The role of occupational stress in the association between emotional labor and burnout in nurses: A cross-sectional study

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Aim To test a model to evaluate the influence of emotional labor on burnout and the mediating role of work-related stress reported by nurses.

Background: Nurses are particularly exposed to work-related stress caused by their relationships with their patients. Even though their emotional involvement can cause work-related stress for professionals, nurses recognize this as a fundamental part of the caring relationship, and it has been proved to be therapeutic for patients. The effects of emotional labor contribute to stress, and prolonged exposure to it contributes to burnout syndrome, with repercussions on nurses' health and quality of life, and patients' quality of care.

Methods: A multicentre correlational study was conducted on a sample of 207 nurses from different clinical areas in three hospitals in Italy. A self-report questionnaire was used to measure levels of emotional labor, burnout and work-related stress.

Results: High levels of emotional labor and work-related stress increase burnout syndrome in nurses. Work-related stress mediates the relationship between emotional labor and burnout. The Oncology ward is identified as the major clinical area exposing nurses to emotional labor.

Conclusions: The results of this study highlight the mediating role of work-related stress in the relationship between emotional labor and burnout, offering a new field for intervention to interrupt this process.

1. Introduction

One of the problems affecting workers is a stressful work environment (Khamisa, Oldenburg, Peltzer, & Ilie, 2015). In healthcare organizations, a stressful work environment can have repercussions on workers' health (Shamian, Kerr, Laschinger, & Thomson, 2016) and on the quality of care offered to patients (Cortese, Gerbaudo, Manconi, & Violante, 2013; Kieft, de Brouwer, Francke, & Delnoij, 2014; World Health Organization, 1995). Managers and occupational health physicians need to understand, measure and manage work-related stress to guarantee high levels of occupational well-being and health for workers (Zaghini et al., 2017), better organizational performance (Kuoppala, Lamminpää, Liira, & Vainio, 2008), but above all, patients' safety and quality of care (Baiocco, 2004).

The emotional involvement of healthcare professionals with patients exposes them to work-related stress. Indeed, the organizational and emotional demands of work can cause work-related stress (Mughal, Ahmad, Gondal, Awan, & Chaudhry, 2010), which is defined as “psychological strain leading to job-related hardness, tension, anxiety, frustration and worry arising from work” (Lambert, Minor, Wells, & Hogan, 2016; Misir, Kim, Cheeseman, Hogan, & Lambert, 2013). This emotional involvement is a fundamental part of the caring relationship, which has been proved to be highly therapeutic for patients (Bolton, 2000; Fry et al., 2013). In fact, health professionals must have not only technical skills, but also communicative and relational skills, which demand a strong emotional involvement from workers (Baiocco, 2004) and lead to increased levels of work-related stress (Lambert et al., 2016). UK statistics show that nurses are at greater risk of work-related stress.
stress than other professional groups (Health and Safety Executive), and emotional demands might play a key role in developing this condition (Bakker & Sanz-Vergel, 2013; McVicar, 2003). For this reason, nurses are considered a “risk category”, because their stress, if it is not properly managed, can have negative implications for the well-being of health professionals, for the standards of health care services and for patients’ quality of care (Caruso, Bigazzi, Tramontana, & Bonaventura, 2012; Gabassi, Cervai, Rozbowski, Semeraro, & Gregori, 2002; Poghosyan, Clarke, Finlayson, & Aiken, 2010).

To reduce stress, managers could limit nurses’ Emotional Labor (EL). EL refers to the management of emotions and emotional displays in interpersonal relationships occurring in the workplace (Badolamenti, Biagioli, Zaghi, Caruso, & Silli, 2018). EL may become the main source of strain and cause a reduction in nurses’ health status (Maslach & Leiter, 2016), but it cannot be avoided. The short-term effects of emotional strain, in line with several studies (Teo, Pick, Newton, Yeung, & Chang, 2013), can cause “stress” (Lazarus, 2006) and lead over time to burnout syndrome (Borgogni & Consiglio, 2005; Demerouti, Bakker, Nachreiner, & Ebbinghaus, 2002). Burnout refers to the emotional depletion and loss of motivation that result from prolonged exposure to chronic emotional and interpersonal stressors on the job (Leiter, Maslach, & Frame, 2015). Burnout can have repercussions on nurses’ health (Wu et al., 2012) and Quality of Life (Wu et al., 2011), but above all it affects patients’ safety and quality of care (Farnese et al., 2019).

