

Time to create a healthy work environment in ICU: a review of current evidence and commentary



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SUMMARY

- The intensive care unit (ICU) is a stressful environment for clinicians, patients and patients' family members.
- The purpose of this paper is to critically synthesize and discuss recent evidence on: a) the association between the conditions prevailing in ICUs and disturbing psychological responses in clinicians, as well as patients and their family, and b) effective interventions and healthcare policy development towards this goal.
- A number of studies suggest that prolonged work-related stress is associated with neuro-biological and psychological distress in ICU personnel, which might be severe enough to compromise clinicians' ability to work and provide proper care.
- People hospitalized in ICUs, even after discharge, frequently suffer from psychiatric symptoms, and so do their family members.
- Interventions at an organizational level aiming to support ICU nurses' professional role within the demands and stressors of the ICU environment are pivotal. Similarly, prospective studies to support the implementation of evidence-based strategies are also needed. Overall, reformation of occupational health policies is obligatory. At the same time, approaches aiming to support ICU clinicians at an individual level, including training and education, such as development of stress-management skills, and coping with the stressors, such as enhancement of resilience, physical strength or taking time away from work, although valuable, they do not make the work-environment less toxic.

INTRODUCTION

The "Working Together for Health" report of the World Health Organization in 2006 gave emphasis to the worldwide shortage of employees in healthcare settings, mainly nurses, due to stressful work conditions (WHO, 2006). Moreover, the World Mental Health Day in 2017 focused on succeeding premium mental health in the workplace (WHO 2017a). Yet, the Intensive Care Unit (ICU) environment remains immensely stressful not only to patients and families but to healthcare providers, as well. Although this has been acknowledged for decades, in essence nothing seems to have

changed. Nurses employed in ICUs are still exposed to a variety of risks, which include, among others, psychosocial hazards such as those related to work-related stress (WHO, 2017b). As far as patients and their families are concerned, ICU admission and hospitalization in acute care settings have been described as stressful experiences (Schoeman et al., 2017; Van Beusekom et al., 2016), and have been associated with depressive and anxiety symptoms, as well as post-traumatic stress disorder symptoms (PTSD) (Matt et al., 2017; Parker et al., 2015; Rabiee et al., 2016; Van Beusekom et al., 2016).

The purpose of this paper is to comment on and critically synthesize and discuss recent evidence on: a) the association between the conditions prevailing in ICUs and disturbing psychological responses in clinicians, as well as patients and their family, and b) effective interventions and healthcare policy development.

CHARACTERISTICS OF THE ICU ENVIRONMENT AND NURSES' WELL-BEING

Recent data indicate new and wider sources of work-related stress for ICU nurses. End-of-life issues, ethical problems, caring for people who are suffering and futile care, miscommunication with colleagues and patients or patients' family members, increased demands by patients' relatives, technical competencies required in advanced life sustaining treatments, as well as a high degree of responsibility have been addressed as some of the major work-related stressors not only for nurses, but for all health professionals employed in ICUs (Epp, 2012; van Mol et al., 2015).

Vicarious trauma, compassion fatigue (Beck, 2011; Dominquez-Gomez & Rutledge 2009; Mooney et al., 2017) and moral distress (Austin et al., 2017; Haikali et al., 2016) are continuously increasing, as well as the severity of burnout syndrome (Alexandrova-Karamanova et al., 2016; Montgomery et al., 2015). Emotional exhaustion, cynism and professional inefficacy are manifested by people suffering from professional burnout (Maslach & Leiter, 2016). Burnout syndrome, as a prolonged stress-response and an experience, has been associated with poor work performance, absenteeism, incivility and disrespect, criticism, turnover, health problems, family problems, as well as self-harming and suicide (Maslach & Leiter, 2016).

Violation of ethical principles that guide clinical care, including anticipation of harm and obligation to benefit the patient, has been identified as a major factor associated with moral distress and burnout in ICU nursing personnel (Papathanassoglou et al., 2012). A large body of research provides data supporting that the

frequency and severity of moral distress is increased among ICU nurses (Atabay et al., 2015; Soleimani et al., 2016). Moral distress has been defined as inability to do what one considers ethically right (Jameton, 1984). A recent study showed that inconsistency between clinicians' personal and professional values and the ethical climate prevailing in the organization may exacerbate morally distressing experiences, as well as depressive symptoms (Lamiani et al., 2018). Furthermore, moral distress has been associated with intention to quite the job (Barlem et al., 2014; Papathanassoglou et al., 2012; Piers et al., 2012), emotional exhaustion and burnout syndrome (Hamric et al., 2012; Wlodarczyk & Lazarewicz, 2011), as well as job dissatisfaction (Elpern et al., 2005). Most importantly, the aforementioned phenomena have been linked with adverse quality and safety of delivered care (Davis et al., 2012).

