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Specific Stressors in Palliative Care: Prevalence and Association with Nurses' Life Satisfaction

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Abstract

Introduction: Palliative care is one of the most demanding areas of healthcare practice, where nurses are exposed to specific stressors that can affect their quality of life. The study aimed to determine the prevalence of these stressors, examine differences according to gender, educational level, and workplace setting, and explore their association with nurses' life satisfaction.

Methods: A cross-sectional study was conducted on a sample of 115 nurses employed in 35 healthcare institutions providing palliative care in Croatia. Two validated instruments were used: the Palliative Care Stress Scale and the Life Satisfaction Scale.

Results: The most frequent stressor was the inability to alleviate the pain and suffering of patients or their families ($\bar{x}$ = 2.98), while refusal of care was the least frequent ($\bar{x}$ = 2.62). No significant differences were found in the prevalence of stressors by gender or education (P>0.05), nor by workplace setting (P=0.740). The occurrence of stressors related to lack of skills was associated with length of service (ρ = −0.307; P<0.001), whereas other stressors were not associated with age or years of service. The overall level of life satisfaction was 3.85 (situational 4.01, global 3.82). The prevalence of stressors was not associated with life satisfaction (ρ = 0.033; P=0.726).

Conclusion: Organisational and personal resources are crucial for maintaining nurses' well-being and quality of life in palliative care. Systematic support measures, supervision, and strengthening of the ethical climate are required to enhance staff well-being and the quality of care provided.

INTRODUCTION

Palliative care occupies an increasingly important place within healthcare systems worldwide, driven by the growing number of patients with chronic, progressive, and terminal illnesses. Demographic trends, including population ageing and the rise of chronic non-communicable diseases, contribute to an expanding need for a palliative approach that aims to alleviate suffering, preserve dignity, and provide support to patients and their families [1]. Nurses are at the heart of palliative care, performing a multifaceted role that extends beyond clinical duties to include emotional, communicative, and educational responsibilities. This multidimensional nature of their work renders the nursing profession particularly susceptible to stress. Numerous authors emphasise that palliative care is among the most demanding areas of nursing practice, as it entails constant confrontation with death, existential questions, and complex family dynamics [2, 3].

Stress in the nursing profession arises from a wide range of sources. At the organisational level, it includes staff shortages, high workload, insufficient resources, and unclear professional roles. At the interpersonal level, it encompasses conflicts with colleagues, communication barriers, and challenging interactions with patients' families. On a personal level, stress may stem from moral dilemmas, feelings of helplessness, and continuous emotional involvement in the care of dying patients [4]. Prolonged exposure to these factors is associated with an increased risk of burnout, reduced quality of life, and lower satisfaction with both work and life in general [5]. These adverse effects extend beyond healthcare professionals themselves, influencing the quality and safety of care, as staff exhaustion has been shown to increase the risk of errors and reduce patient satisfaction [6, 7].

The literature highlights that the impact of stress on well-being is not uniform but depends on the complex interaction between demands and resources. According to the Job Demands–Resources (JD-R) theory, stressors lead to exhaustion only when available resources, such as team support, autonomy, and professional supervision, are insufficient to buffer their effects [8]. Research confirms that the presence of such resources can moderate the relationship between work demands and subjective well-being [9, 10]. In the context of palliative care, where emotional demands are inevitable, the availability of resources becomes crucial for maintaining professional resilience.

The specificity of palliative care is also reflected in the phenomena of moral distress and secondary traumatic exposure. Moral distress occurs when a nurse knows the right course of action but is prevented from acting accordingly by institutional constraints or family pressures. Numerous studies indicate that moral distress can have serious consequences for emotional well-being and long-term professional sustainability [11, 12]. Secondary traumatic exposure, in turn, results from empathic engagement with patients' and families' suffering, and prolonged exposure can lead to symptoms resembling post-traumatic stress disorder [13]. These specific dimensions make stress in palliative care more complex than in most other healthcare settings.

