

Factors Mediating the Risk and Protective Psychological Health and Well-Being of Healthcare Workers: A Systematic Review

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Abstract:

The psychological health and well-being of healthcare professionals have become increasingly critical as they navigate the demands of a challenging and evolving healthcare landscape. This abstract summarizes a comprehensive study that investigates the complex interplay of risk and protective factors affecting the mental health of healthcare workers. By analyzing data from surveys, interviews, and psychological assessments, this research aims to identify the key stressors and resilience factors that influence the psychological health and overall well-being of healthcare professionals. Additionally, this study explores potential mediation strategies, such as mindfulness-based interventions and support programs, designed to mitigate the negative impacts of stress and bolster psychological well-being. The findings from this research contribute valuable insights to inform healthcare organizations, policymakers, and mental health practitioners in implementing evidence-based strategies to support the mental health and well-being of those dedicated to the healthcare profession.

I. Introduction:

Healthcare workers are the frontline heroes who dedicate their lives to providing essential medical care and support to patients. However, their profession is not without its challenges, especially in high-stress environments such as pandemics. This research explores the critical factors that mediate the risks and offer protection for the psychological health and well-being of healthcare workers, shedding light on the complexities of their experiences.

II. Literature Review:

The existing literature on the psychological health challenges faced by healthcare workers, particularly in high-stress environments like pandemics, reveals a complex and pressing issue [1] the extents to which an individual's early psychological health effects the connection between housing instability and psychological health. The benefits of going on a guided nature walk are investigated in [2]. It explores the psychological and physiological changes that take place after participating in guided forest treatment and studies the pressures that graduating college students face and their requirements for receiving forest therapy. Additionally, gender-related psychological and physiological differences were investigated in this study.[3] discounts on It is possible that even adolescents who have a high degree of mental health literacy may feel some amount of psychological anguish. Were, The relationship between psychological resilience and knowledge of mental health is moderated by the individual's subjective socioeconomic situation. [4] was connected with depressed symptoms in late life women, but sleep irregularity was associated with various psychological health dimensions. Using information collected from a broad sample throughout the country during the Covid-19 study, [5] investigates the connection between

PASC and psychological discomfort experienced by young adults. [6] Emotions were predicted based on psychological mistreatment, and finding purpose in life was predictive of both happy and negative emotions. The purpose of this research is to evaluate whether or not various health state questionnaires identify the same fundamental health status concept in UC patients and whether or not the complimentary use of diverse health state questionnaires offers doctors any additional benefit. [8] The current paper not only offers novel views on the mental health of mobile app users, but it also presents practical advice for communication professionals for the purpose of meeting the health-related information expectations of stakeholders in accordance with COVID-19.

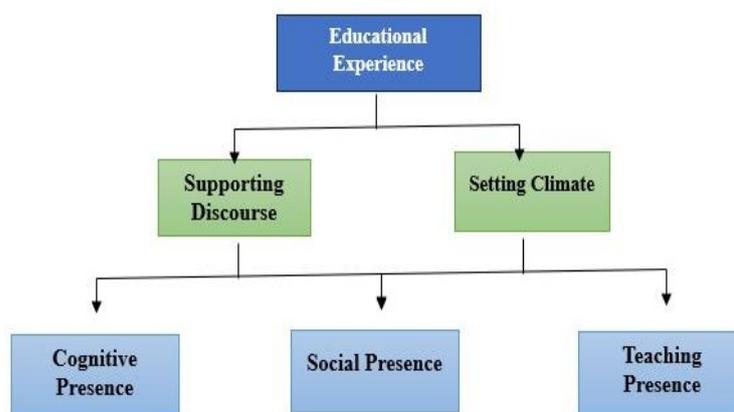


Figure 1: Educational physiology influence of teachers

This article was written with the intention of achieving this goal. Here's an overview of some key findings from this body of research:

