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Original article

Burnout levels in the critical care area according to years of work experience among Italian nurses

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Abstract. *Background and aim:* In healthcare systems, Intensive Care Units (ICUs) and emergency rooms are extremely demanding and stressful environments, such that the severity of patient conditions, time pressures and the need to operate in critical conditions can promote the onset of moral suffering and burnout. The aim of this study is to assess burnout levels among Italian nurses employed in the emergency department referring to years of work experience. *Methods:* An online survey was conducted through major social network channels and collecting data among healthcare workers employed in emergency departments and burnout levels. *Results:* Data reveal that healthcare personnel suffer from significant levels of burnout, especially among those with low work experience. *Conclusions:* Our data show high levels of stress and burnout among healthcare professionals, mainly due to the emotional burden and daily ethical challenges. (www.actabiomedica.it)

Key words: burnout, depersonalization, emotional exhaustion, personal accomplishment, nurse

Introduction

The World Health Organization defined burnout as a syndrome, thus a set of signs and symptoms, resulting from the presence of chronic stress in the workplace that has not been successfully managed (1). Burnout syndrome is a condition resulting from a negative response to chronic stress in the work environment. It occurs when individuals experience a long discrepancy between their needs and values and the tasks they perform on a daily basis (2–5). This condition is characterized by three dimensions (6): emotional exhaustion (feeling emotionally overwhelmed and drained by work), depersonalization (detached and impersonal attitude toward the people being cared for or involved in the work), and reduced personal accomplishment (perceived incompetence and inability to achieve positive results, leading to decreased job satisfaction). These

aspects contribute to the impairment of individuals' psychological and physical well-being and the quality of their professional work. In healthcare system, Emergency Departments are extremely demanding and stressful environments, such that the severity of patient conditions, time pressures and the need to operate in critical conditions can promote the onset of moral suffering and burnout. This emotional state can result from a variety of sources, including dealing with patient suffering, managing critical situations and perceived scarcity of resources (7). Often, in fact, Healthcare workers are often exposed to emotionally trying situations and challenging decisions to be made, as well as complex resource management, including structural management (8–11). The critical nature of the conditions of treated patients, time pressures and the need to provide care under often extreme conditions may be relevant factors in the onset of moral distress and the phenomenon of burnout (12,13). All this leads to the phenomenon of burnout in health professionals in Emergency Departments (14,15). Burnout syndrome, as pointed out by Maslach (2), can have negative consequences both mentally and physically. On the mental side, it can lead to the development of disorders such as alcohol abuse, anxiety, depression, post-traumatic stress disorder, and, in some cases, suicidal ideation. These problems can impair quality of life and the ability to carry out daily activities. On the physical front, burnout can cause numerous psychosomatic disorders, including headache, hypertension, cardiopulmonary disease, musculoskeletal disorders, gastritis, gastric ulcers, insomnia and dizziness. These symptoms highlight how prolonged stress and emotional overload can negatively affect bodily well-being, increasing the risk of developing chronic diseases (16). This syndrome can impact not only the health of professionals, but also their ability to practice effectively. Therefore, recognizing and intervening early is crucial to prevent these complications and promote mental and physical well-being. Numerous studies have shown that burnout mainly affects healthcare workers with many years of work experience (17–19). On the other hand, few evidence suggest that this phenomenon can manifest itself as early as the first years of work experience. The present study aimed to detect burnout levels among Italian nurses employed in the emergency department referring to years of work experience.

Methods

Study design

An observational study was carried out through an on-line questionnaire delivered to Italian nurses employed in critical care settings. The questionnaire was administered from May to June 2024.

The questionnaire dissemination

An active link was created on-line through "Google Forms" tool and spread to all subscribers belonged to the "Italian Triage Training Group" which enriched only nurses employed in "Emergency Medicine-Emergency" and "Critical Care Area and Emergency Room".

Study procedure and description of the survey instrument

The questionnaire was divided into three sections: the first part included the collection of socio-demographic data; the second part involved the assessment of burnout through the Maslach Burnout Inventory (MBI) (20), while the third part included two summary items: "Have you ever thought about leaving your current job?" and "Are you currently considering leaving your current job?". The MBI was employed to obtain reliable and valid empirical data on the evaluation of burnout among healthcare professionals working in emergency departments, emergency rooms, and intensive care units, thereby facilitating an in-depth, evidence-based analysis. The MBI consisted of a total of 22 items covering three main subscales: emotional exhaustion (items 1, 2, 3, 6, 8, 13, 14, 16, and 20), depersonalization (items 5, 10, 11, 15, and 22), and personal accomplishment (items 4, 7, 9, 12, 17, 18, 19, and 21) (Sirigatti et al., 1988). According to the Pontifical Lateran University, burnout subscales were evaluated as low, moderate, or high based on the sum of the scores for each subscale. For the Emotional Exhaustion (EE) dimension, the total score ranged from 0 to 54 points, with scores from 19 to 26 indicating moderate burnout and scores above 26 indicating high burnout. The Depersonalization (DEP) score ranged from 0 to 30, with scores from 6 to 9 indicating moderate burnout and scores above 9 indicating high burnout. The Personal Accomplishment (PA)