Quality of life and life satisfaction represent key indicators of healthcare workers' psychological well-being. Life satisfaction is defined as a cognitive evaluation of one's life circumstances, reflecting the overall balance between expectations and actual conditions [14, 15]. Empirical research across various healthcare environments consistently demonstrates that high levels of stress are associated with lower assessments of quality of life and satisfaction [16, 17]. However, the relationship between specific stressors in palliative care and life satisfaction remains only partially explored, particularly in countries with less developed palliative care systems.

In the Croatian context, only a limited number of studies are available. One study indicated that job demands, control levels, and social support predict job satisfaction and burnout among nurses in palliative care [18]. Another study found that providing palliative care increases professional stress and is associated with poorer mental health [19]. However, specific stressors and their relationship with life satisfaction in this context have not yet been systematically examined, justifying the need for further research.

Accordingly, the aim of this study was to investigate the prevalence of specific stressors among nurses working in palliative care and their relationship with life satisfaction. The study sought to determine: a) whether differences exist in the prevalence of stressors according to gender, educational level, and workplace setting; b) whether age and length of service are associated with the prevalence of stressors; and c) whether the prevalence of stressors is associated with the level of life satisfaction.

METHODS

Study design

A cross-sectional study was conducted across 35 healthcare institutions in the Republic of Croatia that provide palliative care.

Setting and sample

The study included 115 nurses employed in hospitals, primary healthcare centres, and palliative care institutions across Croatia. The inclusion criteria were permanent employment in a palliative care institution and voluntary participation. The sample size exceeded the statistical minimum calculated using G*Power software (version 3.1), ensuring adequate statistical power for the applied tests [20].

Measurements/instruments

Data were collected using a structured questionnaire consisting of two parts. The first part included sociodemographic data: age, gender, education, workplace, length of service, and type of institution. The second part comprised two validated scales.

The first instrument was the Palliative Care Stress Scale [21], which measures six stress factors in nursing practice. The scale contains 29 items rated on a four-point Likert scale (1 = do not feel stressed to 4 = always feel stressed). Written permission for the instrument use was obtained from the author.

The second instrument was the Life Satisfaction Scale [22, 23], consisting of 20 items divided into two subscales (global and situational satisfaction). Items are rated on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). Higher scores indicate higher levels of life satisfaction. The scale is publicly available for research use.

Internal consistency of the instruments in this study was assessed using Cronbach's alpha coefficient. The stress scale demonstrated an overall $\alpha = 0.94$ (range for individual factors: 0.82–0.91), and the life satisfaction scale $\alpha = 0.93$ (global satisfaction $\alpha = 0.92$, situational satisfaction $\alpha = 0.82$). All coefficients indicate high reliability.

Data collection/procedure

Data were collected over two months using an online questionnaire created with Alchemer software [24]. The questionnaire included basic study information, instructions for participants, and all scale items. A link to the online form was distributed via email. Once participants completed and confirmed the questionnaire, responses were automatically stored on a secure and anonymous server managed by the research team. The online format reduced potential risks for participants and ensured multiple levels of confidentiality [25].

Ethical considerations

The study was conducted in accordance with the Declaration of Helsinki. Participants were informed about the study aims, and completion of the questionnaire implied informed consent. Anonymity and confidentiality of all data were fully guaranteed. As this was an anonymous survey among healthcare professionals without the collection of personal or sensitive data, formal approval from an ethics committee was not required.

Statistical data analysis

Data were analysed using R software, version 4.0.4 (R Foundation for Statistical Computing, Vienna, Austria) [25]. Descriptive statistics included measures of central tendency and dispersion (mean, standard deviation, median, minimum, and maximum), while categorical variables were presented as absolute and relative frequencies. The Mann–Whitney U test was used to compare two groups, and the Kruskal–Wallis test was used for three or more groups. Spearman's

correlation coefficient was applied to examine associations between variables. The reliability of instruments was assessed using Cronbach's alpha with a 95% confidence interval. Statistical significance was set at $P<0.05$.

RESULTS

A total of 115 nurses and nursing technicians working in palliative care participated in the study, with a significantly higher proportion of women, 95 (83.5%) of them ($P<0.001$). Participants ranged in age from 21 to 68 years. The mean length of work experience in palliative care was 6.60 years (SD = 7.95), with a range from 0 to 41 years. The largest group of participants, 24 (20.9%), worked as palliative care coordinators ($P<0.001$) (Table 1).