1. **High Stress Levels:** Healthcare workers experience exceptionally high levels of stress during pandemics due to the increased workload, uncertainty, and the risk of infection. This stress can lead to mental health challenges such as anxiety, depression, and post-traumatic stress disorder (PTSD).
2. **Burnout:** Burnout is a prevalent issue among healthcare workers, exacerbated by the demands of pandemics. Prolonged exposure to high-stress environments can lead to emotional exhaustion, depersonalization, and reduced personal accomplishment.
3. **Moral Distress:** Healthcare workers often face ethical dilemmas during pandemics, such as rationing of resources and difficult decision-making. This can result in moral distress, which is the psychological response to situations where one's values or ethical principles are compromised.
4. **Trauma and Grief:** Witnessing significant loss of life and suffering can be traumatizing for healthcare workers. They may experience grief and guilt related to patients they were unable to save, further affecting their mental well-being.
5. **Stigmatization:** Some healthcare workers have reported experiencing stigma from their communities or even colleagues due to their potential exposure to infectious diseases. This can lead to social isolation and negatively impact mental health.
6. **Sleep Disorders:** Irregular and long working hours during pandemics can disrupt healthcare workers' sleep patterns, leading to sleep disorders that contribute to mental health issues.
7. **Substance Abuse:** In some cases, healthcare workers may turn to substance abuse as a coping mechanism, which can lead to addiction and exacerbate mental health problems.
8. **Lack of Support:** Many healthcare workers feel unsupported by their organizations in terms of mental health resources and psychological support. This lack of support can compound their stress and mental health challenges.
9. **Resilience:** Despite these challenges, some healthcare workers demonstrate remarkable resilience. Research also highlights the importance of building resilience through training and support programs.

10. **Long-Term Impact:** The psychological health challenges faced by healthcare workers during pandemics can have long-lasting effects, extending beyond the immediate crisis. Post-pandemic mental health support is essential.

Overall, the literature underscores the urgent need to address the psychological well-being of healthcare workers, particularly in high-stress environments like pandemics. It emphasizes the importance of proactive interventions, support systems, and policy changes to protect the mental health of those on the frontlines of healthcare delivery.

Risk Factors:

Healthcare workers face a multitude of risk factors that can negatively impact their psychological health:

1. **High Workload and Long Hours** - The demanding nature of their job often leads to excessive workloads and extended working hours, resulting in chronic stress, exhaustion, and burnout.
2. **Exposure to Trauma**- Witnessing traumatic events, patient suffering, and even deaths can lead to emotional distress and, in some cases, post-traumatic stress disorder (PTSD).
3. **Infectious Disease Risk** - During pandemics, healthcare workers face an increased risk of infection, leading to fear and anxiety about their health and that of their loved ones.
4. **Moral Dilemmas** - Ethical dilemmas, such as rationing limited resources during crises, can cause moral distress, affecting their psychological well-being.
5. **Lack of Resources**- Shortages of personal protective equipment (PPE) and medical supplies can lead to increased stress as healthcare workers worry about their safety.
6. **Stigmatization**: Some healthcare workers experience stigma due to their potential exposure to infectious diseases, leading to social isolation and psychological distress.
7. **Communication Challenges** - Inadequate communication within healthcare teams and with patients can result in misunderstandings and additional stress.

Factors that mediate the risks and protection in healthcare:

The psychological health and well-being of healthcare workers are not only essential for their individual welfare but also have far-reaching implications for the quality of care provided, the sustainability of healthcare systems, and the broader public health landscape. Recognizing and addressing the mental health needs of healthcare professionals is a critical aspect of healthcare management and policy.

