Covid-19, ascribed to an atypical severe acute respiratory syndrome corona virus-2 (SARS-COV-2), is a profoundly contagious disease, begetting steeply rising deaths of humankind, and hardly any disease-attributed treatment (Robertson et al, 2020). Incurred to deadly and transmittable nature of virus, WHO disclosed outbreak a public health emergency of global interest and was latter determined as pandemic on March 11, 2020 (Issac et al, 2020). To lessen the dissemination of virus, countries have executed intense safety measures including social distancing and nationwide lockdown, which have driven individuals to restructure their activities and health maintenance (Parihar & Grewal, 2020). It also entailed enormous mental health problems such as insomnia, anxiety, depression, stress-related disorders including post-traumatic stress disorder (PTSD) in infected as well as uninfected people (Gupta & Sahoo, 2020). As the struggle continued, the health care workers (HCWs) in frontline tended to be exceptionally endangered to mental stress.

With rise in illnesses and medical attention, HCWs throughout the world have been driven in place of frontline cadre. The duty of HCWs in such times of predicament is formidable with implications on both physical (headache, gastric agitation) and mental (mood swing, demotivation, depressive speculations and sequestration) levels (Vizheh et al, 2020). They work beyond bounds with possibility of infection to self and their families, requisites of security, extra shifts; they undergo self isolation and detachment from families. Thus, frontline HCW have an accelerated risk of mental health problems such as burnout, insomnia, anxiety, depression, illness anxiety, PTSD and so forth (Rajhans et al, 2020). The situation can lead to suicidal ideation and thoughts. Mental health conditions may negotiate working efficiency and increased threat to burnout, absenteeism and resignation (Al-Humadi et al, 2021). The HCWs who stated burnout or who had abandoned or were deliberating quitting the profession reported distinctive moral distress and engenders physical (diarrhoea, headache, palpitations, neck pain, muscle aches and vomiting), emotional (frustration, anger, anxiety, guilt, sadness, powerlessness and loss of self esteem) and psychological (withdrawal, emotional exhaustion and depersonalisation of patient) responses. Hence, insulating the mental health and contentment of frontline HCWs is crucial in the midst of pandemic (Khasne et al, 2020).

Researchers call for constructive strategies, psychological approaches and training for HCWs. Factual appraisal and possible mental health interventions pointing Covid warriors are comparatively limited. Indeed, there is desperate necessity for recognition and management of MHPs in HCWs via support, advisory and cathartic sessions. The present review aimed to discuss moral and mental health problems confronted by frontline healthcare workers and explores various strategies which ought to be executed to cope with them.
distress confronted by Covid warriors.

Conducted during March to June 2021, it investigated moral and mental distress relative to Covid-19, with focus on frontline Covid warriors. An extensive literature review was executed by browsing databases namely PubMed, Scopus, web of science, Google scholar, associations webpages, Government of India Guidelines with keywords—Mental health, Covid-19, Frontline Covid warriors, Moral distress, Mental health promotion. The reference list of selected articles was screened to find out other relevant articles or studies.

Both quantitative and qualitative studies were included including the reviews that were conducted between the time period dating from 2020 until May 2021. The studies covered several countries including South Africa, USA, China, India, Ethiopia, US, Kenya, Spain, Turkey, Jordan, Italy, Bangladesh and UK.

Selected literature was assessed and findings were synthesised and included in this article. Below is the table listing titles of the major studies included in this review.

