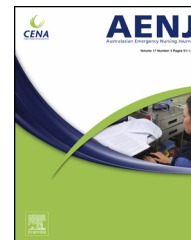




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LITERATURE REVIEW

What is the impact of multidisciplinary team simulation training on team performance and efficiency of patient care? An integrative review



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Summary

Background: In hospital emergencies require a structured team approach to facilitate simultaneous input into immediate resuscitation, stabilisation and prioritisation of care. Efforts to improve teamwork in the health care context include multidisciplinary simulation-based resuscitation team training, yet there is limited evidence demonstrating the value of these programmes.¹ We aimed to determine the current state of knowledge about the key components and impacts of multidisciplinary simulation-based resuscitation team training by conducting an integrative review of the literature.

Methods: A systematic search using electronic (three databases) and hand searching methods for primary research published between 1980 and 2014 was undertaken; followed by a rigorous screening and quality appraisal process. The included articles were assessed for similarities and differences; the content was grouped and synthesised to form three main categories of findings.

Results: Eleven primary research articles representing a variety of simulation-based resuscitation team training were included. Five studies involved trauma teams; two described resuscitation teams in the context of intensive care and operating theatres and one focused on the anaesthetic team. Simulation is an effective method to train resuscitation teams in the management of crisis scenarios and has the potential to improve team performance in the areas of communication, teamwork and leadership.

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Conclusion: Team training improves the performance of the resuscitation team in simulated emergency scenarios. However, the transferability of educational outcomes to the clinical setting needs to be more clearly demonstrated.

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What is known

- Resuscitation situations require a high level of team performance by an organised team comprising a multidisciplinary group of medical and nursing staff.
- One educational strategy used to train teams is simulation.

What this paper adds

- Resuscitation team training contributes to effective communication, teamwork and leadership which ultimately constructively impacts patient outcomes.
- Simulation enhances team training.
- The evidence to support resuscitation team training is positive, but limited, and requires further research to develop and validate team training programmes.

Introduction

Emergency situations require the resuscitation team to resuscitate and provide initial lifesaving treatment. Resuscitation situations require a high level of team performance by an organised team comprising a multidisciplinary group of medical and nursing staff.¹ This allows for the simultaneous and coordinated input from all members to address the need for rapid resuscitation, stabilisation and prioritisation of patient care and can enhance patient outcomes.² Alongside advanced clinical skills, members need to be proficient in non-technical skills, including team leadership and communication³ to make time-critical decisions and perform lifesaving interventions. Despite this organised response, errors in emergency management continue to occur.⁴ Threats to patient safety include, but are not limited to, errors in judgement by the resuscitation team.⁵ Investigations of adverse events that have occurred during the high stress environment of an emergency reveal failures of teamwork, communication, workload distribution and decision making.²

Traditionally, health education programmes have not incorporated multidisciplinary team training as it is assumed that individuals acquire competencies in team work without formal training.⁶ However, more recently multidisciplinary education has been gaining widespread appeal as the complex nature of healthcare relies on multidisciplinary teamwork. One educational strategy used to train teams is simulation. It is based on the experiential learning theory which provides devices, staff, virtual environments and contrived situations that replicate the clinical

environment and events that arise in professional situations.⁸ Despite the wide acceptance and increasing use of simulated training, the literature describing and evaluating the role of simulation-based team training in resuscitation and its impact on team performance and patient outcomes is scarce. Hence this review explores resuscitation team training in relation to any hospital resuscitation setting, from trauma teams to in-hospital resuscitation teams responding to emergency situations.

Aim

The aim of this integrative literature review was to synthesise existing evidence on the impact of multidisciplinary simulation-based resuscitation team training on team performance, and patient and health service outcomes. Specifically, the intent was to explore if and how multidisciplinary team training improves team performance in an emergency, and if improved teamwork leads to improved efficiency in the delivery of patient care. The following questions guided the literature review:

1. Does multidisciplinary simulation-based resuscitation team training lead to improved team performance?
2. Does teamwork lead to efficiency in resuscitation management?
3. What simulation training models for resuscitation teams are evident in the literature?
4. What do staff perceive are the necessary components of multidisciplinary simulation-based resuscitation team training?

Method

An integrative review method was used to explore these research questions as it enables a comprehensive review of literature employing diverse methodologies.⁹ Given the lack of dedicated research on resuscitation team training in hospital settings, an integrative review of the literature allowed for the inclusion of varied types of literature to fully investigate this phenomenon. The findings were then analysed allowing a range of conclusions to be reached.¹⁰

The research questions were developed using the PICO framework.¹¹ The participants included teams who respond to in-hospital resuscitations. Resuscitation was defined as acting on immediate and life threatening patient emergencies.¹² The intervention was teamwork training using simulation. The outcome was the impact of team training on team performance and efficiency of patient care. The review was undertaken using the electronic

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