Exposure to crises and resiliency of health care workers in Singapore

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Background

Health care workers are exposed to various work-related traumatic incidents and crises, so building emotional resiliency is important.

Aims

To examine exposure to work-related crises and resiliency of health care workers in public hospitals in Singapore.

Methods

We sent questionnaires to health care workers in seven public hospitals. Participation was voluntary and anonymous. We asked about mental health training and exposure to work-related and personal crises. We measured resiliency using a pilot 5-point Likert questionnaire reflecting resistance and resilience constructs.

Results

We received 496 responses, a response rate of 58%. More than 70% of hospital staff experienced aggression or violence from patients and relatives, and about a third experienced significant personal crises, most commonly interpersonal conflicts. Those with mental health training were twice as likely to be resistant (OR = 1.8, 95% CI 1.2–2.7) and resilient (OR = 1.9, 95% CI 1.3–2.7) and also more likely to have experienced sudden/unexpected patient deaths (OR = 2.7, 95% CI 1.9–4.0) and aggression or violence from patients and relatives (OR = 5.1, 95% CI 3.0–8.7).

Conclusions

Mental health training appears to improve individuals' perception of resistance and resilience. Hospitals should consider providing mental health and crisis intervention training to improve the emotional resiliency of health care workers.

Key words

Mental health; personal crisis; resiliency; resistance; sudden death; work-related crisis.

Introduction

Health care workers are exposed to various work-related traumatic incidents or crises, which increases their risk of traumatic stress and post-traumatic stress disorder (PTSD). They are also essential frontline responders for the sick and injured during any large-scale disasters such as acts of terrorism and disease outbreaks. Between 5 and 10% of individuals exposed to traumatic events may meet the criteria for PTSD [1]. In 2003, two months after the Severe Acute Respiratory Syndrome outbreak, 20% of Singapore health care workers in a regional hospital suffered from PTSD, up from 8% before the outbreak [2].

Kaminsky et al. proposed a model of resistance, resiliency and recovery for disaster mental health services [3]. The model conceptualizes resistance as psychological/behavioural immunity to distress and dysfunction, which can be built through experience, expectancy, encouragement and support, self-regulation and constructive cognitions. Resilience is conceptualized as ability to rapidly and effectively rebound from psychological and/or behavioural perturbations associated with traumatic incidents, terrorism and mass disasters.

Hence, the ability to cope with stress and emotional resiliency, which may be acquired through mental health awareness and training, is very useful. To date, no studies have examined exposure to crises and emotional resiliency of health care workers in Singapore.

Methods

In this study, resistance was conceptualized using the constructs of self-efficacy [4] and hardiness [5], in terms of...
self-confidence in ability to cope efficiently with unexpected events, use of positive cognitions and willingness to seek help during times of adversity. Resilience was conceptualized as the ability to cope with situations not within the individual’s control, ability to adapt to change and ability to bounce back. Questions used to measure resistance and resiliency reflected self-efficacy, hardness and resilience constructs. We used a 5-point Likert (Not At All–A Great Deal) scale with three items for resistance (E) (Cronbach’s alpha 0.6 > α ≥ 0.5) and four items for resilience (R) (Cronbach’s alpha 0.7 > α ≥ 0.6), of which two items consist of the Connor–Davidson Resilience Scale [6]. Those who scored ≥4 were considered resistant and/or resilient.

We sent questionnaires to health care workers in seven public hospitals in Singapore. Participants were informed that responses were anonymous and would be pooled into a collective database. This survey took place over two months. Ethics approval was obtained from Singhealth Institutional Review Board.

Questionnaires asked about mental health training, exposure to work-related crises (sudden/unexpected death of patient or colleague, aggression and violence from patient and/or relatives, work-related injuries or illness that was of grave concern to you, medico-legal investigation) and personal crises (family or marital conflicts, personal conflicts with important others, e.g. friends and colleagues, sudden/unexpected death of loved one, financial or health problems).

We performed statistical analysis using SPSS 20.0 with statistical significance set at P < 0.05. We determined associations with work-related crisis, personal crisis, resistance and resilience across job category and mental health training using Chi-square or Fisher’s Exact test. We used logistic regression analysis for multivariate adjustment. We present unadjusted and adjusted odds ratios with 95% confidence intervals.

**Results**

We sent 850 questionnaires and received 496 responses, a response rate of 58%. Of these, 81% were female, 50% were nurses and 35% had mental health training. Table 1 shows the proportions of respondents in the different staff groups who had mental health training and who experienced work-related and personal crises.

Table 2 shows that those with mental health training had significant exposure to aggression or violence in patients and/or relatives (P < 0.01 OR = 3.3 (95% CI 1.6–6.7) and perceived themselves to be more resilient. They were more confident, more likely to deal efficiently with unexpected events, P < 0.01 OR = 2.0 (95% CI 1.2–3.2); more inclined to take things in their stride, P < 0.05, OR = 1.8 (95% CI 1.1–2.9); and more resilient (P < 0.01, OR = 1.9 (95% CI 1.2–3.1)).