Table 1. Characteristics of participants (N = 115)

Characteristic		n (%)	*P**
Gender			
	Male	19 (16.5)	<0.001
	Female	96 (83.5)	
Educational level			
	Secondary education	34 (29.6)	
	Undergraduate degree	50 (43.5)	0.066
	Graduate degree	31 (27.0)	
Workplace setting in palliative care			
	Palliative care coordinator	24 (20.9)	
	Mobile palliative care team	15 (13.0)	
	Palliative care institution	1 (0.9)	
	Hospital palliative care team	4 (3.5)	
	Day hospital	2 (1.7)	<0.001
	Palliative care outpatient clinic	0 (0.0)	
	Ward with palliative beds	15 (13.0)	
	Palliative care ward	25 (21.7)	
	Other wards/medical departments	29 (25.2)	

Analysis showed that participants were most frequently exposed to stress caused by the inability to alleviate the physical and emotional pain of patients and their families ($\bar{x}$ = 2.98, SD = 0.22), and least frequently to stress caused by refusal of care by the patient or family ($\bar{x}$ = 2.62, SD = 0.26). The overall mean level of stress on a scale from 1 to 4 was 2.86 (SD = 0.86) (Table 2).

Table 2. Prevalence of stress factors among nurses working in palliative care (N = 115)

Subscales / Stress factors	Mean (SD)	Range
1. Differences in perspectives among team members	2.86 (0.19)	(1 - 4)
2. Inability to alleviate the physical and emotional pain of patients and families	2.98 (0.22)	(1 - 4)
3. Refusal of care by patients or families	2.62 (0.26)	(1 - 4)
4. Lack of skills among nurses and/or the entire team	2.77 (0.07	(1 - 4)
5. Inadequate work management system	2.93 (0.07)	(1 - 4)
6. Confronting patients whose lives are at risk	2.89 (0.06)	(1 - 4)
Total	2.86 (0.86)	(1 - 4)

The Mann–Whitney U and Kruskal–Wallis tests showed no statistically significant differences in the prevalence of specific stress factors with respect to gender or educational level, either for individual subscales or for the total stress score (Table 3).

Table 3. Differences in the prevalence of specific stressors according to gender and educational level

Stress factors (range)	Gender Median (IQR)	*P**	Educational level Median (IQR)	*P*†
Differences in perspectives among team members (25–27)	M: 25 (23–27) F: 27 (22–31)	0,149	Secondary: 27 (23–30) Undergr.: 26,5 (22–30) Graduate: 27 (21–30,5)	0,764
Inability to alleviate the physical and emotional pain of patients and families (18–23)	M: 19 (17–22) F: 21,5 (18–24,5)	0,090	Secondary: 22 (19–25) Undergr.: 21,5 (18–24) Graduate: 19,5 (17–23,5)	0,345
Refusal of care by patients or families (9–13)	M: 9 (8–11,5) F: 11 (8–13)	0,241	Secondary: 12 (9–14) Undergr.: 9 (8–13) Graduate: 11 (8–12)	0,167
Lack of skills among nurses and/or the team (7–9)	M: 7 (6–9) F: 9 (7–10)	0,056	Secondary: 9 (7–11) Undergr.: 8 (7–9) Graduate: 8 (6,5–9)	0,330
Inadequate work management system (10–12)	M: 12 (11,5–12) F: 12 (10–14)	0,514	Secondary: 12 (12–14) Undergr.: 12 (11–14) Graduate: 12 (8,5–12)	0,077
Confronting patients whose lives are at risk (6–7)	M: 6 (5,5–7) F: 6 (4–7)	0,758	Secondary: 6,5 (6–7) Undergr.: 6 (4–7) Graduate: 6 (4–6,5)	0,062
Total (79–87)	M: 81 (70,5–86) F: 86 (75,5–95)	0,095	Secondary: 88 (80–96) Undergr.: 84,5 (75–92) Graduate: 79 (71–90,5)	0,125

Note: *Mann-Whitney U / Wilcoxon test; †Kruskal-Wallis test; M = Male; F = Female; IQR = Interquartile range.

