Safety Science 89 (2016) 1–10

Contents lists available at ScienceDirect

Safety Science

journal homepage: www.elsevier.com/locate/ssci

On the relationship between safety climate and occupational burnout in healthcare organizations

Esmaeil Zarei [a,*], Nima Khakzad [b], Genserik Reniers [b,c], Reihane Akbari [d]

[a] Department of Occupational Health and Safety Engineering, Faculty of Health, Research Center for Health Sciences, Hamadan University of Medical Sciences, Hamadan, Iran
[b] Safety and Security Science Group, Delft University of Technology, Delft, The Netherlands
[c] Faculty of Applied Economics, Antwerp Research Group on Safety and Security (ARGoSS), Universiteit Antwerpen, 2000 Antwerp, Belgium
[d] Faculty of Nursing and Midwifery, Mashhad University of Medical Science, Mashhad, Iran

ARTICLE INFO

Article history:
Received 18 April 2016
Received in revised form 10 May 2016
Accepted 24 May 2016

Keywords:
Occupational burnout
Safety climate
Hospital nurses
Path analysis
Structural equation modeling

ABSTRACT

The important concepts of safety climate and occupational burnout have been widely addressed by healthcare professionals. However, few researchers conducted comprehensive and detailed studies to investigate the relationship between safety climate and burnout, especially in healthcare organizations. The purpose of the study is therefore to investigate and establish a relationship between safety climate and occupational burnout. In addition, the relationship between job and socio-demographic characteristics (JSDC) with both safety climate and burnout is examined. In the present study a cross-sectional design was conducted using questionnaires to measure safety climate, occupational burnout and JSDC of nurses while descriptive, inferential statistics, path analysis and structural equation modeling (SEM) were applied to test the relationships between the three parameters. The findings show a significant relationship between safety climate and unit type, job satisfaction, job interest, and stress. Likewise, there is a strong relationship between the lack of personal accomplishment and job satisfaction, job interest and stress. Also, safety climate has a strong correlation with both the frequency and the severity of occupational burnout dimensions. The results of the SEM also support a negative correlation between occupational burnout and safety climate, where a decrease in the latter is associated with an increase in the former.

1. Introduction

1.1. Occupational burnout

Occupational burnout was introduced by Freudenberger (1974) as the consequence of long term stress at work. The symptoms of burnout appear when the capability of an individual no longer fits the demands of the job (Freudenberger, 1974; Walston et al., 2010). The term occupational burnout is usually used to describe negative changes in attitude, spirit, and behavior in dealing with mental pressure. It is a reaction of the body to the failure of defensive strategies that people adopt to handle stress at work (ElBardissi et al., 2008). Occupational burnout can be physical, emotional, or psychological fatigue caused by long term engagement in demanding situations; in general, occupational burnout is attributed to emotional exhaustion (e.g., the depletion of emotional energy), depersonalization (e.g., negative emotions and attitudes), and lack of personal achievement (e.g., the feeling of job dissatisfaction, decrease of motivation, and falling commitment) (Schmitz et al., 2000; Khamisa et al., 2013).

Occupational burnout can be developed in a wide variety of professions; however, it is more common among physicians, nurses, health consultants, and in general, among employees who directly deal with service takers (Ahmadpanah et al., 2014). Among the above-mentioned professions, nurses are highly susceptible to burnout as on the one hand they are subject to physical and psychological pressures and on the other hand they should remain motivated at the same time (Okwaraji and En, 2014). Galea (2014) showed that gradual effects of occupational burnout first appear in personality and behavior of nurses and eventually in their health and attitudes of the individual. Regarding nurses, it is worthy to note that burnout has a dual effect: (i) it can influence psychological health of the nurse and develops physical/mental symptoms which in turn can lead to the absence from or change of job; (ii) it can degrade quality of services provided by the nurse, causing service dissatisfaction as well as delay in diagnostic and treatment services and most importantly patient disappointment.

* Corresponding author.
E-mail addresses: smlzarei65@gmail.com, E.Zarei@umsha.ac.ir (E. Zarei).

http://dx.doi.org/10.1016/j.ssci.2016.05.011
0925-7535/

Thus, detecting and dealing with occupational burnout is of great importance in improving the psychological health of nurses, their quality of services, and patients' level of satisfaction with medical services (Garrosa et al., 2010).

1.2. Safety climate

Safety climate within an organization is defined as how the employees perceive the organization's approach towards safety. Safety climate is a measure of the current situation of the organization, depending on time and place and being relatively unstable as it changes with the situation (Lin et al., 2008). Thus, safety climate is to a large extent influenced by organizational and individual factors and may influence safety behavior of the staff (Gatien, 2010).

1.3. Relationship between occupational burnout and safety climate

Many studies have been conducted to investigate the factors affecting safety climate and occupational burnout in different countries (Walston et al., 2010; Akbari et al., 2015; Sarsangi et al., 2014, 2015; Jafari et al., 2013; McCaughey et al., 2013; AbuAlRub et al., 2012; Hu et al., 2015; Idris and Dollard, 2014).

