



## Psychological stress in Emergency Medicine Department physician during covid-19 pandemic

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**ABSTRACT:** Coronavirus 2019 (COVID-19) outbreak is declared as pandemic long ago and since then there are several reports on the increased prevalence of physical and psychological symptoms observed in the Physician and Front line health care workers as they are at the greatest risk hence it is necessary to address the negative effects of pandemic outbreaks on Physician's and frontline worker's physical and mental health. They are facing acute stress at their workplace which ultimately resulted to physician burnout. Suggestions should comprise the assessment and strategies and buoyancy, stipulation of sufficient protective provisions, and organization of online support services. Organizations/Institution all around the country have in fact reacted with diverse initiatives of well-being to help their physicians and Health Care workers by Supporting them to enhance buoyancy and Coping stratagem, by providing psychotherapy sessions to them and by delivering online Support Services etc. In this review we proposed a perception both a framework for perceptive the physical and psychological health impact of the COVID-19 pandemic on Emergency Medicine Department physicians at the same time as suggesting the tools for their wellness and how they could respond to these challenges.

### I. INTRODUCTION:

In the existing COVID-19 pandemic, front line health workers from all vocation are facing great confront in coping with the disaster. In this circumstances health professionals have to meet with precise risks which not only affect them physically but also mentally. Corona virus disease (COVID-19) is an infectious disease which began

at the end of 2019 in China and has quickly spread worldwide and preferably it attacks the respiratory system [1]. Globally millions of populace is infected and hundreds of thousands have died. (2) As a result, governments around the world have made an attempt to employ strong measures to limit the burden on healthcare systems. However, the universal number of patients continues to ascend, with the USA, and Brazil has to manage with the largest COVID-19 pervasiveness [3] along with India and to face this disease is very challenging to them as there is no known cure yet. The severity of this disease can rapidly fluctuate with no warning, and it can lead to multiple severe debilitating symptoms, such as dyspnea, fever, dizziness, cough, fatigue, and ultimately death [4]. Physicians and nurses comprise the frontline defense against COVID-19, [5]. In their personal lives, Emergency Medicine Department (EMD) Physicians are required to acclimatize to the innumerable confronts imposed by this Covid -19 epidemic and also deal with the stresses associated to caring for patients suffering with this vital disease and working in present health care arrangements with inadequate resources for the management of the COVID-19 disease. Therefore, the Emergency Medicine staff is currently facing unprecedented challenges. According to Jensen, a distinctive physician at EMD treats around 18,000 visits per year, which amounts to 8760 h of treatment [6]. They are familiar with working in a high-pressure environment and adverse conditions, as Even so, in the current scenario when this global pandemic of COVID-19 has exaggerated these numbers substantially.



SARS-CoV-2 and the disease due to it, coronavirus disease 2019 (COVID-19), have now infected more than 90 million worldwide, and the related death toll currently numbers in the hundreds of thousands.[7] The virulent disease continues to infect more than tens of thousands daily. The physicians in the EMD of every hospital persistently battle the virus on the front lines.[7] Though, this battle, comes at a great cost to physician wellness, and if not given the proper attention it aptly deserves, can consequently lead to burnout.[8-10]. Wellness of the EMD Physician includes physical, psychological, and social well-being balanced between personal and work-life realm [11] that will have a direct impact on quality of care and safety measures of patient as well as reduced professional effort.[12] EMD Physicians are one who is at the maximum risk and physical and psychological disturbance is most common in them [13]

Previous studies on earlier pandemics as influenza, H1N1, SARS, and MERS, has reported that the most commonly disease among healthcare workers was burnout .[8-10] Multiple factors are at play including fear and anxiety over an unknown number of infected, excessive workload, lack of resources, insomnia, and isolation.[8-10] The effect of working in this constantly changing environment has been shown to be particularly stressful, and those working in high-risk units experienced greater levels of distress.[10] Lin et al found that ED staff along with physicians faced more demanding work conditions as well as more physical and psychological stress than staff in other units.[9]

The burden placed upon them requires these healthcare workers operate in peak situation both on a physical and a psychological level. However, a combination of rising number of patients and shortages of staff intimidate ED workers' psychological health as a result of extended working hours, fatigue, and burnout. Several studies therefore have identified eight specific sources associated with mental health outcomes in EMD physician and health care workers related to the COVID-19 pandemic, These are: (1) inadequate resources of hospitals which includes appropriate individual protecting equipment, (2) threat of exposure to the virus (COVID-19) at work place and bringing the disease to family, (3) lack of access to testing if physicians develop COVID-19 symptoms and associated fear of propagating the infection at work, (4) ambiguity that physicians' association will support them and take care of them if they become infected from disease, (5) Negligence to child care during longer

shifts and school closures,(6) work life balance due to lack of support from other people and family needs as work stress raised, (7) being capable to offer skilled medical care in new area, if required, and (8) lack of sufficient communication and access to updated information [14]. These have been identified as main factors that have physical and psychological impact on EMD physicians and other health workers .