dimension ranged from 0 to 48, with scores from 34 to 39 indicating moderate burnout, and scores below 34 indicating high burnout.

Statistical analysis

All data were collected in an Excel data sheet. All demographic variables were considered as categorical ones and also burnout sub dimensions, too. Thus, chi square tests were performed between years of work experience and burnout sub dimensions and all p-values less than 0.05 were considered as significant.

Ethical considerations

Prior to participation in the study, the nurses involved were clearly informed about the purpose of the study, the nature of participation, the potential risks and benefits, and the handling of personal data.

Within the questionnaire, the ethical considerations of the study and the purpose of data processing for research purposes were addressed, in accordance with Law no.675 of 1996. Only those who gave their consent to data processing and completed the informed consent form were included in the sample. The study was approved by the ethics committee IRCSS Oncology Institute "Giovanni Paolo II, Bari, Italy" with protocol number 1691/CEL.

Results

The sample consisted of 296 participants (Table 1), of whom 57.4% (n = 170) were female. Most of the enrolled nurses had between 1 and 5 years of work experience (35.4%, n = 105) and held a basic nursing degree (n = 274, 92.5%). All participants were employed in Critical Care settings, as shown in Table 1, and the majority also worked night shifts (n = 271, 91.6%). With regard to the MBI factors, the instrument demonstrated good internal consistency. Emotional Exhaustion (EE) showed gender-related differences, with males reporting higher mean scores (27.7 ± 12.1) compared to females (25.0 ± 12.8), nearing statistical significance (p = 0.06). Depersonalization (DP) scores were significantly higher in males (14.2 ± 7.3) compared to females (value repeated in original, likely meant to differ) (p<0.001). In both cases, the scores corresponded to a moderate level of burnout.

Further differences emerged by years of professional experience. High DP scores (> 12) were observed among the 1–5, 6–10, and 11–15 years groups (p<0.001), whereas a statistically significant moderate PA score (32.4 ± 10.8) was found in the 1–5 years group (p<0.001). Regarding the critical care work setting, the emergency department showed a statistically significant moderate EE level (28.4 ± 12.9) (p = 0.001), while a high PA score (34.4 ± 10.8) was recorded among ambulance emergency service staff (p<0.001).

Table 2 shows, for each category of years of professional experience in critical care, the number and percentage of nurses presenting low, moderate, and high levels for each MBI factor. For each level within the MBI subscales, both the percentage of nurses relative to their specific experience group (†) and the percentage relative to the total sample [‡] are reported.

Although the results were not statistically significant for EE, 50% (n = 52) of the nurses in the 1–5 years group—corresponding to 17.9% of the total sample—reported high levels of EE.

The DP subscale showed statistically significant differences (p<0.001). Among those with 1–5 years of experience, 50% of the group—equivalent to 20.0% of the entire sample—scored in the high DP range. This was followed by the 6–10 years group, in which 41.9% of the group, corresponding to 17.3% of the total sample, exhibited high DP levels.

As for PA, the lowest levels were observed in the 1–5 years [16.3%] and 6–10 years [21.4%] experience groups, which showed the highest proportions of low PA scores relative to the entire sample (p<0.001).

Table 3 presents two summary questions: "Would you leave your current position?" and "Are you currently considering leaving your job?". For the first item, no statistically significant differences were observed; however, 25.7% of the total sample—particularly those with 1 to 15 years of experience, all exceeding 50% within their respective groups—reported having thought about changing their position. This trend appears to be confirmed by the second item, where the differences were statistically significant (p = 0.04): 16.9% of nurses with 1 to 5 years of work experience reported currently