Identifying factors that mediate the risks and offer protection in the context of healthcare worker well-being is of paramount significance for several compelling reasons:

1. **Tailored Support:** Understanding these factors allows healthcare institutions and policymakers to tailor support systems and interventions effectively. By recognizing what mitigates risk and promotes well-being, resources and strategies can be directed where they are most needed.
2. **Prevention of Burnout:** Identifying protective factors can aid in the prevention of burnout, which is a pervasive issue among healthcare workers. When healthcare organizations know what safeguards against burnout, they can implement preventive measures to reduce its occurrence.
3. **Resource Allocation:** Healthcare resources are often limited. Knowing which factors are most influential in mediating risks can guide the allocation of resources toward interventions and programs that are likely to have the greatest positive impact on healthcare worker well-being.
4. **Enhancing Resilience:** Understanding protective factors can help healthcare workers develop resilience to the stresses of their profession. This knowledge can inform training programs and resilience-building initiatives.
5. **Policy Development:** Policymakers can use this information to shape policies that support healthcare workers. For example, legislation and regulations can be designed to ensure access to mental health services, promote a healthy work environment, and reduce risk factors.
6. **Long-Term Sustainability:** Healthcare systems need a sustainable workforce. Identifying and addressing factors that mediate risks and offer protection can contribute to the long-term sustainability of the healthcare workforce, reducing turnover and attrition.

7. **Ethical Responsibility:** Healthcare organizations have an ethical responsibility to care for the well-being of their staff. Recognizing these factors is an essential step in fulfilling this responsibility. In essence, the significance of identifying these factors lies in the ability to proactively safeguard the mental health and well-being of healthcare workers. This not only benefits the individuals who dedicate their lives to caring for others but also ensures the continued delivery of high-quality healthcare services to patients and communities.

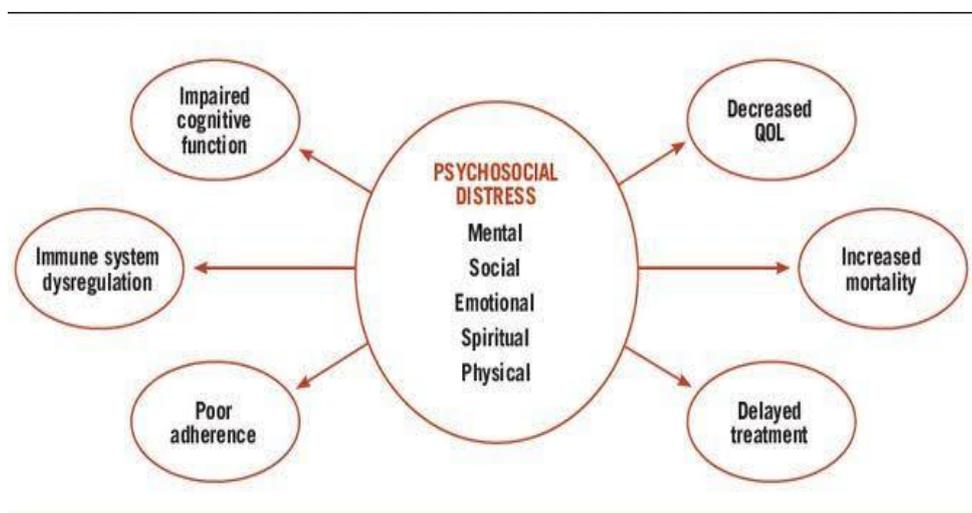


Figure 2: Factors affecting Psychosocial Distress

Risk factors that negatively affect the psychological health of healthcare workers: Healthcare workers face a multitude of risk factors that can significantly impact their psychological health. These factors often stem from the demanding nature of their profession and the high-stress environments in which they operate[5].

