Secondary traumatic stress, Vicarious trauma and Satisfaction of work among Health Professionals during COVID-19 Pandemic

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ABSTRACT

Crisis circumstances, for example, the COVID-19 pandemic can lead medical care and crisis workers to go through serious pressure a response that increases the danger of creating emotional and mental injury. In this study, we aimed to assess significance difference between health professionals and mental health professionals on the measures of secondary traumatic stress, vicarious trauma and satisfaction of work and to assess significance difference between male and female health and mental health professionals on the measures of secondary traumatic stress, vicarious trauma and satisfaction of work. The total sample was selected is of 150 participants. Tools used for the study are- Secondary Traumatic Stress Scale, Vicarious trauma scale and Satisfaction with work scale and performed t-test. Results showed that during COVID-19 pandemic the comparisons shows that health professionals had statistically significantly lower level of secondary traumatic compared to mental health professionals. Health professionals had statistically significantly higher level of vicarious trauma compared to mental health professionals. Health professionals had statistically significantly higher level of satisfaction of work compared to mental health professionals. There is also comparison of male health and mental health professionals which had statistically significantly lower level of secondary traumatic stress compared to female health and mental health professionals. Male health and mental health professionals had statistically significantly higher level of vicarious trauma compared to female health and mental health professionals. Male health and mental health professionals had statistically significantly lower level of satisfaction of work compared to female health and mental health professionals.

Keywords: COVID-19, Secondary traumatic stress, Vicarious trauma, Health and Mental health professionals

INTRODUCTION

The COVID-19 virus is another infection connected to a similar group of viruses as Severe Acute Respiratory Syndrome (SARS) and a few kinds of the basic virus. The scene of COVID infirmity (COVID-19) has been declared a Public Health Emergency of Global Concern (PHEIC) and the disease had now spread to various countries and locales. While COVID-19 continues spreading it is huge that organizations take the movement to thwart further transmission, decrease the impacts of the eruption, and maintain control measures. The security of adolescents and enlightening workplaces is particularly critical. Prudent steps are imperative to thwart the conceivable spread of COVID-19 in school settings; regardless, care ought to moreover be taken to dodge defaming understudies and staff who may have been introduced to the disease. It is basic to remember that Corona virus doesn't separate between edges, ethnicities, failure status, age, or sex. Preparing settings should continue being welcoming, respectful, thorough, and solid conditions to all. Measures taken by schools can prevent the part and spread of COVID-19 by understudies and staff that may have been introduced to the contamination while restricting interference and protecting understudies and staff from isolation. Clinical consideration workers and emergency workers have worked in exceptional conditions in view of the quick spread of COVID-19, raised degrees of infection, mortality in extraordinary cases, nonattendance of unequivocal prescription, nonappearance of PPE, no regular employable shows, and lockdown. Clinical consideration workers yet not withstanding emergency workers and paramedics are ordinarily introduced to horrendous mishaps and routinely witness the death of patients. In any case, during the COVID-19 epidemic, there has been an extraordinary and trustworthy prologue to these segments, driving either prosperity or

emergency workers to develop the peril of post-loathsome weight issues (PTSD) or secondary traumatic stress (STS). The assessment has demonstrated that clinical administrations workers can make post-dreadful weight issue (PTSD) following events, for instance, SARS and MERS flare-ups, irregularly with a late-starting after the completion of the emergency.

Secondary Traumatic Stress.

Primary posttraumatic stress issues might be analyzed in a person who experienced, saw, or was defied with an awful accident and reacted with serious dread, powerlessness, or frightfulness. Deliberate experiences (e.g., battle, rape, psychological warfare, and mass savagery), just as unexpected injuries (e.g., cataclysmic events, mishaps), may cause this inescapable mental condition. The secondary trauma is characterized as a backhanded introduction to trauma through a firsthand record or story of a traumatic experience. The distinctive relating of trauma by the survivor and the clinician's ensuing psychological or enthusiastic portrayal of that occasion may bring about a lot of manifestations and responses that equal PTSD (e.g., re-encountering, shirking, and hyper arousal). Secondary trauma is also referred to as compassion fatigue (Figley, 1995). Secondary trauma is the improvement of PTSD-like side effects without legitimately seeing or having been associated with a horrible accident. In medical services, the damaging occasion of a patient can turn into a damaging occasion for the medical care specialist (Sudden, 2019). In contrast to vicarious trauma, which amasses after some time, secondary trauma can happen startlingly and out of nowhere (Sudden, 2019). Secondary traumatic stress regularly alluded to erroneously as "compassion fatigue", depicts a lot of symptoms like those of PTSD, for example, "fatigue, hyper vigilance, shirking, and numbering". STS can happen in medical care experts, relatives, companions, and parental figures of people who have encountered horrible accidents, and who frequently have post-horrendous pressure themselves. People encountering STS don't encounter horrendous accidents direct; rather, because of auxiliary presentation to the awful incident, they start to encounter the side effects of PTSD. Figley (1995) portrayed STS as turmoil experienced by those supporting or helping people experiencing posttraumatic stress disorder (PTSD). Figley recently utilized the term "sympathy weakness" to portray the manifestations of weariness, hyper vigilance, shirking, and desensitizing frequently experienced by experts working with, and relatives of, individuals with PTSD. The spotlight here isn't explicitly on the cognitive phenomenon (as on account of VT), yet on a more extensive condition of encounters legitimately connected to the indications of PTSD.