Additionally, it is well established that ICU nurses may quit their job due to neuro-biological symptoms related to exposure to stressful situations, such as depressive symptoms or severe sleep difficulties (Lai et al., 2008). A review on the subject reported that almost 20 per cent of critical care nurses report symptoms of neuro-biological disturbances, while the frequency of depressive and anxiety symptom may range between 10 to 30 per cent (Karanikola et al., 2015). Most importantly, the symptoms of post-traumatic syndrome, a health condition associated with substance use and suicidal behavior have also been increased (Karanikola et al., 2015). The factors related to the mental and psychological burden experienced by critical care nurses are mainly workload, organizational culture and climate, amount and nature of tasks performed, as well as personal factors, such as gender (Karanikola et al., 2015). On the other hand, protection of physiological and mental well-being of ICU healthcare personnel contributes to improved sustainability of healthcare systems, as well as increased quality of life for employees (Aiken et al., 2012; Van Gerven et al., 2016). Neuro-biological and psychological distress in ICU personnel can be severe enough to compromise their ability to work and provide excellent care, highlighting the need for specific occupational health policies.

CHARACTERISTICS OF THE ICU ENVIRONMENT AND WELL-BEING IN PATIENTS AND THEIR FAMILY MEMBERS

A healthy work environment is not only associated with physiological and mental well-being in ICU healthcare personnel, but also with augmented standards of safety and quality of provided care (Aiken et al., 2012; Van Gerven et al., 2016), establishing a healing environment for critical patients and their families, too.

Patients in ICUs frequently have disturbed sensory and neuro-cognitive experiences such as hallucinations and delusions, and if discharged many of them suffer from mental distress syndromes, such as PTSD, depression or anxiety disorders (Bienvenu et al., 2018; Nikayin et al., 2016). These clinical conditions and relevant symptoms have been associated with decreased quality of life among them, as well as increased burden in their family members (Parker et al., 2015).

Recent data on the mental health of people who were discharged from ICU show that benzodiazepine administration during hospitalization in ICU is a risk factor for PTSD (Parker et al., 2015), while pre-existing psychological distress, as well as experiences of psychological distress during hospitalization in ICU might be risk factors for the development of depressive symptoms after discharge (Rabiee et al., 2016). Furthermore, experience of psychotic symptoms during the ICU stay may be a risk factor for anxiety symptoms after leaving the ICU (Nikayin et al., 2016).

Moreover, family members may experience anxiety and depressive - even post-traumatic stress syndrome- symptoms themselves, the newly identified "Post-intensive care syndrome family" (PICS-F) (Davidson et al., 2012; Petrínec & Martin, 2017). A recent study

showed that approximately 45% of family members of those hospitalized in ICU reported anxiety symptoms, 25% depressive symptoms, and 11% post-traumatic symptoms, while the mortality rate of their relatives during hospitalization in ICU was approximately 50% (Petrínec & Martin, 2017). An important predictor of the severity of PICS-F was pre-existing anxiety, depression or PTSD. These manifestations are further linked with nurses' neuro-biological and psychological morbidity, i.e. burnout, moral distress and anxiety symptoms (Quenot et al., 2017).

Overall, a vicious circle seems to perpetuate among critically ill patients' distress, their family members' suffering and health professionals' psychological and mental burden. Thus, it's time to advocate for policy development and targeted initiatives especially developed to transform ICU to become not only a healthy work environment, but a caring and curative milieu for patients and their families, as well.

CURRENT INITIATIVES

For years the question was: "Is it the people who enter the profession or the healthcare-related situations that precipitate the burnout syndrome and relevant dysfunctional work-related professional attitudes?" However, this may be a misleading question, since it ends with an ineffective conceptualization of the phenomenon at hand, by putting emphasis on personal and psychological problems or illnesses which necessitate psychotherapy, while still ignoring that work-related stress response is the red flag pointing out that there are work-related problems that need to be resolved (Maslach & Leiter, 2016).

Research data support that the work-related stress response is linked to job-person misfit in six strategic areas: workload; control over practice and participation in decision making; social reward and positive social recognition; quality of workplace community and social support within work-environment; fairness and respect; values and meaning making (Leiter & Maslach, 1999; Maslach & Leiter, 2008). Based on this, two types of solutions have been identified: those aiming to fit people into the job and those focusing on fitting the job to people. Regarding the latter approach, the use of the model of ergonomics focuses on the relationship between healthcare professionals and their physical environment, which means better design of the work environment, and special focus on the social and psychological needs of employees (Consiglio et al. 2014; Maslach & Leiter, 2017).