1. **High Workload:** Excessive workloads, long working hours, and understaffing can lead to chronic stress and exhaustion, increasing the risk of burnout and mental health issues.
2. **Exposure to Trauma:** Healthcare workers frequently witness traumatic events, including patient deaths and severe injuries. This can lead to emotional distress, post-traumatic stress disorder (PTSD), and moral injury.
3. **Infectious Disease Risk:** During pandemics and outbreaks, healthcare workers face an increased risk of infection. The fear of contracting a serious illness, and potentially spreading it to loved ones, contributes to stress and anxiety.
4. **Uncertainty and Change:** Rapid changes in healthcare protocols, guidelines, and treatment modalities during crises can create uncertainty and anxiety among healthcare workers.
5. **Lack of Resources:** Shortages of personal protective equipment (PPE), medical supplies, and hospital beds can increase stress levels as healthcare workers worry about their own safety and the ability to provide adequate care.
6. **Patient Suffering:** Witnessing patients in pain or distress, especially when they cannot alleviate that suffering, can lead to feelings of helplessness and distress.
7. **Moral Dilemmas:** Healthcare workers often face ethical dilemmas, such as resource allocation decisions, which can lead to moral distress when their values conflict with the decisions they must make.
8. **Stigmatization:** Some healthcare workers may experience stigma from their communities or even colleagues due to their exposure to infectious diseases, leading to social isolation and psychological distress.
9. **Communication Challenges:** Inadequate communication, both within healthcare teams and with patients and families, can result in misunderstandings, frustration, and additional stress.

10. **Emotional Demands:** Healthcare professionals are expected to maintain empathy and compassion while dealing with emotionally charged situations regularly. This emotional labor can lead to emotional exhaustion and fatigue.

11. **Lack of Support:** Some healthcare workers report a lack of support from their organizations, which can leave them feeling isolated and unsupported in coping with the demands of their jobs.

12. **Ethical Conflicts:** Balancing professional ethics, such as patient confidentiality, with public health demands during pandemics can create ethical conflicts that contribute to psychological distress.

13. **Violence and Aggression:** Healthcare workers may be subjected to verbal or physical violence from patients or their families, increasing the risk of trauma and stress.

It's important to note that these risk factors are often interrelated, and healthcare workers may face multiple challenges simultaneously. Recognizing and addressing these risk factors is crucial for protecting the mental health and well-being of healthcare professionals and ensuring their ability to provide high-quality care to patients.

Protective Factors:

Conversely, there are protective factors that can mitigate these risks and promote the psychological health of healthcare workers:

1. **Strong Social Support** - A robust support network of colleagues, friends, and family provides emotional outlets, reducing feelings of isolation and emotional distress.

2. **Access to Mental Health Resources:** Easy access to mental health services, counseling, and resources within healthcare organizations encourages healthcare workers to seek help when needed, reducing the stigma associated with mental health issues.

3. **Effective Leadership:** Supportive and empathetic leadership can create a positive work environment and inspire confidence in healthcare teams, reducing stress.

4. **Workload Management:** Policies that monitor and control workloads help prevent burnout and ensure that healthcare workers can provide quality care without feeling overwhelmed.

5. **Coping Strategies:** Training in effective coping strategies, such as stress management techniques and mindfulness, equips healthcare workers with tools to navigate challenging situations.

6. **Resilience-Building Programs:** Regular resilience training sessions teach stress reduction techniques and emotional regulation skills, enhancing their ability to bounce back from adversity.

7. **Work-Life Balance:** Policies that promote a healthy work-life balance through reasonable working hours and adequate time off help prevent burnout and support overall well-being.

Protective factor's role in psychological health of healthcare:

These protective factors can promote resilience and well-being. Here are various protective factors that positively impact the psychological health of healthcare workers:

1. **Strong Social Support:** A robust support network of colleagues, friends, and family provides healthcare workers with outlets for emotional expression and a sense of belonging. Social support helps reduce feelings of isolation and emotional distress.

2. **Access to Mental Health Resources:** Access to mental health services, counseling, and resources within healthcare organizations allows healthcare workers to seek professional help when needed, reducing the stigma associated with mental health issues.

3. **Effective Leadership:** Supportive and empathetic leadership can make a significant difference. Leaders who acknowledge and address the challenges faced by healthcare workers create a positive work environment and inspire confidence in their teams.