Similarly, the Kruskal–Wallis test revealed no statistically significant differences in the prevalence of specific stress factors across different workplace settings within palliative care, for either individual subscales or the overall stress level (P=0.740). The medians of total stress levels are presented in Figure 1.

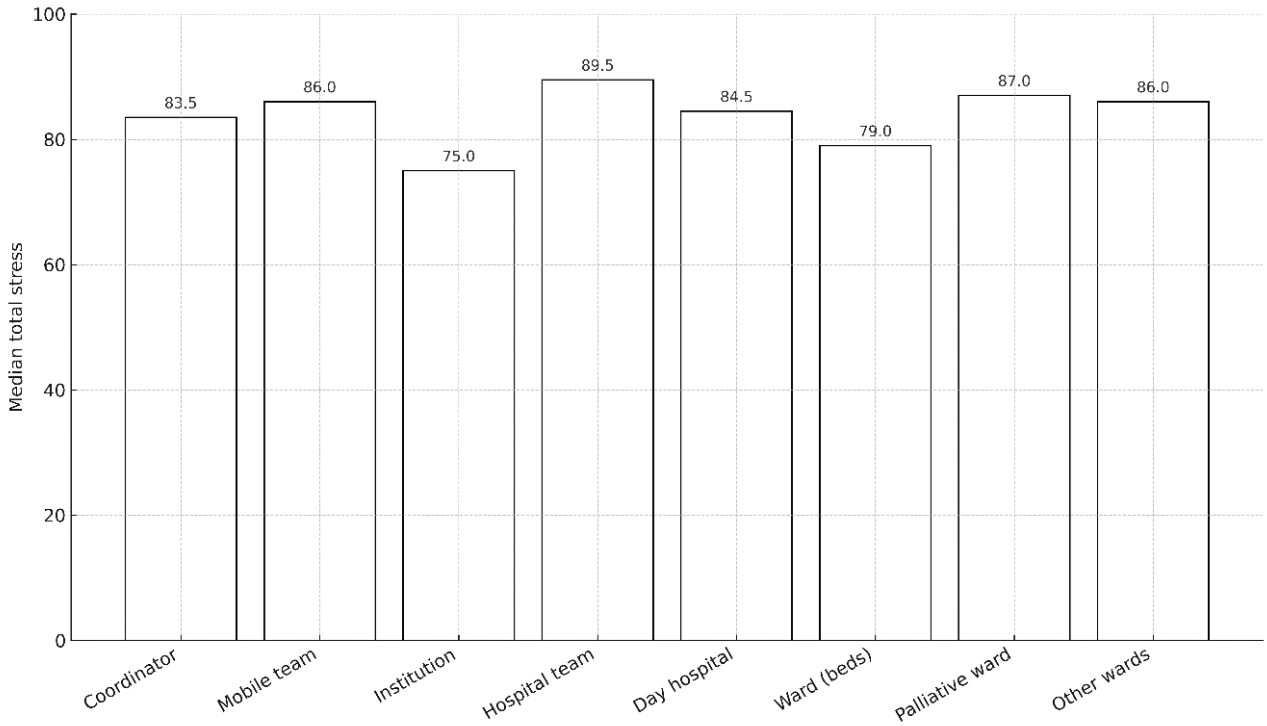


Figure 1. Median total stress among nurses across workplace settings in palliative care.

Spearman's correlation analysis indicated a significant negative association between stress among nurses and/or the entire team due to lack of skills and length of work experience (ρ = −0.307, *P*<0.001) (Table 4). In other words, participants with shorter work experience in palliative care reported higher stress related to insufficient personal and team skills. For all other stress factors, as well as for the total stress scale, no significant associations were found with age or length of service.

Table 4. Correlation between specific stress factors and age and length of service

Subscales / Stress factors	Age		Length of service	
	ρ*	*P* value	ρ*	*P* value
1. Differences in perspectives among team members	- 0.143	0.129	- 0.163	0.083
2. Inability to alleviate the physical and emotional pain of patients and families	- 0.013	0.881	- 0.068	0.475
3. Refusal of care by patients or families	- 0.072	0.446	- 0.046	0.624
4. Lack of skills among nurses and/or the entire team	- 0.162	0.084	- 0.307	< 0.001
5. Inadequate work management system	- 0.136	0.148	- 0.086	0.363
6. Confronting patients whose lives are at risk	- 0.105	0.263	- 0.010	0.914
Total	- 0.131	0.164	0.152	0.107

Note: ρ – Spearman's correlation coefficient.

