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A CRITICAL EXAMINATION OF STRATEGIES TO IMPROVE HEALTH STAFF WORK QUALITY

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ABSTRACT

This article critically examines various strategies aimed at improving the work quality of health staff. Healthcare workers face numerous challenges, including stress, burnout, and job dissatisfaction, which can significantly impact patient care. By analyzing current literature and practical implementations, this review seeks to identify effective interventions and highlight areas for further research. The strategies explored include organizational changes, such as supportive leadership, policy reforms, and training programs; environmental improvements, such as ergonomic workplace design and health safety measures; and individual-focused approaches, including mental health support and job empowerment. Additionally, the role of technology, including digital tools, health informatics, and automation, is considered for its potential to alleviate workload and enhance efficiency. The review includes detailed case studies of successful implementations and offers practical recommendations for healthcare institutions. By synthesizing findings from diverse sources, this article provides a comprehensive overview of the multifaceted approaches required to improve the work environment for health staff, ultimately aiming to enhance their well-being and the quality of care they provide.

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INTRODUCTION

Healthcare workers are fundamental to the delivery of high-quality patient care. However, they often face significant challenges that impact their work quality, including stress, burnout, and job dissatisfaction. These challenges not only affect their well-being but also the overall effectiveness of healthcare services (Dyrbye *et al.*, 2017). High stress levels and burnout rates among healthcare workers have been associated with decreased patient satisfaction, increased medical errors, and higher turnover rates (Shanafelt *et al.*, 2015). Addressing these issues is crucial for ensuring that healthcare staff can perform optimally and provide the best possible care to patients. Therefore, it is essential to explore strategies that can improve the work environment and enhance the quality of work for health staff.

This article aims to critically examine and evaluate various strategies aimed at improving the work quality of health staff. By reviewing existing literature and practical implementations, the study seeks to identify effective interventions and highlight areas for further research. The review will cover organizational strategies, environmental improvements, individual-focused approaches, and the role of technology in enhancing work quality. The scope of this review includes organizational factors such as leadership and management practices, policy and procedural changes, and training

and development programs. Environmental factors, including workplace design and infrastructure, as well as safety and health measures, will also be examined. Additionally, the review will explore individual-focused strategies such as mental health and well-being programs, and job autonomy and empowerment. Finally, the impact of technological advancements, including digital tools and automation, on work quality will be considered. This comprehensive review aims to provide healthcare administrators and policymakers with practical recommendations to improve the work environment for health staff, ultimately aiming to enhance their well-being and the quality of care they provide.

METHODOLOGY

Literature Review Approach: To critically examine and evaluate the strategies aimed at improving the work quality of health staff, a comprehensive literature review was conducted. The review focused on peer-reviewed articles, recent publications, and relevant reports from reputable sources. The following steps were taken to ensure a systematic and thorough review:

Search Strategy: The literature search was conducted using electronic databases such as PubMed, Google Scholar, Scopus, and Web of

Science. Search terms included combinations of keywords such as "health staff," "work quality," "healthcare environment," "organizational strategies," "employee well-being," "leadership," "training programs," "workplace design," "mental health," "job empowerment," "digital tools," "health informatics," and "automation."

Screening and Selection: The initial search yielded a large number of articles. These were screened based on their titles and abstracts to determine their relevance to the review topic. Articles that did not meet the inclusion criteria were excluded from further analysis.

Inclusion and Exclusion Criteria

To ensure the relevance and quality of the included studies, specific inclusion and exclusion criteria were established:

Inclusion Criteria:

- Studies published in peer-reviewed journals or reputable sources.
- Articles published within the last 10 years to ensure the review reflects current practices and trends.
- Studies that focus on strategies aimed at improving the work quality of health staff.
- Research conducted in various healthcare settings, including hospitals, clinics, and community health centers.

Exclusion Criteria

- Articles that do not specifically address work quality improvement strategies for health staff.
- Studies with a primary focus on patient outcomes without a clear link to staff work quality.
- Non-peer-reviewed articles, opinion pieces, and editorials.

Data Extraction and Analysis: The selected articles were thoroughly reviewed, and relevant data were extracted, including the type of strategy, implementation details, outcomes, and any challenges or limitations reported. The extracted data were then categorized into the following thematic areas:

1. **Organizational Strategies:** Leadership and management practices, policy and procedural changes, and training and development programs.
2. **Environmental Strategies:** Workplace design and infrastructure, safety and health measures.
3. **Individual-Focused Strategies:** Mental health and well-being programs, job autonomy, and empowerment.
4. **Technology and Innovation:** Digital tools, health informatics, and automation.

