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PHYSICAL AND MENTAL WELL-BEING OF HEALTHCARE WORKERS DURING COVID-19 PANDEMIC: LITERATURE REVIEW

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Abstract

Background. The Covid-19 pandemic has been a global challenge leading to a significant increase in morbidity and mortality not only among the general population but also among healthcare workers. Medical workers who were at the front line during the Covid-19 outbreak had an increased risk of getting infected due to direct contact with the infected patients. Common challenges faced by healthcare workers include exposure to the Covid-19 infection, prolonged workload, and mental distress. Additionally, healthcare workers had symptoms of depression, anxiety, suicidal thoughts, sleep disorders, post-traumatic stress disorder (PTSD), and drug addictions. These symptoms were caused by work stress, fear of getting infected family members, as well as the stigma associated with the infection.

Aim: review the relevant literature to evaluate the effects of Covid-19 pandemic on healthcare workers' mental and physical well-being.

The research method. Google Scholar, Web of Science and PubMed databases were used with the following keywords: "healthcare workers", "SARSCoV-2", "Covid-19", "well-being", "anxiety", "wellness", "depression", and "Post-Traumatic Stress Disorder (PTSD)" from 2020 to 2023. Inclusion criteria's for this research were articles published in English that primarily investigated the impact of Covid-19 on the mental and physical health of healthcare workers. Studies conducted during other pandemics, and research that studied mental health of non-healthcare workers, and articles published in other languages were excluded from this review.

Conclusions. Effective anti-contagious measures for medical workers, including personal protective equipment (PPE) and providing mental health support, are main protective actions to support mental health of medical workers. Prioritizing mental and physical well-being of healthcare workers is one of the key factors to prevent mental crisis of not only medical professionals but also the general population.

Keywords: *healthcare workers, SARSCoV-2, Covid-19, well-being, anxiety, wellness, depression, Post-Traumatic Stress Disorder (PTSD).*

Резюме

ФИЗИЧЕСКОЕ И ПСИХИЧЕСКОЕ ЗДОРОВЬЕ МЕДИЦИНСКИХ РАБОТНИКОВ ВО ВРЕМЯ ПАНДЕМИИ COVID-19: ОБЗОР ЛИТЕРАТУРЫ

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Актуальность. Пандемия Covid-19 стала глобальной проблемой, приведшей к значительному росту заболеваемости и смертности не только среди населения в целом, но и среди работников здравоохранения. Медицинские работники, которые находились на передовой линии во время вспышки Covid-19, имели повышенный риск заражения из-за прямого контакта с инфицированными пациентами. Основными проблемами для медицинских работников являлись: заражение инфекцией Covid-19, длительная рабочая нагрузка и ментальные расстройства. У медицинских работников были симптомы депрессии, тревоги, суицидальные мысли, нарушение сна, посттравматические стрессовые расстройства (ПТСР) и наркотические зависимости. Эти симптомы так же были вызваны стрессом на работе, страхом заразить членов семьи, а также стигматизацией, связанной с инфекцией.

Цель. Обзор литературы по оценке влияния пандемии Covid-19 на ментальное и физическое здоровье медицинских работников.

Методы исследования. Были использованы базы данных Google Scholar, Web of Science и PubMed со следующими ключевыми словами: "медицинские работники", "SARSCoV-2", "Covid-19", "здоровье", "тревога", "депрессия", "благополучие" и "посттравматическое стрессовое расстройство (ПТСР)" с 2020 по 2023 год. Статьи, опубликованные на английском языке, в которых изучалось влияние Covid-19 на ментальное и физическое здоровье медицинских работников были включены в анализ. Исследования, проведенные во время других пандемий, и исследования, в которых изучалось ментальное здоровье работников, не связанных с здравоохранением, а также статьи, опубликованные на других языках, были исключены из этого обзора.