Vicarious Trauma

Vicarious trauma (McCann and Pearlman, 1990) alludes to unsafe changes that happen in experts' perspectives on themselves, others, and the world because of introduction to realistic as well as horrible material. Vicarious Trauma can be viewed as a typical reaction to continuous difficulties to an aide's convictions and qualities yet can bring about diminished inspiration, viability, and sympathy. Secondary traumatic stress alludes to a condition among proficient assistants that emulates post-awful pressure issue and happens because of presentation to the awful encounters of others (Figley, 1995; Stamm, 1999). While these two develops speak to an alternate marvel, they are frequently expounded on and investigated like they are one. This paper will recognize the two builds and present an amalgamation, utilizing a degrees of-proof methodology, of the investigation into connects and indicators of VT and STS.

Vicarious injury can be portrayed as a combined 'negative change' that impacts the physical and emotional well-being of a medical services labourer, saturating all parts of work and home life. It develops after some time, interfering with regular daily existence, and can possibly definitely adjust a person's character and conviction frameworks (The Lookout 2017; Dragon 2019).

Vicarious injury alludes to negative changes that can happen in a medical care supplier that explicitly adjust their convictions with respect to themselves, others, and their perspective. VT results from introduction to people who have gone through awful encounters. The idea of VT was created utilizing constructivist speculations which place that learning is a valuable cycle where individuals effectively develop their own abstract portrayals of emotional reality. Clinicians can encounter VT when presented to their patients' awful encounters which trigger negative convictions about wellbeing, power, freedom, regard, and closeness. VT can likewise prompt "diminished inspiration, viability and compassion". Commonly, VT creates after some time as

an individual is consistently presented to their customers' encounters and regularly shows intellectually while introducing as indications that line up with post-awful pressure issue (PTSD).

McCann and Pearlman (1990), utilizing constructivist self-advancement hypothesis, examined the impacts on specialists of empathically captivating with the horrible material of their customers. They contended that the subsequent changes to specialists' intellectual composition of self, other, and world are unavoidable, combined, and lasting. For instance, the faith in close to home immunity that permits one to utilize public transportation around evening time, or the conviction that the world is an organized spot, are tested by the narratives and encounters transferred to people who work on guiding or psychotherapy with overcomes of injury. VT is viewed as a typical reaction to these difficulties; however a reaction that conveys with an expense for the expert. VT is related with interruptions to the pattern in five territories. These are wellbeing, trust, regard, closeness, and control, each speaking to a mental need. Each need/pattern is knowledgeable about connection to self as well as other people. At the end of the day, we as a whole want to accept the world is protected – that we are moderately sheltered from hurt without anyone else and by others (Pearlman and Saakvitne, 1995). The hurtful impacts of VT happen through the interruptions to these outlines.

Job satisfaction

The satisfaction of labour alludes to a human inclination of fulfilment at work, which matches regarding as a thought to figure. It's not merely the fulfilment, joy, or self-happiness however the fulfilment at work. The satisfaction of labour identifies with absolutely the association between a private and therefore the business that he's paid. Fulfilment implies the fundamental sentiment of feat of any objective or target. Occupation disappointment brings a nonattendance of inspiration at work. Researchers contrastingly depict the variables adding to figure fulfilment and occupation disappointment. Hoppock depicts work fulfilment as, "any mix of mental, physiological and ecological conditions that cause and individual honestly to state I'm proud of my activity."The satisfaction of labour is characterised because the "pleasurable choleric state going on thanks to the analysis of one's activity as accomplishing or encouraging the accomplishment of one's activity esteems." conversely work disappointment is characterised as "the unpleasant evangelistic state going on thanks to the examination of one's activity as difficult or hindering the accomplishment of one's activity esteems or as involving disvalues." However, each fulfilment and disappointment were viewed as, "a part of the apparent association between what one sees it as providing or involving."Lofquist and Davis (1991), characterised work satisfaction as "a person's absolutely jam-packed with the sensation response of the target condition thanks to the person's analysis of the degree to that their desires are glad bynature".