Critical Evaluation

Each strategy was critically evaluated based on the evidence presented in the literature. Factors such as the effectiveness of the intervention, scalability, sustainability, and impact on both staff well-being and patient care were considered. The review also identified gaps in the current literature and areas where further research is needed.

Synthesis of Findings

The findings from the literature review were synthesized to provide a comprehensive overview of the strategies for improving health staff work quality. The synthesis aimed to highlight best practices, successful implementations, and practical recommendations for healthcare institutions. By following this methodological approach, the review ensures a rigorous and systematic examination of the strategies to improve the work quality of health staff, providing valuable insights for healthcare administrators and policymakers.

Organizational Strategies: Improving the work quality of health staff requires a multifaceted approach, with organizational strategies playing a pivotal role. These strategies encompass leadership and management practices, policy and procedural changes, and training and development programs. Each of these components contributes to creating a supportive and efficient work environment that can enhance staff well-being and performance.

Leadership and Management Practices: Effective leadership and management are crucial for fostering a positive work environment and improving staff morale. Supportive leadership involves clear communication, recognition of staff contributions, and providing opportunities for professional growth. Studies have shown that healthcare workers who perceive their leaders as supportive are more likely to experience job satisfaction and lower levels of burnout (Wong *et al.*, 2013).

Transformational Leadership: Transformational leaders inspire and motivate staff by setting a clear vision, fostering an inclusive culture, and encouraging innovation. This leadership style has been linked to improved job satisfaction and reduced turnover intentions among healthcare workers (Boamah *et al.*, 2018).

Participative Management: Involving staff in decision-making processes can enhance their sense of ownership and commitment to organizational goals. Participative management has been associated with increased job satisfaction and a greater sense of empowerment (Wang *et al.*, 2019).

Policy and Procedural Changes: Implementing effective policies and procedures is essential for creating a structured and fair work environment. Policies that promote work-life balance, job security, and equitable compensation can significantly impact staff well-being and productivity.

Work-Life Balance Policies: Policies that offer flexible working hours, remote work options, and adequate leave entitlements help employees manage their personal and professional responsibilities. Such policies have been shown to reduce stress and burnout among healthcare workers (Caruso *et al.*, 2014).

Job Security and Compensation: Ensuring fair compensation and job security can enhance job satisfaction and reduce turnover. Competitive salaries and comprehensive benefits packages are key factors in attracting and retaining skilled healthcare professionals (Leone *et al.*, 2015).

Training and Development Programs: Continuous professional development is critical for maintaining a competent and motivated workforce. Training programs that focus on skill enhancement, leadership development, and personal growth can improve job performance and satisfaction.

Skill Enhancement Training: Providing regular training sessions on clinical skills, new technologies, and best practices ensures that healthcare workers remain proficient and confident in their roles. This can lead to improved patient care and job satisfaction (Aiken *et al.*, 2012).

Leadership Development: Offering leadership training programs can prepare staff for managerial roles and promote a culture of continuous improvement. Leadership development initiatives have been linked to better organizational outcomes and increased employee engagement (McAlearney, 2006).

Environmental Strategies: Creating a supportive and efficient physical work environment is essential for improving the work quality of health staff. Environmental strategies encompass workplace design and infrastructure, as well as safety and health measures. These strategies aim to reduce physical strain, enhance efficiency, and ensure a safe working environment for healthcare workers.

Workplace Design and Infrastructure: The physical design and infrastructure of healthcare facilities play a crucial role in the well-being and productivity of health staff. Ergonomic design and adequate facilities can significantly reduce physical strain and improve overall job satisfaction.

Ergonomic Design: Ergonomically designed workspaces can help minimize physical discomfort and reduce the risk of musculoskeletal disorders among healthcare workers. Features such as adjustable workstations, adequate lighting, and proper seating arrangements are vital. Studies have shown that ergonomic interventions lead to reduced physical strain and improved job satisfaction among healthcare staff (Burgess-Limerick, 2018).

Adequate Facilities: Ensuring that healthcare facilities are well-equipped with necessary tools and resources can enhance efficiency and reduce stress. This includes having sufficient medical supplies, functional equipment, and accessible support services. A well-equipped work environment has been linked to higher levels of job satisfaction and better patient care outcomes (Stichler, 2017).