Table 1. Participants' characteristics and MBI Factor Scores (n=296)

	n(%)	EE *R* = 0 -54 α = 0.92	DP *R* = 0 - 30 α = 0.82	PA *R* = 0 - 48 α = 0.89
		M±SD		
Participant characteristic				
Sex				
Female	170(57.4)	25.0±12.8	10.7±6.86	29.7±11.5
Male	126(42.6)	27.7±12.1	14.2±7.3	31.1±8.9
		p = 0.06	p = <0.01**	p = 0.25
Education				
3 years of nursing education	274(92.5)	26.4±12.6	12.3±7.3	30.1±10.4
5 years of nursing education	22(7.4)	22.4±11.2	10.8±6.9	32.6±11.2
		p = 0.14	p = 0.34	p = 0.28
Work experience				
<1 year	0(0)			
1-5 years	105(35.4)	28.2±12.0	13.0±7.6	32.4±9.2
6-10 years	93(31.4)	25.6±12.2	13.3±6.6	27.6±11.4
11-15 years	40(13.5)	26.6±11.5	13.4±6.6	28.8±8.7
16-20 years	24(8.1)	24.1±13.2	9.8±6.4	27.1±11.4
21-30 years	27(9.1)	22.6±14.9	7.9±7.0	32.3±10.2
31-40 years	7(2.4)	24.0±14.6	2.4±3.3	45.1±3.6
		p = 0.31	p = <0.01**	p = <0.01**
Caring for setting				
Ambulance Emergency	17(5.7)	23.2±13.6	11.3±7.3	34.4±10.8
Emergency Room	135(45.6)	28.4±12.9	13.4±7.3	31.9±9.4
Resuscitation	44(14.9)	26.8±11.2	11.6±7.3	30.8±9.9
Intensive care	100(33.8)	23.3±11.9	10.9±7.0	27.1±11.5
		p = 0.01*	p = 0.06	p = <0.01**
Shift work				
During the morning and the afternoon	25(8.4)	27.9±13.6	13.0±7.9	32.3±11.8
Also during the night	271(91.6)	26.0±12.5	12.1±7.2	30.1±10.4
		p = 0.46	p = 0.57	p = 0.31

considering leaving their job, followed by 12.2% of those with 6 to 10 years of experience.

Discussion

The aim of the study was to assess the levels of burnout among professionals working in intensive care units. The analysis of the MBI factors confirmed good internal consistency of the instrument, thereby reinforcing the validity of the results obtained. Regarding gender differences, a trend toward higher levels of EE was observed among male participants compared to females, with marginal statistical significance. Although not statistically robust, this difference may suggest a

Table 2. Emotional Exhaustion, DP, and PP according to work experience (n=325)

Work experience /	**1-5 years**	**6-10 years**	**11-15 years**	**16-20 years**	**21-30 years**	**31-40 years**	**Total**	
EE. levels	**n(%)† [%]‡**						**N(%)**	**p**
Low	25(24.0) [8.5]	29(31.2) [9.8]	11(27.5) [3.7]	9(37.5) [3.1]	11(40.7) [3.7]	2(28.6) [0.7]	87(29.5)	
Moderate	27(26.0) [9.2]	25(26.9) [8.5]	11(27.5) [3.7]	8(33.3) [2.7]	8(29.6) [2.7]	3(42.9) [1.0]	82(27.8)	p = 0.65
Hight	52(50.0) [17.6]	39(41.9) [13.2]	18(45.0) [6.1]	7(29.2) [2.4]	8(29.6) [2.7]	2(28.6) [0.7]	126(42.7)	
DP. levels								
Low	23(22.1) [7.8]	12(12.9) [4.1]	7(17.5) [2.4]	8(33.3) [2.7]	12(44.4) [4.1]	5(71.4) [1.7]	67(22.7)	
Moderate	22(21.2) [7.5]	30(32.3) [10.2]	7(17.5) [2.4]	4(16.7) [1.4]	7(25.9) [2.4]	2(28.6) [0.7]	72(24.4)	p = <0.01**
Hight	59(56.7) [20.0]	51(54.8) [17.3]	26(65.0) [8.8]	12(50.0) [4.1]	8(29.6) [2.7]	--	156(52.9)	
PA. levels								
Low	48(46.2) [16.3]	63(67.7) [21.4]	26(65.0) [8.8]	16(66.7) [5.4]	13(48.1) [4.4]	--	166(56.3)	
Moderate	36(34.6) [12.2]	16(17.2) [5.4]	12(30.0) [4.1]	4(16.7) [1.4]	6(22.2) [2.0]	--	74(25.1)	p = <0.01**
Hight	20(19.2) [6.8]	14(15.1) [4.7]	2(5.0) [0.7]	4(16.7) [1.4]	8(29.6) [2.7]	7(100)	55(18.6)	

† = % within the group; ‡ = % relative to the total sample.