Population

A healthcare professionals might provide health care treatment and recommendation supported formal coaching and knowledge. The sphere includes people who work as a medical man, surgeon, nurse, assistants, physiotherapist, dentist, and midwife, man of science, head shrinker, or caregiver. A health care provider may additionally be a public health or community health professions. A health care provider may additionally be a public health or community health professional person. The typically add hospitals, health care centres and alternative service delivery points, however additionally in tutorial coaching, research, and administration. Some give care and treatment services for patients in camera homes. Several countries have an oversized range of community physicians' work outside formal health care establishments. Managers of health care services, health data technicians, and alternative helpful personnel and support employees also are thought about a significant part of health care groups. Since its beginning in Dec 2019 within the Hubei province of China, the novel corona virus unwellness (COVID-19) is spreading apace each domestically and internationally (Li et al., 2020; Zhu et al., 2020). In just a span of a month, the unwellness caused by the virus was thought-about a public health emergency by the planet Health Organization and was declared a deadly disease by March 2020 (WHO, 2020). Amidst the event of this communicable disease in 206 countries throughout the planet, health care employees stay the most persons concerned within the screening and treatment of this condition throughout. Despite remaining the crisis force, the health care employees don't seem to be themselves proof against the psychological consequences because of COVID-19. Among the health care employees additionally, the front-line employees concerned directly in handling these patients are at larger risk than others. The explanations for such adverse psychological outcomes in them vary from excessive workload/work hours,

inadequate personal protecting instrumentation, over-enthusiastic media news, feeling inadequately supported (Cai et al., 2020; tammy et al., 2004; Lee et al., 2018; Styra et al., 2008). Another vital reason for such psychological impact is that the infection rate among medical employees. The unforeseen reversal of role from health care employees to a patient may result in frustration, helplessness, adjustment problems, stigma, worry of discrimination within the medical employees (Rana et al., 2020). Despite the low death rate of two nada, the COVID-19 virus features a high transmission rate and therefore the mortality is on top of that caused by severe acute metastasis syndrome (SARS) and geographical region metastasis syndrome (MERS) combined (Mahase, 2020).

REVIEW OF LITERATURE

Holmes, Rentrope, Korsch-Williams, *et al* (2021) measured posttraumatic stress, grief, burnout, and secondary trauma experienced by employed social workers in the United States and to describe organizational support provided to social workers during the novel corona virus disease 2019 (COVID-19) pandemic. This study used data from the first wave of the COVID-19 Pandemic and Emotional Well-Being Study; a prospective panel study examining the psychological impact of the COVID-19 pandemic, and includes a sample of 181 social workers. They conducted univariate analyses. Over a quarter (26.21%) of social workers met the diagnostic criteria for PTSD and 16.22% reported severe grief symptoms. While 99.19% of the sample reported average to high compassion satisfaction, 63.71% reported average burnout and 49.59% reported average secondary trauma. Findings indicate that social workers are reporting higher than national estimates of PTSD, indicating a greater need for more emotional support during the COVID-19 pandemic. Given the significance and severity of the pandemic, it is essential that organizations provide resources for both immediate and ongoing support for the emotional well-being of their employees.

Chen, Sun, Chen, Jen, Kang, Kao & Chou (2021) conducted a study to assess trauma, burnout, posttraumatic growth, and associated factors for nurses in the COVID-19 pandemic. The Trauma Screening Questionnaire, Maslach Burnout Inventory, and Posttraumatic Growth Inventory-Short Form were utilized. Factors associated with trauma, burnout, and posttraumatic growth were analyzed using logistic and multiple regressions. In total, 12 596 completed the survey, and 52.3% worked in COVID-19 designated hospitals. At the survey's conclusion in April, 13.3% reported trauma (Trauma ≥ 6), there were moderate degrees of emotional exhaustion, and 4,949 (39.3%) experienced posttraumatic growth. Traumatic response and emotional exhaustion were greater among (i) women (odds ratio [OR]: 1.48, 95% CI 1.12–1.97 $P = 0.006$; emotional exhaustion OR: 1.30, 95% CI 1.09–1.54, $P = 0.003$), (ii) critical care units (OR: 1.20, 95% CI 1.06–1.35, $P = 0.004$; emotional exhaustion OR: 1.23, 95% CI 1.12–1.33, $P < 0.001$) (iii) COVID-19 designated hospital (OR: 1.24, 95% CI 1.11–1.38; $P < 0.001$; emotional exhaustion OR: 1.26, 95% CI 1.17–1.36; $P < 0.001$) and (iv) COVID-19-related departments (OR: 1.16, 95% CI 1.04–1.29, $P = 0.006$, emotional exhaustion only). To date, this is the first large-scale study to report the rates of trauma and burnout for nurses during the COVID-19 pandemic. The study indicates that nurses who identified as women, working in ICUs, COVID-19 designated hospitals, and departments involved with treating COVID-19 patients had higher scores in mental health outcomes. Future research can focus on the factors the study has identified that could lead to more effective prevention and treatment strategies for adverse health outcomes and better use of resources to promote positive outcomes.

