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Research report

Protective benefits of mindfulness in emergency room personnel

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ABSTRACT

Background: Recent meta-analyses have found that mindfulness practice may reduce anxiety and depression in clinical populations and there is growing evidence that mindfulness may also improve well-being and quality of care in health professionals. This study examined whether mindfulness protects against the impact of work-related stress on mental health and burnout in emergency room (ER) nurses.

Methods: ER nurses ($N=50$) were recruited from an urban teaching hospital in Switzerland and completed a survey on work-related stressors, mindfulness, burnout, depression, and anxiety.

Results: The most frequently reported work-related stressor was interpersonal conflict. Nurses working more consecutive days since last taking time off were at greater risk for depression and those reporting more work-related interpersonal conflicts were at greater risk for burnout. Mindfulness was associated with reduced anxiety, depression, and burnout. Mindfulness was a significant predictor of anxiety, depression, and burnout and moderated the impact of work-related stressors on mental health and burnout.

Limitations: The sample is limited to nurses and results need to be replicated in other groups (e.g., medical staff or ambulance workers). We assessed clinical symptoms with questionnaires and it would be desirable to repeat this assessment with clinical diagnostic interviews.

Conclusions: The findings have implications for stress management in ER nurses and health professionals working in comparable settings (e.g., urgent care). The robust associations between mindfulness and multiple indices of psychological well-being suggest that ER staff exposed to high levels of occupational stress may benefit from mindfulness practice to increase resistance to mental health problems and burnout.

1. Introduction

Health care personnel working in emergency rooms (ER) and similar critical care settings such as intensive care units (Embriaco et al., 2007) are routinely exposed to severe occupational stress (Hawley, 1992; Helps, 1997). Stressors include dealing with patient death, resuscitations, mass casualty incidents, and sexual and physical abuse of children (Ross-Adjie et al., 2007), which may lead to secondary traumatic stress (Dominguez-Gomez and Rutledge, 2009) and post-traumatic stress disorder (Laposa et al., 2003). Work-related interpersonal conflict has been identified as a particularly common and psychologically taxing stressor in the health service sector (Hawley, 1992; Helps, 1997) that is associated with high levels of burnout (Poncet et al., 2007). Burnout in turn negatively impacts quality of care (Leiter et al., 1998; Poghosyan et al., 2010), which may ultimately lead to worse health outcomes in patients.

Given the public health importance of preventing burnout and negative health consequences, it is important to identify factors that may protect against stress as well as be amenable to change. A number of stressors in ERs are intrinsic to the work setting (e.g., exposure to injury and death) or are difficult to modify in the presence of institutional, sociopolitical and financial constraints

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(e.g., work load, staffing). The current study examines the potentially protective role of mindfulness in the context of typical work-related stressors faced by ER staff.

While exposure to critical incidents in the context of accident and emergency work has been empirically linked to elevated levels of psychopathology, burnout and post-traumatic symptoms (Alexander and Klein, 2001), there is emerging evidence that interpersonal conflict may have an equally deleterious or in some cases even more pernicious impact on psychological well-being and burnout in health care professionals (see McVicar, 2003, for a review). For example, lack of social support from colleagues and excessive work load have been found to be key determinants of emotional exhaustion in nurses (e.g., Janssen et al., 1999) and conflict amongst coworkers in medical settings has been identified as a particularly prevalent and potent source of stress for nurses (Bratt et al., 2000). Additionally, a study of intensive care nurses found that conflict with patients was a stronger risk factor for burnout than more content-related stressors such as caring for a dying patient and number of decisions to forego life-sustaining treatments (Poncet et al., 2007). Given this evidence, we were particularly interested to examine whether mindfulness is differentially related to mental health and burnout in the context of both interpersonal and non-interpersonal sources of work-related stress.

Mindfulness has been defined as "awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally, to the unfolding of experience moment by moment" (Kabat-Zinn, 2003 , p. 145). Couched in contemporary psychology terms, Bishop et al. (2004)defined mindfulness as self-regulation of attention, involving the ability to sustain and switch attention and inhibit processing of task-irrelevant stimuli.