Table 3. Evaluation of summary items by years of work experience

	1-5 years	6-10 years	11-15 years	16-20 years	21-30 years	31-40 years	Total	p
	n(%)† [%]‡						N(%)	
Have you ever thought about leaving your current job position?								
I would not leave my current position	65(44.5) [22.0]	42(50.0) [14.2]	11(32.4) [3.7]	2(15.4) [0.7]	10(62.5) [3.4]	2(66.7) [0.7]	132(44.6)	0.23
I would leave my current position, although I have not done so	76(52.1) [25.7]	40(47.6) [13.5]	23(67.6) [7.8]	10(76.9) [3.4]	6(37.5) [2.0]	1(33.3) [0.3]	156(52.7)	
I have already left a previous position	5(3.4) [1.7]	2(2.4) [0.7]	--	1(7.7) [0.3]	--	--	8(2.7)	
Are you currently considering leaving your current job position?								
No	96(65.8) [32.4]	48(57.1) [16.2]	14(41.2) [4.7]	5(38.5) [1.7]	12(75.0) [4.1]	2(66.7) [0.7]	177(59.8)	0.04*
Yes	50(34.2) [16.9]	36(42.9) [12.2]	20(58.8) [6.8]	8(61.5) [2.7]	4(25.0) [1.4]	1(33.3) [0.3]	119(40.2)	

† = % within the experience group; ‡ = % relative to the total sample. *Note:* * p≤0.05 is statistical significant.

greater male vulnerability to emotional exhaustion in this context, potentially related to different coping mechanisms or variations in stress management strategies (21). Clearer results emerged in the DP subscale, with significantly higher scores among males compared to females ($p<0.001$). Depersonalization, which reflects emotional detachment, is a key indicator of burnout and may negatively affect organizational functioning and quality of care (22). However, it is important to note that in both cases, the levels observed were within the moderate range, indicating the presence of a problem that has not yet reached a critical threshold. Healthcare workers in emergency settings are inevitably exposed to moral distress due to various factors, including organizational constraints, complex decision-making processes related to patient care and treatment, staff shortages, and inadequate infrastructure and equipment (23). These factors contribute to an extremely stressful work environment that can significantly affect the psychological well-being of professionals. This underscores the critical need to identify support and intervention strategies aimed at reducing burnout and moral distress in this field (24,25). Seniority in the profession emerges as a key factor in the analysis of burnout. High levels of depersonalization (>12) were most frequently observed among nurses with 1 to 15 years of experience ($p<0.001$), with particularly high concentration in the 1–5 years group, where half of the nurses showed high DP scores. This suggests that the early years of employment in critical care settings represent a particularly vulnerable phase for the development of burnout symptoms, likely due to the need to adapt to a highly stressful work environment and to manage complex clinical situations. Indeed, some studies investigating correlations between organizational climate and emotional exhaustion/depersonalization found that novice nurses are more likely to experience job-related stress and anxiety (26), likely due to limited professional experience (27). In critical care units, this is further exacerbated by harsh working conditions, such as 24-hour emergency coverage, staff shortages, and high workloads (28). These elements may contribute to significant emotional exhaustion among young professionals starting their careers in critical care. An Italian study aimed at identifying the factors influencing newly graduated nurses' choice of work settings showed that young professionals tend to prefer environments where they feel they can work autonomously and have access to tutoring (29). However, critical care services and units often fail to meet these expectations due to the complexity of care and insufficient staffing. In parallel with EE and DP, levels of PA were significantly lower in the 1–5 years experience group, further confirming that younger professionals tend to perceive lower job satisfaction and personal fulfillment in these settings (27). This is a noteworthy finding, as personal accomplishment is considered a protective factor against burnout, and its reduction may precede the onset of job dissatisfaction and increased turnover risk (30). Work setting also significantly influences MBI scores. Emergency departments reported a moderate level of emotional exhaustion ($p = 0.001$), consistent with the intense and unpredictable nature of emergency care, as well as work-related stress and user aggression episodes (21). Conversely, ambulance emergency services were associated with high personal accomplishment scores—possibly due to the more immediate perception of the intervention's positive impact, strong team cohesion, or the dynamic nature of fieldwork, all of which may enhance the sense of efficacy and job satisfaction (31). The analysis reported in Table 2 confirms these trends, showing that 50% of nurses with 1–5 years of experience exhibited high levels of emotional exhaustion, corresponding to 17.9% of the total sample. Regarding depersonalization, 20% of nurses with high DP scores belonged to the 1–5 years group, with an additional significant proportion observed in the 6–10 years experience group. However, among professionals with 6–10 years of experience—as well as those in the higher seniority groups—emotional exhaustion tends to decrease, while PA tends to increase. This shift may suggest a potential development of adaptation or resilience over time. Given that critical care settings are often characterized by high staff turnover (32), those who remain may develop more effective coping mechanisms and resilience, allowing them to manage work-related stress more efficiently (33). This trend may be reinforced by several factors known to influence depersonalization, such as: the importance of a supportive learning environment for novice nurses; the varying perception of leadership depending on experience level; the development of human resources; and