Several studies indicate that Psychosocial Safety Climate (PSC) is related to several aspects of psychological health such as burnout and depression (Dollard and Bakker, 2010; Idris and Dollard, 2014; Idris et al., 2011; Law et al., 2011). Idris et al. (2011) conducted a study in the private sector, more specifically businesses/organizations in Malaysia, showing the effect of PSC on psychological problems such as burnout and depression.

Dollard et al. revealed that PSC can be used to predict psychological health problems such as emotional exhaustion in the Australian education workers, through its effect on work pressure and emotional demands. However, PSC is largely determined by first-line managers instead of staffs, and is stating of management priority for worker psychological health in organizational context (Dollard and Bakker, 2010).

Nahrgang et al. (2011) conducted a meta-analytic investigation and found that burnout was negatively related to working safely. Their results indicate that burnout is significantly related to accidents and injuries in the workplace. Profit et al. (2014) showed that NICUs (Neonatal Intensive Care Units) with lower safety climate suffered from more burnout (Profit et al., 2014). However, very few of researchers have studied the effects of these factors on both safety climate and occupational burnout altogether in healthcare organizations. In addition, in spite of a general agreement on the three-dimensional space of occupational burnout, most researchers have focused on only one dimension, such as emotional exhaustion (Stordeur et al., 2001; Idris et al., 2012) or depersonalization without considering lack of personal accomplishment (Jaworek et al., 2010).

Moreover, much of previous work has attempted to identify the structural factors of safety climate or to examine the relationships between safety climate and unsafe behaviors and near misses (Mark et al., 2007). However, few researchers have conducted comprehensive and detailed studies to investigate the relationship between safety climate and burnout and their mutual effects, especially in healthcare organizations.

Therefore, the present study is an attempt to investigate such a relationship, with a particular emphasis on the six dimensions of safety climate (according to a work of Sarsangi et al., 2015), that is, (1) accumulative fatigue, (2) training of nurse, (3) communication with physicians, (4) nurses' relationships, (5) attitude of supervisors and (6) reporting of errors and the three dimensions of occupational burnout, that is, (1) Emotional exhaustion, (2) Depersonalization, and (3) Lack of personal achievement. The present study is based on a survey conducted in hospitals in the Northeast of Iran. The relationship among the job and demographic variables of participants and the safety climate and occupational burnout is also examined.

2. Material and methods

A cross-sectional study was conducted across four hospitals in the North East of Iran in 2015. The participants consist of all qualified nurses (N = 295) who are working at four hospitals in the northeast of Iran.

The inclusion criteria comprise being a registered nurse (at least one year) in the hospital, and the willingness to participate while the exclusion criteria consist of having a record of psychiatric drugs, or experiencing severe stresses and mental illness in the last six months (e.g., due to the death of family members, divorce, serious accidents). In this study, 295 participants were asked to fill in the questionnaire. However, a number of participants (questionnaires) were excluded because of positive answers to two of the questions about the consumption of psychiatric drugs (7 cases) and experiencing severe stresses in the last six months (38 cases). Finally, 250 participants were analyzed. The objectives of the study were clearly explained to the participants, and the study was carried out according to informed consent forms signed by each participant.

Three types of questionnaires were used for data gathering, including Job and Socio-Demographic Characteristics (JSDC), Maslach Burnout Inventory (MBI), and Safety Climate of Nurses (SCN). The first questionnaire comprised 30 questions about job and personal information.

The MBI comprised 22 questions to measure the frequency and severity of burnout based on the three dimensions of emotional exhaustion (9 questions), depersonalization (5 questions), and personal accomplishment (8 questions). These questions are scored based on frequency (never: 0; few times per year: 1; few times per month: 2; once a week: 4; few times per week: 5; every day: 6) and severity (never: 0; very low: 1; low: 2; average: 3; above average: 4; high: 5; very high: 6). Reliability and validity of the MBI were determined (from the literature) using Test-Retest Reliability Coefficient (as a measure of how consistent the results of a test are over time) and Cronbach's alpha (as a measure of internal consistency) and all data are available in the related literature (Maslach and Jackson, 1997; Maslach and Goldberg, 1999; Najafi and Forouzbakhsh, 2000).

No valid cut-off points have been provided in the literature in order to determine the presence of occupational burnout. However, high scores for emotional exhaustion and depersonalization and low scores for professional accomplishment suggest the presence of this syndrome (Portero de la Cruz and Vaquero Abellán, 2015). To analyze the scores obtained on the three scales, the following cut-off points were applied (Maslach and Jackson, 1997; Portero de la Cruz and Vaquero Abellán, 2015)

$$\text{Emotional exhaustion is } \begin{cases} low\ if\ score < 15 \\ medium\ if\ 15 < score < 24 \\ high\ if\ score > 24 \end{cases}$$

$$\text{Depersonalization is } \begin{cases} low\ if\ score < 4 \\ medium\ if\ 4 < score < 9 \\ high\ if\ score > 9 \end{cases}$$

$$\text{Personal accomplishment is } \begin{cases} low\ if\ score < 33 \\ medium\ if\ 33 < score < 39 \\ high\ if\ score > 39 \end{cases}$$