### Table 1: Major studies included in this review with author name, year and country

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Author</th>
<th>Title of study</th>
<th>Year</th>
<th>Country</th>
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<td>1</td>
<td>LJ Roberson et al</td>
<td>Mental health of healthcare workers during the COVID-19 outbreak: A rapid scoping review to inform provincial guidelines in South Africa</td>
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<td>2</td>
<td>Snehal Gupta et al</td>
<td>Pandemic and mental health of front-line healthcare workers: A review and implications in the Indian context amid COVID-19</td>
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<td>India</td>
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<td>4</td>
<td>Ruschira W Khasne et al</td>
<td>Burnout among healthcare workers during COVID-19 pandemic in India: Results of a questionnaire-based survey</td>
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<td>5</td>
<td>Singayehu Asnakew et al</td>
<td>Mental health adverse effects of COVID-19 Pandemic on healthcare workers in North West Ethiopia: A multicenter cross-sectional study</td>
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<td>6</td>
<td>Wen-Ping Guo et al</td>
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<td>7</td>
<td>Kriti Prasad et al</td>
<td>Prevalence and correlates of stress and burnout among US healthcare workers during the COVID-19 pandemic: A national cross-sectional survey study</td>
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<td>Jasmit Shah et al</td>
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<td>Monica Leira-Sanmartin et al</td>
<td>Psychological impact of COVID-19 pandemic and relatable variables: A cross-sectional study in a sample of workers in a Spanish tertiary hospital</td>
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<td>10</td>
<td>Mustafa Kursat Sahin et al</td>
<td>Prevalence of depression, anxiety, distress, and insomnia and related factors in healthcare workers during COVID-19 pandemic in Turkey</td>
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<td>11</td>
<td>Jennifer Cohen et al</td>
<td>Contributing factors to personal protective equipment shortages during the COVID-19 pandemic</td>
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<td>12</td>
<td>Eman Alhady et al</td>
<td>Anxiety, depression, stress, fear and social support during COVID-19 pandemic among Jordanian healthcare workers</td>
<td>2021</td>
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<td>13</td>
<td>Sofia Pappa et al</td>
<td>Tired, worried and burned out, but still resilient: A cross-sectional study of mental health workers in UK</td>
<td>2021</td>
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<td>14</td>
<td>Emily S Burns et al</td>
<td>Physical and psychological impact of handwashing and personal protective equipment usage in the COVID-19 pandemic: A UK based cross-sectional analysis of healthcare workers</td>
<td>2021</td>
<td>UK</td>
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in Ethiopia contended the prevalence of anxiety, depression and stress being 64.7 percent, 58.2 percent and 63.7 percent. Respondents who had physical and psychological disorder, exposure to diagnosed Covid-19 patients and inadequate social aid conveyed a pronounced association with depression (Ashakew et al, 2021).

A recent study from China revealed that healthcare workers with masters and doctorate degrees may exhibit additional anxiety and PTSD than professional with lower academic degrees (Guo et al, 2020).

A questionnaire-based survey among HCWs superintending the Covid-19 patients reported that the prevalence of personal, work-related and pandemic-related burnout accounted for 44.6 percent, 26.9 percent and 52.9 percent respectively. The prevalence of personal and work-related burnout was specifically higher among females. The pandemic-related burnout was more prevalent in nurses (5 times) than doctors (1.64 times) (Khasne et al, 2020). Another study done in US unveiled that 61 percent HCWs experienced fear of transmission, 38 percent reported anxiety/depression, 43 percent endured workload and 49 percent had burnout. Stress and burnout was detected considerably higher in various healthcare personnel inclusive of nursing assistants, medical assistants, household managers, social assistants and racially discriminated employees. While, threats of burnout were 40 percent diminished in those feeling appreciated by their organisations (Prasad et al, 2021). Unequivocally, in the recent pandemicupraised prevalence of moral and mental health manifestations amongst HCWs showed that vocation coexisted with moral and mental distress.

**Causes of Moral and Mental Distress**

Various biomedical, psychical, communal and environmental factors and their co-action incline an individual to an amplified risk of psychological problems. These have been brought out by Gupta & Sahoo (2020).