Выводы. Эффективные противоинфекционные меры для медицинских работников, включая средства индивидуальной защиты (СИЗ) и оказание поддержки в области психического здоровья, являются основными защитными мерами для поддержания и сохранения ментального и физического здоровья медицинских работников. Приоритетом должно стать внимание к ментальному и физическому здоровью медицинских работников являющимся одним из ключевых факторов предотвращения ментального криза не только у медицинских работников, но и у населения в целом.

Ключевые слова: медицинские работники, SARSCoV-2, Covid-19, благополучие, тревога, здоровье, депрессия, посттравматическое стрессовое расстройство (ПТСР).

Түйіндеме

COVID-19 ПАНДЕМИЯСЫ КЕЗІНДЕГІ МЕДИЦИНА ҚЫЗМЕТКЕРЛЕРІНІҢ ФИЗИКАЛЫҚ ЖӘНЕ ПСИХИКАЛЫҚ ДЕНСАУЛЫҒЫ: ӘДЕБИЕТТЕРГЕ ШОЛУ

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Өзектілігі. Covid-19 пандемиясы денсаулық сақтау қызметкерлерінің аурушаңдығы мен өлімінің айтарлықтай өсуіне әкелді. Covid-19 пандемиясы кезінде науқастармен тікелей байланыста болу салдарынан медицина қызметкерлерінің инфекцияны жұқтыру қаупі жоғары болды. Медицина мамандарында Covid-19 инфекциясын жұқтыру қаупі, ұзақ жұмыс кестесі, психикалық күйзелістерге байланысты депрессия, мазасыздық, суицидтік ойлар, ұйқының бұзылуы, жарақаттан кейінгі стресстік бұзылуы (ЖКСБ) және есірткіге тәуелділік белгілері болды. Бұл симптомдар сонымен қатар жұмыстағы стресс, отбасы мүшелерін жұқтыру қорқынышы, сондай-ақ инфекцияға байланысты стигмадан туындады.

Мақсаты. Covid-19 пандемиясы кезінде медицина мамандарының психикалық және физикалық денсаулығын бағалау үшін тиісті әдебиеттерді шолу.

Іздеу стратегиясы. Google Scholar, Web of Science және PubMed дерекқорларында 2020 жылдан 2023 жылға дейінгі аралықта "медицина қызметкерлері", "SARSCoV-2", "Covid-19", "денсаулық", "мазасыздық", "сауықтыру", "депрессия" және "ЖКСБ" түйінді сөздерді пайдалану арқылы медицина қызметкерлерінің психикалық денсаулығына талдау жүргізілді. Бұл зерттеуге ағылшын тілінде жарияланған, Covid-19 пандемиясы кезінде медицина қызметкерлерінің психикалық және физикалық денсаулығын зерттеген мақалалар енгізілді. Басқа пандемия кезінде жүргізілген зерттеулер және медицина қызметкерлерінен басқа жұмысшылардың психикалық денсаулығын зерттеген зерттеулер, сондай-ақ басқа тілдерде жарияланған мақалалар осы шолудан алынып тасталды.

Қорытынды. Жеке қорғаныс құралдарын (ЖҚҚ) қамтамасыз ету және психикалық денсаулықты арнайы мамандармен қолдау медицина қызметкерлерінің психикалық денсаулығын сақтаудағы негізгі қорғаныс шараларының бірі болып табылады. Медицина қызметкерлерінің психикалық және физикалық денсаулығын алғашқы орынға қою тек медицина қызметкерлерінің ғана емес, жалпы халықтың психикалық дағдарысының алдын алудың негізгі болып табылады.

Түйінді сөздер: медицина қызметкері, SARSCoV-2, Covid-19, денсаулық, мазасыздық, әл-ауқат, депрессия, жарақаттан кейінгі стресстік бұзылу (ЖКСБ).