Overall, person-job fit in health professionals may be attributed to the fulfillment of their core psychological needs, which promotes their motivation and well-being. Seven core needs have been identified towards this goal: clinical autonomy and control over nursing practice; belongingness and the experience of being part of the group receiving support; competence and feedback of having skills and mastery, positive emotions manifested through humor, joy in the workplace and happiness; psychological safety and confidence that one will not be bullied; sense of being treated fairly; meaning of doing something important (Maslach & Leiter, 2008).

As a result, the literature underlines six groups of interventions aiming to achieve a healthy workplace. The ultimate objective is to generate a sustainable workload, participation in policy and clinical decision making, recognition and reward through positive feedback, supportive work community, fairness, respect and social justice, clear values and meaningful work (Maslach & Leiter, 2008; Maslach & Leiter, 2017).

Nevertheless, increased focus on the ways to lessen the severity and adverse impact of work-related risks especially on ICU nurses and physicians is needed. Most importantly, we need to de-stigmatize mental distress in ICU clinicians and identify it as the signal for organizational changes and policy transformation through a

collaborative planning process. It is time mental health issues among ICU nurses to become a healthcare policy priority, necessitating more effective, evidence-based coping strategies (Dzau et al., 2018; Papathanassoglou & Karanikola, 2018).

The Action Collaborative on Clinician Well-Being and Resilience (ACCWR) of the National Academy of Medicine in the USA, encompasses approximately 50 organizations committed to eliminate work-related stress in clinical environments. The goals of the ACCWR are: a) to increase knowledge on well-being barriers among clinicians; b) to augment awareness on work-related distress and consequent neuro-biological disturbances among clinicians; and c) to produce evidence-based strategies which enhance the quality and safety standards of patient care through supporting and caring for the caregivers. The American Association of Critical-Care Nurses has joined the ACCWR amongst others (NAM 2017). Furthermore, the ACCWR has formed four working groups aiming to identify evidence-based solutions to improve well-being in clinicians at both the system and individual levels. Products and activities of the working groups cover an online knowledge platform, perspectives discussion papers and the conceptual model which addresses issues relevant to the well-being of clinicians (NAM, 2017).

With regard to stressors within healthcare organizations, a recent study showed that clerical work is one of the most important factors leading to clinicians' burden and subsequent mental and work-related distress in ICUs (Sinsky et al., 2016). Towards this issue, the healthcare system organization of the Department of Family Medicine of the University of Colorado recently established a model called "Ambulatory Process Excellence" (APEX). According to APEX, a newly introduced healthcare team called "medical assistants" receive robust training, while structured protocols allow them to function semi-independently. Their duties are to collect data, manage pharmacotherapy, form patient visitation agenda and assess the needs for preventive care. This is a structured process leading to the distribution of information to physicians and nurse practitioners, while medical assistants remain in the room to document the visit. When visitation is completed, medical assistants provide patient education and health coaching. This model permits nurse practitioners and physicians in ICUs to focus on synthesizing data, performing the physical examination and assessment, and making clinical decisions without distractions, all leading to reduced stress-related stimuli in the ICU environment. As a result of the above, the rate of burnout symptoms decreased from 53% to 13% in clinicians 6 months after the implementation of APEX in the healthcare system of Colorado Hospital (Wright & Katz, 2018).

Coming from a different perspective, an additional approach aiming to eliminate work-related stress in ICU staff nurses could be the implementation of procedures which help control uncertainty and decrease the frequency of ineffective management of high risk situations prevailing in ICUs. Towards this goal, one possible strategy may be the establishment of tools which allow standardization of ICU work, i.e. safety check-lists. Safety check-lists reduce variability in patient-related procedures, thus promoting patient safety risks (Cooper et al., 2015; Graan et al., 2016). The provision of context-specific tools to guide nursing processes and the delivery of verbal content through safety check-lists seem to constitute a strategies linked to reduced distress in clinicians due to uncertainty and high frequency of ineffective management of high risk situations.

CONCLUSIONS

Interventions at organizational level aiming to support ICU nurses' professional role within the demands and stressors of the ICU environment are of augmented importance. Similarly, prospective studies to support the implementation of evidence-based strategies are also needed. Overall, reformation of occupational health policies

is obligatory. At the same time, approaches aiming to fit people into the job, including training and education, such as development of stress-management skills, and physical strength or taking time away from work, may be proposed (Consiglio et al., 2014; Maslach & Leiter, 2017). Although valuable, this kind of individual interventions do not make the work-environment less toxic. In contrast, fitting the job to people includes interventions aiming to modify the work conditions that create negative outcomes for human beings, thus are strongly proposed.

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