### **Prevalence Of Physical Symptoms due To Covid-19 That Psychologically Affects Emergency Medicine Physicians:**

The Covid -19 pandemic has disturbed the life of EMD physicians' and frontline workers at hospital. It has affected their work and lives, resulting in considerable enhancement of physical and mental stress. Mental stress refers to person's response to diverse situations due to external environment that are assessed as more than they can tolerate which ultimately results in alterations in the physiology or psychology of the individual and influence their physical and mental welfare.[15] Stress at profession is considered as the course of interaction between the entity and the environment of their work place, which signify an accretion of pessimistic feelings produced by the work.[16,17] as a result the individual experience high stress at their work place for an extended period, which affects their physical and Psychological condition. The commonest reported physical symptoms that affect Emergency Medicine Physicians and frontline workers are headache, Fatigue, throat pain, anxiety, lethargy, insomnia, gastrointestinal discomfort, and decreased immunity, as well as augmented family discrepancy, decrease in work excellence, interpersonal relationship disorders, and other pessimistic effects. [17-20]

**Headache:** Headache was the most commonly reported physical symptom of EMD Physicians. One study has reported that headache might be associated with personal protective equipment (PPE) Kit amongst frontline healthcare workers during the COVID-19 epidemic. They have described that 81% of healthcare workers have complained about PPE related headaches, with a prior existing primary headache diagnosis reported as an independent predictor for PPE associated headaches [21] Migraine was another most common complaint of health care workers during Covid 19 pandemic. [22] it is an aggravation of their prior existing condition.



**Fatigue:** was the another most commonly observed symptom among EMD Physician and health workers during Covid -19. It has been reported earlier that during SAARS pandemic also Fatigue was very frequent symptom in both healthcare workers and the general public. In the year 2009, Lam et al.[23] have established that the pervasiveness of chronic fatigue was considerably higher among SARS survivors and it continued throughout the acute phase of infection and persisted even after one month of the disease outburst. Recently in a multinational and multicenter study Nicholas W.S. Chew [22] et al has found lethargy as one of the most commonly reported symptom amongst healthcare workers during Covid -19. Even though headache and fatigue may be indistinct and often unconfirmed, one could not neglect such vital physical symptoms as they may be an indication of causal psychological anguish. **Throat pain**, sore throat and cough during are another physical symptom in health care workers including EMD Physicians during the present COVID-19 outburst. These symptoms may be over-represented as a consequence of the psychological stress, and further aggravated by the incidence of various co morbidities.[24] **Anxiety** was another parameter studied on Physicians and healthcare workers, earlier reports from China and Italy have depicted stress-related anxiety and **depression** throughout the COVID-19 epidemic.[25,26] It has also been previously reported that among various parameters studied due to the impact of COVID-19, anxiety specifically was more frequent among nonmedical healthcare professionals as compared to the medically trained professionals' [27]. In another study Melvin C. C. Lee [28] found a two-fold elevated pervasiveness of anxiety and up to three-fold higher prevalence of depression as compared to general healthcare workers in Singapore and Italy all through this epidemic [25,26,29].

Even prior to Covid-19 epidemic, work in such high perceptive atmosphere was very stressful and emotionally fatiguing, thus probably rationale for the differences compared with general healthcare workers. In fact, pre-epidemic studies of occupational stress using the questionnaire recognized almost comparable levels of anxiety and stress in physicians and nurses working in ICU.[30,31] In a survey it was reported that healthcare workers showed increased anxiety/uneasiness, fatigue/exhaustion, and augmented sleep disturbances /insomnia as a consequence of the Covid 19 pandemic. They have observed that the administrators have reported

more fatigue and insomnia than attending personnel. [32] Individual stressors were also frequently apparent in this survey and it includes apprehension about loss of professional identity and concern about transmission of deadly viral disease (COVID-19) to other family members and due to this increasing stress and uncertainty concerning COVID-19, the Physician may be at an even greater risk. In fact, more than 70% of health care workers in China during this present epidemic reported psychological distress which includes anxiety, depression and insomnia.[23, 26], hence poor psychological condition amongst healthcare workers, particularly Physicians, is dangerous not only to themselves, but to their patients as well, along with the institution /organizations, and healthcare services. Different studies before the emergence of COVID-19 pandemic have revealed that fatigued physicians are at high risk of having commuting accident [33], making error in medical, diagnostic, and clinical ground [34,35],

