**Appendix: Data summary and relevant findings in reviewed literature**

| **No.** | **Title**  | **Country** | **Methods** | **Study Population** | **Focus/aim** | **Relevant Findings** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Battle Buddies: Rapid Deployment of a Psychological Resilience Interventionfor Health Care Workers During the Coronavirus Disease 2019 Pandemic | Not mentioned | Review | HCWs | Surveying the psychological effects of coping with Covid-19 on health workers and strategies to increase their resilience | * Provide personal protective equipment
* Deploy psychologists
* Compile educational guides in various dimensions such as exercise, nutrition, virus transmission methods, etc.
* Promote peer support
 |
| 2 | Mitigating the Psychological Impact of COVID-19 on Healthcare Workers: A Digital Learning Package | United Kingdom | Original | HCWs | Evaluating the results of providing digital learning packages to reduce the destructive psychological effects of Covid-19 on health care workers | * Use digital training packages to provide a variety of training to HCWs
 |
| 3 | Impact of COVID-19 on the mental health of surgeons and coping strategies | Not mentioned | Review | Physicians | Surveying the factors affecting the mental health of surgeons and providing mechanisms to maintain their mental health at the individual and organizational levels | * Encourage HCWs to practice positive lifestyle behaviors
* Use social networks in order to fill emotional gaps
* Use Relaxation and Mindfulness techniques
* Provide psychological services and follow-up plans with software
* Organize specialized teams to provide psychological support to HCWs
* Provide personal protective equipment
 |
| 4 | The Role of Human Resource Management Towards Employees Retention | Egypt | Original | HCWs | Explaining the role of human resource management during the confrontation with Covid-19 in order to prevent its adverse effects on HCWs | * Provide financial benefits
* Use supportive leadership method by managers
* Facilitate effective communication between management and HCWs
 |
| 5 | Preserving Organizational Resilience, Patient Safety, and Staff Retention during COVID-19 Requires a Holistic Consideration of the Psychological Safety of Healthcare Workers | USA | Letter to editor/Opinion/ Discussion | HCWs | Providing recommendations to maintain the organization's ability to withstand patient safety and staff retention in the high pressure of the Covid-19 crisis | * Use supportive leadership by managers
* Create an environment of trust and psychological safety
* Expand communication structures between HCWs in order to share their experiences
 |
| 6 | Protecting the health of doctors during the COVID-19 pandemic | Not mentioned | Letter to editor/Opinion/ Discussion | Physicians | Surveying the methods of protecting physicians against Covid-19 | * Use telemedicine
* Provide personal protective equipment
* Train how to use personal protective equipment
* Use vulnerable forces away from contaminated environments
* Disinfect surfaces regularly
 |
| 7 | Sustaining frontline ICU healthcare workers during the COVID-19 pandemic and beyond | USA | Letter to editor/Opinion/ Discussion | HCWs | Providing solutions to retain ICU front-line staff | * Deploy staff strategically in different parts of the hospital
* Provide a platform for sharing clinical, managerial, etc. experiences between hospitals
* Establishan expert team in the field of psychological issues to serve HCWs
* Provide welfare facilities for HCWs
 |
| 8 | The Use of Digital Applications and COVID‑19 | Not mentioned | Letter to editor/Opinion/ Discussion | HCWs | Surveying the role of health applications to help health workers deal with mental injuries | * Provide psychological services with mobile health applications
 |
| 9 | Mount Sinai's Center for Stress, Resilience and Personal Growth as a model for responding to the impact of COVID-19 on health care workers | USA | Letter to editor/Opinion/ Discussion | HCWs | Describing effective measures to counteract the effects of the Covid-19 pandemic on the mental health of health workers | * Provide mobile health applications to screen the mental health of HCWs and refer them to centers
* Hold multiple workshops to increase HCWs resilience
* Assign a hot-line to communicate with psychologists
 |
| 10 | Supporting Clinicians during Covid-19 and Beyond — Learning from Past Failures and Envisioning New Strategies | Not mentioned | Letter to editor/Opinion/ Discussion | HCWs | Investigating the psychological support strategies of health workers in the face of Covid-19 | * Promote peer support
* Provide psychological services
* Create a safe environment to hear HCWs fears and concerns
* Eliminate the root cause of HCWs’ anxiety and stress, rather than relieving its symptoms
* Actively get feedback and solve problems
 |
| 11 | Strategies for Resiliency of Medical Staff During COVID-19 | Not mentioned | Letter to editor/Opinion/ Discussion | HCWs | Providing strategies to increase the resilience of HCWs in the face of Covid-19 | * Create an environment for effective communication between HCWs
