

Mapping Global Research Trends in Healthcare Worker Burnout: Bibliometric Mapping of Scopus Publications (2000–2026)

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ABSTRAK

Penelitian ini bertujuan untuk memetakan tren global penelitian mengenai burnout pada tenaga kesehatan melalui analisis bibliometrik terhadap publikasi yang terindeks di Scopus pada periode 2000 hingga 2026. Dengan menggunakan teknik bibliometrik dan alat visualisasi seperti VOSviewer, penelitian ini mengidentifikasi pola pertumbuhan publikasi, penulis, negara, jurnal yang berpengaruh, serta struktur tematik dalam bidang tersebut. Hasil penelitian menunjukkan bahwa burnout merupakan tema utama yang berkaitan erat dengan kesehatan mental, kesejahteraan psikologis, dan stres kerja. Analisis juga menunjukkan adanya peningkatan signifikan jumlah publikasi, terutama setelah terjadinya COVID-19 pandemic, yang memperkuat perhatian terhadap kondisi psikologis tenaga kesehatan. Pemetaan ko-okurensi kata kunci dan analisis kepadatan mengindikasikan adanya pergeseran fokus dari studi tradisional mengenai stres kerja dan pengukuran burnout menuju isu yang lebih luas seperti depresi, gangguan stres pascatrauma, serta burnout dalam situasi krisis. Selain itu, penelitian ini menyoroti dominasi metode kuantitatif, khususnya penggunaan survei dan kuesioner, dalam mengkaji burnout pada tenaga kesehatan. Secara keseluruhan, penelitian ini memberikan gambaran komprehensif mengenai struktur intelektual dan perkembangan tren penelitian burnout tenaga kesehatan, serta memberikan implikasi bagi arah penelitian selanjutnya, kebijakan, dan strategi intervensi untuk meningkatkan kesejahteraan tenaga kesehatan.

ABSTRACT

This study aims to map global research trends on healthcare worker burnout through a bibliometric analysis of publications indexed in Scopus from 2000 to 2026. Using bibliometric techniques and visualization tools such as VOSviewer, the study identifies publication growth patterns, influential authors, countries, journals, and thematic structures within the field. The findings reveal that burnout remains the central research theme, closely associated with mental health, psychological well-being, and occupational stress. The analysis shows a significant increase in publications, particularly following the COVID-19 pandemic, which has intensified attention toward healthcare workers' psychological conditions. Keyword co-occurrence and density mapping indicate a shift from traditional job stress and measurement-focused studies toward broader issues such as depression, post-traumatic stress disorder, and crisis-related burnout. The study also highlights the dominance of quantitative methodologies, particularly surveys and questionnaires, in assessing burnout among healthcare professionals. This research provides a comprehensive overview of the intellectual structure and evolving trends in healthcare worker burnout literature, offering insights for future research directions, policy formulation, and intervention strategies aimed at improving healthcare workforce well-being.

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1. PENDAHULUAN

Healthcare systems worldwide are increasingly confronted with complex challenges related to workforce sustainability, quality of care, and occupational well-being. Among these challenges, burnout among healthcare workers has emerged as a critical issue affecting not only individual professionals but also healthcare organizations and patient outcomes. Burnout is generally understood as a psychological syndrome characterized by emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment resulting from prolonged exposure to work-related stress (Nadon et al., 2022). This phenomenon is particularly prevalent in healthcare settings, where professionals are required to operate under high-pressure environments, manage life-and-death situations, and maintain continuous patient care responsibilities.

Healthcare workers, including physicians, nurses, and allied health professionals, are consistently exposed to multiple occupational stressors such as excessive workloads, long working hours, emotional demands, and exposure to infectious diseases. These stressors are further intensified by systemic issues such as staffing shortages, resource constraints, and increasing patient expectations (Alrehaili et al., 2024). Empirical evidence indicates that such conditions significantly contribute to mental health problems, including anxiety, depression, and ultimately burnout. In many healthcare systems, a substantial proportion of workers report experiencing high levels of stress and psychological distress, highlighting the widespread nature of the problem (Nochaiwong et al., 2021).

The consequences of burnout extend beyond the well-being of healthcare professionals and have serious implications for healthcare delivery systems. Burnout has been associated with decreased job performance, increased medical errors, reduced patient satisfaction, and higher turnover rates among healthcare staff (Stemmer et al., 2022). These outcomes not only compromise patient safety but also impose significant economic burdens on healthcare institutions due to increased recruitment and training costs. Furthermore, burnout can undermine the resilience and long-term sustainability of the healthcare workforce, making it a major public health concern that requires urgent attention (Søvold et al., 2021).

