, Mr Joe Roberts¹

¹*NHS Lothian, Edinburgh, United Kingdom*

Introduction: The haemodialysis unit forms a unique environment in many hospitals. Specialist nursing staff are responsible for the care of complex patients, sometimes without on-site renal medical cover, and are required to be confident and competent in the management of medical issues until help arrives. Junior doctors often have limited experience in treating patients on dialysis or following a renal transplant. They may also be less aware of some specialty-specific issues that require consideration when dealing with medical emergencies in these patients.

Simulation teaching provides a safe, effective learning environment for individuals to develop communication, team working and clinical skills and creates opportunities for discussion and reflection on clinical scenarios.(1)

We describe a programme of in situ renal simulation sessions attended by nursing staff, foundation doctors and core medical trainees, to allow them to practise their roles in simulated emergencies. We evaluate feedback on their perception of the programme.

Methods: Fourteen hour-long simulation sessions were delivered between June 2017 and December 2018 within the renal ward and in a satellite outpatient dialysis unit. Sessions utilised a high-fidelity SimMan® mannequin. Scenarios were constructed around common or rare-but-serious medical emergencies. These compromised: hyperkalaemic cardiac arrest, arrhythmia on dialysis, air embolism, major haemorrhage following renal biopsy, line sepsis, hypertensive seizure and drug-induced anaphylaxis. Sessions comprised an orientation to the mannequin followed by the clinical scenario and a debrief discussion. Doctors and nurses completed post-tutorial feedback (n=40) exploring their thoughts on the programme.

Results: 40 healthcare professionals (30 doctors and 10 nurses) participated in the 14 simulation sessions and completed post-event feedback. All attendees felt that the sessions improved their knowledge and increased their confidence if they were to encounter similar scenarios in the future. They all felt they would be able to apply their learning to their day job. 90% of participants felt they developed stronger relationships with colleagues through the programme. In white-space boxes, comments included finding it helpful to develop communication, teamwork, leadership and delegation skills in addition to specific learning points for the individual scenarios. Sessions also helped identify practical issues, such as where to source medications or monitoring equipment within the ward or dialysis unit.

Conclusions: A renal simulation training programme is perceived by junior doctors and nurses to improve their confidence in managing medical emergencies in dialysis and renal transplant patients. It fosters a positive environment for multidisciplinary team working with respondents describing improved relationships with colleagues after the event. The sessions promote a learning culture within the unit. The programme provides an opportunity to manage and discuss rare but potentially serious situations which staff need to be aware of. Further work is needed to determine if in situ simulation teaching has an impact on patient outcome measures.