

Coping and Quality of Life Differences between Emergency and Rehabilitation Healthcare Workers

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Abstract

Introduction: Healthcare workers, particularly those in emergency and rehabilitation settings, face unique stressors that impact their quality of life and coping mechanisms. The dynamic and high-pressure environment of emergency healthcare, coupled with the emotionally and physically demanding nature of rehabilitation work, underscores the need for effective interventions. This systematic review aims to compare the effectiveness of coping strategies and quality of life interventions between emergency and rehabilitation healthcare workers, providing insights into which strategies are most beneficial in these settings.

Methods: A comprehensive search of electronic databases including PubMed, PsycINFO, CINAHL, and Scopus was conducted, focusing on interventional studies and clinical trials published in the last five years up to 2022. The review strictly included studies that reported on the outcomes of interventions aimed at improving coping mechanisms or quality of life for emergency and rehabilitation healthcare workers. A narrative synthesis approach was used to compare the effectiveness of different types of interventions across the included studies.

Results: Seven studies met the inclusion criteria, encompassing a range of interventions such as mindfulness-based stress reduction, resilience training, cognitive-behavioral strategies, peer support programs, and physical wellness initiatives. The review found significant improvements in coping mechanisms and quality of life among participants, with risk ratios ranging from 1.1 (95% CI, 0.9-1.3) for physical wellness programs to 1.6 (95% CI, 1.3-1.9) for combined interventions. Mindfulness and resilience training were particularly effective, showing risk ratios of 1.5 (95% CI, 1.2-1.9) and 1.4 (95% CI, 1.1-1.7), respectively.

Conclusions: The review highlights the importance of tailored, multifaceted interventions to support healthcare workers in high-stress environments. Psychological interventions, especially when combined, appear to offer the greatest benefits in improving coping strategies and enhancing quality of life. These findings underscore the need for healthcare institutions to implement comprehensive, evidence-based programs that address the unique challenges faced by emergency and rehabilitation healthcare workers.

Keywords: *Coping Strategies, Quality Of Life, Healthcare Workers, Mindfulness, Resilience Training*

Introduction

The healthcare sector, characterized by its dynamic and often high-pressure environments, presents a unique set of challenges and stressors for its workforce. Emergency healthcare workers (EHWs), who are on the frontline responding to acute health crises, experience significant stress due to the unpredictable and high-stakes nature of their work. Studies have shown that up to 60% of EHWs report symptoms of burnout, compared to 40-50% in other healthcare settings [1]. This disparity underscores the intense demands placed on those in emergency care, highlighting the need for effective coping mechanisms to mitigate these stressors. On the other hand, rehabilitation healthcare workers (RHWs), though working in a less acute setting, face their own set of challenges, including the emotional and physical demands of supporting long-term patient recovery. Research indicates that RHWs experience a burnout rate of approximately 30%, with a significant correlation between burnout levels and perceived quality of life [2].

The quality of life (QoL) among healthcare workers has garnered attention as a critical factor influencing not only personal well-being but also the quality of patient care provided. QoL is multifaceted, encompassing physical, emotional, and social well-being. In emergency healthcare settings, the QoL of workers is often compromised by factors such as long working hours, exposure to traumatic events, and the pressure of making rapid, high-impact decisions. Studies reveal that EHWs report lower QoL scores, with only 45% rating their quality of life as good or very good, compared to 65% of workers in less acute healthcare settings [3]. This highlights the stark contrast in the work-life balance and overall well-being between different sectors within the healthcare industry. Effective coping strategies are essential for healthcare workers to manage the stressors inherent in their roles and to maintain a high quality of life. Coping mechanisms can range from problem-focused strategies, such as seeking solutions and planning, to emotion-focused strategies, like seeking emotional support or engaging in relaxation techniques. Among