In response to the growing recognition of burnout as a global issue, there has been a substantial increase in scientific research examining its causes, consequences, and potential interventions (Demerouti et al., 2021). Over the past two decades, research on healthcare worker burnout has evolved significantly, encompassing diverse themes such as occupational stress, mental health, organizational support, and resilience. Bibliometric evidence suggests that the volume of publications on burnout has steadily increased, reflecting heightened academic and institutional interest in understanding and addressing this phenomenon. However, existing studies also indicate

that research output is often concentrated in specific regions, particularly high-income countries, leading to gaps in global representation and understanding.

Bibliometric analysis has emerged as a valuable methodological approach for systematically evaluating the development of scientific research within a given field. By analyzing patterns in publication outputs, citations, authorship, and keyword co-occurrence, bibliometric studies provide insights into the intellectual structure, research hotspots, and emerging trends of a discipline. In the context of healthcare worker burnout, bibliometric mapping enables researchers to identify influential studies, collaborative networks, and thematic evolutions over time. Such analyses are essential for guiding future research directions, informing policy decisions, and fostering international collaboration to address burnout more effectively (Awashreh & AlGhunaimi, 2024; Sarkar & Kudapa, 2024).

Despite the increasing number of studies on healthcare worker burnout, there remains a lack of comprehensive and up-to-date bibliometric analyses that cover a broad time span and utilize large multidisciplinary databases such as Scopus (Lin et al., 2025; Tran et al., 2024). Many previous bibliometric studies have focused on specific subgroups, such as nurses or medical residents, or have limited their scope to particular themes or shorter time periods. Consequently, there is a need for a more inclusive and longitudinal analysis that captures the global evolution of research on healthcare worker burnout across different professions, regions, and research domains.

Although research on healthcare worker burnout has expanded significantly over the past decades, the existing literature remains fragmented and unevenly distributed across geographical regions, professional groups, and research themes. There is limited comprehensive mapping of global research trends that integrates publication growth, collaboration networks, and thematic developments over an extended period. In particular, the absence of a large-scale bibliometric analysis using Scopus data from 2000 to 2026 creates a gap in understanding how the field has evolved, what the dominant research areas are, and where critical knowledge gaps persist. This limitation hinders the ability of researchers, policymakers, and healthcare institutions to develop evidence-based strategies for addressing burnout at a global level. The objective of this study is to systematically map and analyze global research trends in healthcare worker burnout using a bibliometric approach based on Scopus-indexed publications from 2000 to 2026.

2. METODE PENELITIAN

This study employed a quantitative bibliometric research design to systematically analyze global scientific publications on healthcare worker burnout. Bibliometric analysis is a widely used approach for evaluating the development, structure, and trends of research within a specific field through the statistical analysis of published literature. The data for this study were retrieved from the Scopus database, which is recognized as one of the largest and most comprehensive sources of peer-reviewed scientific publications. A structured search strategy was developed using relevant keywords such as “burnout,” “healthcare workers,” “nurses,” “physicians,” and related terms. The search was limited to publications published between 2000 and 2026 to capture long-term trends and recent developments. Inclusion criteria consisted of journal articles, conference papers, and reviews written in English, while documents unrelated to healthcare settings or not directly addressing burnout were excluded to ensure relevance and consistency.

Following data retrieval, the collected records were exported in a compatible format for further processing and analysis. Data cleaning procedures were conducted to remove duplicates,

standardize author names, and harmonize keywords to improve the accuracy of the analysis. The bibliometric analysis focused on several key indicators, including annual publication growth, citation analysis, authorship patterns, institutional contributions, and country-level productivity. In addition, co-authorship analysis was used to identify collaboration networks among researchers and institutions, while co-citation analysis helped reveal the intellectual structure of the field. Keyword co-occurrence analysis was also performed to identify major research themes and emerging topics within healthcare worker burnout studies.