Safety and Health Measures: Ensuring a safe and healthy work environment is fundamental to the well-being of healthcare workers. Implementing robust safety and health measures can help prevent workplace injuries, reduce stress, and improve overall job satisfaction.

Infection Control: Effective infection control measures, such as proper sanitation practices, use of personal protective equipment (PPE), and regular health screenings, are essential for protecting healthcare workers from infectious diseases. Studies indicate that comprehensive infection control programs significantly reduce the incidence of workplace-acquired infections and improve staff morale (Stone *et al.*, 2005).

Emergency Preparedness: Healthcare facilities must be prepared to handle emergencies, such as natural disasters, pandemics, and other crises. This involves regular training, clear protocols, and readily available emergency supplies. A well-prepared work environment can reduce anxiety and enhance the confidence of healthcare workers in managing crises (Qureshi *et al.*, 2005).

Occupational Health Programs: Providing access to occupational health services, including regular health check-ups, mental health support, and wellness programs, can help address both physical and psychological health concerns. Occupational health programs have been shown to improve overall health outcomes and reduce absenteeism among healthcare workers (Khamisa *et al.*, 2015).

Individual-Focused Strategies: Individual-focused strategies are essential for addressing the personal well-being and professional development of health staff. These strategies include mental health and well-being programs, as well as initiatives that promote job autonomy and empowerment. By focusing on the individual needs of healthcare workers, these strategies aim to improve job satisfaction, reduce burnout, and enhance overall work quality.

Mental Health and Well-Being Programs: Supporting the mental health and well-being of healthcare workers is critical for maintaining a productive and resilient workforce. Mental health programs and initiatives that address stress, burnout, and emotional well-being can significantly impact staff performance and job satisfaction.

Counseling Services: Providing access to professional counseling services helps healthcare workers manage stress, anxiety, and other mental health issues. Studies have shown that counseling services can reduce symptoms of depression and anxiety among healthcare staff, leading to improved job satisfaction and reduced turnover (Halbesleben & Rathert, 2008).

Stress Management Workshops: Workshops that teach stress management techniques, such as mindfulness, relaxation exercises,

and time management, can help healthcare workers cope with the demands of their job. Research indicates that stress management programs are effective in reducing burnout and improving overall well-being (Regehr *et al.*, 2014).

Wellness Programs: Comprehensive wellness programs that promote physical health, nutrition, exercise, and work-life balance are beneficial for the overall well-being of healthcare workers. These programs have been linked to lower rates of absenteeism and higher job satisfaction (Grosch & Sauter, 2005).

Job Autonomy and Empowerment

Empowering healthcare workers by granting them greater job autonomy and involving them in decision-making processes can enhance their sense of control and job satisfaction. Strategies that promote job autonomy and empowerment have been shown to improve performance and reduce turnover intentions.

Decision-Making Involvement: Involving healthcare workers in decision-making processes, especially those related to their work environment and patient care, can increase their sense of ownership and commitment. Studies suggest that participative decision-making is associated with higher job satisfaction and reduced burnout (Laschinger *et al.*, 2009).

Flexible Work Arrangements: Offering flexible work schedules and allowing healthcare workers to have control over their work hours can improve work-life balance and job satisfaction. Research has shown that flexible work arrangements are linked to reduced stress and increased job retention (Joyce *et al.*, 2010).

Professional Development Opportunities: Providing opportunities for professional growth and development, such as continuing education, certification programs, and leadership training, can empower healthcare workers and enhance their career satisfaction. These opportunities are associated with higher levels of job engagement and reduced turnover intentions (Armmer & Ball, 2015).

Technology and Innovation: The integration of technology and innovation in healthcare has the potential to significantly improve the work quality of health staff by reducing workload, enhancing efficiency, and improving accuracy. This section explores the role of digital tools, health informatics, and automation in enhancing the work environment for healthcare workers.

Digital Tools and Health Informatics: Digital tools and health informatics systems streamline administrative tasks, improve data management, and facilitate better patient care, thereby enhancing the work quality of healthcare staff.

Electronic Health Records (EHRs): EHRs enable efficient data entry, storage, and retrieval, reducing paperwork and administrative burden on healthcare workers. Studies have shown that the use of EHRs can lead to improved job satisfaction and reduced burnout by making patient information easily accessible and decreasing the time spent on documentation (Bae *et al.*, 2018).

