Disaster content in Australian tertiary postgraduate emergency nursing courses: A survey

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Summary  
Background: Emergency nurses play a pivotal role in disaster relief during the response to, and recovery of both in-hospital and out-of-hospital disasters. Postgraduate education is important in preparing and enhancing emergency nurses’ preparation for disaster nursing practice. The disaster nursing content of Australian tertiary postgraduate emergency nursing courses has not been compared across courses and the level of agreement about suitable content is not known.  
Aim: To explore and describe the disaster content in Australian tertiary postgraduate emergency nursing courses.

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Introduction

Disasters are events that interrupt the normal functioning of a community resulting in the need for external human and/or physical resources to maintain essential services. From a health perspective, disasters exhaust the normal day-to-day operational healthcare delivery capacity for a community. Historically, Australian emergency nurses have actively participated in disaster relief, in both the response to and recovery from disaster that have affected healthcare delivery in local, national and international contexts. Fundamental to the participation of nurses in a disaster, are an individuals’ disaster preparedness and in particular, their educational preparation. Recently, exploratory research in Australia highlights the importance of educational preparation and willingness to assist in disaster relief.

In general, little is known about the educational preparation of Australian emergency nurses pertaining to disasters. Existing research indicates that there is little time allocated to disaster content in Australian undergraduate nursing curricula. Anecdotally, in-service style education relating to disaster relief is available to nurses within their employing institution or other organisations such as the Australian Red Cross, St John Ambulance Australia and the Australian Defence Force. However, research detailing Australian nurses’ real-life experiences of disasters from the 2004 Sumatra–Andaman Earthquake and Tsunami, and the 2009 Black Saturday and Victorian Bushfires suggests an education-practice mismatch. Additionally, a recent study of Australian emergency nurses suggests wide variation in the availability, appropriateness and relevancy of disaster related education.

Less is known about postgraduate education and the influence this has on nurses’ preparedness to participate in disaster relief. There is some research that demonstrates that the willingness of Australian emergency nurses to participate in disaster relief is increased if the nurse had completed formal education courses such as postgraduate studies. Additionally, one study demonstrated that undertaking postgraduate studies which included content pertaining to chemical, biological and radiological [CBR] disasters, increased nurses willingness to participate in CBR disaster relief. However, little is known about the disaster related content in Australian tertiary postgraduate emergency nursing courses.

Aim

The aim of this research was to describe the type and nature of the disaster content in Australian tertiary postgraduate emergency nursing courses.
Methods

Design and setting

A retrospective, exploratory and descriptive research design was used to analyse the disaster content of Australian tertiary postgraduate emergency nursing courses in 2009.21

Recruitment

Potential courses were identified by searching websites of all Australian Universities in October 2009. Each university website was searched using key terms such as 'emergency' and/or 'nursing'. Additionally, the postgraduate course sections of each university were browsed to identify relevant courses. Only specialist emergency nursing courses were included. Courses where an emergency nursing element was embedded within a critical care course were not included. Twelve Australian universities offering specialist tertiary postgraduate emergency nursing courses in 2009 were identified as being relevant to meet the aims of this research. The course convenor of each course was identified as the key contact and participant for this research. Course convenors from ten of the twelve Australian specialist postgraduate emergency nursing courses voluntarily consented and participated in the research.

Instrument design

The research team designed and administered a single structured telephone survey with each participant. The survey consisted of two parts. Part one contained questions pertaining to the demographic data of the participating course convenor, including gender, age, qualifications, years of experience in nursing and emergency nursing, years of experience as course convenor, and disaster experience. Part two of the survey was used to gather descriptive information about the type and level of the postgraduate emergency nursing course, number of graduates, method(s) of course content delivery (such as face-to-face, self-directed, and on-line) and date of last course review. Questions regarding the disaster content within the courses were established from reviewing disaster nursing concepts drawn from the International Council of Nurses (ICN) and World Health Organisation (WHO) competencies22 and other disaster nursing literature.23 The survey was pilot tested by nurses with research experience either in disasters or survey design in order to establish face and content validity. Following this pilot test, there were only minor grammatical changes made and all experts agreed that the instrument was clear and understandable.

Data collection and analysis

Data was collected by one of the authors (JR) using the survey that was administered by telephone interview with each participant. The survey was conducted between December 2009 and February 2010. The data collected during these interviews pertained to the courses that were delivered in 2009. The data were analysed descriptively using Microsoft Excel 2010 (Microsoft Corporation, Redmond, WA, USA).

Human research ethics approval

Ethical approval to conduct this research was received from the Calvary Health Care ACT Human Research Ethics Committee, which is regulated by the National Health and Medical Research Council of Australia. The research was conducted in accordance with the approved protocol and no withdrawals or complaints were received.

