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RESEARCH PAPER

Finding positives after disaster: Insights from nurses following the 2010—2011 Canterbury, NZ earthquake sequence

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Summary
Background: This paper identifies positive aspects of nurse experiences during the Canterbury 2010—2011 earthquake sequence and subsequent recovery process.
Methods: Qualitative semi-structured interviews were undertaken with 11 nurses from the Christchurch area to explore the challenges faced by the nurses during and following the earthquakes. The interviews took place three years after the start of the earthquake experience to enable exploration of the longer term recovery process. The interview transcripts were analysed and coded using a grounded theory approach.
Results: The data analysis identified that despite the many challenges faced by the nurses during and following the earthquakes they were able to identify positives from their experience. A number of themes were identified that are related to posttraumatic growth, including; improvement in relationships with others, change in perspective/values, changed views of self and acknowledgement of the value of the experience.
Conclusions: The research indicates that nurses were able to identify positive aspects of their experiences of the earthquakes and recovery process, suggesting that both positive and negative impacts on wellbeing can co-exist. These insights have value for employers designing support processes following disasters as focusing on positive elements could enhance nurse wellbeing during stressful times.

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What is known

- It is clear from our detailed review of the literature that not much is known about this topic of posttraumatic growth after disaster in those that are tasked to assist in the recovery. This is particularly so in the nursing profession.

What this paper adds?

- We hope that this research begins to show how nurses were able to identify positive aspects of their experience in the recovery and response process, and how this may help to bolster work place wellbeing when nurses are called upon to assist during disasters.

Introduction

There is a significant body of research detailing the negative impact of disasters on mental health. Reviews of disaster studies have concluded that large-scale community traumas can result in a significant increase in psychological problems in the short-term and can have significant negative physical and mental health consequences years after a disaster.[1–3] Several studies have identified that rescue and recovery workers engaged in disaster relief are at increased risk of developing mental health problems such as post-traumatic stress disorder, depression and anxiety[4,5] and at increased risk of empathy exhaustion, burnout, compassion fatigue, or vicarious traumatisation[5,6]. It is expected that nurses, like other health professionals, play a significant role following a disaster. Indeed, nurses have been active participants in response and recovery efforts during disasters. [7–9] Ranse and Lenson[10] used a qualitative approach (telephone interviews) to explore the role of nurses in the Black Saturday and Victorian bush fires in Australia, 2009. This research found that while nurses may think of their role at times of disaster in terms of emergency clinical care their role in actuality consisted of four areas: providing minimal clinical care, being a psychosocial supporter, coordinating care and resources, and problem solving. This broad nursing role has also been found in research following the Wenchuan earthquake in China.[11]

In contrast to the overwhelming evidence of negative consequences of traumatic event exposure, work by Tedeschi and Calhoun[12] has promoted an interest in the potential for a positive reaction to potentially traumatic events, a construct they termed posttraumatic growth. Tedeschi and Calhoun[13] define posttraumatic growth as ''*positive psychological change experienced as a result of the struggle with highly challenging life circumstances*'' (p. 1). Posttraumatic growth refers to the development of positive changes and outlook following trauma, with its focus on five major aspects: improved relationship with others, increased personal strength, identification of new possibilities, positive spiritual changes, and increased appreciation of life.[13,14] Posttraumatic growth has been observed in various trauma-exposed civilian populations, including survivors of serious medical illnesses (e.g., AIDS/HIV), rape and disasters as well as bereaved individuals.[13–18]

Research suggests that there are three dimensions of posttraumatic growth observed most frequently. First, relationships with others are improved to some extent. Second, people change their views of themselves after adversity in some way. Third, people's life philosophy is also changed.[13,19–22] As more and more attention is being paid to the positive adjustment following trauma and adversity, research is addressing the correlates and predictors of growth, with various findings such as the importance of stress appraisal, social support, coping strategy and personality variables, increased positive mental health, reduced negative mental health and better subjective physical health.[18] Younger age, being married, female gender and higher level of education were also found to be significant predictors of positive changes following trauma.[16] Studies have also found that posttraumatic stress disorder (PTSD) symptoms were associated with posttraumatic growth.[16,23,24] These symptoms include repeated intrusion of trauma-related thoughts and images, which are in turn associated with hyperarousal that needs to be defended against by avoidance and numbing of general responsiveness. Previous studies found that disaster-related exposure such as personal injuries, loss of or damage to property, and relocation to temporary shelters were related to post disaster adjustment, although it is not certain whether the association between the disaster-related exposure and post disaster adjustment is positive or negative.[14,16,17,24,25]

On September 4, 2010, a magnitude 7.1 earthquake struck the Canterbury region of New Zealand. The National Crisis Management Centre was activated and a State of Emergency was declared in Christchurch and the surrounding districts of Selwyn and Waimakariri. Although there was no loss of life, there were a number of serious injuries and significant damage to land, buildings, and infrastructure. Approximately 6 months later, on February 22, 2011, a magnitude 6.3 earthquake struck which caused much greater damage and resulted in significant loss of life. It was the second deadliest natural disaster in New Zealand history with 185 deaths and approximately 7500 people were injured. A national State of Emergency was declared and remained in effect until April 30, 2011.[26]

These two major events, in association with more than 13,000 aftershocks of greater than magnitude 2.0 after September 2010,[27] exposed affected individuals and families to substantial and recurrent acute stress as well as to chronic stress imposed by the on-going human, economic, and social costs. The earthquakes resulted in significant detrimental effects across social, natural, built, and economic environments. The loss of lives, homes, neighbourhoods, businesses, jobs, livelihoods and schools has had major implications for the health and wellbeing of affected individuals and communities requiring a collaborative response to support psychosocial recovery.[28,29]

Fergusson et al.[30] assessed the relationship between exposure to the Canterbury earthquake sequence and both self reported distress and positive impacts using data collected as part of a 35 year longitudinal study (Christchurch Health and Development Study). Those participants with higher levels of exposure reported significantly higher levels of distress approximately two years after the start of