4. **Effective Communication:** Clear and transparent communication within healthcare teams fosters collaboration and reduces misunderstandings and conflicts, contributing to lower stress levels.

5. **Coping Strategies:** Training in effective coping strategies, such as stress management techniques and mindfulness, equips healthcare workers with tools to navigate challenging situations and reduce the impact of stress.

6. **Resilience Training:** Resilience-building programs can enhance healthcare workers' ability to adapt and bounce back from adversity. These programs teach skills for emotional regulation and maintaining a positive outlook.
7. **Work-Life Balance:** Encouraging work-life balance through reasonable working hours and adequate time off helps prevent burnout and supports overall well-being.
8. **Peer Support Programs:** Peer support groups or mentorship programs allow healthcare workers to share experiences, seek advice, and receive emotional support from colleagues who understand their unique challenges.
9. **Physical Health Promotion:** Promoting physical well-being through exercise, nutrition, and healthy lifestyle choices can have a positive impact on mental health and resilience.
10. **Recognition and Appreciation:** Acknowledging and appreciating the efforts of healthcare workers through recognition programs, awards, and public expressions of gratitude can boost morale and motivation.
11. **Education and Training:** Ongoing education and training not only enhance clinical skills but also equip healthcare workers with the knowledge and tools to manage stress and emotional challenges effectively.
12. **Employee Assistance Programs (EAPs):** EAPs offer confidential counseling and support services to employees, helping them address personal and work-related issues, including mental health concerns.
13. **Flexible Scheduling:** Offering flexible work schedules and the ability to adjust work hours can accommodate the diverse needs of healthcare workers, reducing stress related to work-life balance.
14. **Safety Measures:** Strict safety protocols and adequate personal protective equipment (PPE) reassure healthcare workers about their physical safety, reducing anxiety related to the risk of infection.

These protective factors contribute to a healthier, more resilient healthcare workforce. They not only support the well-being of healthcare professionals but also enhance their ability to provide high-quality care to patients, even in challenging and high-stress environments.

Key points of psychological health and well-being of healthcare:

The psychological health and well-being of healthcare workers hold immense importance for several reasons. Healthcare professionals play a vital role in providing essential medical care and support to patients, and their well-being directly impacts the quality of care delivered. Here are some key points to consider when introducing this importance:

1. **Patient Care Quality:** The mental and emotional state of healthcare workers can influence their decision-making, empathy, and overall effectiveness in patient care. When healthcare workers are emotionally well, they are better equipped to provide high-quality care and support to patients.
2. **Resilience and Coping:** Healthcare settings, especially during crises like pandemics, can be highly stressful and emotionally taxing. Maintaining good psychological health is essential for healthcare workers to cope with the demands of their profession, handle challenging situations, and bounce back from stress and trauma.
3. **Workforce Retention:** High levels of stress, burnout, and poor mental health can lead to healthcare worker attrition. Ensuring the well-being of healthcare professionals is crucial for retaining skilled individuals within the healthcare workforce, thereby addressing staffing shortages.
4. **Healthcare System Functionality:** The overall functionality of healthcare systems depends on the well-being of its workforce. Stressed or mentally unwell healthcare workers may experience decreased productivity, increased absenteeism, and decreased job satisfaction, which can strain healthcare systems.
5. **Public Health:** Healthcare workers also serve as role models and advocates for public health. Their own mental well-being can influence public perceptions of health-seeking behaviors and resilience during health crises.

Significant reasons that mediating factors that influence the mental health care:

1. **Targeted Interventions:** Identifying these mediating factors allows for the development of targeted interventions. By knowing what specific elements impact mental health, healthcare organizations can design programs and support systems that address these factors effectively.
2. **Prevention of Mental Health Issues:** Knowledge of mediating factors enables proactive measures to prevent mental health issues among healthcare workers. By intervening early or implementing protective measures, it is possible to reduce the incidence of conditions like burnout, anxiety, and depression[8-10].