Findings

Participant demographics

All participants were female (n=10) with a median age of 43.5 (IQR: 40.2–44) years. The participants’ length of service in a nursing and education role is outlined in Table 1. All ten participants held postgraduate qualifications, which ranged in content and number (one to four qualifications). Seven participants held emergency nursing specific postgraduate qualifications and two held critical care qualifications. Three were Masters prepared and three held Doctoral qualifications. No participant held formal tertiary postgraduate qualifications relating specifically to disaster health, four had undertaken relevant short courses such as the Major Incident Medical Management and Support (MIMMS) program. Five participants had postgraduate qualifications in or relating to education. Four of the ten participants reported having real-life mass casualty incident experience, ranging from the evacuation of a local aged care facility due to a local bushfire, to major mass casualty transport incidents.

Course details

Of the ten universities, seven offered a graduate certificate course, five offered a graduate diploma course, and five offered a Masters level degree in emergency nursing. Seven universities offered these courses in a nested arrangement where students could articulate between a Graduate Certificate, Graduate Diploma or Master’s degree. The majority (n=8) of courses were delivered on-campus; the curriculum included online and self-directed learning teaching modalities. Two of the ten universities delivered their course exclusively online.

Six of the ten universities provided details regarding the number of graduates from emergency nursing courses for the period 2007–2009. These six universities had collectively

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Median (interquartile range) of participants nursing and education demographics.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Median (IQR)</td>
</tr>
<tr>
<td>Years as a registered nurse</td>
<td>20 (16–21)</td>
</tr>
<tr>
<td>Years as an emergency nurse</td>
<td>15 (13–18)</td>
</tr>
<tr>
<td>Years in an educator role</td>
<td>10.5 (3–12)</td>
</tr>
<tr>
<td>Years as a course convenor</td>
<td>2 (1–3)</td>
</tr>
</tbody>
</table>
graduated 767 students (Median: 126.5, IQR: 58.8–180) in emergency nursing in the previous three years (see Table 2).

Course disaster content

Seven of the ten courses included some content relating to disaster health and three had no disaster content. The content of the seven courses is summarised in Table 3.

Three participants reported having objectives relating to disasters within their courses. These objectives included defining a disaster, identifying the components of a disaster action plan, nursing roles and responsibilities in disasters, emergency department role in disasters, identifying and discussing events that lead to disaster, and discussing the

implications of disaster management at local, state and national levels. Only one course included a disaster-related assessment item, which was embedded within a final exam.

The disaster content was delivered by the course convenor for the majority (n = 6) of courses. Participants reported that occasionally an expert, such as a trauma coordinator, delegate from the health department or a disaster unit coordinator delivered disaster related content. The format of content delivery varied; including lectures (n = 4), tutorials (n = 3), online activities (n = 2), prescribed readings (n = 2) and workshops (n = 1). Overall, the number of (lectures, tutorials or workshop) hours of on-campus disaster specific content ranged from 0.5 h to 10 h.

Half of the participants reported that the content of their course had been modified in the four years (median: 1, IQR: 0–2) prior to this survey. The most common modifications to disaster content were adding content relating to pandemics and terrorism, and changing the delivery of content from face-to-face to being online. Other reported modifications included changing the prescribed readings and having different guest speakers present the content.

Discussion

This research has demonstrated that the majority of Australian postgraduate emergency nursing courses contain some disaster content. Interestingly, the importance of disaster health was highlighted in three courses where participants reported having learning objectives relating specifically to disasters. Additionally, the reported disaster content seemed contemporary with recent course modifications to include topics such as pandemics and terrorism, reflecting the influence of recent world events. Whilst seven of the ten courses included in this research contained content relating to disaster health, the content type and duration of this content varied. Of the courses that did include disaster content, the least common content were: the health effects of disasters, management of the dead and dying, and practical application of disaster response skills. In the context of limited space for curricula, further research is required to determine the disaster-related topics that are essential for preparing emergency nurses for disaster relief via national standards and industry consultation.

The endorsement of disaster core competencies for nurses such as those from the ICN/WHO by Australian nursing regulators, could provide the necessary underpinning required to achieve greater consensus about disaster content across tertiary postgraduate emergency nursing courses.22 A national education framework specifically for disaster health has been proposed and recommends that postgraduate certificate, diploma and masters graduates should have expert knowledge regarding aspects of health in disasters.23 There have been other examples of national education frameworks for emergency nurses that have aimed at increasing consistency of educational preparation and therefore performance. Notably, Australia has had a national approach to triage education since 2002 with the Triage Education Resource Book, revised in 2007 to become the Emergency Triage Education Kit.24,25 The triage education framework was commissioned by the Commonwealth

Table 2 Graduate numbers from emergency nursing courses 2007–2009 inclusive.