* Promote peer support
* Create an hot-line to express psychological problems of HCWs and receive training such as stress management techniques
 |
| 12 | Supporting Hospital Staff During COVID-19: Early Interventions | Not mentioned | Letter to editor/Opinion/ Discussion | HCWs | Explaining strategies to reduce burnout, increase resilience, improve mental health and relieve stress in HCWs | * Establish effective communication with HCWs to provide the required information
* Periodically change HCWs from high-stress to low-stress departments and vice versa
* Provide training about whatever staff may need and beyond clinical tips
* Identify people who are more vulnerable and pay special attention to them
* Create a sense of cohesion and unity among colleagues
* Promote peer support
 |
| 13 | Well-Being During Coronavirus Disease 2019:A PICU Practical Perspective | United Kingdom | Letter to editor/Opinion/ Discussion | HCWs | Sharing executive changes made to the PICU to improve HCWs well-being | * Provide welfare facilities for HCWs
* Creating a safe and separate space to relieve work-related stresses
* Consider the space and time for HCWs to rest
* Maintain and strengthen positive energy among HCWs
* Provide space for HCWs to rest
* Promote Peer support
 |
| 14 | Psychological Support System forHospital Workers During the Covid-19 Outbreak: Rapid Design andImplementation of the Covid-PsyHotline | France | Original | HCWs | Designing and implementation of psychological support system (Covid-Psy hotline) for hospital staff during Covid-19 | * Establish a hotline for psychological support of HCWs
 |
| 15 | Action Steps Toward a Culture of Moral Resilience in the Face of COVID-19 | USA | Letter to editor/Opinion/ Discussion | Nurse | Providing peer support to improve moral resilience | * Make recommendations to improve the welfare and resilience of HCWs
* Hold breathing sessions to relieve work pressure
* Supplypersonal protective equipment
 |
| 16 | Resilience strategies to manage psychological distress amongst healthcare workers during the COVID-19pandemic: a narrative review | Not mentioned | Review | HCWs | Summarizing strategies to increase the resilience of HCWs in conflict with Covid-19 | * Improve confidence in HCWs in that the organization will support them
* Provide the necessary trainings
* Provide facilities to solve the psychological problems of HCWs
* Hold meetings aimed at training to increase HCWs' resilience
 |
| 17 | COVID-19 anxiety among front-line nurses: Predictive role oforganizational support, personal resilience and social support | Philippines | Original | Nurses | The effect of personal resilience, social support, and organizational support on reducing Covid-19 anxiety in order to strengthen frontline nurses | * Perform interventions to reduce HCWs’ anxiety by emphasizing the three factors of personal resilience, organizational support, and social support
 |
| 18 | The Bulle: Support and prevention of psychological decompensation of healthcareworkers during the trauma of the COVID-19 epidemic | France | Guideline/ report | HCWs | Development of a supportive program to prevent the psychological consequences of Covid-19 | * Consider a place for HCWs to talk and communicate
* Develop peer support
* Reorganize tasks to reduce the workload
* Hold Schwartz rounds
* Meet the welfare needs of HCWs
* Establish honest communication between the management and HCWs
 |
| 19 | Predictors of Nurses’ Intentions to Work During the 2009 Influenza A (H1N1) Pandemic | USA | Original | Nurses | Evaluating predictors of nurses’ intentions for work during the Influenza A Pandemic | * Supply of personal protective equipment
* Consider the health of nurses and their families
 |
| 20 | Staffing with Disease-Based Epidemiologic IndicesMay Reduce Shortage of Intensive Care Unit StaffDuring the COVID-19 Pandemic | Not mentioned | Original | HCWs | Providing solutions to reduce staff shortages by considering the epidemiology of a disease in staff scheduling | * Use staffing models that takes the epidemiology of a disease into account to reduce shortage of HCWs during pandemic
* Provide appropriate equipment to prevent cross-contamination
* Train in physical and psychological self-care
* Monitor the health status of HCWs and quarantine infected individuals
 |
| 21 | COVID-19 and telemedicine: Immediate action required for maintaininghealthcare providers well-being | Not mentioned | Letter to editor/Opinion/ Discussion | HCWs | Review of telemedicine and its applications | * Use telemedicine to reduce the workload and the possibility of infection of the HCWs
 |
| 22 | Using a m-Health tutorial application tochange knowledge and attitude of frontlinehealth workers to Ebola virus disease inNigeria: a before-and-after study | Nigeria | Original | HCWs | Evaluating the effect of using a mobile training application to improve the knowledge and attitude of health workers to Ebola virus | * Use training application to educate HCWs about the disease and ways to prevent its transmission and self-care
 |