3. HASIL DAN PEMBAHASAN

Tabel 1. Dokumen yang Paling Sering Dikutip

Citations	Authors and year	Title	Source
1399	(Dubey et al., 2020)	Psychosocial impact of COVID-19	Diabetes and Metabolic Syndrome: Clinical Research and Reviews, 14(5), pp. 779–788
864	(Maunder et al., 2006)	Long-term psychological and occupational effects of providing hospital healthcare during SARS outbreak	Emerging Infectious Diseases, 12(12), pp. 1924–1932
680	(Sørvold et al., 2021)	Prioritizing the Mental Health and Well-Being of Healthcare Workers: An Urgent Global Public Health Priority	Frontiers in Public Health, 9, 679397
601	(Giorgi et al., 2020)	COVID-19-related mental health effects in the workplace: A narrative review	International Journal of Environmental Research and Public Health, 17(21), 7857
600	(Woo et al., 2020)	Global prevalence of burnout symptoms among nurses: A systematic review and meta-analysis	Journal of Psychiatric Research, 123, pp. 9–20
542	(Group et al., 1996)	Interventions to support the resilience and mental health of frontline health and social care professionals during and after a disease outbreak, epidemic or pandemic: a mixed methods systematic review	Cochrane Database of Systematic Reviews, 2020(11), CD013779
499	(De Hert, 2020)	Burnout in healthcare workers: Prevalence, impact and preventative strategies	Local and Regional Anesthesia, 13, pp. 171–183
498	(Barello et al., 2020)	Burnout and somatic symptoms among frontline healthcare professionals at the peak of the Italian COVID-19 pandemic	Psychiatry Research, 290, 113129
492	(Caruso, 2014)	Negative impacts of shiftwork and long work hours	Rehabilitation Nursing, 39(1), pp. 16–25
451	(Blake et al., 2020)	Mitigating the psychological impact of COVID-19 on healthcare workers: A digital learning package	International Journal of Environmental Research and Public Health, 17(9), 2997

Source: Scopus, 2026

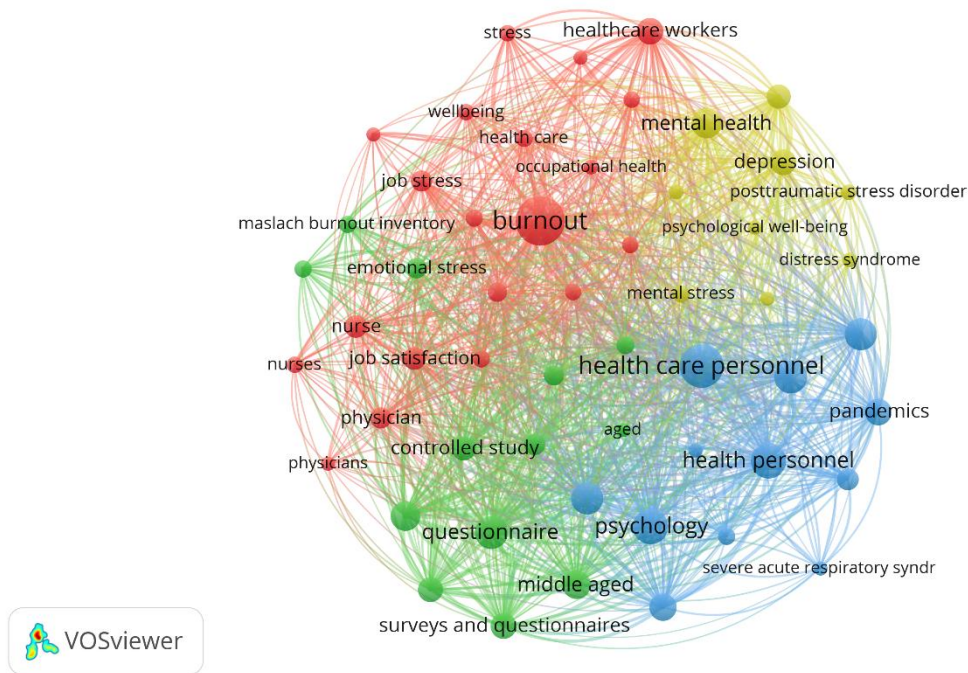


Figure 1. Network Visualization
Source: Data Analysis

Figure 1 reveals a highly interconnected research landscape centered around the keyword “burnout,” which appears as the most dominant and central node. This indicates that burnout functions as the core construct linking various subtopics within healthcare research. The density and connectivity of links surrounding this node suggest that burnout is not studied in isolation but is deeply embedded within broader discussions of occupational health, psychological well-being, and workforce conditions in healthcare settings. The red cluster represents the foundational and classical dimension of burnout research. It includes terms such as stress, job stress, emotional stress, job satisfaction, and healthcare workers. This cluster reflects the traditional focus on workplace stressors and their impact on professional well-being. The presence of terms like Maslach Burnout Inventory further confirms that much of the earlier literature relied heavily on established psychological measurement tools. This cluster highlights how burnout has historically been conceptualized as a response to prolonged occupational stress, particularly among nurses and physicians.

