Applied Nursing Research 31 (2016) 100–110

Contents lists available at ScienceDirect

Applied Nursing Research

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

A Meta-Analysis of the Effects of Coping Strategies on Reducing Nurse Burnout

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ARTICLE INFO

Article history:
Received 2 March 2015
Revised 17 November 2015
Accepted 14 January 2016

Keywords:
Coping
Nurse
Burnout
Meta-analysis
MBI-HSS

ABSTRACT

Objective: Nurse burnout is a global issue; however, it remains unclear how coping strategies over a maintained period of time may influence nursing burnout. This meta-analysis aimed to evaluate the literature on the effects of coping strategies in reducing nurse burnout.
Methods: Systematic reviews of English and Chinese articles were conducted for relevant articles published between 1979 and 2014 in six electronic databases (PubMed, CINAHL, The Cochrane, PsycARTICLES, Airiti Library, and the Index of the Taiwan Periodical Literature System). The search terms included 'nurse,' 'burnout' and 'coping.' Studies were included in the review if they were randomized controlled trials or controlled clinical trials, and they used the measurement tool, Maslach Burnout Inventory-Human Service Survey. Three hundred fifty-one studies were identified, and seven studies were ultimately included in the meta-analysis.
Results: A total of 1,521 participants were included in the meta-analysis for each burnout subgroup. Participants were measured immediately after the intervention and 6 months, 1 year, 2 years, 2.5 years, and 4 years thereafter. Coping strategies were hypothesized to decrease burnout. The maintained period for coping strategies was 1 year for emotional exhaustion and depersonalization and 6 months for personal accomplishment.
Conclusions: Coping strategies can reduce nurse burnout and maintain effectiveness between 6 months and 1 year.

1. Introduction

The shortage of nurses has been an ongoing problem worldwide for the past decade (Buchan & Calman, 2004; WHO, 2006), and nurse burnout is a strong predictor of the intention for turnovers (Leiter & Maslach, 2009). Nurses suffer from work-related or occupational stress, which frequently lead to burnout (Asuero et al., 2014; Ding et al., 2015; Günüşen & Ustün, 2010), and the prevalence of work-related burnout is higher in nurses compared to other healthcare professionals (Chou, Li, & Hu, 2014; Kalliath, O'Driscoll, Gillespie, & Bluedorn, 2000). Approximately 30%–44% of nurses in Europe (Galindo, Feliciano, Lima, & Souza, 2012), 78% of nurses in Greece and 34% of nurses in the US (Aiken et al., 2012) have reported emotional exhaustion. At a premier hospital in Brazil, 10% of the nurses experienced burnout, and 55.4% of subjects had a propensity to develop burnout (Ribeiro et al., 2014). Therefore, nurse burnout is a critical issue worldwide.

Burnout affects individuals, organizations and patient outcomes. Burnout negatively affects psychological and physical health (e.g. musculoskeletal disorders, fatigue, and sleeplessness) (Meeusen, Van Dam, Brown-Mahoney, Van Zundert, & Knape, 2010; Trinkoff, Le, Geiger-Brown, Lipscomb, & Lang, 2006) and results in low organizational commitment and turnover intention (Jourdain & Chenevert, 2010; Whitmer, Hurst, & Prins, 2009) and patient dissatisfaction (Stimpfel, Sloane, & Aiken, 2012).

According to Maslach (1982), burnout means "to burn one's self out" and is a metaphor to describe people experiencing emotional exhaustion similar to the extinguishing of a drained battery. Burnout syndrome and chronic stress reactions consist of emotional exhaustion, depersonalization, and reduced personal accomplishment and occurs among individuals who work with people (Maslach, 1982). Emotional exhaustion refers to people who overextend themselves and feel emotionally overwhelmed. They feel empty, lack energy and are no longer able to give themselves to others. Depersonalization refers to professional staff members considering clients as objects when dealing with them and presenting an indifferent attitude toward clients. Reduced personal accomplishment refers to a negative self-perception and

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http://dx.doi.org/10.1016/j.apnr.2016.01.001
0897-1897/

sense of failure in work-related situations (Maslach, 1982). Depersonalization is a mechanism to help individuals cope with emotional exhaustion. If coping fails, individuals work ineffectively and exhibit decreased ability to accomplish tasks (Duffy, Oyebode, & Allen, 2009). Emotional exhaustion is the primary component of burnout and more predictive of outcomes than the other two on-the-job-related dimensions of burnout (Maslach, Schaufeli, & Leiter, 2001).

Burnout is a chronic stress reaction to the individual's stress exposure at work, and researchers note that coping strategies can be used to decrease burnout (Ruotsalainen, Verbeek, Marine, & Serra, 2014). Lazarus and Folkman (1984) stated that an individual's coping strategies would increase their information on demands and resources to provide a stronger predictor of burnout. Leiter (1991) also examines the relationship between coping patterns and burnout and confirms that coping patterns are predictors of burnout. Researchers suggest a nurse's stressors make the largest contribution to experiencing burnout (Chiriboga & Bailey, 1986; Duquette, Kerouac, Sandhu, Ducharme, & Saulnier, 1995). Ruotsalainen et al. (2014) explored how to prevent occupational stress in healthcare workers and categorized interventions as cognitive–behavioral training, mental and physical relaxation to the evaluated the stress, and anxiety or general health. Two limitations of the study were that the complex interventions and various healthcare professionals did not clearly elucidate the effects of the interventions, and the study only followed providers for 6 months. Shin et al. (2014) stated that the association between coping and burnout is much stronger among nurses compared to other professionals, and nursing is an admittedly stressful and emotionally demanding profession.