#### **Psychological Factors Due To Covid-19 That Affects Emergency Medicine Physicians**

The COVID-19 pandemic incident in the year 2019/2020 brought a devastating impact on hospital systems particularly EMD Physicians and other health workers. Recently American Psychological Association [36] has described that especially, work-related stress has been responsible to impact performance across several professionals overwhelmed by its derivation that includes extreme workload and deficit of social support and during epidemic which affects physicians working in EMDs.

EMD physicians play a vital role in effectively responding to this epidemic circumstance. Extensive disasters are related with considerable increases in psychological disorders in both the instantaneous consequences of the trauma and over longer periods of instance with enhanced rates of post traumatic stress disorder (PTSD), depression, Burnout and substance abuse disorders reported [37]. Probable psychological negative consequences may not only disadvantageous to the physicians' and health care workers' welfare but it may also diminish their capability to tackle efficiently the health disaster. There are several psychological disorders (38,39) so far reported but during Covid -19 pandemic the most common disorder reported in EMD physicians and other health workers are:

1. **Post-traumatic stress disorder (PTSD)**
2. **Burnout**



### **Post-traumatic stress disorder (PTSD):**

Mental health contributors describe trauma as a stressful incidence that is exterior the range of the standard human being experience and that would be distinctly worrying to almost anyone [37]. According to the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition, this category of stressor, involves a apparent extreme threat to life, perceived fear, physical integrity, vulnerability, or horror [40]. COVID-19 and the menace to individual safety and fear for threat of life that it has produced to EMD Physicians convene the explanation of a traumatic episode. Revelation to such stressful and traumatic measures can progress to the acute stress disorder and at last PTSD.

Because of the extremely stressful job-related circumstances EMD Physicians and Healthcare Workers are predominantly at threat for PTSD. These circumstances includes: To take care for severely traumatized populace , supervision of vital medical conditions, regular witness of trauma and demise, working in packed out situations, intermittent circadian rhythms due to day/night shift job [41-44]. There are several reports from the studies on Intensive Care Unit (ICU) personnel, which indicate the PTSD rates to range from 10 to about 20% [45, 46], with even elevated PTSD rates (8% to 30%) [47-49]. It has been observed in previous studies that during earlier pandemics a high percentage of front line health care workers , (up to 1 in 6 of individuals taking care to disease affected patients), develops noteworthy stress symptoms [50,51] because they are the one who are facing the clinical confronts fundamentally associated to the course of the disease while under the continuous individual risk of being infected or can be a source of infection. In the existing COVID-19 epidemic there are few pertinent characteristics that amplify the threat for PTSD among EMD Physicians, such as augmented revelation to stress and trauma, including extremely increased stress at workplace resultant from the epidemic, the record numbers of vitally ill patients, elevated transience rates and lack of efficient treatment and its guidelines [52,53] which might be the cause of enhancement of incidence of PTSD among physicians. During epidemics, the incidence of PTSD-like symptoms was reported between 11 and 73.4%. Furthermore, 51.5% of Health care workers scored over the Impact of Event Scale-Revised (IESR) threshold for the diagnosis of PTSD [26, 54-56]. While the studies on the COVID-19 epidemic [54,56] reported the highest incidence rate between 71.5–73%. Therefore, the burden of the existing outburst on the EMD

physicians and healthcare workers deserves the great consideration, as they are involved in the identification, treatment and care of COVID-19 patients and are at the maximum risk of developing psychological and mental health symptoms and related problems [26,57,58]

### **Burnout:**

Burnout is a syndrome comprise of emotional fatigue, which might be disadvantageous to official associations and in general job performance and the prime cause of burnout is extreme workload [59]. Covid- 19 pandemic has aggravated stress in whole system of health care administration in which EMD physician burnout, a reaction to workplace stress, is previously epidemic [60]. Several EMD Physicians and healthcare workers may develop burnout and might experience a sense of extreme fright, stigmatization and banishment when exhibiting physical symptoms indicative of the virus infection and this may frequently leads them to negative psychological pain [61,62] which has already been illustrated in the studies during the existing COVID-19 epidemic [63] as well as earlier Ebola crisis [64].