According to the subscales of the questionnaire, situational life satisfaction was higher ($\bar{x}$ = 4.01, SD = 0.03) than global life satisfaction ($\bar{x}$ = 3.82, SD = 0.25). The mean overall life satisfaction score was 3.85 (SD = 0.88) (Figure 2).

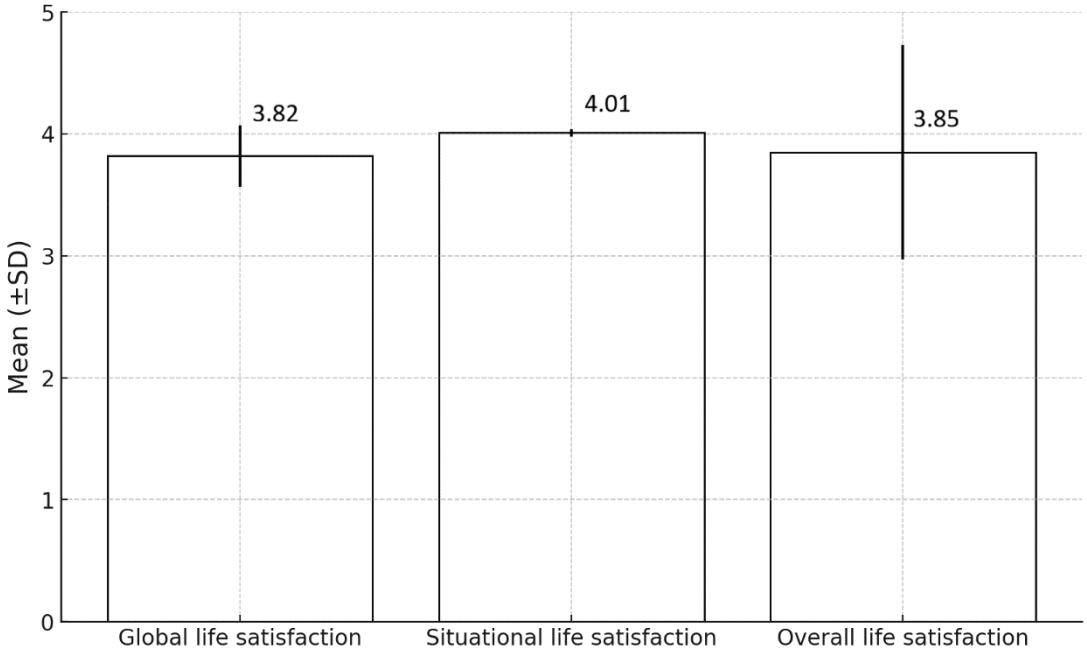


Figure 2. Levels of life satisfaction according to the subscales of the questionnaire.

Spearman's correlation analysis did not show any statistically significant associations between specific stress factors and levels of life satisfaction (global or situational), nor between overall stress and overall life satisfaction (ρ = 0.033, *P*=0.726) (Figure 3). These results suggest that participants' subjective perception of stress was not directly related to their self-assessed life satisfaction.