The "Coping and Stress" model was developed by Lazarus and Folkman (1984). Cognitive appraisal and coping processes are considered critical mediators between individuals and environmental interactions in the model (Folkman, Lazarus, Gruen, & DeLongis, 1986). Cognitive appraisal is a process by which individuals evaluate the well-being perceptions in the environment in two stages. The first stage is when an individual evaluates whether they have anything (e.g., values or health) at stake in the encounter. The secondary stage is when an individual evaluates what they can do to decrease harm or improve their benefits (Folkman et al., 1986). Coping refers to the "cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus & Folkman, 1984). Emotion- and problem-focused coping are commonly cited approaches to classifying coping behavior (Shin et al., 2014). Emotion-focused coping (e.g., cognitive–behavior oriented training, mindfulness-based programs) is used to regulate the stressful emotion reaction with the environment (Asuero et al., 2014; Folkman et al., 1986; Mackenzie, Poulin, & Seidman-Carlson, 2006; Shin et al., 2014; Van Dierendonck, Schaufeli, & Buunk, 1998). Cognitive–Behavior oriented training is a type of psychotherapy and is used to solve problems and change unhelpful thinking and behavior (Beck, 2011). Mindfulness-based programs are based on the cognitive–behavior theory and focus on awareness and acceptance of incoming thoughts (Felder, Dimidjian, & Segal, 2012). In contrast, problem-focused coping (e.g., problems-solving, team-based training) involves doing something to solve the problem, which causes a distressed person–environment relationship (Folkman et al., 1986; Le Blanc, Hox, Schaufeli, Taris, & Peeters, 2007; Shin et al., 2014).

Coping strategies can regulate the burnout of health professionals (Asuero et al., 2014; Günüşen & Ustün, 2010; Mackenzie et al., 2006; Rowe, 2006). Two researchers designed a mindfulness-based psychoeducational coping program to improve burnout symptoms and reported that the mindfulness-based programs could reduce and prevent nurse burnout (Asuero et al., 2014; Mackenzie et al., 2006). Günüşen and Ustün (2010) noted that it is important for staff to be supported by co-workers or managers and to collaborate with co-workers; furthermore, emotional exhaustion can be decreased immediately using these techniques, whereas there was no change in the depersonalization and personal accomplishment dimensions of burnout (Günüşen & Ustün, 2010). Rowe (2006) explored the behavioral changes associated with the use of coping strategies to address burnout and determined that emotional exhaustion decreased in less than 2 years but increased after 2.5 years; depersonalization decreased in less than 1 year but increased after 2 years, and personal accomplishment increased in less than 2 years but decreased after 2.5 years. In addition to individual coping strategies, support from coworkers also affects employee burnout. Schaufeli and Buunk (2002) discussed changing individuals or organizations as a method for decreasing staff burnout. Le Blanc et al. (2007) found that oncology care staff who participated in a team-based burnout intervention program could experience a decrease in emotional exhaustion immediately and after 6 months. Although various studies have stated that coping strategies can reduce nurse burnout, the interventions and timeframes varied between studies. The purpose of this review was to integrate the effects of coping strategies designed to decrease burnout and the time they were incorporated with a meta-analysis of the published literature.

2. Methods

The methodology for this meta-analysis followed the Preferred Reporting Items for Meta-Analysis (PRISMA) guidelines (Liberati et al., 2009; Moher et al., 1999). The article search, review process, and analysis were documented in advance.

2.1. Eligibility criteria

Studies were required to meet the following criteria: (1) coping strategies were provided to explore the effect of reducing nurse burnout, (2) the research design included intervention and control groups, (3) the outcome measurement tool was the Maslach Burnout Inventory-Human Service Survey with 22 items, and (4) the articles were peer-reviewed publications. The exclusion criteria were (1) the research adopted a qualitative or non-intervention design, and (2) the language of the publication was not English or Chinese.

2.2. Articles search

Studies were identified by searching the PubMed, CINAHL, Cochrane, PsycARTICLES, Airiti Library, and Index of the Taiwan Periodical Literature System databases. The terms "nurs*," burnout" and "coping" were jointly used as keywords. The research designs were limited to randomized controlled trials (RCTs) or controlled clinical trials (CCTs). Language of the publication was limited to English or Chinese. Relevant articles published between 1979 and 2014 were searched.

2.3. Study selection, data collection process, and data items

Two researchers searched the databases, identified duplicate articles, and excluded articles in which the participants were not nurses. Two researchers screened the full-text articles to independently confirm the included articles (Fig. 1). The individually recorded decisions of the 2 reviewers were compared, and the first researcher joined the discussion to resolve any disagreements. The two researchers independently extracted the following information from each study: first author, year of publication, study population characteristics, study design, coping strategy, strategies, procedures, measurement tool, and outcome variables.

2.4. Risk of bias in individual studies

Two researchers assessed the quality of studies using the modified Jadad scale (Oremus et al., 2001). The modified Jadad scale consisted of eight items, which included randomization, blinding, withdrawals/dropouts, inclusion/exclusion criteria, adverse effects, and statistical analysis. Each item was scored as 0 (no) or 1 (yes), but 2 items