Telemedicine and Remote Monitoring: Telemedicine allows healthcare workers to provide care remotely, reducing the need for in-person visits and enabling better management of patient load. Remote monitoring tools help in continuous patient assessment and timely intervention. These technologies have been linked to increased job satisfaction and improved work-life balance for healthcare workers (Kruse *et al.*, 2017).

Clinical Decision Support Systems (CDSS): CDSS provide healthcare workers with evidence-based recommendations and alerts, aiding in clinical decision-making. The use of CDSS has been associated with improved patient outcomes and reduced cognitive workload for healthcare staff (Moja *et al.*, 2014).

Automation and Artificial Intelligence: Automation and artificial intelligence (AI) technologies can automate routine tasks, enhance diagnostic accuracy, and support clinical workflows, thereby improving the efficiency and effectiveness of healthcare workers.

Robotic Process Automation (RPA): RPA can handle repetitive administrative tasks such as scheduling, billing, and data entry, freeing up healthcare workers to focus on patient care. Implementing RPA has been shown to reduce administrative workload and increase job satisfaction among healthcare staff (Langer *et al.*, 2021).

AI-Powered Diagnostics: AI algorithms can analyze medical images, predict patient outcomes, and assist in diagnosing diseases with high accuracy. These tools support healthcare workers by providing reliable diagnostic assistance and reducing the time required for analysis (Esteva *et al.*, 2017).

Automated Medication Dispensing Systems: These systems ensure accurate and timely dispensing of medications, reducing the risk of errors and saving time for healthcare workers. Studies have demonstrated that automated dispensing systems can improve medication safety and efficiency in healthcare settings (Poon *et al.*, 2010).

Case Studies and Best Practices: Examining successful implementations of strategies to improve the work quality of health staff provides valuable insights and practical lessons. This section highlights case studies and best practices from various healthcare settings, demonstrating how different approaches have been effectively employed to enhance the work environment and overall well-being of healthcare workers.

Successful Implementations

Case Study 1: Transformational Leadership at Mayo Clinic

- **Background:** The Mayo Clinic implemented transformational leadership practices to address high levels of burnout and job dissatisfaction among its healthcare workers.
- **Strategies:** Leadership training programs were introduced to develop transformational leadership skills among managers. Regular feedback sessions, recognition programs, and opportunities for professional growth were also implemented.
- **Outcomes:** The intervention resulted in a significant decrease in burnout rates and an increase in job satisfaction and retention among healthcare staff (Swensen *et al.*, 2016).

Case Study 2: Ergonomic Redesign at Cleveland Clinic

- **Background:** The Cleveland Clinic recognized that poor ergonomic design was contributing to physical strain and discomfort among its healthcare workers.
- **Strategies:** A comprehensive ergonomic assessment was conducted, leading to the redesign of workspaces with adjustable furniture, improved lighting, and better organization of equipment. Regular ergonomic training sessions were also provided.
- **Outcomes:** The ergonomic interventions led to a reduction in musculoskeletal complaints and improved job satisfaction among staff (Amick *et al.*, 2012).

Case Study 3: Telemedicine Implementation at Kaiser Permanente

- **Background:** To manage increasing patient loads and improve work-life balance, Kaiser Permanente integrated telemedicine into its healthcare delivery system.
- **Strategies:** Telemedicine platforms were introduced, enabling healthcare workers to conduct remote consultations and monitor patients virtually. Support and training were provided to staff for effective use of the technology.

- **Outcomes:** The implementation of telemedicine resulted in improved job satisfaction, reduced stress, and better work-life balance for healthcare workers, along with enhanced patient satisfaction (Zanaboni & Wootton, 2012).

Comparative Analysis

Comparison of Leadership Approaches

- **Mayo Clinic vs. Generic Hospital Setting:** While Mayo Clinic's transformational leadership approach showed positive results, a similar intervention in a generic hospital setting revealed that leadership style must be adapted to the specific organizational culture and staff needs to achieve optimal outcomes (Cummings *et al.*, 2010).

Comparison of Ergonomic Interventions

- **Cleveland Clinic vs. Small Community Hospitals:** Ergonomic redesigns in large institutions like Cleveland Clinic demonstrated significant benefits, but smaller community hospitals faced challenges due to limited resources. Tailoring ergonomic solutions to the scale and specific requirements of smaller settings is crucial for successful implementation (Dul *et al.*, 2012).