**Socio demographic factors:** A recent cross-sectional survey in the group of HCWs from three leading hospitals in Kenya revealed that females with the median age of 32.75 years were jeopardised to mental health problems (Shah et al, 2021). Another study done in Spain stated that being women, younger workers under 25 years with less than 1 year clinical experience, correlate them with pronounced susceptibility and insufficient conformation to a strained and capricious healthcare system (Leira-Sanmartin et al, 2021). Literature proposed that being male, married, age over 40 years or older and possessing more patient-contact experience influenced upsurge in risk to distressing symp-

toms. The impact of these constituents may be appertained to the workplace in which healthcare professionals operate (Cohen et al, 2020).

These outcomes suggest exploring the genesis of mental health problems in HCWs and to practice a precautionary appraisal and curative plan to satisfy their desire (Rajhans et al, 2020).

**Lack of resources:** Besides allocation of personal protective measures, there needs to be in place, comparable configuration to neutralise unease and agitation among the HCWs (Gupta & Sahoo, 2020). Working with limited PPEs specifically mask have been noted to be primary cause of distress among HCWs (Sirosis & Owens, 2021). Along with PPE shortages, healthcare facilities have witnessed shortage of recommended medicines and necessary apparatuses including ventilator (Lagu et al, 2020). Healthcare personnel in Italy sustained extravagant rates of infection and death due to PPEs shortage. The paucity has numerous implications including trouble with the global chain supply (Cohen et al, 2020).

Bandyopadhyay et al (2020) reported that in USA, Kenya and Canada, the HCWs informing PPE insufficiency was quite significant. Most of HCWs mentioned shortfall of PPE at their institution in all-inclusive frameworks excluding long term care facilities, with no notable dissimilarity between the estimates of PPE shortage announced by physicians and other healthcare professionals. Moral distress is protuberant when HCWs operate in an environment where they do not have authority over salient particulars of working life like access to PPE. Thereupon, health care worker’s worry concerning their personal health was struck by medical resources’ paucity in their workplace (Vittone & Sotomayor, 2021).

A recent online survey reported data from 839 participants, and all participants notified scarcity of leastwise one kind of medical expedient including sanitising supplies and personal protective equipment, thus, procuring enough protective equipment and required medical resources (O’Neal et al, 2021).

**Social causes:** Many sociogenic or relational aspects alleviate mental and moral distress. Obtaining assistance from companion, family, workmate and administration was estimated to be a basic defensive element in several studies (Gupta & Sahoo, 2020). A recent systemic review estimated that healthcare workers deployed support from families and friends. 78.5 percent of respondents drew on family to cope with the stress while 65 percent of respondents probed social support to mitigate stress, 43 percent of respondent’s appraised social support from family and friends as a pivotal strategy in reducing stress (Alnazly et al, 2021).
HCWs have often recited their state of health to be ailing, with insomnia, headache, dehydration and fatigue. Inapt reach to satisfactory mental aid exacerbates, psychological health problems in HCWs (American Medical Association, 2021). Moreover, social isolation and conflict with doctors or organisational policies have been accounted as aetiological factor to moral distress. Conclusively, apprehending stigma and evasion of society was significantly associated with moral and mental distress.

**Occupational causes:** The HCWs developing infections leads to short-staffing at the medical institutions such circumstances induce HCWs to work with moderate means, do overtime and customarily unstable duties and to work in an unexplored setting with new colleagues, turns tangled by unusual need of self isolation and disciplinary continuation of social distancing (Gupta & Sahoo 2020). National Academy of Medicine has attributed the physician’s health and patient’s wellbeing to long working hours, physical and emotional collapse and inadequacy of workplace settings (Sirois et al, 2021).

HCWs working in intensive care settings were reported being suffered with substantial burden and extra shifts (Prasad et al, 2021). A recent multinational cross-sectional study estimated that depressive symptoms were significantly associated with HCWs directly immersed in medical care of patient who succumb to Covid-19, and reoriented in intensive care units (Saracoglu et al, 2020). Moreover, frontline HCWs usually are powerless to dehumanise personally whilst caring for their infected workmate on account of inability to circumvent the death of their workmates (Philip & Cherian, 2020). Studies suggests senior physicians and nurses were more prone to mental health issues during pandemics (Parihar & Grewal, 2020).