The green cluster emphasizes methodological and population-based aspects of burnout research. Keywords such as questionnaire, surveys, controlled study, physician, nurse, and job satisfaction indicate a strong reliance on empirical and quantitative approaches. This cluster suggests that a significant portion of the literature is dedicated to measuring burnout levels, identifying predictors, and assessing its prevalence across different healthcare professions. The inclusion of demographic-related terms like middle aged also reflects an interest in understanding how burnout varies across population segments. The blue cluster reflects a more recent and context-specific evolution of research, particularly influenced by global health crises such as the COVID-19 pandemic. Keywords like pandemics, health personnel, psychology, and severe acute respiratory syndrome indicate a shift toward examining burnout under emergency and high-pressure conditions. This cluster highlights how external shocks have intensified research on healthcare worker resilience, mental strain, and system-level challenges, making burnout a critical issue in crisis management and public health preparedness.

The yellow cluster represents the mental health dimension of burnout research, with terms such as depression, mental health, posttraumatic stress disorder, and psychological well-being. This cluster illustrates a conceptual expansion of burnout into broader psychological and clinical domains. Rather than being viewed solely as a workplace issue, burnout is increasingly linked to serious mental health outcomes. The strong connections between this cluster and others indicate an integrated research trend where burnout is understood as both an occupational and psychological phenomenon, reinforcing its multidimensional nature in contemporary healthcare studies.

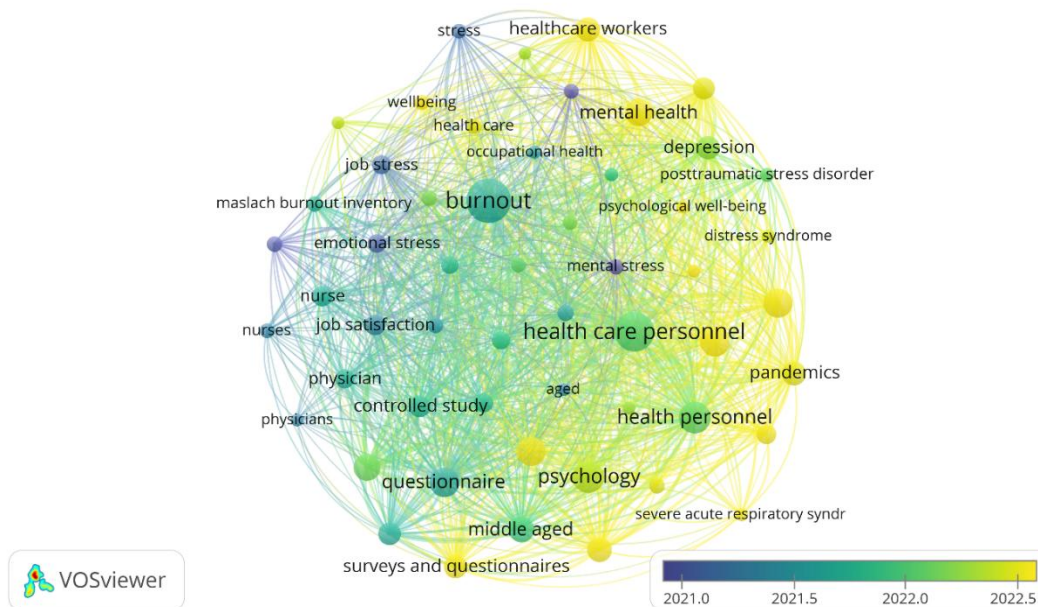


Figure 2. Overlay Visualization

Source: Data Analysis

Figure 2 presents the temporal evolution of research on healthcare worker burnout, with colors transitioning from blue (earlier years) to yellow (more recent years, around 2022–2025). The central position of “burnout” remains consistent across time, indicating its enduring role as the core theme. Earlier research (blue tones) is concentrated around terms such as stress, emotional stress, job satisfaction, and Maslach Burnout Inventory, suggesting that initial studies primarily focused on measuring burnout and understanding its relationship with workplace stressors using established psychological frameworks. As the field evolves into the mid-period (green tones, around 2021–2022), there is a noticeable expansion toward empirical and population-based research. Keywords such as health care personnel, questionnaire, controlled study, physician, and nurse become more prominent. This indicates a growing emphasis on large-scale quantitative studies aimed at assessing burnout prevalence and identifying influencing factors across different healthcare professions. During this phase, burnout research becomes more structured, data-driven, and methodologically rigorous, reflecting increased academic attention and standardization.