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Introduction

According to World Health Organization (WHO) Dashboard, as of May 10, 2023, more than 765 million people had confirmed cases of Covid-19 and about 7 million people died from this disease worldwide [79]. Pneumonia was a key symptom in human beings caused by Severe Acute Respiratory Syndrome CoV-2 (SARS-CoV-2), which was reported in Wuhan, China [14]. Accordingly, China reported the first outbreak of Covid-19 which was spread from the Huanan Seafood market in Hubei Province on December 31, 2019. Shortly, it was reported that Italy, France, Germany, Spain, Iran, and the USA had confirmed cases of Covid-19 [14, 68]. Moreover, the SARS-CoV outbreak in Canton, followed by the identification of MERS-CoV in Saudi Arabia, marked the emergence of zoonotic diseases in the 21st century [9]. These diseases, including COVID-19, can be transmitted by individuals who are mildly ill, pre-symptomatic, or asymptomatic, which has placed an unprecedented burden on healthcare systems [69, 25, 82]. The psychological impact of the Covid-19 outbreak has been rated as moderate to severe by half of the general population [77]. Medical workers have been identified by the WHO as a particularly vulnerable group, prone to various physical and mental health problems due to their direct or indirect involvement with Covid-19 patients [31]. Medical workers were at a higher risk of exposure due to their frontline work with patients carrying high viral loads and insufficient personal protection equipment [27, 12, 19, 47]. The combination of severe stress, emotional strain, long

working hours, fears of infection for themselves and their loved ones, inadequate support in the workplace, and a lack of effective treatments can significantly impact the mental health of healthcare workers [45, 76].

As the number of cases were increasing, healthcare sectors needed to prepare special facilities and medical workers to fight this infection. In a study at the Wuhan hospital, about 40 patients were medical workers out of 138 infected patients. 78% of those medical workers were working in a general hospital, about 18% were working in emergency departments, and 4.9% of them were working in ICU. Moreover, a patient with gastrointestinal symptoms infected 10 medical workers with the Covid-19 infection [78]. According to the China's National Health report from February 2020, 22 medical workers died due to Covid-19 infection [73]. 20% of the healthcare workers had got infected with Covid-19 infection; unfortunately, some of them died from this infection in Italy as well. Because of the risk of getting infected, challenge of making decisions, and fear of losing co-workers and patients increases the stress levels among healthcare workers. Medical workers also reported significant fear of getting infected their family members [56]. According to the research conducted in May 2020, more than 90% of medical workers in Pakistan had a fear of transferring the Covid-19 virus to their families and friends [33]. In May 2020, the highest number of confirmed cases were reported in Spain, which was more than 30,000. 20% of active cases were accounted to medical workers [5]. Furthermore, Italy and the Netherlands had about 24,000

and 14,000 confirmed cases among healthcare workers, respectively. With 9,282 cumulative medical workers' infections, the USA was on fifth on the list [5]. Studies conducted before Covid-19 stated that medical workers were under increased stress due to problems caused by work and life issues, financial problems, and patients' dissatisfaction [48]. Due to limited understanding of the newly emerged virus and insufficient protective measures during the initial stages of the Covid-19 outbreak, healthcare workers faced a heightened vulnerability to infection. Implementing standardized protocols, prioritizing occupational safety, and establishing infection prevention and control procedures were crucial steps in safeguarding the well-being of both patients and healthcare professionals. Research conducted on previous outbreaks such as Middle East Respiratory Syndrome (MERS) and SARS has yielded valuable recommendations for mitigating the impact of infectious respiratory diseases on mental health, as well as minimizing trauma, stress, and psychological disorders associated with such outbreaks [57]. The Covid-19 outbreak had provided a new challenge that required further investigations. Since Covid-19 had a severe negative impact on medical workers' well-being, new studies will be continuously conducted worldwide.

The aim of the study was to analyze the relevant literature to evaluate the effects of Covid-19 on healthcare workers' mental and physical well-being.