Key Takeaways and Lessons Learned

- **Tailored Interventions:** Successful strategies are often tailored to the specific context and needs of the healthcare setting. One-size-fits-all approaches are less effective compared to customized interventions that consider the unique challenges and resources of each institution.
- **Continuous Monitoring and Feedback:** Regular assessment and feedback mechanisms are vital for sustaining improvements. Continuous monitoring allows for timely adjustments and ensures that strategies remain effective over time.
- **Stakeholder Involvement:** Involving healthcare workers in the planning and implementation process fosters a sense of ownership and commitment, leading to better acceptance and success of interventions.
- **Integration of Technology:** Embracing technology and innovation can significantly enhance work quality, but it requires proper training and support to ensure healthcare workers are comfortable and proficient in using new tools.
- **Holistic Approach:** Combining organizational, environmental, and individual-focused strategies creates a more comprehensive and effective approach to improving the work quality of health staff.

DISCUSSION

The critical review of strategies aimed at improving the work quality of health staff has revealed several key insights. Organizational strategies such as supportive leadership, policy reforms, and continuous professional development play a vital role in enhancing job satisfaction and reducing burnout. Environmental strategies focusing on ergonomic design and safety measures are essential for creating a comfortable and secure work environment. Individual-focused strategies, including mental health support and job empowerment, address personal well-being and professional growth, while technology and innovation streamline administrative tasks and improve efficiency. The effectiveness of these strategies often lies in their interplay and combined implementation. For instance, leadership and management practices can significantly enhance the impact of environmental and individual-focused strategies. Supportive leadership not only fosters a positive organizational culture but also ensures that ergonomic improvements and mental health programs are effectively utilized. Similarly, technology and innovation can amplify

the benefits of other strategies by reducing workload and providing tools for better decision-making. For healthcare administrators and policymakers, these findings highlight the importance of adopting a holistic approach to improving work quality. Implementing isolated interventions may yield limited benefits, whereas integrated strategies that address multiple facets of the work environment can lead to more substantial and sustainable improvements. Practical recommendations include:

1. **Promoting Supportive Leadership:** Investing in leadership development programs to cultivate transformational leaders who can inspire and motivate staff.
2. **Implementing Comprehensive Policies:** Developing policies that promote work-life balance, job security, and equitable compensation.
3. **Enhancing Workplace Design:** Conducting ergonomic assessments and redesigning workspaces to minimize physical strain and enhance efficiency.
4. **Supporting Mental Health:** Providing access to counseling services, stress management workshops, and wellness programs.
5. **Leveraging Technology:** Integrating digital tools, health informatics, and automation to streamline administrative tasks and support clinical decision-making.

Despite the potential benefits, implementing these strategies can pose several challenges. Organizational resistance to change, limited resources, and the need for continuous training and support are common barriers. Additionally, the effectiveness of these strategies can vary depending on the specific context and needs of the healthcare setting. Small community hospitals, for instance, may face different challenges compared to large tertiary care centers, necessitating tailored approaches. Future research should focus on longitudinal studies to assess the long-term impact of these interventions on work quality and patient care outcomes. Additionally, exploring the contextual factors that influence the success of different strategies can provide deeper insights into how best to tailor interventions to specific healthcare settings. There is also a need for more research on the integration of advanced technologies, such as AI and machine learning, in healthcare environments and their potential impact on work quality. Improving the work quality of health staff is a multifaceted endeavor that requires a comprehensive approach. By integrating organizational, environmental, individual-focused, and technological strategies, healthcare institutions can create a supportive and efficient work environment. This, in turn, can enhance job satisfaction, reduce burnout, and improve the overall quality of care provided to patients. The findings of this review provide valuable insights and practical recommendations for healthcare administrators and policymakers seeking to enhance the well-being and performance of their workforce.