| 23 | Preserving mental health and resilience in frontline healthcare workers during COVID-19 | Not mentioned | Letter to editor/Opinion/ Discussion | Physicians | Providing solutions to support physicians during Covid-19 | * Provide adequate personal protective equipment
* Meet welfare needs
* Family and community support of doctors
* Psychological support for physicians due to their personality differences
* Prepare retired staff, students, the army, etc. to help the medical staff
 |
| 24 | Quality improvement report: setting upa staff well-beinghub throughcontinuous engagement | United Kingdom | Original | HCWs | Reviewing the experience of setting up a staff well-being hub with a serene environment to enable psychological resilience during the Covid-19 pandemic | * Establish a center to support HCWs and to reduce their work stress
* Enable interaction and peer support between HCWs
 |
| 25 | Psychological distress, coping behaviors, and preferences for support among New York healthcare workers during the COVID-19 pandemic | USA | Original | HCWs | Assessing mental health among HCWs and identifying distress among them, and providing selected solutions to support them | * Engage HCWs in sports, yoga, meditation, faith-based religion, and spirituality
* Talk therapy and virtual provider support groups
 |
| 26 | e-ICU's/Tele ICU's, its Role, Advantages Over Manual ICU's and Shortcomings in the Current Perspective of Covid-19 Pandemic: A critical Review | Not mentioned | Letter to editor/Opinion/ Discussion | Health Care Workers | The Role and advantage of Tele-ICUs in reducing the chance of infection of health care workers | * Use Tele-ICU to reduce the exposure of health care workers
 |
| 27 | Coping With Trauma, CelebratingLife: Reinventing Patient AndStaff Support During TheCOVID-19 Pandemic | USA | Letter to editor/Opinion/ Discussion | Health Care Workers | Providing supportive solutions to meet the challenges of health care workers and patients | * Organize a psychological team to help HCWs
* Create a restroom
* Temporary lodge suspicious staffs in hotels
* Provide facilities such as childcare services, transportation, and meals.
* Hold a recovery party for patients.
* Create a mourning room to keep the memory of deceased HCWs
 |
| 28 | Attending to the Emotional Well-Being ofthe Health Care Workforce in a New York CityHealth System During the COVID-19 Pandemic | USA | Letter to editor/Opinion/ Discussion | Health Care Workers | Strategies for promoting and maintaining the welfare of health workers | * Meet basic needs such as food, housing, and transportation Providing facilities such as childcare services
* Strengthen communication networks with HCWs for psychological support
 |
| 29 | Challenges and solutions for addressing critical shortage of supply chainfor personal and protective equipment (PPE) arising from Coronavirusdisease (covid-19) pandemic-Case study from the Republic of Ireland | Republic of Ireland | Original | Health Care Workers | Challenges and solutions to the lack of personal protective equipment for HCWs in the Covid-19 pandemic | * Reprocess PPE
* Use various communication channels to provide PPE
* Bespoke production of hospital equipment using modern and low-cost methods
 |
| 30 | Do Shared Barriers When Reporting to Work Duringan Influenza Pandemic Influence Hospital Workers’Willingness to Work? A Multilevel Framework | USA | Original | Health Care Workers | Relationship between the characteristics of health system’s HCWs and interventions and barriers affecting their desire | * Provide financial benefits
* Consider specific time off
* Provide drug and PPE for HCWs and their families
 |
| 31 | Leveraging Cloud Based Virtual Care as a Tool Kit for mitigatingRisk of Exposure during a Pandemic | Not mentioned | Letter to editor/Opinion/ Discussion | Health Care Workers | Virtual care through telemedicine as a tool to reduce the chances of infection | * Initial screening of suspicious cases through video calls and virtual service kiosks in local centers
 |
| 32 | Maximizing the Resilience of Healthcare Workers in Multi-hazardEvents: Lessons from the 2014–2015 Ebola Response in Africa | Africa | Letter to editor/Opinion/ Discussion | Health Care Workers | Describing the APD model and its integration with the PsySTART-R model and its operational implementation | * Use APD model and PsySTART-R checklist to monitor stress and develop personal resilience programs for HCWs
 |
| 33 | COVID-19 in Africa: care and protection forfrontline healthcare workers | Africa | Review | Health Care Workers | Providing solutions to support HCWs to reduce the risk of infection and mental health of HCWs | * Supply PPE
* Train the staff in the use of PPE
* Provide vaccines and laboratory tests for staff
 |
| 34 | The dental team as part of the medical workforce during national and global crises | Notmentioned | Letter to editor/Opinion/ Discussion | Dentists | Evidence of dentists' empirical knowledge, communication and clinical skills to join the treatment team during the Covid-19 pandemic | * Use dentists as a member of the treatment team to reduce the workload