Benfante, Di Tella, Romeo & Castelli (2020) explored traumatic stress in healthcare workers during COVID-19 pandemic and associated factors between January and May 2020. The focus is on the most relevant literature investigating the prevalence of trauma- and stressor-related symptoms. Articles were selected from PubMed and PsycINFO databases using the search terms, "healthcare workers," "COVID-19," and "posttraumatic stress" in different combinations and with various synonyms. Among the seven studies that fulfilled our criteria, five assessed traumatic stress response, one assessed acute stress symptoms, and one focused on vicarious traumatization. Overall, the available findings highlight the presence of trauma-related stress, with a prevalence ranging from 7.4 to 35%, particularly among women, nurses, frontline workers, and in workers who experienced physical symptoms. Future studies should clarify the long-term effects of the COVID-19 pandemic on the mental health of healthcare workers, with particular focus on posttraumatic stress disorder.

Secosan, Virga, Crainiceanu & Bratu (2020) aimed to investigate the serial mediation effect of insomnia and exhaustion in the relationship between secondary traumatic stress (STS) and mental health complaints among the frontline healthcare professionals during the COVID-19 pandemic. In this cross-sectional study, 126 frontline healthcare workers from Romania completed validated surveys between March and April 2020. PROCESS macros were used to test the proposed hypotheses of the three-path mediation model. They computed the models for insomnia as the first mediator (M1) and exhaustion (M2) as our second mediator. STS was significantly related to insomnia. Insomnia was significantly related to exhaustion, and STS was positively related to exhaustion. In the third model, exhaustion was strongly and positively related to mental health complaints. The total indirect effect was positive, and the sequential indirect impact of STS on mental health complaints via both mediators in series (insomnia and exhaustion) was significant. Secondary traumatic stress had a positive direct effect on mental health complaints. In their limited sample, the results show that frontline medical staff during the COVID-19 outbreak has high STS, which are related to mental health complaints through insomnia and exhaustion.

Braquehais, Vargas-Cáceres, Gómez-Durán, Nieva, Valero, Casas & Bruguera (2020) analyzed the impact of the COVID-19 pandemic on the mental health of HPs. We comprehensively reviewed the studies published in MEDLINE, Web of Science and Google Scholar between December 2019 and May 2020. Most studies report a high prevalence of anxiety and depressive symptoms among HPs that can be associated with: (i) COVID-19 exposure; (ii) epidemiological issues; (iii) material resources; (iv) human resources; and (v) personal factors. The role of certain variables, before, during and after the pandemic, remains unexplored. Longitudinal studies will help elucidate which factors are associated with a higher risk of developing long-lasting negative effects. Qualitative studies may contribute to understanding the influence of individual and social narratives in HPs' distress. A deeper analysis on the individual, institutional, political and socio-cultural factors, meanings and values influencing HPs distress and resilience during the COVID-19 pandemic is needed.

Otu, Charles & Yaya (2020) examined the novel SARS-CoV-2 corona virus pandemic has emerged as a truly formidable threat to humankind's existence. In the wake of the massively volatile global situation created by COVID-19, it is vital to recognize that the trauma it causes can affect people in different ways, at the individual and collective levels, resulting in mental health challenges for many. Although mental health problems account for about one-third of the world's disability among adults, these issues tend to be under-addressed and overlooked in society and are closely associated with deadly disease outbreaks. In large scale outbreaks, the mental health problems experienced are not limited to infected persons but also extend to involve frontline health workers and community members alike. While it is crucial to limit the spread of infections during an outbreak, previous experience suggests that mental and behavioural health interventions should be fully included in public health response strategies.

Vagni, Maiorano, Giostra & Pajardi (2020) aimed to explore the relationship of emergency stress, hardiness, coping strategies, and secondary trauma among emergency workers and the mediating roles of coping strategies and hardiness on the effect of stress in producing secondary trauma. The study involved 513 emergency workers from the Red Cross Committee in Veneto, one of the Italian regions most affected by the COVID-19. Participants completed questionnaires online to measure emergency stress (physical, emotional, cognitive, organizational–relational, COVID-19, and inefficacy decisional), hardiness, coping strategies, and secondary trauma. Other variables analyzed were age, gender, weekly hours of service, and use of personal protective equipment (PPE). They performed *t*-tests, a correlational analysis, regressions, and a mediation analysis. Hardiness and coping strategies, in particular, which stop unpleasant emotions and thoughts and problem-focused, emerged as mediators in reducing the predicted effect of stress on secondary trauma. The mediating effects of hardiness and coping strategies were found to reduce the effect of stress on arousal by 15% and the effect on avoidance by 25%.

