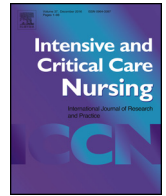




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### Research Article

# Burnout and job satisfaction of intensive care personnel and the relationship with personality and religious traits: An observational, multicenter, cross-sectional study

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### ABSTRACT

**Objectives:** To investigate if burnout in the Intensive Care Unit (ICU) is influenced by aspects of personality, religiosity and job satisfaction.

**Research methodology:** Cross-sectional study, designed to assess burnout in the ICU and to investigate possible determinants. Three different questionnaires were used: the Malach Burnout Inventory, the Eysenck Personality Questionnaire and the Spiritual/Religious Attitudes Questionnaire. Predicting factors for high burnout were identified by multivariate logistic regression analysis.

**Setting/Participants:** This national study was addressed to physicians and nurses working full-time in 18 Greek ICU departments from June to December 2015.

**Results:** The participation rate was 67.9% (n = 149) and 65% (n = 320) for ICU physicians and nurses, respectively. High job satisfaction was recorded in both doctors (80.8%) and nurses (63.4%). Burnout was observed in 32.8% of the study participants, higher in nurses compared to doctors (p < 0.001). Multivariate analysis revealed that neuroticism was a positive and extraversion a negative predictor of exhaustion (OR 5.1, 95%CI 2.7–9.7, p < 0.001 and OR 0.49, 95%CI 0.28–0.87, p = 0.014, respectively). Moreover, three other factors were identified: Job satisfaction (OR 0.26, 95%CI 0.14–0.48, p < 0.001), satisfaction with current End-of-Life care (OR 0.41, 95%CI 0.23–0.76, p = 0.005) and isolation feelings after decisions to forego life sustaining treatments (OR 3.48, 95%CI 1.25–9.65, p = 0.017).

**Conclusions:** Personality traits, job satisfaction and the way End-of-Life care is practiced influence burnout in the ICU.

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### Implications for clinical practice

- Burnout in the Intensive Care Unit is influenced by personality factors such as neuroticism and extraversion, but not by aspects of spirituality/religiosity.
- Job satisfaction and satisfaction with the way End-of-Life care is provided in the ICU are independent predicting factors for burnout.

### Introduction

Burnout, characterised by emotional exhaustion, depersonalisation and lack of personal accomplishment (Maslach et al., 2001), is prevalent, however non-specific, among Intensive Care Unit (ICU) personnel (Grunfeld et al., 2000; Lert et al., 2001; Whippen and

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Canellos, 1991). Its high importance has recently been addressed in an official collaborative statement by Critical Care Societies (Moss et al., 2016). Several pathogenetic factors have already been identified such as age, gender, workload, quality of working conditions, impaired relationships between personnel, caring for dying patients or making decisions to forego life sustaining treatments (Embriaco et al., 2007; Mealer et al., 2007; Poncet et al., 2007). However, it has been hypothesized that, even though burnout occurs in response to emotional and interpersonal stressors at work (Mealer et al., 2009), it is not the stressors per se that induce burnout but the quality of the defense mechanisms used to handle these stressors (Duquette et al., 1994). Indeed the use of immature or neurotic defense mechanisms induces emotional exhaustion. On the other hand, a mature defense style involves the attenuation rather the denial of anxiety and moderates but does not eliminates painful emotions. It allows sources of anxiety to be brought to consciousness, thought about and helped to be resolved (Reagan et al., 2009).

Burnout and job satisfaction of Greek intensive care personnel has never been investigated. Moreover, during the last five years, Greeks have faced an unprecedented economic crisis with huge repercussions in the socioeconomic environment of the middle social class in which healthcare workers belong. We can hypothesize that the financial worries and wage reductions may lead to an increase in burnout and job dissatisfaction. We conducted a national, multicenter, cross-sectional study with a primary endpoint to assess the actual burnout and job satisfaction in the ICU personnel and secondary to investigate if the individual's personality, religiosity and satisfaction with the "End-of-Life" (EoL) care have an effect on burnout and job satisfaction.