 |
| 35 | Computer-assisted resilience training to preparehealthcare workers for pandemic influenza: a randomized trial of the optimal dose of training | Canada | Original | Health Care Workers | The effectiveness of online training to increase the resilience of HCWs in pandemic conditions | * Implement online training courses to increase HCWs resilience
 |
| 36 | The Witness to Witness Program: Helping the Helpers in the Context of the COVID-19 Pandemic | USA | Original | Health Care Workers | Describing the W2W model and its supportive role in reducing HCWs’ anxiety in stressful situations such as Covid-19 | * Hold webinars, telephone counseling sessions
* Develop an individual program to reduce the anxiety
 |
| 37 | COVID-19 Peer Support and Crisis Communication Strategies toPromote Institutional Resilience | Not mentioned | Letter to editor/Opinion/ Discussion | Health Care Workers | Strategies to boost resilience and HCWs’ well-being during Covid-19 pandemic | * Establish a communication network between managers and HCWs
* Develop peer Support
 |
| 38 | The COVID-19 Pandemic and the Health Care Providers; What Does It Mean Psychologically? | Not mentioned | Review | Health Care Workers | Symptoms of HCWs’ psychological stress and its management strategies | * Develop realistic plan to reduce the workload
* Establish honest communication with HCWs
* Develop peer support
* Organize a psychological team to help HCWs
* Establish a communication network for sharing successful experiences and the most up-to-date information
* Meet the training needs of HCWs
* Use APD and Folkman & Greer models to increase HCWs’ resilience
 |
| 39 | A psychological health support schemefor medical teams in COVID-19outbreak and its effectiveness | China | Original | Health Care Workers | Design and evaluation of psychological support model for treatment staff during the Covid-19 pandemic | * Initial assessment of the psychological status of HCWs
* Send motivational messages to HCWs
* Holdcounseling sessions
* Create special support teams to advise HCWs
 |
| 40 | Applying the Lessons of SARS toPandemic InfluenzaAn Evidence-based Approach to Mitigating the StressExperienced by Healthcare Workers | Not mentioned | Letter to editor/Opinion/ Discussion | Health Care Workers | Providing an evidence-based approach to build resilience and reduce the stress of HCWs | * Strengthen the personal resilience of HCWs through psychological screening and efforts to improve their mental state
* Provide psychological first aid training
* Consider alternative resources and planning
* Delegate authority to make decentralized decisions
* Develop effective leadership of managers in the implementation of programs
 |
| 41 | Chapter6. Protection of patients and staff during a pandemic | Not mentioned | Letter to editor/Opinion/ Discussion | Health Care Workers | Preparation of suggestions and performance standards in the intensive care unit to prepare hospitals to face crises and pandemics with emphasis on protecting patients and staff | * Consider specific means of transportation for staff
* Provide the PPE for HCWs and their families
* Rearrangement of HCWs’ shifts to reduce their workload
* Reduce patient admissions in order to control work pressure on staff
* Use clinical workers in other departments to reduce the workload
* Allocate drugs and vaccines to both the HCWs and their families
* Provide leave for HCWs to mourn their recently deceased relatives in the epidemic
* Support staff in the event of work-related violence between health workers and patients' visitors
 |
| 42 | Burnout and Posttraumatic StressDisorder in the Coronavirus Disease2019 (COVID-19) Pandemic:Intersection, Impact, and Interventions | Not mentioned | Original | Medical doctors | Providing a concept map to show the relationship between burnout, acute and post-traumatic stress disorder, and provide system-oriented interventions to reduce physicians’ stress. | * Teach meditation to HCWs
* Use modern treatment techniques to deal with psychological consequences
* Plan in order to reduce clinical and Face-to-face visit
* Create a space to promote the team spirit of HCWs
* Improve staff training in order to increase their skills and mastery of specialized matters
* Encourage HCW participation in the process of planning and organizational decisions
* Provide telemedicine infrastructure for radiologists to work from home
* Educate counselors and psychologists through panel discussions with specialists about treating common staff problems such as burnout, PTSD
* Facilitate HCWs' access to information related to their mental health
* Make efforts to reduce social stigmas
* Use novel methods (narrative medicine) in order to play an active role of physicians in their treatment process
* Strengthen the spirit of sacrifice and altruism of HCWs
* Explicit communication by the management with HCWs to increase the feeling of security, teamwork, stability, and endurance of HCWs
 |