Search strategy. PubMed, Web of Science and Google Scholar databases were used for this literature review. The keywords included "medical workers", "healthcare workers", "SARS-CoV-2", "well-being", "Covid-19", "wellness", "anxiety", "depression", and "Post-Traumatic Stress Disorder" from 2020 to 2023. This study specifically included research articles published in English that primarily investigated the impact of Covid-19 on the mental and physical health of healthcare workers. Studies conducted mental health of non-healthcare workers, and articles published in other languages were excluded from this review.

Research conducted and published before 2020 were also included for this study since these researches evaluated psychological impact of different emerging infectious disease outbreaks on medical workers as well. For instance, emerging outbreaks like MERS and SARS also caused stress, depression, anxiety, insomnia, burnout, and PTSD among healthcare workers. Therefore, it's essential to compare and analyze the effects of other infectious outbreaks on medical workers' physical and mental well-being.

Physical well-being.

30 infected medical workers with Covid-19 were reported at the Jiangnan University Hospital in January 2020. 22 of the infected ones were physicians, and 8 were nurses, ages 21 to 59. All these medical workers had close contact with the Covid-19 infected patient. 4 out of 30 patients were in severe conditions, and rest of the patients were in mild and moderate cases. Accordingly, high risk of getting Covid-19 infection were among those who had direct and prolonged contact with infected patients [37]. Based on the retrospective cohort study results, 72 frontline medical workers were infected with Covid-19 infection who were working at the Infectious Disease and Pulmonology

Departments [54]. According to the findings of this research, several factors were identified as increasing the risk of Covid-19 infection among healthcare workers. These factors included treating patients without personal protective equipment (PPE), frequent direct contact with infected individuals, extended working hours, the potential for infecting family members, and inadequate hygiene practices. Healthcare workers also have faced a higher risk of contracting COVID-19 due to their proximity to infected patients. Research has shown that healthcare workers have a higher prevalence of COVID-19 compared to the general population. For instance, a study by *Nguyen et al.* found that healthcare workers accounted for a substantial proportion of COVID-19 cases in the early stages of the pandemic [49]. Based on *Ran L. et al.*'s study, the Covid-19 infection prevalence among healthcare workers was ranged between 2-45% with the symptoms of cough, fever, and myalgia, diarrhea, dyspnea, nausea, vomiting, hemoptysis, headache, and chest symptoms [54]. The study conducted by *Herzberg J. et al.* stated that about 0.3% of medical workers had acquired symptomatic disease [24]. According to Covid-19 data recording in Spain, 9.5% of 4393 patients were medical workers. The prevalence rate of sepsis was higher in the general population compared to the medical workers (3.9% vs. 1.7%); however, there was no difference in complications of Covid-19 like thromboembolism, pneumonia, and Intensive unit care admission between these groups [18]. Adequate access to personal protective equipment is crucial for healthcare workers to protect themselves from infection. However, shortages and inadequate supplies of PPE have been reported during the pandemic, putting healthcare workers at greater risk. A study by *Ranney M. et al.* highlighted the concerns of healthcare workers regarding the lack of PPE and its impact on their well-being [55]. According to *Yin X. et al.*, the use of N95 masks significantly decreases the risk of getting infected with Covid-19 [83]. Other studies reported that better protective equipment includes long gowns and coveralls, but it's difficult to wear and take off this cloth, which leads to dissatisfaction among users [75]. *Gasparino R.C. et al.*'s study reported that pressure-related injuries might be caused by prolonged use of PPE including N95 [22]. As a result, medical workers started using polyurethane-lined masks which decreased injuries from 85% to 11%, which reduced the pressure across the face [84]. Moreover, air-purifying masks were more effective in preventing infection transmission during intubation [66]. *Zhang W. et al.*'s study stated that a cloth mask might be effective in case of lack of resources [39]. Additionally, the Health Action Process Approach might be essential in medical workers' hand hygiene [15]. Some studies reported that video-based trainings for resident doctors and medical students provides quick training for the usage of PPE [11, 72].