In the most recent period (yellow tones), the research focus shifts significantly toward mental health outcomes and crisis-related contexts, strongly influenced by the COVID-19 pandemic. Keywords such as pandemics, depression, mental health, posttraumatic stress disorder, and psychological well-being dominate, highlighting a transition from occupational stress analysis to broader psychological and clinical implications. This shift underscores how burnout is now increasingly understood as part of a wider mental health crisis among healthcare workers, with

research addressing trauma, resilience, and long-term psychological impacts in high-pressure healthcare environments.

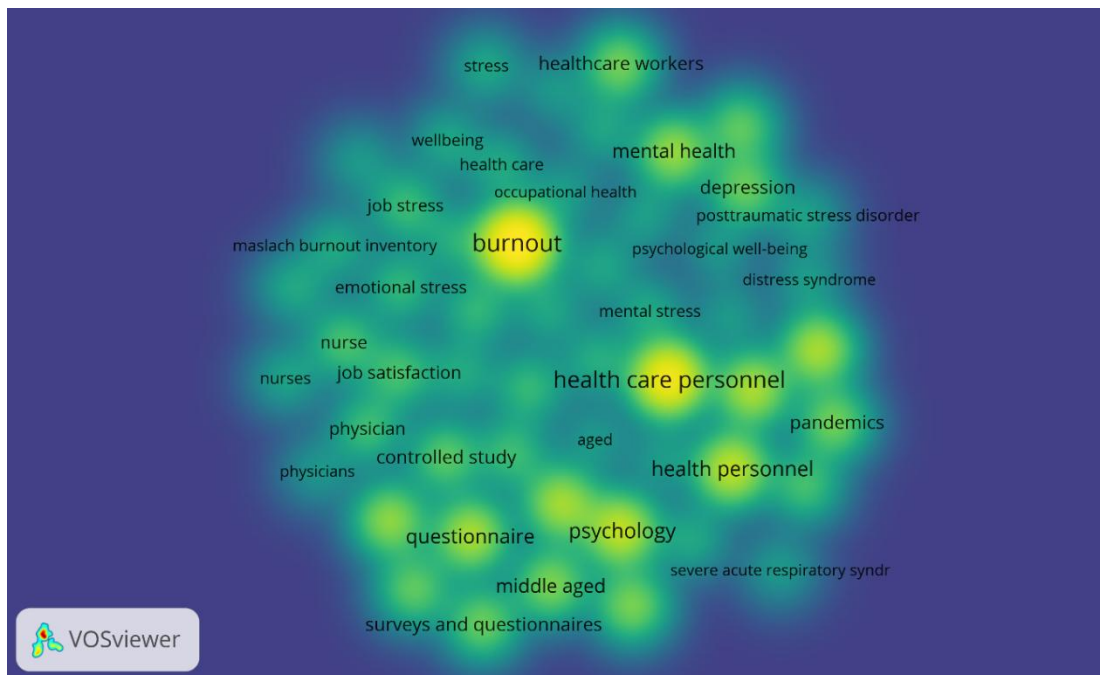


Figure 3. Density Visualization

Source: Data Analysis

Figure 3 highlights the concentration of research intensity within the field of healthcare worker burnout. The brightest (yellow) areas indicate the most frequently studied and strongly connected topics, with “burnout” appearing as the primary hotspot at the center of the map. This confirms that burnout remains the dominant focus of the literature, closely surrounded by highly dense terms such as health care personnel, psychology, and mental health. The strong proximity of these terms suggests that burnout research is deeply integrated with psychological well-being and workforce-related issues in healthcare settings. In addition, other high-density areas emerge around terms like depression, pandemics, questionnaire, and health personnel, reflecting key subthemes that have gained substantial attention. The prominence of pandemics further indicates the significant influence of the COVID-19 pandemic in accelerating research intensity in this domain. Meanwhile, methodological terms such as surveys and questionnaires also appear in relatively dense zones, suggesting that empirical measurement remains central to the field.