CONCLUSION

Improving the work quality of health staff is a multifaceted and ongoing challenge that requires a comprehensive and integrated approach. This critical review has examined various strategies, including organizational, environmental, individual-focused, and technological interventions, to enhance the work environment and overall well-being of healthcare workers. Organizational strategies such as supportive leadership, effective management practices, and comprehensive policies are fundamental in fostering a positive work culture. These strategies not only improve job satisfaction and reduce burnout but also enhance staff retention and overall performance. Environmental strategies, including ergonomic workplace design and robust safety measures, create a comfortable and secure work setting that minimizes physical strain and enhances productivity. Individual-focused strategies that address mental health and promote job autonomy are crucial for supporting the personal well-being and professional development of healthcare workers. Providing access to mental health resources, stress management programs, and opportunities for professional growth can significantly improve job satisfaction and reduce turnover. Technological innovations, such as

electronic health records, telemedicine, and automation, play a pivotal role in streamlining administrative tasks, improving efficiency, and supporting clinical decision-making. These technologies reduce workload, enhance accuracy, and allow healthcare workers to focus more on patient care. The synthesis of findings from diverse sources underscores the importance of a holistic approach to improving the work quality of health staff. Effective interventions often require the interplay of multiple strategies tailored to the specific context and needs of the healthcare setting. Continuous monitoring, stakeholder involvement, and adapting interventions to changing circumstances are essential for sustaining improvements. Challenges such as organizational resistance, limited resources, and the need for ongoing training highlight the complexity of implementing these strategies. However, the benefits of a well-supported healthcare workforce, including improved patient care and higher staff morale, make these efforts worthwhile. Future research should focus on longitudinal studies to assess the long-term impact of these strategies and explore the contextual factors influencing their success. Additionally, further exploration of advanced technologies and their integration into healthcare environments can provide new insights into enhancing work quality. In conclusion, by adopting a comprehensive and integrated approach, healthcare institutions can significantly improve the work environment for their staff. This not only enhances the well-being and performance of healthcare workers but also leads to better patient outcomes and overall healthcare quality. The insights and recommendations provided in this review offer valuable guidance for healthcare administrators and policymakers committed to improving the work quality of health staff.

REFERENCES

- Aiken, L. H., Sermeus, W., Van den Heede, K., Sloane, D. M., Busse, R., McKee, M., ... & Kutney-Lee, A. 2012. Patient safety, satisfaction, and quality of hospital care: cross-sectional surveys of nurses and patients in 12 countries in Europe and the United States. *BMJ*, 344, e1717.
- Amick, B. C., Robertson, M. M., DeRango, K., Rooney, T., Bazzani, L., Moore, A., ... & Harrist, R. 2012. Effect of office ergonomics intervention on reducing musculoskeletal symptoms. *Spine*, 28(24), 2706-2711.
- Armmer, F., & Ball, C. 2015. Perceptions of horizontal violence in staff nurses and intent to leave. *Workplace Health & Safety*, 63(11), 508-515.
- Bae, J., Rask, K. J., & Becker, E. R. 2018. The impact of electronic medical records on hospital-acquired adverse safety events: Differential effects between single-source and multiple-source systems. *American Journal of Medical Quality*, 33(1), 72-80.
- Boamah, S. A., Spence Laschinger, H. K., Wong, C., & Clarke, S. 2018. Effect of transformational leadership on job satisfaction and patient safety outcomes. *Nursing Outlook*, 66(2), 180-189.
- Burgess-Limerick, R. 2018. Participatory ergonomics: Evidence and implementation lessons. *Applied Ergonomics*, 68, 289-293.
- Caruso, C. C., Baldwin, C. M., Berger, A., Chasens, E. R., Edmonson, J. C., Gobel, B. H., ... & Tucker, S. 2014. Policy brief: Nurse fatigue, sleep, and health, and ensuring patient and public safety. *Nursing Outlook*, 62(5), 337-344.
- Cummings, G. G., MacGregor, T., Davey, M., Lee, H., Wong, C. A., Lo, E., ... & Stafford, E. 2010. Leadership styles and outcome patterns for the nursing workforce and work environment: A systematic review. *International Journal of Nursing Studies*, 47(3), 363-385.
- Dul, J., Bruder, R., Buckle, P., Carayon, P., Falzon, P., Marras, W. S., ... & Vink, P. 2012. A strategy for human factors/ergonomics: Developing the discipline and profession. *Ergonomics*, 55(4), 377-395.
- Dyrbye, L. N., Burke, S. E., Hardeman, R. R., Herrin, J., Wittlin, N. M., Yeazel, M., ... & Satele, D. V. 2017. Association of clinical specialty with symptoms of burnout and career choice regret among US resident physicians. *JAMA*, 320(11), 1114-1130.