Risk of Covid-19 infection to self and near ones: A recent systemic review found that exposure to Covid-19 is the consistently reported source of mental health issues with concern about infecting family and friends (Vindegard & Benros, 2020). The liable factors included direct exposure to Covid-19 diagnosed patient, working in critical care units, speculative to exposure and being a frontline HCW (Rajhans et al, 2020). Studies reported that unmediated and constant contiguity with infected brings about post-traumatic symptoms, depression, anxiety, insomnia and general mental health issues in contrast with those who had no constant contiguity with infected patients (Alnazy et al, 2021).

HCWs deal with Covid-19 with fear, suspicion of vulnerability, fidgety, worry for caregiver’s own health and the health of family and friends. From this perspective, healthcare professionals acknowledged eminent grades of emotional exhaustion, annoyance and stress overcoming issues. Many healthcare workers view Covid-19 as an intimidation to their living, their family and their colleagues (Sirois & Owens, 2021).

**Strategies to Promote Moral and Mental Health During Covid Pandemic**

**Resilience:** The American Psychological Association defines resilience as “the process of adapting well in the face of adversity, trauma, tragedy, threats or significant sources of stress such as family and relationship problems, serious health problems or workplace and financial stressors”. To carry off with pandemics, the potential to acclimate and conquer existing obstacles is required (Health et al, 2020). A study exhibited that vigilance can appear as safeguarding aspect for psychological problems. This specifies that resilience is linked to the extent of apprehension in healthcare professionals... vaster the resilience, finer the mental health (Bozdag & Ergun, 2020). A recent cross-sectional study done in UK showed that lower resilience was significantly associated with greater prospects of evincing depressive manifestations (Pappa et al, 2021).

Organisations and individuals can unroll intellectual, affective and communication proficiency that advocate adaptive confronting strategies and conduct to organisational as well as individualised resilience measures (Di Trani et al, 2021). Personally, the accent is on anticipating probable stressors, plausible manifestations and evolving cognitive and behavioural coping mechanism whereas, the organisational resilience is boost effectual leadership and a culture of organisational equity, that cushion occupational stressors and ameliorate individual resilience (Health et al, 2020; Di Trani et al, 2021).

**Self care:** Although credible evidences of potency are sparse, physical exercise has shown favourable impact on discounting burnouts in frontline HCWs (Health et al, 2020). A recent study showed valued refinement in burnout scores and the quality of life in clinicians following innervated physical activities (Miller et al, 2021). A novel study by analysts at McMaster University (2021) in Hamilton revealed that among those who persisted to be physically inactive amidst pandemic, mental health problems were hurdles to physical exercise. Respondents listed the hurdles as deficit social support, incompetence, anxiety, impassable to exercise... whereas, those whose exercises suffered had lesser psychological problems. Good sleep is a crucial buffer in resolving burnout and advancing psychological resilience (Health et al, 2020). Adequate sleep habits, de-stressing, recreation techniques, raising cognizance of ordinary sleep problems and behavioural mediation may abet HCWs during this crisis (Chatterjee et al, 2021).
Studies have indicated that HCWs with burnouts require to be connected with their family, friends or colleagues and unleash with them. Work-home stability and occupational ease also need to be ensured (Zhu et al, 2021).

**Strong leadership:** Elements of leadership that are shield to the burnout risk include effective communication and cooperative working relations. Substantial support to HCWs by way of paying attention to their hurdles, rendering the operating environment worthwhile for functioning, perpetuating the financial assistance and meeting the needs of family can generate credence and personal assuredness.

Leaders should help regulate staff duties and plans wherever necessary (shuffle unpractised workers with more practised workers and reschedule workers from difficult to comfortable working environment), extend access to psychological counselling (resilience and wellbeing plans), observe and analyse fellow worker’s wellness (investigate risk, evolving problems and self-adaptive reactions) and devise the social setting of clear communication (motivate HCWs to verbalise their worries, interrogate and uplift mutual support among colleagues).