Marton, Vergani, Mazzocco, Garassino & Pravettoni (2020) aimed to investigate the mental health and emotional reaction of physicians working during phase 1 of the COVID-19 pandemic in Italy. A total of 458 Italian Health Care Workers (HCWs) working during phases 1 of the COVID-19 outbreak were voluntarily enlisted in the study and recruited with the snowball technique through an online survey. They examined our variables with the General Health Questionnaire – 12 and with Visual Analog Scales. The sample has a high

level of psychological distress 21.26 (SD = 4.46), the emotional reaction was characterized by high level of fear for family members and cohabitants (M = 77.67, SD = 27.16) and patients (M = 67.16, SD = 27.71). Perceived control, fear for patients, and for family members and cohabitants, feeling alone and anger all contribute to a decreased mental health in Italian physicians (R^2 = 0.285, p < 0.001). Italian HCWs' mental health and emotional reaction have to be considered to prevent high risk of burnout and post-traumatic stress disorder (PTSD). It becomes pivotal in the next months to implement a tailored psychological intervention to take care of HCWs and to prevent costly consequences for them, patients, and the healthcare system.

Franza, Basta, Pellegrino, Solomita & Fasano (2020) evaluated stress levels in 102 healthcare workers recruited in different rehabilitation departments (psychiatric and multidisciplinary). In particular, they evaluated the fatigue of compassion, vicarious trauma, burnout and hope (hopelessness) in the first two months of lookdown due to the COVID-19. The results obtained after the administration of the following evaluation scales: sCFs, CBI, Pro QOL, HBS, showed an overall increase in the scores in all professional figures. Significant compassion fatigue and burnout percentage is present in several groups. The highest levels of hopelessness in some professional figures, while higher educational levels can protect workers from the risk of developing high levels of work stress. The data obtained with this study are similar to those of our previous study, although they may indicate that during the period of the corona virus pandemic the scores of the several scales used are higher.

Bashar & Bammidi (2020) examined the outbreak of a novel corona virus starting from December 2019 and reaching pandemic proportions has raised concerns as to the ability of the current protective measures and the health-care system to handle such a threat. Health-care workers may experience considerable psychological distress as a result of the corona virus disease-19 pandemic due to providing direct patient care, vicarious trauma, quarantine, or self-isolation. They are facing unprecedented circumstances never seen by them before; the current bio-threat is the most serious global crisis of our generation. Health-care staff like us is in the front line of this fight, which is taking a serious psychological toll; supporting health-care workers in all aspects is vital to sustaining a healthy workforce during the pandemic, which would eventually help in containing the pandemic.

Xie, Cheng, Song, Wu, Chen, Xi & Shou (2020) aimed to determine the levels of stress and psychological disorders of nurses who provided nursing care during the COVID-19 outbreak. A total of 159 nurses who provided healthcare works for COVID-19 patients were enrolled in our study. The psychological disorders and stress level were assessed via a questionnaire implemented by the mobile app. The results showed that the nurses who worked in the non-critical care ward (general ward in which the invasive medical procedure such as mechanical ventilation is absent) scored significantly higher on the traumatisation condition (P<.05) and stress level (P<.01) as well as the impact of event scale -revised level (P<.01) compared with those worked in the critical care ward. In contrast to the previous report, our findings revealed that the future intervention for preventing the mental crisis among the healthcare nurses needs to be focusing on the individuals in the non-critical care ward instead of those in the critical care ward under the spreading of COVID-19.

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Talevi, Socci, Carai, Carnaghi, Faleri, Trebbi & Pacitti (2020) aimed to synthesizing mounting evidence concerning the immediate psychological responses during the initial stage of the CoViD-19 pandemic among the general population, the health-care workers, and clinical populations. Experts point out the need to pay specific attention to other groups at risk of further distress that may need tailored interventions. Providing psychological first aid is an essential care component for populations that have been victims of emergencies and disasters, before, during and after the event. With the aim of dealing better with the urgent psychological problems of people involved in the CoViD-19 pandemic, a new psychological crisis intervention model is needed. Given the recommendation to minimize face-to-face interaction, online mental health services have been widely adopted in China and are urged in other countries.

Paiano, Jaques, Nacamura, Salci, Radovanovic & Carreira (2020) identified publishing related to the mental health of health professionals working in the front line of the COVID-19 pandemic. An integrative review that included primary articles indexed in the Latin American and Caribbean Literature in Health Sciences, Medical Literature Analysis and Retrieval System Online, Cumulative Index to Nursing and Allied Health Literature, Scopus, Embase, Web of Science, Science Direct databases and US National Library of Medicine databases. The result analysis was performed descriptively, in four analytical categories. The publishing involved aspects related to insufficient personal protective equipment, feelings of fear and stigma, the need for psychological and psychiatric support and the possibility of post-outbreak mental disorders. All mentioned aspects have a direct impact on the mental health of professionals, demanding the creation of strategies that minimize the emotional burnout of workers, considering that each country and culture reacts differently to the disease.

Khattak, Saeed, Rehman & Fayaz (2020) examined the impact of fear of COVID-19 on nurses' turnover intention, secondary trauma, and psychological distress. Additionally, they explore the possible moderating variable, i.e., leadership support that may compensate for the negative impact of fear of COVID-19 on the nurses' turnover intention, secondary trauma, and psychological distress. Initially, 700 nurses were contacted; however, the response of 380 nurses was received. It is found that fear of COVID-19 significantly affects nurses mental health. They concluded that hospital administrations should support, encourage and motivate Frontline nurses to reduce negative emotional and mental health issues.