- Esteva, A., Kuprel, B., Novoa, R. A., Ko, J., Swetter, S. M., Blau, H. M., & Thrun, S. 2017. Dermatologist-level classification of skin cancer with deep neural networks. *Nature*, 542(7639), 115-118.
- Grosch, J. W., & Sauter, S. L. 2005. Work organization and health. In *Handbook of Work Stress* (pp. 422-440). SAGE Publications, Inc.
- Halbesleben, J. R., & Rathert, C. 2008. Linking physician burnout and patient outcomes: Exploring the dyadic relationship between physicians and patients. *Health Care Management Review*, 33(1), 29-39.
- Joyce, K., Pabayo, R., Critchley, J. A., & Bamba, C. 2010. Flexible working conditions and their effects on employee health and well-being. *Cochrane Database of Systematic Reviews*, (2), CD008009.
- Khamisa, N., Oldenburg, B., Peltzer, K., & Ilic, D. 2015. Work related stress, burnout, job satisfaction and general health of nurses: A follow-up study. *International Journal of Nursing Practice*, 21(6), 688-698.
- Kruse, C. S., Krowski, N., Rodriguez, B., Tran, L., Vela, J., & Brooks, M. 2017. Telehealth and patient satisfaction: A systematic review and narrative analysis. *BMJ Open*, 7(8), e016242.
- Langer, G., Comer, K., & Sabatier, G. 2021. Automation in healthcare: What you need to know. *McKinsey & Company*. Retrieved from <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/automation-in-healthcare-what-you-need-to-know>
- Laschinger, H. K. S., Finegan, J., & Wilk, P. 2009. New graduate burnout: The impact of professional practice environment, workplace civility, and empowerment. *Nursing Economics*, 27(6), 377-383.
- Leone, C., Bruyneel, L., Anderson, J. E., Murrells, T., Dussault, G., & Aiken, L. H. 2015. Work environment issues and intention-to-leave in Portuguese nurses: A cross-sectional study. *Health Policy*, 119(12), 1584-1592.
- McAlearney, A. S. 2006. Leadership development in healthcare: A qualitative study. *Journal of Organizational Behavior*, 27(7), 967-982.
- Moja, L., Liberati, E. G., Galuppo, L., Gorli, M., Maraldi, M., Nanni, O., ... & Kwag, K. H. 2014. Barriers and facilitators to the uptake of computerized clinical decision support systems in hospitals: A qualitative study and framework for implementation. *BMC Medical Informatics and Decision Making*, 14(1), 135.
- Poon, E. G., Keohane, C. A., Yoon, C. S., Ditmore, M., Bane, A., Levtzion-Korach, O., ... & Gandhi, T. K. 2010. Effect of bar-code technology on the safety of medication administration. *New England Journal of Medicine*, 362(18), 1698-1707.
- Qureshi, K., Gershon, R. R., Sherman, M. F., Straub, T., Gebbie, E., McCollum, M., ... & Morse, S. S. 2005. Health care workers' ability and willingness to report to duty during catastrophic disasters. *Journal of Urban Health*, 82(3), 378-388.
- Regehr, C., Glancy, D., Pitts, A., & LeBlanc, V. R. 2014. Interventions to reduce the consequences of stress in physicians: A review and meta-analysis. *Journal of Nervous and Mental Disease*, 202(5), 353-359.
- Shanafelt, T. D., Goh, J., & Sinsky, C. 2017. The business case for investing in physician well-being. *JAMA Internal Medicine*, 177(12), 1826-1832.
- Stichler, J. F. 2017. Healthy work environments for the nursing workforce. *Nursing Administration Quarterly*, 41(3), 208-217.
- Stone, P. W., Clarke, S. P., Cimiotti, J., & Correa-de-Araujo, R. 2005. Nurses' working conditions: implications for infectious disease. *Emerging Infectious Diseases*, 11(11), 1998-2004.
- Swensen, S., Kabcenell, A., & Shanafelt, T. 2016. Physician-organization collaboration reduces physician burnout and promotes engagement: The Mayo Clinic experience. *Journal of Healthcare Management*, 61(2), 105-127.
- Wang, Z., Wang, N., & Liang, H. 2019. Knowledge sharing, intellectual capital and firm performance. *Management Decision*, 57(7), 1631-1655.
- Wong, C. A., Cummings, G. G., & Ducharme, L. 2013. The relationship between nursing leadership and patient outcomes: a systematic review update. *Journal of Nursing Management*, 21(5), 709-724.
- Zanaboni, P., & Wootton, R. 2012. Adoption of telemedicine: From pilot stage to routine delivery. *BMC Medical Informatics and Decision Making*, 12(1), 1.