3. **Optimizing Resource Allocation:** Healthcare resources are often limited. Understanding the mediating factors helps in the efficient allocation of resources to areas where they will have the greatest impact on mental health outcomes, maximizing their effectiveness.
4. **Enhancing Resilience:** Armed with an understanding of mediating factors, healthcare workers can be equipped with the tools and strategies to enhance their resilience. This knowledge can be incorporated into training programs to better prepare them for the psychological demands of their profession.
5. **Policy Development:** Policymakers can use this information to shape policies that support healthcare workers effectively. Legislation and regulations can be designed to ensure access to mental health services, promote a healthy work environment, and reduce risk factors.
6. **Fostering a Supportive Culture:** Understanding mediating factors promotes a culture of empathy and support within healthcare organizations. When colleagues and leaders are aware of the challenges their peers face, they can provide a more compassionate and understanding work environment.
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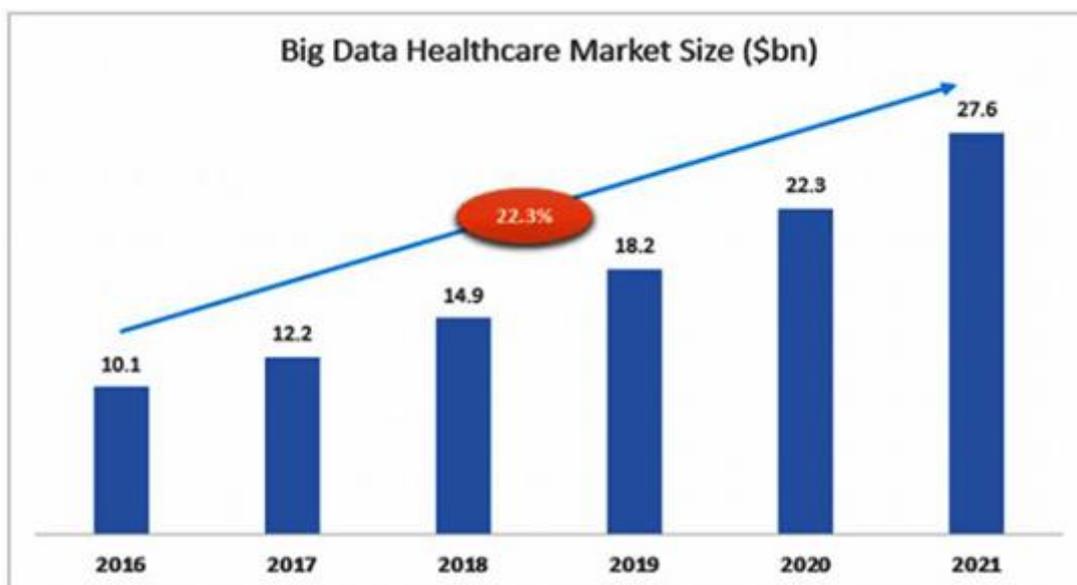


Figure 3: Health care Market Size from 2016 to 2021

8. **Long-Term Well-Being:** Mental health issues among healthcare workers can have long-term consequences, both personally and professionally. Addressing mediating factors is essential for ensuring the long-term well-being and career satisfaction of healthcare professionals.
9. **Patient Care Quality:** The mental health of healthcare workers directly affects the quality of patient care. When healthcare workers are mentally well, they are more likely to provide compassionate, effective, and safe care to patients.

In summary, understanding the mediating factors that influence the mental health outcomes of healthcare workers is not only relevant but also a fundamental prerequisite for ensuring the well-being of those who dedicate their lives to caring for others. It empowers healthcare organizations, policymakers, and individuals to take proactive steps in safeguarding the mental health of this essential workforce.