According to *Deo N. et al.*, Covid-19 patients had dermatological problems as well [17]. Dermatological problems caused by the usage of PPE were located on the nasal bridge, forehead, cheeks, and hands with the common symptoms of tightness and desquamation [35]. Wearing devices for more than 6 hours led to skin damage. Frequently washing hands (10 times/day) was more associated with dermatological problems compared to

wearing gloves [35]. Dermatological problems included allergic dermatitis, cutaneous vasculopathy, angioedema, vesicular eruptions, and erythema multiforme with a prevalence rate ranged between 5 to 20% [41].

The pandemic has necessitated longer working hours and increased workload for healthcare workers. This situation led to fatigue, sleep disturbances, and physical exhaustion. A study by *Morgantini L. et al.* reported that healthcare workers experienced higher levels of stress and burnout during the pandemic, which can negatively impact their physical well-being [46].

Healthcare workers faced challenges in accessing healthcare services due to their demanding work schedules and overwhelmed healthcare systems. This limited access to care can impact their ability to address their own health needs and exacerbate existing health conditions. A study by *Pujolar G. et al.* identified disparities in healthcare access among healthcare workers, especially those from marginalized communities [53].

Mental well-being

Sheraton M. et al. and Pappa S. et al. found that Covid-19 had a significant and profound impact on the mental health of medical workers [70, 51]. Based on analyzes of 13 cross-sectional studies, the pooled prevalence of depression was 23%, and anxiety was 23% as well [51]. *Luo M. et al.* also analyzed 62 studies in which the prevalence of anxiety was 33% and depression was 28% [38]. The main leading causes of anxiety among healthcare workers included long-lasting workload, risk of getting infected, and lack of adequate personal protective equipment, difficulty of making decisions like life support and triage. Sociodemographic characteristics like age, gender, and occupation (direct contact) were highly associated with increased mental crisis symptoms [60]. According to the study results of *Al Maqbali M. et al.*, the prevalence of insomnia, depression, and anxiety among nurses were 42%, 35%, and 37%, respectively [3]. During the peak of the epidemic, healthcare workers experienced detrimental effects on their mental health due to the sociopolitical impact and limited knowledge surrounding the novel infection. Therefore, financial and social support and resilience were identified as protective factors [1, 26].

According to *Wu T. et al.*, it was observed that medical workers had a higher prevalence rate of insomnia compared to the general population, with approximately 47% of healthcare professionals experienced this sleep disorder [70, 80]. Fear of getting infected, being discriminated, and the quarantine duration might cause this result [7]. The prevalence rate of acute stress disorder (ASD) was high (40%) during and after pandemics among healthcare workers; however, it was lower among female medical workers [67]. Obsessive-compulsive manifestations might be caused by the fear of getting infected with Covid-19 as well [20].

Li Y. et al.'s study revealed that a significant proportion of medical workers, particularly physicians, reported symptoms of post-traumatic stress disorder (PTSD). Approximately 2 out of 10 healthcare professionals exhibited signs of PTSD, indicating a high prevalence of this psychological condition among the medical workforce [36]. Moreover, *Salehi M. et al.* reported that the prevalence of

PTSD was 30% among patients with Covid-19, while it was 20% among healthcare workers [62].

French I. et al.'s study conducted a research on patients with obsessive-compulsive disorder symptoms caused by the Covid-19 infection. Based on their research fear of getting infected with Covid-19 increased the numbers of handwashing, unwillingness to go outside, fear of transferring infection, having no social networking with friends, and dropping out of the school [20].

According to *Wu Y. et al.*, frontline healthcare workers had a higher prevalence rate of burnout compared non-frontline doctors due to direct contact with infected patients and on-time decision making. To prevent mental crisis among medical workers, policies and procedures should keep in mind psychological and administrative support especially for frontline healthcare workers [81]. In contrast, *Khalafallah A.M. et al.*'s study reports that the prevalence rate of burnout was lower than it was before Covid-19 pandemic [30]. Another study from the US reported that medical workers were worried about their finances, having proper PPE, and reduced staffing due to the pandemic. As a result, a significant number of healthcare workers, approximately 60%, reported that the Covid-19 pandemic had a negative impact on their work practices. Additionally, more than 50% of healthcare professionals expressed feelings of burnout, indicating a high level of emotional and physical exhaustion due to the demands and challenges of dealing with the pandemic [28]. An increased rate of burnout among professionals caused improper functioning of medical workers. According to *Mounder R.G. et al.*'s study, an increased rate of burnout and other stress symptoms might persist after the Covid-19 pandemic [40].