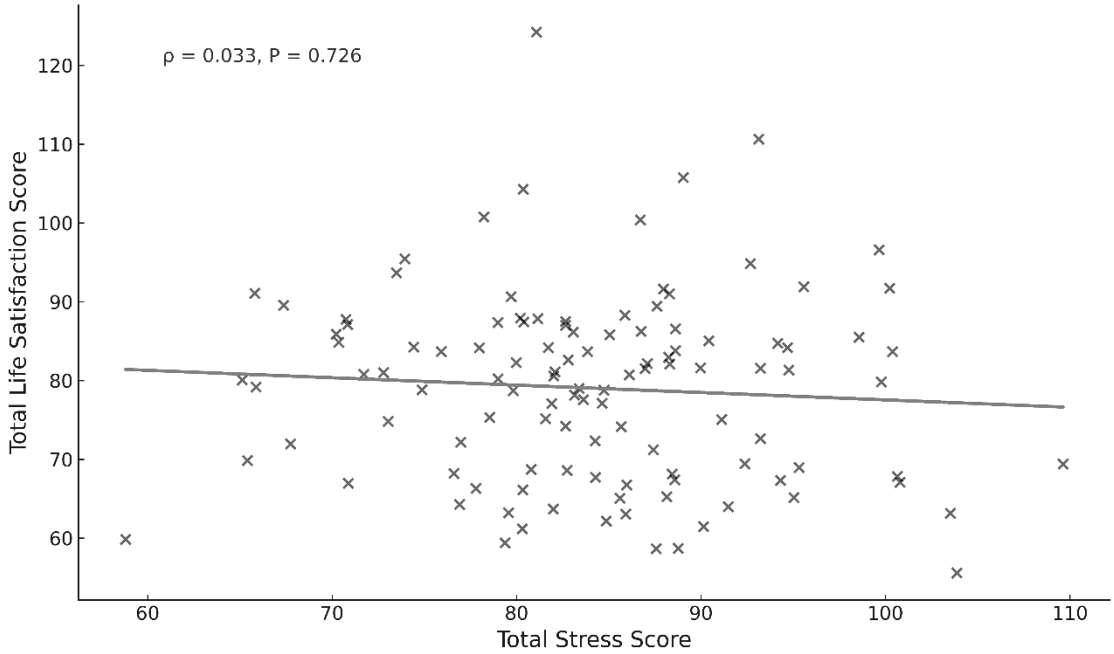


Figure 3. Correlation between total stress level and life satisfaction among nurses working in palliative care.

DISCUSSION

The purpose of this study was to gain a deeper understanding of specific stress factors among nurses working in palliative care and to examine their associations with sociodemographic characteristics and life satisfaction. The obtained results provide valuable insight into the complexity of stress demands in this field and enable comparison with findings from previous international research, as well as a critical appraisal of the specific Croatian context.

The analysis of sociodemographic characteristics in this study showed a predominance of women. This result reflects the overall gender distribution in the nursing profession in Croatia, where women represent almost 90% of the workforce [26]. Despite the high representation of women, further analyses revealed no significant gender differences in the prevalence of stress. This result aligns with the literature indicating that gender is not a key predictor of stress perception in palliative care, as emotional and ethical demands in this setting are universal and transcend individual differences [4, 11]. Nonetheless, some studies have reported that female nurses more often experience higher levels of emotional exhaustion, while male nurses tend to display greater emotional distance from patients [27, 28]. The present results suggest that such patterns are not pronounced in the Croatian context, possibly reflecting a homogenising effect of the palliative work environment, where professional demands outweigh gender-related differences.

Although higher education could be expected to contribute to a stronger sense of competence and confidence, the results indicate that formal qualifications alone were not a significant factor. According to the Job Demands–Resources (JD-R) theory, stress arises when job demands exceed available resources [4]. In other words, holding a degree does not necessarily ensure access to adequate team support, supervision, or organisational fairness, which is confirmed in this study. Similar results have been reported in studies from the Netherlands and Sweden, where education did not protect against burnout when organisational resources were insufficient [8, 10]. This underscores the importance of a structured work environment that enables the transfer of knowledge into practice, as even highly educated professionals remain vulnerable to stress in the absence of such conditions.

The distribution of participants across different palliative care settings also showed no significant differences in the prevalence of specific stressors. The results suggest that the key stressors of palliative care are present regardless of context. This finding supports the notion that the nature of the work itself, such as continuous exposure to suffering, end of life situations, and ethical dilemmas, constitutes a unique experience. Previous research confirms that the quality of organisational climate and moral support, rather than ward type or team structure, determines differences in perceived stress [29–31]. These findings confirm that organizational resources, rather than specific workplace settings, are crucial for minimizing stressors and preserving staff well-being. In other words, palliative care inherently creates a demanding emotional and ethical environment, and differences between institutional and community-based contexts become secondary to the core nature of the work. It also raises the question of whether future interventions should be universally designed for palliative practice rather than tailored to individual workplaces.