Mitigating risks and enhancing protection for the psychological health of healthcare:

Health workers requires a multifaceted approach, including interventions and policies aimed at addressing the challenges they face. Here are several potential interventions and policies that can be implemented:

Approaches	Policy	Intervention
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Mental Health Services and Resources	Healthcare organizations should establish policies that ensure access to mental health services for all healthcare workers.	Provide on-site counseling services, teletherapy options, and confidential support hotlines for immediate assistance.
Advocacy and Public Awareness	Advocate for the importance of healthcare worker well-being at the government and public levels.	Raise awareness about the mental health challenges faced by healthcare workers and their need for support.
Zero Tolerance for Violence	Implement strict policies against patient or family violence toward healthcare workers.	Provide security measures and training to ensure healthcare workers' safety.
Research and Data Collection	Encourage research on healthcare worker mental health and well-being.	Collect and analyze data to identify trends and inform future policies and interventions.
Ethical Guidelines	Establish clear ethical guidelines for challenging decision-making situations.	Offer ethics consultations and support to help healthcare workers navigate moral dilemmas.
Recognition and Appreciation	Develop policies that acknowledge and reward the contributions of healthcare workers.	Celebrate healthcare workers through public recognition, awards, and appreciation events.
Employee Assistance Programs (EAPs):	Ensure the availability of EAPs for all healthcare employees.	Publicize EAP services and encourage healthcare workers to use them as needed.
Safety Protocols	Implement and enforce rigorous safety protocols and provide adequate PPE.	Regularly update and communicate safety guidelines to reduce anxiety related to infectious diseases.
Peer Support Programs	Establish formal peer support programs within healthcare organizations.	Create opportunities for healthcare workers to connect with peers for emotional support and advice.
Work-Life Balance	Enforce policies that promote a healthy work-life balance.	Offer flexible scheduling options, limit overtime, and provide paid time off.
Workload Management	Implement policies that monitor and control healthcare worker workloads.	Use workload assessments to allocate resources effectively and reduce excessive overtime.
Supportive Leadership	Train healthcare leaders to recognize and address mental health issues among their teams.	Encourage open communication, regular check-

		ins, and mentorship between leaders and staff.
Resilience-Building Programs	Develop and implement resilience-building programs within healthcare institutions.	Conduct regular resilience training sessions that teach stress reduction techniques and emotional regulation skills
Training and Education	Make mental health training and education a mandatory part of healthcare worker training programs.	Offer workshops and courses on stress management, coping strategies, and recognizing signs of mental distress.

These interventions and policies should be tailored to the specific needs and challenges faced by healthcare workers within different healthcare settings and should be implemented collaboratively with input from healthcare professionals and mental health experts. Protecting the psychological health of healthcare workers is not only an ethical imperative but also essential for maintaining a strong and resilient healthcare system.

Conclusion:

The psychological health and well-being of healthcare workers are crucial not only for their individual welfare but also for the quality of care they provide and the sustainability of healthcare systems. Recognizing and addressing both the risk and protective factors that mediate their psychological health is essential for fostering a resilient and effective healthcare workforce.

Healthcare organizations and policymakers must prioritize the implementation of protective measures, support systems, and policies that safeguard the mental health of these dedicated professionals. By doing so, we honor their invaluable contributions and ensure the continued provision of high-quality care to patients and communities, even in the most challenging of circumstances.

REFERENCE:

1. Gum-Ryeong Park, Bo Kyong Seo, Multidimensional housing insecurity and psychological health: how do gender and initial psychological health differentiate the association, *Public Health*, Volume 214, 2023, Pages 116-123, ISSN 0033-3506, <https://doi.org/10.1016/j.puhe.2022.11.014>.
2. Mei He, Ye Wen, Quan Qiu, Gonghan Sheng, Yawei Wei, Zhiling Wang, Yuan Hu, The effects and gender-related differences of guided forest therapy program on physiological and psychological health of graduating college students, *International Journal of Geoheritage and Parks*, Volume 11, Issue 3, 2023, Pages 483-496, ISSN 2577-4441, <https://doi.org/10.1016/j.ijgeop.2023.07.003>.
3. Xuemin Zhang, Heng Yue, Xia Hao, Xiaohui Liu, Hujieletu Bao, Exploring the relationship between mental health literacy and psychological distress in adolescents: A moderated mediation model, *Preventive Medicine Reports*, Volume 33, 2023, 102199, ISSN 2211-3355, <https://doi.org/10.1016/j.pmedr.2023.102199>.
4. Leslie M. Swanson, Michelle M. Hood, Martica H. Hall, Nancy E. Avis, Hadine Joffe, Alicia Colvin, Kristine Ruppert, Howard M. Kravitz, Genevieve Neal-Perry, Carol A. Derby, Rachel Hess, Siobán D. Harlow, Sleep timing, sleep regularity, and psychological health in early late life women: Findings from the Study of Women's Health Across the Nation (SWAN), *Sleep Health*, Volume 9, Issue 2, 2023, Pages 203-210, ISSN 2352-7218, <https://doi.org/10.1016/j.sleh.2022.11.001>.
5. Anurag Shrivastava, S. J. Suji Prasad, Ajay Reddy Yeruva, P. Mani, Pooja Nagpal & Abhay Chaturvedi (2023): IoT Based RFID Attendance Monitoring System of Students using Arduino ESP8266 & Adafruit.io on Defined Area, *Cybernetics and Systems*, DOI:10.1080/01969722.2023.2166243
6. Ritika Rastogi, Ivo H. Cerda, Abdelrahman Ibrahim, Justin A. Chen, Courtney Stevens, Cindy H. Liu, Long COVID and psychological distress in young adults: Potential protective effect of a prior mental health

- diagnosis, *Journal of Affective Disorders*, Volume 340, 2023, Pages 639-648, ISSN 0165-0327, <https://doi.org/10.1016/j.jad.2023.08.031>.
7. Gökmen Arslan, Emel Genç, Murat Yıldırım, Ahmet Tanhan, Kelly-Ann Allen, Psychological Maltreatment, Meaning in Life, Emotions, and Psychological Health in Young Adults: A Multi-Mediation Approach, *Children and Youth Services Review*, Volume 132, 2022, 106296, ISSN 0190-7409, <https://doi.org/10.1016/j.chilyouth.2021.106296>.
 8. N Rajput, G Das, K Shivam, CK Nayak, K Gaurav, P Nagpal (2021), An inclusive systematic investigation of human resource management practice in harnessing human capital. *Materials Today: Proceedings*, 2021, ISSN 2214-7853, <https://doi.org/10.1016/j.matpr.2021.07.362>.
 9. Damien S.E. Broekharst, Pepijn W.A. Thomas, Maurice G.V.M. Russel, Rachel L. West, Jeroen M. Jansen, Sjaak Bloem, Tessa E.H. Römkens, Health State Questionnaires Deployed in Ulcerative Colitis Patients: The Medical, Psychological, and Economic Perspective, *Gastro Hep Advances*, Volume 2, Issue 6, 2023, Pages 770-777, ISSN 2772-5723, <https://doi.org/10.1016/j.gastha.2023.03.020>.
 10. F. A. Syed, N. Bargavi, A. Sharma, A. Mishra, P. Nagpal and A. Srivastava: Recent Management Trends Involved with the Internet of Things in Indian Automotive Components Manufacturing Industries, 2022 5th International Conference on Contemporary Computing and Informatics (IC3I), Uttar Pradesh, India, 2022, pp. 1035-1041, doi:10.1109/IC3I56241.2022.10072565
 11. Hua Pang, Yanxinyue Liu, Untangling the effect of cognitive trust and perceived value on health-related information seeking, sharing and psychological well-being: Motivations sought perspective, *Telematics and Informatics*, Volume 79, 2023, 101964, ISSN 0736-5853, <https://doi.org/10.1016/j.tele.2023.101964>.