



Contents lists available at ScienceDirect

Nurse Education in Practice

journal homepage: www.elsevier.com/nejpr

Strengthening and preparing: Enhancing nursing research for disaster management



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ARTICLE INFO

Article history:

Accepted 6 March 2014

Keywords:

Disaster management
Research
Training
Education

ABSTRACT

Nurses are often first line responders in a large scale emergency or disaster. This paper reports an evaluative study of a tailored research capacity building course for nurse delegates from the Asia Pacific Emergency and Disaster Nursing Network (APEDNN). Twenty-three participant delegates from 19 countries attended a three-week course that included learning and teaching about the critique and conduct of research. An outcome of the course was the collaborative design of a study now being implemented in a number of countries with the aim of investigating nurses' preparedness for disaster response. Formal mentoring relationships have also been established between more and less experienced peers and facilitators to provide support in implementing this collaborative study. Overall, participant delegates rated the planning, implementation and content of the course highly. Recommendations from this study include funding a mix of face-to-face and distance mentoring and writing for publication workshops to ensure the sustainability of outcomes from a research capacity building course such as the one described.

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Introduction

Emergencies and disasters are a relentless and increasing occurrence in the Asia-Pacific region. These events result in high numbers of deaths and injuries, cause huge amounts of infrastructure damage and lead to massive economic and personal losses for communities (WHO/WPRO, 2005). Climate change is implicated in many of these events, especially adverse weather events (Simpson et al., 2011). Natural disasters resulting from adverse weather events are, by nature, sudden events affecting large numbers of people and leaving a path of destruction with long-term consequences. Major disasters occurring in both developed and developing countries often require large scale multinational intervention to provide urgent humanitarian aid (Bui et al., 1999; Bui et al., 2000). Small island states are particularly vulnerable and at risk of disaster (Pelling and Uitto, 2001).

Nurses living in areas at risk from natural disasters require disaster preparedness training and practice in evacuation procedures to assist people to reach safety and to minimise injury and mortality among vulnerable and disadvantaged populations (Sullivan and Häkkinen, 2006). Nurses constitute the largest sector of the healthcare workforce and will be on the frontlines of any disaster emergency response (Veenema, 2006). Nurses working across the health system at all levels respond to and lead the recovery phases of natural disaster management. Nurses are uniquely qualified to provide disaster first aid and care for victims affected by disaster in any large-scale public health emergency. Thus it is essential that nurses are prepared to respond to disaster situations if required (Veenema, 2013). However, many nurses continue to feel inadequately prepared to function effectively in these types of situations (Fritsch and Zang, 2009; Littleton-Kearney and Slepski, 2008). A study of nurse responses to the 1995 Japanese earthquake found most nurses were not prepared for assisting survivors/victims in disasters (Minami, 2007). Similarly, healthcare providers who were involved in the US Hurricanes Katrina and/or Rita disaster responses felt underprepared in disaster-specific response skills (Slepski, 2007). A study of the aftermath of the tsunami in Aceh, Indonesia highlighted the lack of mental health support and psychosocial training for nurses (Pelling and Uitto, 2001; Viora et al., 2006).

A dearth of evidence available to guide the management of disaster response and recovery has led to nurses identifying a need for educational preparation to undertake research that will better prepare them to manage future disasters (Fritsch and Zang, 2009). Research capacity building in health services more generally is an internationally recognised need (Cooke, 2005).

Research capacity building or strengthening has the ultimate aim of improved health practices through sustained change (Crisp et al., 2000). Two approaches to research capacity building are: enhancing the capacity of individuals and organizations through knowledge and skill development (Essence, 2011); and the development of partnerships, collaborations and information sharing between organisations and groups of people (Crisp et al., 2000; Essence, 2011). The principles of capacity building include participation, local context, building on strengths, long-term commitment, and continuous learning including reflection (Essence, 2011). Several factors facilitate the success of research capacity building. These include mentoring to develop research skills and critical thinking through dialogue, and the creation of research networks to support researchers in the application of their knowledge and skills. Research networks, particularly multinational networks, increase capacity to do research and capacity to apply and share the results of research (Essence, 2011).

This paper provides an overview of a research capacity building course for nurses involved in disaster response and recovery. A description of the course itself and findings from the course evaluation are presented.

Background

The Asia-Pacific Emergency Disaster Nursing Network (APEDNN) was formed in 2007 in response to the rising numbers of disasters in the region and the need for capacity building to assist nurses to be better prepared to respond appropriately when a disaster occurs. Now established as a leader in disaster nursing and management in the Asia-Pacific region, the APEDNN's mission is to promote the ability of nursing professionals to reduce the impact of disasters on the health of communities (Fritsch and Zang, 2009; Usher, 2010). There was a paucity of available evidence to inform disaster management interventions (Fritsch and Zang, 2009) and nurses generally lack the required skills to effectively conduct

research (Cooke, 2005). These two factors prompted APEDNN members to request assistance with research education from their partner organizations. James Cook University's World Health Organization Collaborating Centre staff, active members of the APEDNN since its inception, has taken a lead role in the ongoing research capacity building exercises of the Network. As a way to expedite progress with this APEDNN activity, the WHO Collaborating Centre staff, in collaboration with APEDNN members, applied for funding from AusAID to host a three-week research capacity building course in Cairns, Australia in 2012. The application was successful with 23 APEDNN members from across the Asia-Pacific region attending the course between the 26th November and 14th December 2012 (see Table 1 for countries represented in the course). The purpose of the course was to enhance the technical and research skills of participants so they could manage the research disaster agenda of the Asia Pacific Emergency Disaster Nurses Network (APEDNN) and improve member capacity in preparation for emergency response and future disaster management.

The three-week research course was designed for and presented to the 23 APEDNN members by academic staff, including a research intern. An interactive approach to teaching, incorporating the iterative principles of action research, was adopted throughout the course. A range of communication mediums were used including social media, such as Facebook and Twitter. The APEDNN had previously identified their members' key disaster management research learning needs as a key precursor to capacity building (Crookes and Bradshaw, 2002). This was used to guide the development of the course. Participants wrote feedback about their learning and understandings at the end of each day, and this feedback was used to assist facilitators to understand the learning needs of the participants and to modify future content as required.

The course was aimed at a beginner level but more advanced materials were offered to participants who already had research capacity. Sessions were organized so the more formal teaching occurred in the morning, and workshops and presentations were held in the afternoon. Topics covered in the formal sessions are outlined in Table 2. Included in the afternoon program were: library tutorials, using referencing software, statistics, thematic analysis, participants' poster presentations, English expression and editing, and team building exercises. Innovative techniques were used for teaching research and focused on group activities and team building. An example of this was the "Marshmallow Challenge" (<http://marshmallowchallenge.com/Welcome.html>), which was used to illustrate factors team members should consider when planning and implementing a team research study. A one-day conference was held at the end of the three weeks, with

Table 1
Countries represented in the research capacity building course.

Bangladesh	1 participant
Bhutan	1 participant
Cambodia	3 participants
China	2 participants
Cook Islands	1 participant
Indonesia	2 participants
Laos	2 participants
Nepal	1 participant
Nuie	1 participant
Palau	1 participant
Papua New Guinea	1 participant
Philippines	2 participants
Samoa	1 participant
Solomon Islands	2 participants
Tonga	2 participants

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