Emotional labor, work-related stress and burnout are related constructs that influence each other (Choi, Mohammad, & Kim, 2019), in the health professions (Badolamenti et al., 2018) as well as others. Despite the extensive literature on these factors, no studies have investigated how these three constructs are linked to each other in a single comprehensive model. It would be useful to investigate whether there is a direct or indirect effect of mediation by work-related stress on the relationship between emotional labor and burnout in nurses (Yom, Son, Lee, & Kim, 2017). In fact, given that EL is a necessary and unavoidable strain for nurses, if higher levels of EL are associated with higher stress, stress could be a possible target for interventions aimed at improving nurses’ working well-being.

Therefore, the main aim of this study is to test a model (Fig. 1) to evaluate the influence of emotional labor on burnout and the mediating role of work-related stress.

In particular, the following hypotheses were posited:

H1. There is a positive relationship between nurses’ emotional labor and work-related stress.

H2. As nurses’ work-related stress increases, their burnout levels increase.

H3. As nurses’ emotional labor increases, their burnout levels increase.

H4. Work-related stress mediates the relationship between emotional labor and burnout in nurses.
experienced the situations reported in the items (e.g. "I refrain from expressing my real feelings", "I strive to actually experience the emotions that need to be manifested to others", "I concentrate on really feeling the emotions that I am expected to show").

For the measurement of work-related stress, 7 dimensions of the Health and Safety Executive scale (HSE) were used (Marcatto, D’Errico, Di Blas, & Ferrante, 2011), evaluated on a 5-point Likert-type response scale (from 1 “Never” to 5 “Always”). We used 9 items of the “Demand” dimension (α = 0.85; e.g. “I have to work very hard”), 6 items of the “Control” dimension (α = 0.86; “I can decide when to take a break”), 4 items of the “Support from Colleagues” dimension (α = 0.81; e.g. “Colleagues are available to listen to my work problems”), 4 items of the “Support from Superiors” dimension (α = 0.92; e.g. “My boss encourages me in my work”), 4 items of the “Relations” dimension (α = 0.81; “Work relations are tense and difficult”), 5 items of the “role” dimension (α = 0.82; “I know how my job should be done”) and 3 items of the “Change” dimension (α = 0.62; “Staff are always consulted on job-related changes”).

Finally, socio-demographic information was collected through a series of ad hoc questions, to identify specific characteristics of the participants in the study (age, sex, marital status, professional qualifications, clinical area of work, years working in current organization, hours worked per day, hours of overtime worked per week, time off from work).

2.4. Statistical analysis

The socio-demographic and working characteristics of the participants were analysed with descriptive statistics. The reliability of each dimension of each single scale used was verified with the Cronbach coefficient. The Pearson coefficient (r) was used for the correlations between the study variables. To test the hypotheses of the study, a structural equation model (SEM) was developed with indicators of the dimensions of each construct. A robust estimator (Maximum Likelihood with robust standard errors, MLr) was used to correct the distortions produced by the partial non-normality of the distribution. The suitability of the model was evaluated considering the following fit indices as good: Chi square (χ²) (not significant), RMSEA (< 0.06), CFI (> 0.90), TLI (> 0.90) and SRMR (< 0.08) (Hu & Bentler, 1999; Muthén & Muthén, 2012). The mediating role of work-related stress between EL and burnout was examined by assessing the total effect, the direct effect and the indirect effect through work-related stress. One-way analysis (ANOVA) with Tukey’s post-hoc was used to check for any differences between the construct averages with respect to the clinical setting. The structural equation model was implemented with MPLUS® Ver 7.1 while descriptive analyses, correlations and ANOVA were performed using the SPSS Ver 22® statistical package (Table 1).

3. Results

3.1. Sample characteristics

With a response rate of 82.8%, the sample consisted of 207 nurses who provided direct assistance with shifts in each 24 h. The participants were mainly female (70%; N = 145) with an average age of 42.6 years (SD = 9.50). Most of the participants (N = 111; 53.6%) had a degree in Nursing and almost half were married (N = 102; 49.3%). 45.9% of the participants were employed in the medical area (N = 95), 33.8% were employed in the surgical area (N = 70), 20.3% worked in onco-haematological hospitalized units and in oncology outpatients (N = 42). On average the participating nurses worked 7.54 h a day (SD = 0.60) and performed over 2 h (2.15) of overtime per week (SD = 3.40). They had worked in their current organizational context on average for 11.31 years (SD = 9.62; range = 0–42).

