SIMULATION IN SURGICAL TRAINING: UNDERSTANDING THE BELIEFS, BENEFITS, AND BARRIERS

AUTHORS: L ROBB, S SOMERVILLE
MS LYDIA ROBB, PLASTIC SURGERY REGISTRAR, NHS SCOTLAND
DR SUSAN SOMERVILLE, MASTERS SUPERVISOR, UNIVERSITY OF DUNDEE

Introduction

It is now essential that surgical training provides high quality, time efficient opportunities to optimise learning. This is imperative in the post-pandemic era of restricted working hours, operative capacity, staffing and restructuring of health services. Simulation-based education can help achieve this, since it is well suited to surgical training, but is currently being underutilised. Surgical training must be improved to address the training gaps created by the Covid-19 pandemic to avoid neglecting future generations of surgeons.

Method

The aim of this research was to explore the perceptions of local trainers and trainees about the benefits of simulation in surgical training. An online survey was distributed to trainers and trainees from the Core Surgical Training programme in NHS Scotland. Participants were then invited to partake in a focus group to further explore the research questions. Through thematic analysis of the focus group transcript themes were constructed.

Ethical approval was granted through the University of Dundee.

Results

The Key themes were considered alongside learning theories.

- **Training Needs**: relating to the need for access to facilities and equipment for regular deliberate practice to incorporate mastery learning, reflecting cognitive load theory.
- **Relationships**: relating to the need for a trainer-trainee relationship and mentorship during simulation training, reflecting social learning theories.
- **Limiting Factors** such as cost, facilities, accessibility, working hours and job plans were grouped together as an overarching theme of Limiting Factors.
- **Patient Safety** as a theme was prominently cited and is underpinned by the experiential learning theory.

Conclusion

Current surgical training programmes are outdated with minimal advances since the changing landscape of the pandemic, as well as rapidly advancing technological opportunities. Simulation-based education in surgery should be re-designed considering core learning theories and incorporating and addressing these key themes identified by those delivering and receiving surgical training.

These 4 pillars highlight that there cannot be a one size fits all surgical simulation programme. Instead it must be designed to allow for flexibility and implementation locally. Relationships are pivotal to successful training, which should be tailored to suit the individuals training needs. Identifying and mitigating limiting factors in local units are essential for successful implementation of any programme.

The findings from this research has potential to inform training authorities, to influence future developments in training programmes.

4 Pillars

Figure 1 - The 4 pillars for designing Surgical Simulation Training

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AUTHOR CONTACT DETAILS: LYDIA.ROBB@DOCTORS.ORG.UK