Discussion

More than one million confirmed cases and about 4000 deaths among healthcare workers were reported in the US in May 2022 due to Covid-19 [13]. The COVID-19 pandemic has had a significant impact on the mental health of healthcare workers, as evidenced by multiple studies. Research by *Lai J. et al.* identified various factors associated with adverse mental health outcomes among healthcare workers exposed to COVID-19 [34]. These factors include longer working hours, higher risk perception, and concerns about personal and family safety. Furthermore, *Maunder R. et al.* conducted a study during the SARS outbreak and found that healthcare workers experienced immediate psychological and occupational effects, highlighting the potential long-lasting impact of pandemics on their mental well-being [40]. A rapid review by *Preti E. et al.* emphasized the psychological impact of epidemic and pandemic outbreaks on healthcare workers, highlighting the need for appropriate support and interventions [52]. *Santarone K. et al.* conducted a cross-sectional survey in the USA and identified occupational factors contributing to healthcare workers' infection and psychological distress during the COVID-19 pandemic [64]. Their findings underscored the importance of protecting the frontline healthcare workforce. *Shechter A. et al.* also explored the psychological distress, coping behaviors, and support preferences of healthcare workers in New York during the pandemic [65]. The study highlighted the need for comprehensive support systems to address the unique mental health challenges faced by healthcare workers.

Recommendations

Drawing from insights gained from previous epidemics, one of the most effective approaches to preventing psychological crises among medical workers is to ensure the provision of proper PPE and comprehensive training. By equipping healthcare professionals with adequate PPE and offering them thorough training on its usage and infection control measures, their sense of safety and confidence can be enhanced, reducing anxiety and stress related to their own well-being and that of their families. This, in turn, contributes to the overall psychological well-being of medical workers, enabling them to perform their duties more effectively and mitigating the risk of psychological crises [29]. Some hospitals experienced a shortage of nursing staff during the pandemic before Covid-19. These cases should address practical measures like telemedicine to reduce the number of patients during pandemics. Short-term and long-term psychological support needs to be provided for medical workers since recurrent symptoms of PTSD increased significantly among frontline healthcare workers even after 1 year of SARS pandemic end in 2003 [29, 6]. To mitigate the risk of delayed-onset PTSD, healthcare workers who were at high risk during the Covid-19 pandemic should receive ongoing follow-up and support even after the crisis has subsided. Lessons from previous outbreaks, such as the SARS pandemic, have shown that some individuals may develop PTSD symptoms months or even years after the traumatic event. By providing continued monitoring and care, healthcare organizations can help identify and address any potential delayed-onset PTSD in their workforce, ensuring timely intervention and support [2].

Some studies reported that active coping, cognitive-behavioral skills, deep breathing, mindfulness, stress reducing strategies, gratitude, and positive attitude can prevent mental illnesses among healthcare workers [29]. Moreover, the implementation of behavioral and cognitive strategies aimed at enhancing the mental and physical well-being of healthcare workers has demonstrated positive and effective results. These strategies may include stress management techniques, mindfulness practices, physical exercise, social support systems, and access to psychological counseling or therapy. By prioritizing and implementing such interventions, healthcare organizations can promote resilience, reduce burnout, and improve the overall well-being of their workforce, ensuring better outcomes for both healthcare professionals and the patients they care for [63]. The STOPTHEBURN clinical trial also provides bi-weekly sessions on burnouts by discussing topics like illness, loss, grief, and death [6]. Stress levels were also decreased via self-efficacy trainings and burnout was reduced via relaxation, as well as mindfulness therapies were used based on the Med Stress Internet Intervention [71]. Screening healthcare workers' mental status and increasing awareness to prevent PTSD and depression should be implemented in hospitals. Based on evidence-based interventions, hospitals should provide screening tools to identify stress levels and suicidal symptoms of medical workers [43]. It is crucial to develop department cohesion during the pandemic so that medical workers