**Emotional well-being:** Mindfulness practice and stress reduction techniques both have proven to be effective in abating burnout and upgrading resilience. Such practices have shown to reduce the rates of anxiety and depression. MBSR practices for clinicians comprise attentive group initiatives throughout eight weeks integrating yoga, meditation and bull session (Zhu et al, 2021).

Psychological assistance during Covid-19 pandemics, should be contemplated to avert stress and burnout among HCWs. Forging accessibility of mental health training, critical thinking, organising networked counselling or appointment to psychiatrist and scheduling a direct consultation to mental health expert could predominantly bring down mental health problems among frontline health care professionals. Interdisciplinary teams of psychological health professionals to lay out psychological health facilities can be help to HCWs (Griswold et al, 2021).

**Ensuring adequate resources:** Assuring the accessibility of PPEs for the HCWs diminish the likelihood to contract infection while providing in-patient care, and augment their moral to work out with any unease, specifically when endless reports point out the unavailability of PPEs and its inept distribution (Griswold et al, 2021). Appropriate training on the right utilisation of PPEs and precautionary measures must be ensured. On the contrary, PPEs also appears as considerable barrier while serving the patient care and curb rapport between HCW and patient (Hossain et al, 2021). Thus, changes should be placed to frame less stringent, comfortably wearable and removable PPEs (Burns Burns et al, 2021).

**Organisational justice:** Organisations require to make sure that occupational stressors are appropriately controlled by promising accessibility to PPEs, arranging carriage and sorting out challenges confronted by HCWs, reasonable dispersal of resources and being at hand to acquaint the worries of HCWs and amplify their confidence. Feedback session with HCWs have binary aims of assisting psychological resilience by the way of improved sense of authority over their surroundings besides accomplishing system of organisational integrity through direct support to staff (Delgado et al, 2021). The influence of sense of justice on mental health can as well explicated as safeguard that aids to insulate workers of core stressors and deprivation of needs (Vijay et al, 2021).

**Discussion**

The current review aimed to identify the insulating strategies to promote moral and mental health during Covid pandemic. The Covid-19 reached its peak during March-April 2020. It was not the first time in India that such outbreaks have occurred but the impact was something very different as it was droplet/airborne infection. The system and health care workers were not ready to deal with the sudden upsurge of the Covid-19 cases. There was piling of the cases and heap of deaths not only in India but across the world. Covid-19 pandemic has placed frontline workers under mammoth and unparalleled pressure, putting their health indicators at risk. Reviews suggested that frontline HCWs have undergone the episodes of anxiety, stress and depression. This highlighted the need of identifying the appropriate measures to promote moral and mental health during the pandemic. Current study emphasised on some important areas to be looked for like resilience, self care, strong leadership, emotional wellbeing, provision of adequate justice and organisational justice. These strategies were also supported by many other studies on stress, burnout and coping measures among frontline covid-19 warriors. A similar study by Kumar & Vijal (2020) depicted need for dedicated counselling, access to high quality PPE, training of psychological well being during pandemic sessions, adequate break in between and health insurance of the health care workers. This pandemic has given us the lesson of multifaceted approach to tackle such outbreaks that requires active participation of health care authorities.

**Conclusion**

As struggle with Covid-19 persists, safeguarding healthcare workers from moral and mental distress is a top clinical challenge. Mental health problems are likely to emerge owing to their duty in rendering
care to Covid-19 patients. To contend the Covid-19 pandemic aftereffects, the moral and mental health of HCWs need to be addressed with recommended strategies, to reduce stated issues in HCWs working at the forefront. Utilisation of strategies to promote the capacity of HCWs shall accelerate the effectiveness to combat pandemic, and deliver more efficient care to patients Covid-19.

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