| 43 | Containment of COVID-19 cases among healthcare workers: The roleof surveillance, early detection, and outbreak management | Singapore | Original | Health Care Workers | Design and implementation of a comprehensive, integrated strategy for early detection of Covid-19 among the hospital staff  | * Provide infection control and early detection of HCWs using a 3-step process based on:
* Self-declaration of HCWs who presented symptoms
* Quick tracking of people in contact with an infected person
* Performing testing and starting treatment and quarantine for patients
 |
| 44 | Igniting ChangeSupporting the Well-Being of AcademiciansWho Practice and Teach Critical Care | Not mentioned | Review | Nurses | Introducing appliable model to improve the conditions medical attendees working in the ICU | * Pay attention to the physical health of HCWs by paying attention to their sleep, exercise, and nutrition
* Strengthen HCWs' social relationships with each other
* Initiate joint activities such as a book club, a joint lunch or dinner for staff outside the workplace
* Increase HCWs' self-awareness about the symptoms of stress or depression and follow it up as needed
 |
| 45 | Keep Calm and Log On: Telemedicine for COVID-19 Pandemic Response | USA | Letter to editor/Opinion/ Discussion | Medical doctors | A summary of the practical applications of telemedicine | * Use telemedicine to screen and treat patients and reduce physicians' exposure
* Compensate for staff shortages
 |
| 46 | Operative team checklist for aerosol generating procedures to minimizeexposure of healthcare workers to SARS-CoV-2 | Not mentioned | Original | Health Care Workers | A structured approach for surgical teams to control producted aerosols and minimize treatment team exposure to them | * Provide a checklist to minimize HCWs’ exposure during the Covid-19 pandemic
 |
| 47 | Mental health support tostaff in a major hospital inMilan (Italy) during theCOVID-19 pandemic: aframework of actions | Italy | Letter to editor/Opinion/ Discussion | Health Care Workers | Presenting a set of measures to support the mental health of HCWs during the Covid-19 pandemic in a hospital in Milan, Italy | * Holdonline training courses for HCWs
* Teach training tips to HCWs with the help of the intranet or internet and personal phones of personnel
* Allocate a place for HCWs to rest in a place close to the workplace with easy access to water and food and etc.
* Provide information about how to reduce stress and increase mental flexibility
* Send supportive and motivational messages from prominent patients, managers, and social and national activists with supportive themes (# You-are-not-alone)
* Provide easy access to the hot-line for psychiatric, counseling, and medication support
* Encourage commitment of managers to provide medical services for HCWs
* Do online group meditation exercises
* Contact and communicate with quarantined staff who are ill
* Put QR codes in the departments for easy and immediate access of HCWs to information and receiving various supports
* Encourage regular visits of managers to check and compensate for human resources and PPE deficiencies
* Hold group therapy sessions for staff
* Exchange experiences globally
 |
| 48 | Supporting nurses’ mental health during the pandemic | Not mentioned | Letter to editor/Opinion/ Discussion | Health Care Workers | The Effects of Organizational policies in the field of PPE and visits of patients' visitors on nurses' mental health and practical suggestions for maintaining nurses' mental health | * Provide PPE for patients' visitors
* Provide smartphones or tablets for each patient in order to maintain the patient's remote connection with their families
* Transfer palliative care specialists to inpatient wards of Covid-19 patients
* Teach the principles of palliative care medicine to HCWs at the forefront of health care systems
* Allocate non-nurse staff as intermediaries between patients and their families to reduce the workload of nurses
* Teach HCWs the principles of mental health
* Provide financial support for nurses
* Establish mechanisms to assess and evaluate the mental health of HCWs
* Assessment of HCWs' mental condition through face-to-face interviews by managers
* Create a positive atmosphere in order to increase the relationship between HCWs with each other
* Consider a hotline for providing information on staff needs, including financial, equipment, and emotional needs
* Consider specialized teams to treat injured people
 |
| 49 | Strategies to support healthcare providers during theCOVID-19 pandemic | Canada  | Letter to editor/Opinion/ Discussion | Health Care Workers | Strategies to support HCWs | * Deploy psychologists to provide counseling for staff
* Provide a tool to expedite HCW communication with each other by actively asking them about their problems
* Hold virtual breakfast sessions
* Hold virtual meditation sessions
 |
| 50 | Screening of healthcare workers for SARS-CoV-2 highlights the role of asymptomatic carriage in COVID-19 transmission | United Kingdom | Original | Health Care Workers | Investigating the need to screen asymptomatic HCWs | * Screening the asymptomatic HCWs in order to prevent patients and other HCWs
 |