<table>
<thead>
<tr>
<th>University</th>
<th>Students (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>240</td>
</tr>
<tr>
<td>B</td>
<td>180</td>
</tr>
<tr>
<td>C</td>
<td>180</td>
</tr>
<tr>
<td>D</td>
<td>73</td>
</tr>
<tr>
<td>E</td>
<td>54</td>
</tr>
<tr>
<td>F</td>
<td>40</td>
</tr>
<tr>
<td>Total</td>
<td>767</td>
</tr>
</tbody>
</table>

Table 3 Curriculum content.

<table>
<thead>
<tr>
<th>Types of disasters (e.g.: CBR, natural)</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examples of disasters (e.g.: bushfires, tsunami)</td>
<td>7</td>
<td>70</td>
</tr>
<tr>
<td>Hospital response</td>
<td>7</td>
<td>70</td>
</tr>
<tr>
<td>Nursing role in disaster</td>
<td>7</td>
<td>70</td>
</tr>
<tr>
<td>Disaster triage</td>
<td>6</td>
<td>60</td>
</tr>
<tr>
<td>Community and public health response</td>
<td>6</td>
<td>60</td>
</tr>
<tr>
<td>Pre-hospital response</td>
<td>6</td>
<td>60</td>
</tr>
<tr>
<td>Communications techniques (e.g.: radio procedure, phonetic alphabet)</td>
<td>6</td>
<td>60</td>
</tr>
<tr>
<td>Disaster plans – local/state/federal</td>
<td>6</td>
<td>60</td>
</tr>
<tr>
<td>Sustainability (e.g.: human and physical resources)</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>Incident systems</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>Role of other organisations in disaster response</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>Mental health (e.g.: PTSD) in relation to disasters</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>Populations with specific needs (e.g.: children, elderly, disabled, sensory/technology impaired)</td>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>Health effects of disasters</td>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>Management of the dead and dying</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Practical disaster exercise</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

CBR = chemical, biological, radiological; PTSD = post-traumatic stress disorder.
Government in order to provide nurse educators with a standardised teaching resource and with the aim of enhancing consistency of application of the Australasian Triage Scale. The importance of educational preparation in terms of decision performance is highlighted in the triage literature. Factual knowledge has been clearly shown to be an important factor in improving triage decisions.

While the notion of a national disaster health education framework has merit in terms of increasing consistency of educational preparation, the intent of all emergency nurses developing expert knowledge in disaster health is not realistic. Unlike triage, which is a skill emergency nurse’s use regularly, not all emergency nurses will be exposed to a disaster during their careers. Further, postgraduate emergency nursing curricula are limited in terms of hours of content so the focus of postgraduate emergency nursing education should correctly be developing expert skills in supporting the daily core business of emergency care. Disaster relief, although uncommon, is an important element of emergency nursing. A national disaster health education framework should focus on enhancing emergency nurses’ awareness of the realities of working in disasters and the application of core emergency nursing skills in different contexts, such as disasters. The proposed national disaster health education framework seems a logical position to commence further discussions about the integration of disaster content in postgraduate courses for emergency nurses.

Limitations

This study relied on self-reported data from course convenors, subjecting the study and data collection to recall bias. This retrospective approach may have limited the ability of participants to recall details of their course content accurately. Additionally, this research was conducted regarding courses that were conducted in 2009 and courses today may have different content.

Conclusion

This is the first published Australian research pertaining to the disaster content in tertiary postgraduate nursing courses. Of particular note, this research reveals that disaster content is variable across Australian tertiary postgraduate emergency nursing courses. Disaster content should be a feature of tertiary postgraduate emergency nursing courses, as it is likely to increase nurses’ willingness and preparedness for participation in disaster relief. Additionally, consistency in the disaster content of postgraduate emergency nursing courses could be enhanced by providing a national disaster health education framework incorporating competencies from the ICN/WHO.

Provenance and conflict of interest

The following authors hold editorial positions within the Australasian Emergency Nursing Journal, but had no role in the peer-review or editorial decision-making of the paper whatsoever: Jamie Ranse (Associate Editor), Ramon Z Shaban (Editor-in-Chief), Julie Considine (Deputy Editor) and Shane Lenson (Associate Editor). Shane Lenson and Karen Hammad are company directors of the College of Emergency Nursing Australasia, but this had no bearing on the peer-review or editorial decision-making whatsoever. This paper was not commissioned.

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