Pembahasan

The findings of this bibliometric analysis reveal that research on healthcare worker burnout has evolved into a highly interconnected and multidisciplinary field, with burnout consistently occupying a central and dominant position. The network and density visualizations confirm that burnout is not merely an isolated occupational issue but is closely linked with broader constructs such as psychological well-being, mental health, and workforce conditions. This centrality suggests that burnout has become a foundational concept in healthcare research, serving as a nexus through which various academic discussions—ranging from clinical psychology to organizational behavior—are connected.

A key insight emerging from the temporal and cluster analyses is the transition from traditional occupational stress frameworks toward more complex and integrated perspectives. Earlier studies predominantly emphasized job stress, emotional exhaustion, and job satisfaction, often operationalized using established instruments such as the Maslach Burnout Inventory. However, more recent research demonstrates a clear expansion into mental health domains, including depression, post-traumatic stress disorder, and psychological distress. This shift indicates a growing recognition that burnout extends beyond workplace dissatisfaction and may represent a serious psychological condition with long-term consequences.

Furthermore, the results highlight the strong methodological orientation of the field, as evidenced by the prominence of terms such as questionnaires, surveys, and controlled studies. This suggests that burnout research has largely relied on quantitative and cross-sectional approaches to assess prevalence and identify associated factors among healthcare professionals such as nurses and physicians. While this methodological consistency has contributed to the robustness and comparability of findings, it also points to a potential limitation, namely the relative lack of longitudinal and intervention-based studies that could provide deeper insights into causal relationships and effective mitigation strategies.

Another important dimension identified in this study is the significant impact of global crises, particularly the COVID-19 pandemic, in shaping recent research trends. The emergence of keywords such as pandemics, severe acute respiratory syndrome, and mental stress reflects a surge in studies examining burnout under extreme and high-risk conditions. This indicates that burnout has increasingly been framed within the context of emergency preparedness, healthcare system resilience, and crisis management. The pandemic has thus acted as a catalyst, intensifying scholarly attention and broadening the scope of burnout research to include trauma-related and systemic perspectives. This study underscores that the research landscape on healthcare worker burnout is both mature and rapidly evolving, characterized by strong thematic integration and growing complexity. Future research should move beyond descriptive and diagnostic approaches by incorporating longitudinal designs, intervention studies, and comparative cross-country analyses to better understand how burnout develops and can be effectively addressed. Additionally, there is a need to explore underrepresented contexts, particularly in developing countries, to ensure a more inclusive and globally relevant understanding of burnout in healthcare systems.

4. KESIMPULAN

This bibliometric study demonstrates that research on healthcare worker burnout has evolved into a well-established and rapidly expanding field, with burnout serving as a central concept closely linked to mental health, psychological well-being, and healthcare workforce dynamics. The findings reveal a clear shift from traditional occupational stress perspectives toward more complex and crisis-driven themes, particularly in response to the COVID-19 pandemic, which has significantly intensified scholarly attention on burnout as a global health concern. The dominance of quantitative methodologies highlights the robustness of empirical evidence, yet also indicates the need for more longitudinal and intervention-based research. This study provides a comprehensive mapping of the intellectual structure and emerging trends in burnout research, offering valuable insights for future studies, policy development, and strategies to support the well-being of healthcare professionals worldwide.

