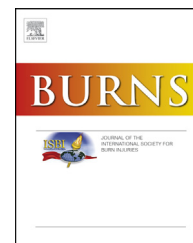


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Burns education for non-burn specialist clinicians in Western Australia



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ABSTRACT

Background: Burn patients often receive their initial care by non-burn specialist clinicians, with increasingly collaborative burn models of care. The provision of relevant and accessible education for these clinicians is therefore vital for optimal patient care.

Design/methods: A two phase design was used. A state-wide survey of multidisciplinary non-burn specialist clinicians throughout Western Australia identified learning needs related to paediatric burn care. A targeted education programme was developed and delivered live via videoconference. Pre-post-test analysis evaluated changes in knowledge as a result of attendance at each education session.

Results: Non-burn specialist clinicians identified numerous areas of burn care relevant to their practice. Statistically significant differences between perceived relevance of care and confidence in care provision were reported for aspects of acute burn care. Following attendance at the education sessions, statistically significant increases in knowledge were noted for most areas of acute burn care.

Conclusions: Identification of learning needs facilitated the development of a targeted education programme for non-burn specialist clinicians. Increased non-burn specialist clinician knowledge following attendance at most education sessions supports the use of videoconferencing as an acceptable and effective method of delivering burns education in Western Australia.

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1. Introduction

Morbidity and mortality in burn patients is reduced with optimal treatment [1,2]. Burn patients often receive initial care in their local health care facility by non-burn specialist clinicians in Western Australia (WA), as the state-wide paediatric burn

service covers an area of 2.5 million km² delivered from the state's tertiary paediatric hospital in the capital Perth [3,4]. Faced with the challenges of distance and the associated long patient transfer times, burns telehealth services were established for WA in 2005, with the understanding that the initial treatment provided influences patient outcomes. Rural/remote clinicians therefore play an important role in the management of burn

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patients living in rural/remote areas of WA in collaboration with the state tertiary paediatric hospital's burns team [5].

Collaborative approaches to burn care for rural/remote patients encourage initial healthcare providers to utilise their important role in the provision of appropriate triage and initial treatment, and to recognize and refer complications to the burn multidisciplinary team, facilitating the best possible treatment for burn patients [6]. Although clinical support and advice is provided for rural/remote clinicians treating burn patients via the telehealth service, a further support mechanism was proposed to provide a continuous state-wide clinician education programme.

Rural/remote clinicians practice in geographic isolation, express unique learning needs, have less access to professional development and function in clinical environments different to clinicians practicing in metropolitan hospitals and tertiary burn units [7,8]. For many rural/remote clinicians, attendance at specialised courses can be challenging due to the barrier of distance, especially in a state as large as WA. E-health technologies such as videoconferencing are often used to overcome distance when accessing education from metropolitan teaching hospitals and the use of such education programmes have demonstrated improvement in clinician knowledge [9,10]. When developing an education programme, adult learning theory highlights the importance of involving the proposed target audience in the planning phase through the use of a learning needs analysis in order to highlight relevant areas of knowledge that should be targeted to increase competence [11,12]. Self-reported confidence is a consequence of clinical competence, therefore a disparity between perceived relevance and confidence amongst participating clinicians represents an area requiring education and clinical support [13].

Building on the established telehealth network, the development of a collaborative, relevant burns education programme that was accessible to rural/remote clinicians was therefore the next step in supporting optimal burn care for patients.

2. AIMS

This study aimed to

- (1) Identify the learning needs of multidisciplinary non-burn specialist clinicians in WA regarding the assessment and management of paediatric burn patients.
- (2) Develop a targeted burns education programme for non-burn specialist clinicians in WA.
- (3) Evaluate the effectiveness of the education programme delivered via videoconference in increasing clinician knowledge of burns assessment and management.

3. Methods

A two phase design was used to address the aims of the study.

3.1. Phase one

A survey of the learning needs of non-burn specialist clinicians in WA was conducted.

3.1.1. Survey distribution

All relevant Medical/Executive Directors in WA were posted a notification letter describing the study along with a copy of the survey, requesting they contact the author if they did not wish their health service to participate. Two weeks after initial Medical/Executive Director letters were sent, no objections were received.

A two page paper based state-wide survey was delivered via mail to the Nurse Managers or Directors of Nursing of all hospitals and nursing posts throughout WA for distribution to clinical staff, with the exception of the two tertiary hospitals in WA with an on-site burn service.

3.1.2. Sample

The sample consisted of non-burn specialist medical, nursing, allied health and other health professionals working throughout more than 180 government hospitals and nursing posts in WA with no burns unit within their current healthcare facility.

3.1.3. Data collection

The learning needs assessment survey included: participant occupation, years of clinical experience, burn care experience, perceived relevance of burns related topics, confidence with burns related care, would they access burn education via videoconference and how would they access burns advice. Suggested burn topics listed were obtained by referring to the Australian New Zealand Burn Association Emergency Management of Severe Burns Course Book [14] and Total Burn Care [15], both texts considered highly relevant to the acute management of burn patients in clinical settings.

Respondents were asked to use a Likert scale to indicate whether they strongly agree/agree/disagree/strongly disagree with various statements regarding their perception of relevance to their current practice and confidence in their own knowledge/skills regarding various paediatric burn care topics. The Likert scale measured the degree of agreement or disagreement with an expressed statement, such as the relevance of a given topic to the clinicians' current practice [16].

3.1.4. Data analysis

Respondents completed the survey anonymously, returned them via mail to the author and data was entered into an Excel spreadsheet. Spearman rank correlation coefficient was used to compare perceived relevance and confidence in all aspects of burn care.

3.2. Phase two

Utilising the learning needs survey results, a comprehensive, multidisciplinary curriculum was written, promoted and delivered state-wide throughout WA via live videoconference sessions. Internet protocol (IP) videoconferencing equipment was used at both the delivering and receiving sites, with the use of an IP "bridge", which enabled multiple sites to attend the education sessions simultaneously throughout WA.

The curriculum was divided into six modules of 45 min PowerPoint sessions. The module topics were: burns prevention and first aid; airway and inhalation injury; circulation and fluid resuscitation; burn wound assessment, management

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