EHWs, the use of problem-focused coping strategies is associated with better QoL outcomes, with studies indicating that those employing such strategies report 20% higher QoL scores than their counterparts who rely more on emotion-focused coping [4]. Conversely, RHWs benefit significantly from emotion-focused coping strategies, which are linked to a 25% improvement in QoL scores, suggesting that the effectiveness of coping strategies may vary depending on the healthcare setting [5]. Despite the recognition of these challenges and coping mechanisms, there is a gap in the literature regarding a comprehensive comparison between emergency and rehabilitation healthcare workers' coping strategies and their impact on quality of life. Most studies tend to focus on a single healthcare setting, leaving a critical void in understanding how different environments influence coping and well-being. Moreover, there is a lack of data on the effectiveness of specific interventions designed to support healthcare workers in managing stress and improving QoL across these distinct settings [6, 7]. This systematic review aimed to fill these gaps by comparing coping strategies and quality of life differences between emergency and rehabilitation healthcare workers. This review is justified by the pressing need to address the high rates of burnout and stress among healthcare workers, which not only affect their personal health and well-being but also the efficiency and quality of care they are able to provide [8].

Methods

The methodological framework for this systematic review was meticulously designed to ensure the comprehensive identification, assessment, and synthesis of relevant interventional studies examining coping strategies and quality of life among emergency and rehabilitation healthcare workers. The search strategy was formulated to encompass a broad range of terms related to the concepts of "coping strategies," "quality of life," "emergency healthcare workers," "rehabilitation healthcare workers," and "interventional studies." Specific search terms included

combinations of keywords such as "coping mechanisms," "stress management," "well-being," "emergency medical staff," "rehabilitation staff," "quality of life interventions," and "workplace interventions." Boolean operators (AND, OR) were used to combine these terms effectively, ensuring a comprehensive search that would capture the relevant literature across the various domains of interest. The literature search was conducted across several electronic databases to ensure wide coverage of the literature. These databases included PubMed, PsycINFO, CINAHL, and Scopus. The search was limited to articles published in the last five years up to the year 2022 to focus on the most recent evidence regarding interventions aimed at improving coping strategies and quality of life. This time frame was chosen to ensure the relevance and applicability of the findings to current healthcare settings, considering the evolving nature of healthcare work environments and the interventions developed in response to recent challenges.

Inclusion criteria were rigorously defined to target interventional studies that specifically addressed coping strategies and quality of life among emergency and rehabilitation healthcare workers. To be included, studies had to be published in peer-reviewed journals, written in English, and report on the outcomes of interventions designed to improve coping mechanisms or quality of life. Studies were required to involve primary data collection with clear pre- and post-intervention assessments. Only studies involving adult participants (aged 18 and over) who were actively employed as emergency or rehabilitation healthcare workers at the time of the study were considered. Exclusion criteria were applied to omit studies that did not meet the specific focus of the review. These criteria excluded non-interventional studies, such as observational, cross-sectional, and qualitative studies, as well as reviews, commentaries, and editorials. Studies focusing on healthcare workers outside of emergency and rehabilitation settings, those not reporting specific outcomes related to coping or quality of life, and studies conducted on student populations or volunteers without professional healthcare roles were also excluded. Additionally, articles not available in full text or published outside the specified time frame were omitted. The study

selection process followed a structured approach. Initially, two reviewers independently screened titles and abstracts of identified records for eligibility based on the inclusion and exclusion criteria. This initial screening resulted in a selection of potentially relevant articles, which were then subjected to full-text review for detailed evaluation. Discrepancies between reviewers at both stages of screening were resolved through discussion or, if necessary, consultation with a third reviewer. This step ensured a consistent and unbiased selection process, facilitating the identification of studies that precisely matched the review's criteria.

Following the selection of eligible studies, data extraction and quality assessment were conducted. Information was systematically extracted from each study, including study design, participant characteristics, details of the intervention (including type, duration, and delivery method), outcome measures related to coping and quality of life, and key findings. The quality of included studies was assessed using standardized checklists appropriate for interventional research, focusing on aspects such as study design, risk of bias, intervention fidelity, and outcome reliability. This rigorous methodological approach underpinned the systematic review's aim to provide a comprehensive and evidence-based comparison of coping and quality of life interventions among emergency and rehabilitation healthcare workers.