the gradual acquisition of tools that foster autonomy, which typically develops over years of work in critical care (24,27). These findings highlight the importance of closely monitoring the psychological well-being of nurses during the early years of employment in critical care settings, in order to prevent mental health deterioration and the resulting impact on the quality of care. Finally, Table 3 explores the intention to leave the current job position, a key indicator of potential turnover. Although the item regarding the general willingness to leave the position did not show statistically significant differences, 25.7% of the total sample with 1 to 15 years of experience reported having thought about changing jobs at least once. This trend is confirmed by the second item, which showed statistically significant differences ($p = 0.04$): 16.9% of nurses with 1–5 years of experience were actively considering leaving their current job, followed by 12.2% of professionals with 6–10 years of experience. This is a concerning finding, suggesting that burnout—especially when associated with low levels of personal accomplishment—may translate into a tangible risk of losing qualified personnel, with potentially negative repercussions on organizational functioning and continuity of care (30).

Clinical practice implications

Looking ahead, this study highlights the importance of an integrated approach that encompasses both organizational management and psychological support to safeguard the mental health of nurses working in critical care and to ensure high-quality patient care. Such interventions should focus on targeted monitoring of younger, less experienced professionals, with timely actions when psychological distress arises (34). The promotion of a positive organizational climate is essential (35), as the complexity and intensity of work in critical care require environments that provide emotional support, effective leadership, and opportunities for continuous education. Encouraging a learning and supportive atmosphere can reduce the impact of stress and enhance personal accomplishment, especially among early-career professionals (31). Since younger professionals seek settings that foster autonomy and provide mentorship, it is crucial to implement structured preceptorship programs and specific training pathways to facilitate adaptation to intensive care environments and to promote resilience (36). This study—by demonstrating a reduction in burnout symptoms with increasing experience—suggests that the development of coping and resilience skills can be supported through structured initiatives for personal and professional growth (37). The significant proportion of nurses reporting thoughts of leaving their job highlights the urgent need for interventions aimed at improving job satisfaction and professional quality of life, thereby reducing the risk of losing qualified personnel and safeguarding continuity of care.

Limits

A major limitation of this study concerns the composition of the sample. it is probably not large or diverse enough to accurately represent the entire population of health care professionals nationwide. Another significant limitation is the risk of bias selection. Participants who decided to take part in the study may have been driven by a particular personal condition, such as burnout or emotional distress, which may have led to an overestimation of these phenomena. In summary, while the study offers an important insight into the well-being and difficulties of health care workers, these limitations suggest that the results should be interpreted with caution and that further research, with more in-depth methodologies and more representative samples, is needed to validate and deepen the findings.

Conclusions

This study highlighted that burnout is a relevant condition among nurses working in critical care settings, particularly during the early years of their careers. Moderate levels of emotional exhaustion and depersonalization, combined with reduced personal accomplishment, were more pronounced among younger professionals, suggesting increased vulnerability at this stage. The work setting significantly influenced stress levels, with emergency departments associated with higher emotional exhaustion, whereas

ambulance emergency services showed higher levels of personal accomplishment. The intention to leave one's job, reported by a substantial portion of the sample, further underscores the need to implement targeted psychological and organizational support strategies—especially for newly hired staff—in order to preserve the well-being of healthcare professionals and maintain the quality of care.

Ethic Approval: The questionnaire adhered to the Helsinki principles and was approved by the Ethical committee IRCSS Oncology Institute "Giovanni Paolo II, Bari, Italy" with protocol number 1691/CEL.

Conflict of Interest: Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article.

Authors' Contributions: R.L., I.R., and E.V conceived and designed the study. E.V, L.C. contributed to data collection and statistical analysis. R.L., F.I., E.B., G.L. and G.A assisted in patient recruitment and data acquisition. R.L., I.R., E.V., M.R., L.F., and L.C contributed to the interpretation of results and manuscript drafting. D.M., MC.C, G.A., G.DN., D.C., and L.C. provided critical revision of the manuscript. G.DN., D.C., L.M., L.C. supervised the study and provided methodological support. All authors reviewed and approved the final version of the manuscript.

Declaration on the Use of AI: We used ChatGPT to assist with English language refinement and grammar checking. No AI was used for data analysis, interpretation, or scientific content generation.

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