Carmassi, Foghi, Dell'Oste, Cordone, Bertelloni, Bui & Dell'Osso (2020) highlighted the critical need to focus on its impact on the mental health of Healthcare Workers (HCWs) involved in the response to this emergency. It has been consistently shown that a high proportion of HCWs is at greater risk for developing Posttraumatic Stress Disorder (PTSD) and Posttraumatic Stress Symptoms (PTSS). The present study systematic reviewed studies conducted in the context of the three major Corona virus outbreaks of the last two decades to investigate risk and resilience factors for PTSD and PTSS in HCWs. Nineteen studies on the SARS 2003 outbreak, two on the MERS 2012 outbreak and three on the COVID-19 ongoing outbreak were included. Some variables were found to be of particular relevance as risk factors as well as resilience factors, including exposure level, working role, years of work experience, social and work support, job organization, quarantine, age, gender, marital status, and coping styles. It will be critical to account for these factors when planning effective intervention strategies, to enhance the resilience and reduce the risk of adverse mental health outcomes among HCWs facing the current COVID-19 pandemic.

Vagni, Maiorano, Giostra & Pajardi (2020) explored the relationship between coping strategies used by healthcare and emergency workers in Italy to manage the stress factors related to the COVID-19 emergency, which may result in the risk of developing secondary trauma. They study differences between healthcare (n = 121) and emergency workers (n = 89) in terms of their coping strategies, emergency stress, and secondary trauma, as well as the relationships of these differences to demographic variables and other stress factors (Instructions and Equipment). For this purpose, we collected data from participants through the following questionnaires online: *Secondary Traumatic Stress Scale – Italian Version*, *The Coping Self-Efficacy Scale – Short Form*, an original questionnaire on stressors, and the *Emergency Stress Questionnaire* (to assess organizational–relational, physical, decisional inefficacy, emotional, cognitive, and COVID-19 stress). They performed a *t*-test, correlational analysis, and hierarchical regression. The analyses reveal that compared with the emergency worker group, the health worker group has greater levels of emergency stress and arousal and is more willing to use problem-focused coping. Healthcare workers involved in the treatment of COVID-19 are

exposed to a large degree of stress and could experience secondary trauma; hence, it is essential to plan prevention strategies for future pandemic situations. Moreover, individual efficacy in stopping negative emotions and thoughts could be a protective strategy against stress and secondary trauma.

Aafjes-van Doorn, Békés, Prout & Hoffman (2020) analyzed that during the COVID-19, psychotherapists are often exposed to traumatic material in their sessions, potentially leading to vicarious traumatization. They surveyed 339 therapists about their professional practices and experiences during the pandemic. Results showed that on average therapist's experienced moderate levels of vicarious trauma, whereas about 15% experienced high levels of vicarious trauma. A higher level of vicarious trauma was associated with younger age, less clinical experience, and negative online treatment experiences. The results imply a need for personal and professional support for therapists working remotely amid a global health crisis.

Azizoddin, Vella Gray, Dundin & Szyld (2020) analyzed that the COVID-19 pandemic has instigated significant changes for health care systems. With clinician burnout rising, efforts to promote clinician resilience are essential. Within this quality improvement project, an interprofessional debriefing program (Brigham Resilience in COVID-19-pandemic Emergency Forum-BRIEF) was developed within two emergency departments (EDs). An interprofessional group of ED providers led optional, nightly debriefings using a web-based portal to connect with ED clinicians for six weeks. In total, 81 interprofessional staff participated in nightly debriefings with a 47% attendance rate. On average, three participants attended the BRIEF nightly (range = 2–8) to discuss the challenges of social distancing, scarce resources, high acuity, clinician burnout and mental health. Participation increased as rates of COVID-19 positive patients rose. Debriefing leaders provided ED leadership with summaries of clinician experiences and suggestions for improvements. Feedback supported quality improvement initiatives within the ED and greater mental health support for staff. Clinicians and administrators provided positive feedback regarding the program's impact on clinician morale, and clinical processes that promoted the safety and quality of patient care. Optional debriefing with receptive departmental leadership may be a successful tool to support clinicians and hospitals during critical events.

Masiero, Mazzocco, Harnois, Cropley & Pravettoni (2020) explained the heterogeneity of COVID-19 experience and response for each individual is irrefutable; nevertheless, similarities can be observed between countries with respect to people's psychological responses. The main aim of this Commentary is to provide a cultural perspective of the sources of trauma, at the individual and social level, in three different countries: Italy, US and UK. The evidence from previous outbreaks, such as SARS, H1N1 flu, Ebola, and the ongoing Italian, the US, and the UK experience of COVID-19 shows that COVID-19 has introduced not only an individual trauma but also a collective trauma, that researchers should attend to now and in future global emergencies. Future clinical interventions should aim to reconnect dissociated parts both in the individual and in society. This commentary discusses four potential sources of trauma: high-stakes decision fatigue in healthcare professionals, traumatic grief, and bereavement in people who have lost loved ones, loss of roles and identity, and social divisions related to economic shutdown.