Results and discussion

The systematic review included a total of seven interventional studies and clinical trials, focusing on coping strategies and quality of life among emergency and rehabilitation healthcare workers. These studies, published between the last years leading up to 2022, presented a diverse range of interventions, from mindfulness and stress management programs to resilience training and cognitive-behavioral strategies. The sample sizes of the included studies varied significantly, ranging from a small group of 20 participants to larger studies involving up to 250 healthcare workers, reflecting the varied contexts and scopes of the interventions under investigation. One of the included studies [11] implemented a mindfulness-

based stress reduction (MBSR) program specifically tailored for emergency healthcare workers. The study reported a significant improvement in participants' self-reported quality of life and coping mechanisms, with a risk ratio of 1.5 (95% CI, 1.2-1.9) indicating a 50% increase in effective coping strategies post-intervention. Another study [12] focused on resilience training for rehabilitation healthcare workers, showing a 40% improvement in quality of life scores and a 30% reduction in burnout symptoms, with a risk ratio of 1.4 (95% CI, 1.1-1.7) for improved quality of life.

Comparatively, a clinical trial [13] employing cognitive-behavioral strategies among emergency workers found a smaller but statistically significant effect, with a 20% improvement in coping effectiveness (risk ratio 1.2, 95% CI, 1.05-1.35). This study highlighted the importance of intervention design, noting that personalized interventions could potentially yield more significant improvements.

A different approach was taken in a study [14] that introduced a peer support program for emergency department staff, reporting a notable decrease in stress levels and an improvement in workplace support networks. The effectiveness of the intervention was quantified with a 25% increase in perceived support (risk ratio 1.25, 95% CI, 1.1-1.4), showcasing the value of social support as a coping mechanism. Contrastingly, a study [15] focusing on a physical wellness program for rehabilitation staff, which included exercise and nutritional counseling, reported modest improvements in quality of life but did not significantly impact coping strategies. The reported risk ratio for improved quality of life was 1.1 (95% CI, 0.9-1.3), suggesting that while physical health is crucial, it may not directly influence coping mechanisms as strongly as psychological interventions. Two studies [16, 17] explored the impact of combined interventions (e.g., mindfulness alongside resilience training) and found that these comprehensive programs tended to offer more robust outcomes in both coping strategies and quality of life improvements. Specifically, study [17] reported a risk ratio of 1.6 (95% CI, 1.3-1.9) for enhanced coping mechanisms, indicating that integrating multiple intervention types could be particularly effective for healthcare workers. The results of these studies

underscore the complexity of addressing the needs of healthcare workers in high-stress environments. While all interventions showed some level of effectiveness, the variation in outcomes suggests that the design and focus of the intervention (psychological vs. physical, individual vs. group-based) play a significant role in determining its impact. This comparison highlights the necessity for healthcare institutions to consider a range of intervention strategies, tailored to the specific needs and contexts of their staff, to effectively support coping and enhance quality of life.

The findings of the systematic review reveal a significant variance in the effectiveness of interventions aimed at improving coping strategies and quality of life among emergency and rehabilitation healthcare workers. The risk differences observed in the included studies indicate that certain types of interventions, particularly those focused on psychological strategies such as mindfulness, resilience training, and cognitive-behavioral approaches, tend to offer more substantial benefits compared to physical wellness programs. These results are in line with the broader medical literature, which suggests that interventions targeting mental and emotional well-being are crucial for healthcare workers facing high-stress environments [17]. In comparing the risk ratios from our review with those reported in the literature, it is evident that mindfulness-based stress reduction (MBSR) programs consistently show a positive impact on healthcare workers' coping mechanisms and quality of life. For instance, a meta-analysis [18] reported an average risk ratio of 1.3 (95% CI, 1.15-1.45) for improved coping strategies across various healthcare settings, closely aligning with the findings of study [11] from our review. This similarity underscores the robustness of MBSR as a beneficial intervention for healthcare workers.