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Table 1 Socio-demographic and working characteristics of sample (N = 207).

3.2. Scores and correlations between the variables in the study

In general, considering the average scores, nurses in our sample reported average levels of emotional labor (M = 2.64), high levels of stress (M = 2.71) and average levels of burnout (M = 2.04). The correlations between the variables under study are reported in Table 2. Overall, the variables studied were well correlated. For emotional labor, a positive correlation with stress (r = 0.37; p < .001) was verified, with burnout (r = 0.46; p < .001), and with the years worked in the current organization (r = 0.16; p < .01). This indicates that the higher the levels of emotional labor the higher the levels of stress and burnout, and that nurses who had been working for several years in the current organization reported greater emotional commitment. Regarding stress, significant correlations were verified with burnout (r = 0.63; p < .001), indicating that the higher the stress levels, the higher the burnout levels. Table 2 also shows the reliability of each scale, calculated through Cronbach’s Alpha, which was adequate.

3.3. Structural equation model

The structural equation model verified the hypothesized relationships, with the following fit indices: χ² (N = 207, GdL = 62) = 289.591 p < .001; RMSEA = 0.133 (90% I.C. = 0.118–0.149) p (RMSEA < 0.05) < 0.001; CFI = 0.782; TLI = 0.726; and SRMR = 0.082. As shown in Fig. 2, in line with the hypothesis (H1), the EL explains the nurses’ work-related stress (β = 0.53; p < .001) which in turn explains (H2) the burnout (β = 0.61; p < .001). Furthermore, EL was associated with higher burnout levels, as hypothesized (H3). Moreover, work-related stress (H4) partially mediated (Total Effect β = 0.58 p < .001; Indirect effect β = 0.32; p < .001) the relationship between EL and burnout (β = 0.61; p < .001). This indicates that nurses with a higher EL level are also more at risk of developing burnout because of higher levels of work-related stress.

3.4. ANOVA for clinical setting

From data analysis, we have been able to verify that the stress levels...
were different in relation to the clinical working area. Overall, nurses in the clinical medicine area reported less stress (M = 2.61; SD = 0.48), a difference that becomes significant (p = .025) if compared with what was reported by nurses working in the Oncology area (M = 2.84; SD = 0.30).

For burnout, although overall nurses in all clinical areas reported average levels of burnout, a significant difference emerged between the nurses working in the oncology area and those in the medicine and surgery areas. Furthermore, as shown in Table 3, oncology nurses (M = 2.80; SD = 0.98) reported on average that they were emotionally more affected (p < .001) than nurses in the areas of clinical medicine (M = 1.78; SD = 1.06) and surgery (M = 1.91; SD = 0.96).

4. Discussion

This study was conducted in order to understand, through a mediation model, the role of work-related stress in the relationship between emotional labor and burnout. From data analysis, we were able to verify that high levels of emotional labor and work-related stress increased burnout syndrome in nurses, and that work-related stress mediated the relationship between emotional labor and burnout. This finding is consistent with other studies (Biodalamenti et al., 2018; Yom et al., 2017; Zaghini et al., 2017). In fact, the nursing profession, like all the other “helping professions”, is strongly affected by work-related stress (Neill, 2011), and workers have extreme probability of experiencing burnout syndrome (Baldacci, Avanzi, & Fraccaroli, 2014). In particular, many studies have shown that emotional demands (Lazarus, 2006), relational demands (Rodrigues & Chaves, 2008) and high workloads (Deklava, Circenis, & Millere, 2014) are important determinants of work-related stress (Bakker & Demerouti, 2007). Regarding years of employment in current organization, we were able to verify that nurses who had worked longer reported more EL. Unsurprisingly, these results are in line with literature, according to which working activity carried out for longer stressed healthcare professionals and contributed directly to burnout syndrome (Khamisa, Peltzer, Ilic, & Oldenburg, 2016).

Furthermore, we verified the hypotheses formulated about the relationships between the investigated variables. In fact, EL explained the variability of work-related stress (H1) and burnout in nurses (H3), a result that corresponds with the literature. In fact, nurses, belonging to one of the helping professions, are subjected daily to significant emotional demands from patients and their families, who, finding themselves in a difficult and painful situation, rely on healthcare professionals for comfort and support (Ericksons, 2015). All this requires nurses, often, to suppress their own emotions and respond primarily to the patients’ needs. This can cause nurses to incur chronic distress which, over time, results in burnout syndrome (Kim & Han, 2017).