An increasing number of studies have provided empirical support for a relationship between trait mindfulness and various indices of mental health and well-being (e.g., Baer et al., 2006; Bränström et al., 2011; Brown and Ryan, 2003; Brown et al., 2007; Carlson and Brown, 2005; Walach et al., 2006). Particularly compelling data were presented by a recent random population-based study indicating that dispositional mindfulness moderated the effects of perceived stress on depression (Bränström, et al., 2011).

The largest body of the literature on the salubrious effects of mindfulness on mental health comes from intervention studies involving meditation and other mindfulness-enhancing practices. For example, a recent meta-analysis found that participation in mindfulness meditation programs resulted in decreased anxiety and depression as well as reductions in pain (Goyal et al., 2014). Mindfulness-based stress reduction (MBSR) and other mindfulness-based interventions have also been shown to improve mental and physical health and improve patient care in health care professionals. Randomized controlled studies have linked participation in mindfulness-based stress reduction (MBSR) program to increased mindfulness and reduced burnout in nurses (Cohen-Katz, 2005; Mackenzie et al., 2006), lower perceived stress and higher quality of life and self-compassion among nurses and other health care professionals (Shapiro et al., 2005), reduced anxiety and lowered blood pressure in nursing students (Chen, Yang et al., 2013), and higher positive affect and less rumination and distractive behaviors in medical and nursing students (Jain et al., 2007). Most recently, a study involving employees working in diverse interactive service jobs found that mindfulness training is inversely correlated with emotional exhaustion and positively correlated with job satisfaction (Hülsheger et al., 2013). While no study has yet examined the impact of mindfulness training in ER nurses specifically, a recent study examining the prevalence of secondary traumatic stress (STS) in ER nurses found that those who engaged in stress management activities had fewer STS symptoms (Dominguez-Gomez and Rutledge, 2009). Overall, the findings reviewed above suggest that increasing mindfulness through mindfulness interventions may improve mental health in diverse health care providers, including nurses. However, extant studies have not controlled for work-related stressors, which is necessary for testing the presumed stress buffering role of mindfulness. The aim of the present study was to examine (1) whether mindfulness is inversely related to depression, anxiety and burnout controlling for relevant demographics, and if so, (2) whether mindfulness moderates the association between work-related stressors and the above mental health outcomes.

2. Methodology

2.1. Participants

Participants were 50 ER nurses employed in the Accident and Emergency Department of an urban teaching hospital in Zürich, Switzerland. The local ethical review boards approved the study. The sample was representative of ER nurses in terms of sex, age, employment status (full time vs. part-time) and time since employment. The majority of participants was female ($n=45$, 90%). Mean age was 39 years ($SD=10.0$). 71% were married or in a stable relationship. 42% had children. 73% had graduated from high school and 27% attended technical college. 62% had received further education in emergency care. 18% reported being religious. The majority of nurses ($n=32$, 64%) were employed part-time. 90% worked directly with patients while 10% held a supervisory or administrative position that did not involve direct patient care.

2.2. Procedures

All participants provided written consent for their data to be used in research. Data were collected via anonymous questionnaires that comprised demographic and work-related questions as well as measures of anxiety and depressive symptoms, burnout, and mindfulness. The questionnaires were completed by nurses at a time and location of their convenience and returned via mail (response rate: 49%).

2.3. Measures

Demographic measures were assessed by self-report including gender, age, marital status, number of children, and education. Work-related factors were assessed with single items, including full or part time employment, an indicator of contact with patients (as compared to a primarily administrative position not involving direct patient care), whether participants worked night shifts, maximum number of patients during shifts, the number of days that had passed since last day off work, number of shock room experiences during the past week, and two items (yes/no) of whether there was a resuscitation or death of a patient in the last week, respectively. We also assessed with four items whether nurses had experienced any work conflicts with colleagues, medical doctors, other ER staff, or patients, and with one item whether participants had been involved in difficult work-related decisions in the past week.

Anxiety and depression were assessed with the 14-item *Hospital Anxiety and Depression Scale* (HADS, Zigmond and Snaith, 1983). Each item is scored from 0 to 3, resulting in scores between 0 and 21 for either anxiety or depression, with good internal consistency in the present study, Cronbach's alpha was $\alpha=.65$ (for depression) and $\alpha=.70$ (for anxiety).

Burnout was assessed with the *Maslach Burnout Inventory* (MBI, Maslach et al., 1996). Burnout has been defined as a psychological syndrome that comprises emotional exhaustion (i.e., depletion of