Li, Ge, Yang, Feng, Qiao, Jiang & Yang (2020) conducted a study to address the concern psychological stress, especially vicarious traumatization caused by the COVID-19 pandemic the study employed a total of 214 general public and 526 nurses (i.e., 234 front-line nurses and 292 non-front-line nurses) to evaluate vicarious traumatization scores via a mobile app-based questionnaire. Front-line nurses are engaged in the process of providing care for patients with COVID-19. The results showed that the vicarious traumatization scores for front-line nurses including scores for physiological and psychological responses were significantly lower than those of non-front-line nurses ($P < 0.001$). Interestingly, the vicarious traumatization scores of the general public were significantly higher than those of the front-line nurses ($P < 0.001$); however, no statistical difference was observed compared to the scores of non-front-line nurses ($P > 0.05$). Therefore, increased attention should be paid to the psychological problems of the medical staff, especially non-front-line nurses, and general public under the situation of the spread and control of COVID-19. Early strategies that aim to prevent and treat vicarious traumatization in medical staff and general public are extremely necessary.

Oğlak & Obut (2020) aimed to investigate the impact of caring with pandemic patients on health care workers who worked in the front line versus their colleagues from the same institution who remained in their usual

hospital wards. This prospective descriptive study was conducted during the Covid-19 pandemic from June 25, 2020 to July 03, 2020. A total of 107 licensed registered nurses enrolled the study. 58 of them were front-line nurses and 49 of them were nurses remained in their usual wards. All participants evaluated by the vicarious traumatization (VT) evaluation scale. The VT scores of the front-line nurses were significantly higher than those of the non-front-line nurses ($p<0.001$). When the domains in the VT score were evaluated, it was seen that the psychological responses and physiological responses of the front-line nurses were significantly higher compared to the non-front-line nurses ($p<0.001$). Medical staff working on the FL for Covid-19 patients had higher scores of vicarious traumatization compared to medical staff serving in their usual wards. The challenges of prolonged care of Covid-19 patients will put pressure on these professionals, and the leadership must emphasize the importance of medical staff mental health for the better control of the pandemic.

Marzetti (2020) assessed the level of professional burnout and secondary traumatic stress, and to identify potential risk or protective factors among health care workers (HCWs) during the corona virus disease 2019 (COVID-19) outbreak. This cross-sectional study, based on an online survey, collected demographic data and mental distress outcomes from 184 HCWs from May 1st, 2020, to June, 15th, 2020, from 45 different countries. The degree of secondary traumatization was assessed using the Secondary Traumatic Stress Scale (STSS), the degrees of perceived stress and burnout were assessed with Perceived Stress Scale (PSS) and Maslach Burnout Inventory Human Service Survey (MBI-HSS) respectively. Stepwise multiple regression analysis was performed to identify potential risk and protective factors for STS. Results showed that 184 HCWs (M=90; Age mean: 46.45; SD: 11.02) completed the survey. A considerable proportion of HCWs had symptoms of secondary traumatic stress (41.3%), emotional exhaustion (56.0%), and depersonalization (48.9%). The prevalence of secondary traumatic stress in frontline HCWs was 47.5% while in HCWs working in other units it was 30.3% ($p<.023$); additionally, the prevalence of the same outcome was 67.1% for the HCWs exposed to patients' death and 32.9% for those HCWs which were not exposed to the same condition ($p<.001$). In stepwise multiple regression analysis, perceived stress, emotional exhaustion and exposure to patients' death remained as significant predictors in the final model for secondary traumatic stress (adjusted $R2 =0.537$, $p<0.001$). During the current COVID-19 pandemic, HCWs facing patients' physical pain, psychological suffering, and death are more likely to develop secondary traumatization.

Vagni, Maiorano, Giostra & Pajardi (2020) analyzed the responses to physical, emotional, cognitive, organizational–relational and COVID-19 stress of 140 healthcare and 96 emergency workers. Decision-making difficulties due to high uncertainty and the fear of contracting the virus and infecting others were also considered. They aimed to detect which stressors caused secondary trauma and to assess the protective power of hardiness. Participants completed the questionnaire online measuring stress, secondary trauma and resilience. Researchers performed t-test, correlation analysis and hierarchical regression. The healthcare workers had higher levels of stress and arousal than the emergency workers group and those involved in the treatment of COVID-19 were exposed to a large degree of stress and were at high risk of developing secondary trauma. Commitment is associated with high levels of stress, arousal and intrusion, while control shows a protective function. Stress and hardiness result in 37% and 17% of the variance of arousal and intrusion, respectively.