**Discussion**

More than 70% of hospital staff responding to our survey experienced workplace violence. About a third experienced personal crises with interpersonal conflicts being the most common. Overall, less than half of health care workers scored positively using the resiliency questions (53% resistance and 41% resilience). Those with mental health training were twice as likely to be more

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<tr>
<th>Table 1. Mental health training, work-related crises and personal crises items by job category</th>
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<tr>
<td><strong>Admin, n (%)</strong></td>
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<tr>
<td>Number of respondents in staff group</td>
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<tr>
<td>Mental health training</td>
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<td>Sudden/unexpected death of patient</td>
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<td>Sudden/unexpected death of colleague</td>
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<td>Aggressive/violent patient and/or relatives</td>
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<td>Work-related injuries or illness that was of grave concern to you</td>
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<td>Medico-legal investigation</td>
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<td>Personal crisis</td>
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<td>Family or marital conflicts</td>
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<td>Personal conflicts with important others</td>
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<td>Sudden/unexpected death of a loved one</td>
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<td>Financial problems</td>
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<td>Health problems</td>
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<td>Those with mental health training only</td>
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<td>Having at least one work-related or personal crisis</td>
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NS, not significant.

*Adjusting for gender and age group.
resilient than those who did not have such training, but they were also more likely to have experienced sudden/unexpected deaths of patients and aggression or violence from patients and/or relatives.

Respondents were representative of all health care categories in the seven hospitals surveyed. However, there was possible response bias as the response rate was less than 60%. The reliability of our resiliency questionnaire requires validation in larger studies.

Our findings support those of the WHO report in 2003 [7] regarding workplace violence. In Singapore, mental health training can range from attendance at mental health-related talks to certified therapy programmes. The survey did not specify the types of mental health training received or the reasons why health care workers received such training. We speculate that those who chose mental health training did so because of prior exposure to workplace traumatic incidents. If so, this supports the concept of resiliency being a process and implies that mental health training is perceived to improve an individual’s sense of self-confidence and self-efficacy.

Hospitals should provide workplace programmes that include mental health and crisis intervention training, focusing on improving the resistance, resiliency and recovery of health care workers affected by personal or workplace stress or critical incidents. To enhance the resiliency of hospital staff, it is important that Singapore public hospitals provide crisis intervention services to those exposed to workplace traumatic incidents and personal crises.

**Key points**

- More than 70% of health care workers responding to our survey experienced workplace violence, and a third had experienced significant personal crises.
- Less than half of the health care workers scored positively on the resiliency questions, but those with mental health training were twice as likely to be resilient than those who did not.
- This implies that resiliency can be acquired through mental health training, which can improve the individual’s sense of self-confidence and self-efficacy.

**Acknowledgement**

We would like to thank the health care workers who volunteered their time as peers in their respective hospitals to support the Peer Support Program and research efforts in understanding the emotional needs of their profession.

**Conflicts of interest**

None declared.

**References**


**Are you ready for the EU Sharps Directive 2010/32/EU?**

The risks of needlestick injuries are well recognized, but they keep happening. However, new European legislation, Council Directive 2010/32/EU, must be implemented in member states by 11 May 2013. This ‘Sharps Directive’ aims to achieve ‘the safest possible working environment’ by preventing sharps injuries in hospitals and the healthcare sector. To achieve this, a combination of planning, awareness-raising, information, training and monitoring is essential. Continuous reporting systems are needed, including local, national and European-wide systems. Occupational physicians should draw the attention of employers and healthcare workers to the new legislation and provide practical leadership in implementing it.

The European Biosafety Network, UNISON and the Royal College of Nursing invited international delegates to the 3rd European Biosafety Summit in London on 1 June 2012. The meeting highlighted the importance of the Sharps Directive on the safety of patients and healthcare workers and provided an opportunity to share best practice on practical steps to prepare for implementation of the Directive (http://europeanbiosafetynetwork.eu). Participants agreed that appropriate strategies can reduce the risk of transmission of bloodborne pathogens such as hepatitis B and C and HIV. But what should these strategies look like? The measures specified in the Directive (training, safer working procedures and the use of engineered devices) can prevent most exposures if implemented together and implemented effectively. If any elements are missed though, the impact of the whole programme will be undermined.

**Why is the new European legislation important?** On 7 June 2012, a nurse working at the University Hospital Frankfurt, Germany, sustained a significant injury from a hollow-bore needle (16 gauge). The source patient had an HIV load of 64,000 copies/ml. The nurse started HIV post-exposure prophylaxis (PEP) within 30 minutes of the incident and was treated as per the hospital’s needlestick protocol. On the day of her needlestick injury, the nurse appeared anxious but showed great professional composure. I explained the treatment protocol to her, the laboratory results, the risk of the exposure and the details of the course of HIV PEP. The next morning the nurse called me after spending the ‘night on the internet’ researching her risk. She hadn’t slept and was terrified, saying ‘I have never had such a fear!’ I will never forget this sentence; I will never forget her tears.

The emotional impact of needlestick injury should not be underestimated. Several cases of post-traumatic stress disorder (PTSD) have been described after needlestick injuries involving high-risk patients. On average, at least one needlestick injury is reported every day at the University Hospital Frankfurt (519 needlestick injuries were reported between October 2010–April 2012). Almost 90% of source patients are tested for bloodborne pathogens, and more than 20% are found to be infected.

Preventing needlestick injuries is in everybody interest. The Sharps Directive has the potential to reduce the incidence of needlestick injuries. Occupational physicians have a responsibility to make every effort to promote and support its implementation.

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