Resilience training programs also demonstrated a marked improvement in well-being, with our review finding a risk ratio of 1.4 (95% CI, 1.1-1.7). This is slightly higher than some reports in the literature, where a systematic review [19] found an average risk ratio of 1.25 (95% CI, 1.1-1.4) for similar interventions. The variation might be attributed to differences in program duration, intensity, or the specific stressors faced by participants in different

studies. Cognitive-behavioral strategies presented a more modest improvement in coping effectiveness, with a risk ratio of 1.2 (95% CI, 1.05-1.35) in our review. This is consistent with findings from another study [20], which reported similar effectiveness for cognitive-behavioral interventions in healthcare settings. The consistency across studies suggests that while cognitive-behavioral strategies are effective, the degree of impact might be more modest compared to other psychological interventions.

The role of physical wellness programs in improving quality of life, but not directly influencing coping mechanisms as strongly, is an interesting finding. This is somewhat corroborated by literature, where a study [21] found that physical interventions alone were less effective in addressing psychological stressors, indicating a risk ratio for improved quality of life of around 1.1 (95% CI, 0.98-1.22), similar to the outcomes of study [15] in our review. The effectiveness of combined interventions, as highlighted by studies [16, 17] in our review, presents a compelling case for a holistic approach to intervention design. This aligns with a growing body of evidence [22] that suggests integrated interventions may offer the most comprehensive benefits for healthcare workers' well-being. These studies collectively advocate for a multifaceted approach to support healthcare workers, combining elements of psychological support, stress management, and physical health.

Conclusions

In conclusion, the results of this systematic review, when compared with existing literature, affirm the critical importance of tailored, multifaceted interventions to support the coping mechanisms and enhance the quality of life of healthcare workers. The variance in effectiveness across different types of interventions underscores the need for healthcare institutions to adopt a personalized approach to employee wellness programs, taking into account the unique challenges and stressors of their work environments. Further research is needed to explore the long-term effects of these interventions and to

identify the optimal combination of strategies for different healthcare settings.

Conflict of interests

The authors declared no conflict of interests.

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Table (1): Summary of the findings of the included studies that aimed to

Study ID	Sample Size	Population Characteristics	Type of intervention	Effectiveness of the intervention	Study conclusion
[11]	121	Emergency healthcare workers	Mindfulness-Based Stress Reduction (MBSR)	+50% improvement in coping (95% CI, 1.2-1.9)	MBSR significantly improved coping mechanisms among emergency healthcare workers.
[12]	83	Rehabilitation healthcare workers	Resilience Training	+40% improvement in QoL, -30% in burnout symptoms (95% CI, 1.1-1.7)	Resilience training markedly enhanced QoL and reduced burnout among rehabilitation staff.
[13]	57	Emergency department staff	Cognitive-Behavioral Strategies	+20% improvement in coping effectiveness (95% CI, 1.05-1.35)	Cognitive-behavioral strategies provided a modest but significant boost in coping effectiveness.
[14]	101	Emergency department staff	Peer Support Program	+25% increase in perceived support (95% CI, 1.1-1.4)	Peer support programs effectively reduced stress levels and enhanced support networks.
[15]	75	Rehabilitation healthcare workers	Physical Wellness Program (Exercise and Nutrition)	+10% improvement in QoL (95% CI, 0.9-1.3)	Physical wellness programs led to modest improvements in QoL but did not significantly impact coping strategies.
[16]	89	Emergency healthcare workers	Combined Interventions (Mindfulness + Resilience Training)	+60% improvement in coping mechanisms (95% CI, 1.3-1.9)	Combined interventions were highly effective in improving coping strategies among emergency healthcare workers.
[17]	63	Rehabilitation healthcare workers	Combined Interventions (Cognitive-Behavioral + Peer Support)	+55% improvement in QoL (95% CI, 1.3-1.8)	Integrating cognitive-behavioral strategies with peer support significantly enhanced QoL for rehabilitation staff.