When analysing the occurrence of specific stressors, the most striking finding was that nurses most intensely experienced stress arising from the inability to alleviate the physical and emotional pain of patients and their families. This finding accentuates the emotional essence of palliative work and confirms that confronting suffering and death represents the deepest challenge in nursing within this field [11, 13]. This type of stressor cannot be eliminated, as it stems from the very nature of the work; however, this underlines the importance of emotional support and supervision programs. Results from international studies also confirmed the domination of this stressor. For example, research in Japan and the United Kingdom indicated that the inability to relieve suffering most often leads to moral distress and feelings of helplessness [2, 21]. This result confirms that it is a universal feature of palliative work, further justifying the development of psychological support as an essential standard of practice.

The next most frequent stressor was related to inadequate management systems and differing perspec-

tives among team members, further demonstrating that organisational factors have an equally strong impact as emotional demands. Team conflicts and unclear leadership structures often exacerbate the already challenging circumstances of palliative care, and the literature consistently confirms that such conditions increase the risk of burnout and compromise the quality of care [2, 4, 30, 31]. Conversely, refusal of care by patients or families was reported as the least frequent stressor. However, its clinical relevance should not be underestimated. Although less common, such situations raise complex ethical questions and may trigger moral distress [12]. The lower frequency of this stressor in this sample may reflect the characteristics of the Croatian healthcare system and cultural patterns, where patients and families less often decline interventions. Yet even in rare cases, the potential emotional and ethical burden on staff may be comparable to that of more frequent stressors, highlighting the need for additional training and preparation of staff.

An interesting finding of this study concerns the relationship between length of service and stress related to lack of skills. Participants with shorter work experience more frequently reported this stressor and expressed higher levels of burden associated with feelings of inadequate competence, underscoring the importance of experiential learning and gradual development of professional confidence. Previous studies show that younger nurses, although formally educated, often feel insecure when facing complex clinical and ethical situations, and that systematic mentorship and supervision can mitigate this type of stress [27, 28, 32]. More experienced nurses have likely developed a broader range of coping strategies; however, it is crucial to note that length of service was not associated with other stressors. This finding indicate that even senior staff remain vulnerable, especially when resources are lacking, supporting the JD-R model and research showing that experience alone does not protect against exhaustion [4, 8, 32]. This finding is especially significant as it demonstrates that professional resilience is not a one-way, static function of experience but a dynamic process dependent on the continuous availability of support and resources. This result highlights the need for ongoing education and supervision for experienced staff as well as for those with less experience.

The lack of association between specific stressors and life satisfaction found in this study may seem surprising given the expected link between stress and overall well-being. However, life satisfaction differs conceptually from job satisfaction and emotional exhaustion, as it reflects a global and relatively stable assessment of one's life circumstances [14, 15]. Therefore, short-term or specific work-related stressors may not directly affect this broader life dimension but rather exert their influence through mediating variables such as job satisfaction or mental health. Research indicates that occupational stress more strongly affects work-related outcomes (for example, job satisfaction, burnout) than global life satisfaction, which is more stable [16, 33]. Thus, the absence of an association in our study is consistent with theoretical expectations. This finding can also be interpreted as evidence of professional resilience. Despite being exposed to stressors, nurses maintain stable global evaluations of life satisfaction, possibly due to social support and personal coping strategies not captured in this study.

This study represents one of the few investigations in the Croatian context to systematically examine specific stressors in palliative care and their immediate connections with quality of life and staff well-being. In doing so, this research enriches existing knowledge and provides a foundation for more precise design of interventions within the national healthcare system.

Limitations

Several limitations should be considered when interpreting the results. The cross-sectional design does not allow conclusions about causal relationships, and the use of self-report instruments is subject to various biases, including social desirability bias [34]. Although the sample size was sufficient for the conducted analyses, the distribution within certain subgroups (e.g., across specific work settings) was uneven, which may have limited the power to detect potential differences. Furthermore, the measure of life satisfaction used in this study represents a global construct and may not be sensitive enough to detect subtle effects of specific occupational stressors. Therefore, future studies could benefit from combining measures of job satisfaction, moral distress, and burnout [12, 35].