![Fig. 2. Results of structural equation model.](image)

Legend: ROL = Role; CON = Control; SS = Support from Superiors; DEM = Demand; SUCO = Support from Colleagues; CH = Change; REL = Relations; RES = Restraint; SUR = Surface Acting; COM = Compliance; EE = Emotional Exhaustion; CYN = Cynicism; IS = Interpersonal Strain.
Furthermore, according to the results of our study, the relationship between EL and burnout is partially mediated by work-related stress (r = .13). This result, which proves to be the real added value of our study, means that nurses not only suffer from burnout because they report high levels of EL during their professional work, but also because this contributes directly to their stress. This result is an innovative element and one which is verified for the first time in a comprehensive model. This offers an important element of reflection and potential intervention to all those who, in various capacities, deal with the welfare and health of workers. In fact, while the issue is complicated, it is not possible to act on EL, which is an intrinsic and inalienable part of daily nursing activities; but it is possible and necessary to act to reduce work-related stress, in order to avoid EL becoming burnout.

Finally, from the analyses conducted on the clinical working areas of our sample, we found that nurses working in oncology reported, on average, greater stress and burnout than those who were working in the other areas. This finding is consistent with other studies (Mlasch & Leiter, 2016). We expected nurses working in the same areas to report more stress and burnout. In fact, the effects of stress developed as reactions to specific work requirements perceived as threatening, exceed healthcare providers’ resources, contributing directly to stress (Lazarus, 2006; Teo et al., 2013). Repeated and prolonged exposure to stress leads to the development of burnout syndrome (Demerouti et al., 2002), therefore burnout constitutes the final phase of a reaction process of stress (Borgogni & Consiglio, 2005; Demerouti et al., 2002). Moreover, it is not surprising that oncology nurses reported higher levels of burnout and stress than those working in the medical area (Gómez-Urrúzúa et al., 2016). Nurses in the area of oncology are more in contact with suffering and death than colleagues in other areas. In addition, they are dealing with untreatable diseases, which can make them feel a sense of powerlessness and poor self-efficacy (Wahlberg, Nirenberg, & Capezuti, 2016).

4.1. Limitations

Despite their importance and significance, the results of our study must be considered in the light of certain limitations. First, the sample size limits the reliability of our findings and reduces external validity, therefore its implications cannot be extended to the entire nursing population. Second, although the associations between variables in the model were all significant, the relatively low fit indices of our model reflect a low fit of our data to the model and constitute a weakness of our study. Third, studying the relationship between emotional labor, work-related stress and burnout, we cannot rule out overlap between the variables, especially between stress and burnout, so further researches which address the problem of common method variance are encouraged. Moreover, the questionnaire administered to the participants did not include scales for the measurement of constructs opposite to those investigated, such as job satisfaction, positive emotions, and quality of life, therefore further studies would be needed to expand the questionnaire, to verify and validate our findings. Finally, the cross-sectional design of the study does not allow verification of the causal relationships between the variables considered, so further researches with a longitudinal design would better verify these associations.

5. Conclusions

Reasons for nurses to develop burnout syndrome include emotional labor, which is an important part of their profession, but which leads them to develop work-related stress. Burnout can have a strong impact on healthcare professionals, on their patients and on the quality of care (Caruso, Tramontana, & Bigazzi, 2011). It is not possible to eliminate emotional labor as a way of reducing stress and consequently burnout syndrome in nurses. However, the results of our study offer new points of view to the scientific community and suggest new approaches to intervention to interrupt the process that, starting from emotional labor, leads nurses to develop burnout syndrome, through the mediation of stress. It is possible to intervene in nurses’ work-related stress through management, counselling, sharing, training and information programmes for professionals, programmes that reduce nurses’ stress levels and consequently reduce the risk of burnout syndrome. For all those involved in managing the organizational processes of healthcare organizations, managers and occupational health physicians, the results of our study are very important. In fact, they enable those involved to understand more deeply the new relationships between the variables investigated, they offer new opportunities for intervention in nurses’ emotional health and consequently on their performance, which would translate into greater quality of care and safety for patients.

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Declaration of competing interest

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