DAFTAR PUSTAKA

- Alrehaili, M. M., Alrashedi, G. S. O., Alshammary, G. R. S., Alshammari, N. R., Alshammari, F. K., Dagreri, W. A., Hadadi, H. Y., & Alenezi, F. A. (2024). Caring under pressure: unraveling the crisis of nursing workload and stress in modern healthcare. *Journal of International Crisis and Risk Communication Research*, 7(S4), 7.
- Awashreh, R., & AlGhunaimi, H. (2024). Navigating burnout in the public sector: Strategies for enhancing employee well-being and organizational performance. *Evolutionary Studies in Imaginative Culture*, 8(3), 211–225.
- Barello, S., Palamenghi, L., & Graffigna, G. (2020). Burnout and somatic symptoms among frontline healthcare professionals at the peak of the Italian COVID-19 pandemic. *Psychiatry Research*, 290, 113129.
- Blake, H., Bermingham, F., Johnson, G., & Tabner, A. (2020). Mitigating the psychological impact of COVID-19 on healthcare workers: a digital learning package. *International Journal of Environmental Research and Public Health*, 17(9), 2997.
- Caruso, C. C. (2014). Negative impacts of shiftwork and long work hours. *Rehabilitation Nursing Journal*, 39(1), 16–25.
- De Hert, S. (2020). Burnout in healthcare workers: prevalence, impact and preventative strategies. *Local and Regional Anesthesia*, 171–183.
- Demerouti, E., Bakker, A. B., Peeters, M. C. W., & Breevaart, K. (2021). New directions in burnout research. *European Journal of Work and Organizational Psychology*, 30(5), 686–691.
- Dubey, S., Biswas, P., Ghosh, R., Chatterjee, S., Dubey, M. J., Chatterjee, S., Lahiri, D., & Lavie, C. J. (2020). Psychosocial impact of COVID-19. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*, 14(5), 779–788.
- Giorgi, G., Lecca, L. I., Alessio, F., Finstad, G. L., Bondanini, G., Lulli, L. G., Arcangeli, G., & Mucci, N. (2020). COVID-19-related mental health effects in the workplace: a narrative review. *International Journal of Environmental Research and Public Health*, 17(21), 7857.
- Group, C. E. P. and O. of C., Pollock, A., Campbell, P., Cheyne, J., Cowie, J., Davis, B., McCallum, J., McGill, K., Elders, A., & Hagen, S. (1996). Interventions to support the resilience and mental health of frontline health and social care professionals during and after a disease outbreak, epidemic or pandemic: a mixed methods systematic review. *Cochrane Database of Systematic Reviews*, 2020(11).
- Lin, Q., Liu, L., Fu, M., Chen, K., Li, L., Jiang, M., & Wu, J. (2025). Research hotspots and trends in workplace violence among healthcare professionals: a bibliometric and visualization analysis based on web of science. *Journal of Multidisciplinary Healthcare*, 2111–2129.
- Maunder, R. G., Lancee, W. J., Balderson, K. E., Bennett, J. P., Borgundvaag, B., Evans, S., Fernandes, C. M. B., Goldbloom, D. S., Gupta, M., & Hunter, J. J. (2006). Long-term psychological and occupational effects of providing hospital healthcare during SARS outbreak. *Emerging Infectious Diseases*, 12(12), 1924.
- Nadon, L., De Beer, L. T., & Morin, A. J. S. (2022). Should burnout be conceptualized as a mental disorder? *Behavioral Sciences*, 12(3), 82.
- Nochaiwong, S., Ruengorn, C., Thavorn, K., Hutton, B., Awiphan, R., Phosuya, C., Ruanta, Y., Wongpakaran, N., & Wongpakaran, T. (2021). Global prevalence of mental health issues among the general population during the coronavirus disease-2019 pandemic: a systematic review and meta-analysis. *Scientific Reports*, 11(1), 10173.
- Sarkar, P. R., & Kudapa, S. P. (2024). Systematic Review of Stress And Burnout Interventions Among US Healthcare Professionals Using Advanced Computing Approaches. *Journal of Sustainable Development and Policy*, 3(04), 101–132.
- Søvold, L. E., Naslund, J. A., Kousoulis, A. A., Saxena, S., Qoronfle, M. W., Grobler, C., & Münter, L. (2021). Prioritizing the mental health and well-being of healthcare workers: an urgent global public health priority. *Frontiers in Public Health*, 9, 679397.
- Stemmer, R., Bassi, E., Ezra, S., Harvey, C., Jojo, N., Meyer, G., Özsaban, A., Paterson, C., Shifaza, F., & Turner, M. B. (2022). A systematic review: Unfinished nursing care and the impact on the nurse outcomes of job satisfaction, burnout, intention-to-leave and turnover. *Journal of Advanced Nursing*, 78(8), 2290–2303.
- Tran, T. T., Luong, D.-H., & Nguyen, T. T. D. (2024). A bibliometrics analysis of Scopus-indexed research on teachers' well-being from 1995-2022: Emerging research trends. *European Journal of Educational Research*, 13(2), 457–478.
- Woo, T., Ho, R., Tang, A., & Tam, W. (2020). Global prevalence of burnout symptoms among nurses: A systematic review and meta-analysis. *Journal of Psychiatric Research*, 123, 9–20.