In a survey by Dyrbye et al, using the Maslach Burnout Inventory (MBI) found the rate of burnout of the radiologist to be 61% [65]. In this aspect, the COVID-19 epidemic presents a kind of perfect tempest concerning the junction of chronic stress of the workplace ensuing in a pandemic physician burnout rates with the acute traumatic stress foist by the epidemic. Investigation of the junction of these two observable facts is essential in order to inform intercession. In many country with the maximum rates of Covid- 19 infection and severe scarcity in resources, EMD Physicians and health care workers are bared to hard and often exceptional decisions about rationing of medical necessity,(66-68) which may cause a moral harm to them and finally leading to burnout .[69]

Though, there is indication that amongst health care contributor with symptoms of PTSD, prevalence of burnout is also significant, and in a meta-analysis it was recognized that physician burnout is significantly and certainly associated with amplified rates of medical fault [60,70].

### **Useful Instructions To Emd Physicians To Reduce The Negative Impact Of Covid-19 Pandemic**

The current COVID-19 outbreak has enforced many Physicians and other healthcare workers to tackle tough challenges that were never experienced before by them. This exceptional



period is filled with terror, anxiety and strain particularly to those frontline medical workers who are in direct contact of patient and providing care to them. A vital yet often ignored aspect of the public health reaction to this deadly disease is physician wellness. With these personal and situational factors in mind, we will try to provide some suggestions that can help reduce negative psychological responses of HCWs facing epidemic/pandemic outbreaks. These suggestions have the double aim of reducing the individual psychological burden of EMD physicians and strengthening the response capacity of healthcare systems.

### **Organizational Support To Enhance Buoyancy And Coping Stratagem**

Organizational Support refers to the comprehensive conviction that people worth their contribution for the betterment of the organizations and the authorities should take care about their well-being, pay attention and take proper action to their complaints, which will be helpful to their workers when they meet any problem and fair treatment [71,72].

Many Organizational and individual intercession have been promoted to deal with PTSD and burnout and encourage wellness of EMD Physicians and Health Care workers, that includes reduced workload, improved work plan and maintenance of their health record, mindfulness (together with mindfulness based stress reduction [MBSR]), and individual coaching [73-75]. Many of them are offering free access to online tools available for meditation and relaxation. The requirement for efficient strategies and tools is increasing day by day as both individuals and organizations navigate the existing anxiety, fear and insecurity. Organizational/ Institutional support is particularly pertinent to sustaining and improving pride and providing information, material and assets. It was proposed by Eisenberger, et al [71] that a logic of organizational support can assure person desires for dignity. When awareness of organizational support are high, EMD Physicians may also probably trust that their institution is providing them with all the pertinent information concerning COVID-19 pandemic, their individual threat of infection, and what they can do as protective measure to save themselves, and to trust the precision of the information provided by the organization.

### **Provide psychotherapy sessions to EMD Physicians and Health care workers:**

Psychotherapy sessions must be initiated to EMD Physicians and HCWs to make certain that

their mental condition will not spoil their performance. According to Folkman and Greer, it is essential to motivate physicians and other clinicians to be perceptive to their psychological health, the similarly, as they are towards their physical health and well being [76].

Adding up, the counselors should visit the physicians and other frontline workers frequently to listen to their experience and offer support so that the workers can persist to uphold their obligation to the work and the organization

### **To deliver online Support Services**

In contrast to earlier epidemics, during current COVID-19 endemic, internet and smart phones are extensively accessible [56]; hence, mental health intervention medical team should be established to provide online courses and workshops to realize the psychological impact of traumatic events and offer online mental health education by guiding medical health professionals. Psychological counseling sessions and assistance for medical treatment whereby the EMD physicians and front line workers can communicate their psychological problems with well-trained professional psychotherapist.

## **II. CONCLUSION:**

Our review provides diverse physical and mental health dynamics and psychological interventions for EMD Physicians and other front line workers. It confirms that Medical health care workers responding to Covid-19 pandemic outbreak show a pessimistic mental health which ultimately results in psychological consequences. This situation is particularly alarming in view of their long-lasting nature and probably associated with impaired decision-making capacities of the Physicians.

Following pragmatic substantiation, we proposed that appraisal and encouragement of organizational support in coping approach and buoyancy, special attention to Physicians and frontline workers, providing psychotherapy sessions and delivering online support services could be ways to alleviate the pessimistic psychological impact of EMD Physicians responding to Covid-19 pandemic

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