## Methods

### *The study population*

Nurses in Greece are graduates following four years of education; ICU nurses upon arrival in the ICU receive a six-month supplementary specific training. Head nurses usually hold a Bachelor's or Master's degree. The nurse/patient ratio is 1/2.5 to 1/3.5 and they work in three shifts, rotating working program, 40 hours per week. The nurse in charge routinely takes patient assignments. They do not have different wages compared to inpatient non-ICU nurses; on the contrary, they have ten additional days of annual leave. Due to the shortage of ICU beds in Greece, 90% of ICU patients are mechanically ventilated. According to the recommendations of the European Society of Intensive Care ventilated patients necessitate a level of care II or III (Valentin and Ferdinand, 2011) and the minimum number of nurse/patient ratio is 1/2 or 1/1 respectively, leading to an increase nursing workload in the Greek ICUs.

As for ICU physicians, Intensive Care Medicine is a supra-specialty and certification can be acquired after two years of full-time training in the ICU. They enter the supra-specialty after being certified in six primary medical specialties: Anesthesiology, Internal Medicine, Respiriology, Cardiology, Nephrology and Surgery. Visitors and communication with the patients' families are limited to one hour per day, usually in the afternoon.

### *Objectives*

The primary end point was to assess burnout in Greek ICU personnel by recording participant scores all three burnout aspects (emotional exhaustion, depersonalisation and personal accomplishment). The secondary end point was to investigate the relationship between the participant's personality and spirituality/religiosity profile with the burnout and job satisfaction.

### *Setting and participants*

The study was addressed to all (No = 21) Greek, level III, multidisciplinary ICU departments with more than six beds, mainly because smaller ICUs are located in small hospitals and primarily serve as step-down units. The 221 ICU physicians and 493 nurses working full-time more than six months in these ICUs, were invited to participate voluntarily and anonymously by answering the study questionnaires. The medical director and head nurse of each ICU gave detailed information about the number of ICU personnel fulfilling the above-mentioned criteria, the number of the ICU personnel willing to participate and the number of questionnaires required. The questionnaires were delivered by the primary investigator after presenting in detail the study protocol to the staff in all ICUs. An ICU physician or nurse was also designated in advance to collect the filled-out questionnaires and bring return them to the principle investigating center. The study was conducted from June to December 2015.

### *Ethical approval*

ICUs staff participation was optional and anonymous. Ethical approval for the study was obtained by the National Health Authority (Protocol No Δ3β/23441).

### *Data collection*

Participants were first asked to provide anonymously detailed information regarding socio-demographics, job characteristics and individual perception of job satisfaction and current ICU EoL practices. Opinion on EoL was assessed from a variety of questions extracted from a questionnaire developed previously by Ferrand et al. (2003). However, only answers significantly interacting with burnout are presented in the Results Section.

Three main questionnaires were used for the current study:

1. The Maslach Burnout Inventory (MBI) developed by Maslach in 1996. This is a well-known 22-item self-report measurement of burnout. This inventory is designed to assess three separate dimensions of burnout: Emotional Exhaustion (9 items), Depersonalisation (5 items) and Personal Accomplishment (8 items). According to the categorisation of MBI scores for the occupational subgroup of medicine, emotional exhaustion is considered high when scores equal or exceed 27, and low when scores are equal or less than 18. Furthermore, according to Maslach, high burnout is defined by the combination or high emotional exhaustion (score  $\geq 27$ ), high depersonalisation (score  $\geq 10$ ) and low personal accomplishment (score  $\leq 33$ ). Although it is conceptualised as a continuous variable, the three scores for each dimension cannot be combined into a single total score. However, as suggested by Dyrbye et al. (2009), defining high burnout by high scores of emotional exhaustion and/or depersonalisation as a dichotomous variable is desired mainly for statistical reasons.
2. The Eysenck Personality Questionnaire (EPQ). This questionnaire, first developed by Eysenck and Eysenck (1975) and validated in Greek by Dimitriou (1986), aims to explore three main dimensions/aspects of personality: Neuroticism, Psychoticism, and Extraversion. It consists of 84 entries, evaluated by the participants with a "yes" or "no" answer. A person with a high neuroticism score is an anxious, worrying individual, moody and frequent depressed. He may react strongly to all sorts of stimuli and find it difficult to get back after each emotionally arousing experience. On the other hand, the high psychoticism scorer is a personality type that is prone to take risks, might engage in anti-social or non-conformist behaviour. He may be reckless

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