Implications and recommendations for future research

Practical and educational implications clearly arise from the present results. Organisational resources and leadership style proved crucial for maintaining staff well-being. The systematic introduction and maintenance of clinical supervision, regular team reflection, fair workload distribution, and clearly defined protocols represent key measures to reduce strain and prevent burnout in palliative care [2, 6, 30]. In addition, developing leadership competencies focused on staff support and inclusion can contribute to greater engagement and improved quality of palliative care.

The importance of early professional development should also be emphasised. The results indicate that younger nurses and those with shorter work experience in palliative care more frequently experience stress related to perceived lack of skills. Therefore, it is essential to develop structured mentorship and training programmes focusing on clinical and communication skills, decision-making in end-of-life situations, and emotional regulation. Such initiatives directly address this stressor and foster professional resilience [4, 8, 32].

It is also vital to address the ethical dimension of care. Strengthening the ethical climate through transparent processes and accessible ethics consultation, together with specific programmes aimed at recognising and managing moral distress, represents a necessary strategy given the strong relationship between ethical climate, moral distress, staff well-being, and quality of life [30, 12, 33]. Furthermore, it is advisable to systematically assess staff well-being, including burnout, engagement, job satisfaction, and moral distress, alongside care outcomes such as safety, satisfaction, and quality, as the literature consistently confirms that staff well-being and patient outcomes are inextricably linked [2, 7].

Recommendations for future research include longitudinal designs that would allow the exploration of causal relationships between job demands, available resources, and staff quality of life [34], as well as studies that simultaneously consider individual, team, and organisational factors. It would be particularly valuable to include measures of job satisfaction, moral distress, and burnout, as these outcomes are more sensitive to changes in the palliative work environment than global life satisfaction [12, 35]. In addition to quantitative approaches, qualitative research could provide deeper insight into subjective experiences of suffering, meaning, and team dynamics in palliative care, thereby contributing to a more comprehensive understanding and more effective development of interventions [36].

CONCLUSIONS

This study showed that nurses working in palliative care are primarily exposed to stress arising from the inability to alleviate the physical and emotional pain of patients and their families. In contrast, refusal of care by patients and families was the least pronounced stressor. The results also indicated that gender, education, and workplace setting do not significantly influence the prevalence of stressors, supporting the notion that the demands of palliative care are universal. The association between length of service and perceived lack of skills confirms the importance of experiential learning and structured support for less experienced nurses. Contrary to expectations, no significant association was found between specific stressors and global life satisfaction, suggesting that work-related stressors are more likely to affect domain-specific outcomes such as job satisfaction or burnout rather than broader assessments of life quality.

These results emphasise the need to strengthen organisational resources, provide systematic education and mentorship for junior staff, and develop an ethical climate capable of mitigating moral distress. The study contributes to understanding the specific challenges of the Croatian palliative care context and the development of interventions aimed at preserving staff well-being and improving the quality of care. Future research should apply longitudinal and multilevel approaches, combining quantitative and qualitative methods, to gain a deeper understanding of the relationships between stressors, resources, and well-being outcomes in palliative care.

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Conceptualization, K.O. and R.L.; Methodology, K.O., R.L., S.B.G., I.D., S.L., I.V., and R.A.; Software, I.D., S.L. and L.P.; Validation, K.O., M.B., and S.L.; Formal Analysis, M.B., L.P., I.V., and R.A.; Investigation, K.O., I.V., and R.L.; Resources, S.B.G., M.B., and I.D.; Data Curation, K.O., and R.L.; Writing – Original Draft Preparation, K.O., R.L., S.B.G., M.B., I.D., S.L., L.P., I.V., R.A.; Writing – Review & Editing, K.O., R.L., S.B.G., M.B., I.D., S.L., L.P., I.V., R.A.; Visualization, K.O., S.L., R.A., and I.D.; Supervision, R.L., and S.B.G.; Project Administration, L.P., and R.L.; Funding Acquisition, K.O., and R.L.

Declaration of Conflicting Interest:

The author declares no conflict of interest.

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