can get social support from each other and stigma about Covid-19 infection will be reduced. Furthermore, it will improve coping skills, foster resilience, and promote adaptation [42]. Effective regulation of occupational health policies is crucial for ensuring the well-being of healthcare professionals. This can be achieved through several measures, including regular screening of staff, implementing disease protocols, and establishing safe return-to-work regulations. By screening staff regularly, potential illnesses can be detected early, allowing affected professionals to stay at home while still maintaining their incomes through supportive policies. Although the focus is often on the physical health of healthcare workers, the findings from the studies emphasize the importance of regularly monitoring their mental health as well. These findings can provide valuable guidance for healthcare providers and policymakers in implementing systematic screenings for the mental well-being of healthcare workers [23, 32, 61]. In addition, the current findings can be utilized to develop or improve preventive approaches. For instance, the insights gained from this study can be applied to refine preventive strategies for individuals at Clinical High Risk for Psychosis [4, 74, 84, 8, 21, 44, 59]. It is worth noting that emerging evidence suggests a potential increase in the incidence of short-lived psychotic episodes, also known as brief and limited intermittent psychotic symptoms, as a result of COVID-19. By leveraging these findings, preventive approaches can be tailored and optimized to address the mental health needs of healthcare workers and other vulnerable populations.

On top of that, implementing appropriate scheduling practices and providing adequate rest periods can help prevent excessive fatigue and burnout among healthcare workers. Reminders for individual protective care procedures can also reinforce the importance of following safety protocols, further enhancing the overall occupational health and safety of medical professionals [50]. Furthermore, a multinational study by Chew Q. *et al.* highlighted the psychological outcomes and associated physical symptoms among healthcare workers during the COVID-19 outbreak [10]. The study emphasized the importance of social support systems and mental health resources to mitigate the negative impact of the pandemic on healthcare workers' mental well-being. Another study by Rossi R. *et al.* examined the impact of the pandemic on the mental health of healthcare workers in Italy [58]. Their findings revealed increased psychological distress among healthcare workers, emphasizing the need for comprehensive support measures. Implementing interventions is essential to improve medical workers' mental and physical well-being. Indeed, the implementation of these interventions and guidelines can play a crucial role in preventing mental health crises among healthcare workers. By effectively regulating occupational health policies, providing support for staff, and promoting a healthy work environment, hospitals and healthcare institutions can create a supportive framework that mitigates the risk of mental health issues among their workforces. This, in turn, contributes to the overall well-being and resilience of healthcare professionals, allowing them to provide optimal care to their patients while maintaining their own mental and emotional health.

Conclusion

Medical workers had an increased risk of mental and physical complications including occupational burnout, stress, fatigue, stigma due to the prolonged working hours and direct contact with Covid-19 infected patients. Providing proper PPE and mental health support services would prevent mental and physical complications among healthcare workers. The mental and physical well-being of healthcare workers during pandemics like Covid-19 is crucial not only for their individual health but also for preventing severe complications and reducing mortality rates. By prioritizing the well-being of healthcare professionals, the healthcare system ensures that they are equipped with proper PPE and mental health support services to provide effective care to patients. This includes implementing support mechanisms, providing resources for mental health services, promoting work-life balance, and addressing the specific needs and challenges faced by healthcare workers during times of crisis. When healthcare workers are supported by the government and their well-being is prioritized, they are better equipped to cope with the challenges of reducing the pandemic, resulting in improved patient outcomes and overall healthcare system resilience.

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