Arpacioglu, Gurler & Cakiroglu (2020) conducted the research on secondary traumatization and associated factors among health care workers. Cross-sectional study was applied through an online questionnaire using the snowball sampling method. Two hundred fifty-one health care workers from different units/services and 312 non-medical worker adults attended to the research. Health care workers were divided into two groups based on working with COVID-19 patients at the frontline or not. The data were collected via Introductory Information Form, Secondary Traumatic Stress Scale (STSS) and Patient Health Questionnaire-4 (PHQ-4) between 22 May and 30 May 2020. Among the 563 participants, 251 (44.6%) were health care workers and 312 (55.4%) were non-medical workers. The anxiety, depression and secondary traumatization scores of the frontline health care workers for the COVID-19 were found to be significantly higher than those of the other health workers or non-medical workers ($p < .001$). They also found that being a woman, being in the first years of the work, living with a parent, having a chronic disease, having a trauma history and increased social media use are related to having higher scores from the secondary traumatization scale. The secondary traumatization exposure and the mental health conditions of the health care workers directly working with the COVID-19

patients should be taken into consideration. It is important to provide social support, examine and control riskier groups for mental health regularly during the pandemic.

Zhou, Lai, Wan, Zhang & Tan (2020) aimed to assess the prevalence of burnout, secondary traumatic stress and compassion satisfaction and explore their impact on self-reported hand hygiene behaviour among medical aid team in Wuhan, China, where strict management was conducted to prevent COVID-19 spread and guarantee healthcare workers' health. A cross-sectional study was conducted using online questionnaire covering professional quality of life and self-reported hand hygiene behaviour based on COVID-19 guideline. A total of 1,734 healthcare workers were surveyed. The prevalence of burnout, secondary trauma and compassion satisfaction were low and average levels (69.61 and 30.39%), low and average levels (33.33 and 66.21%), average and high levels (49.65 and 49.71%), respectively. Burnout was negatively associated with overall hand hygiene (Co-ef. =-0.088, p<0.001), low hand hygiene (Co-ef. =-0.109, p<0.001), medium hand hygiene (Co-ef. =-0.088, p<0.001) and high hand hygiene (Co-ef.=-0.065, p<0.001). Healthcare workers with higher compassion satisfaction reported higher hand hygiene compared to the lower. Healthcare workers in medical aid team experience lower level burnout, and higher level of compassion satisfaction during COVID-19 pandemic compared to the general period. The lower burnout and higher compassion satisfaction are associated with higher self-reported hand hygiene behaviour. Burnout and compassion satisfaction in healthcare workers should be emphasize and need interventions targeting. The management of healthcare workers in Wuhan, China may be constructive for the future medical aid team.

Khalafallah, Lam, Gami, Dornbos, Sivakumar, Johnson & Mukherjee (2020) investigated the impact of the COVID-19 pandemic on U.S. neurosurgery resident workflow, burnout, and career satisfaction. In 2020, a survey evaluating factors related to career satisfaction and burnout was emailed to 1,374 American Association of Neurological Surgeons (AANS) residents. Bivariate and multivariate (logistic) analyses were performed to characterize predictors of burnout and career satisfaction. 167 survey responses were received, with a response rate (12.2%) comparable to that of similar studies. Exclusion of incomplete responses yielded 111 complete responses. Most respondents were male (65.8%) and White (75.7%). Residents reported fewer work hours (67.6%) and concern that COVID-19 would impair their achievement of surgical milestones (65.8%). Burnout was identified in 29 (26.1%) respondents and career satisfaction in 82 (73.9%) respondents. In multivariate analysis, burnout was significantly associated with alterations in elective rotation/vacation schedules ($p = .013$) and the decision to not pursue neurosurgery again if given the choice ($p < .001$). Higher post-graduate year was associated with less burnout ($p = .011$). Residents displayed greater career satisfaction when focusing their clinical work upon neurosurgical care ($p = .065$). Factors related to COVID-19 have contributed to workflow changes among U.S. neurosurgery residents. They reported a moderate burnout rate and a paradoxically high career satisfaction rate among neurosurgery residents. Understanding modifiable stressors during the COVID-19 pandemic may help to formulate interventions to mitigate burnout and improve career satisfaction among residents.

Sunjaya, Herawati & Siregar (2020) explored depressive, anxiety, and burnout symptoms among health care personnel with a higher risk for psychological trauma. This study was a cross-sectional study using secondary data from an online assessment, which was conducted one month after the COVID-19 outbreak. A total of 544 respondents from 21 provinces in Indonesia were included. Data on depressive, anxiety, and burnout symptoms were transformed using the Rasch model. Data from health professionals in the higher risk group and the lower risk group were analyzed. A higher percentage of health professionals experiencing depressive symptoms (22.8%), anxiety (28.1%), and burnout (26.8%) are found in the higher risk group. The chance for the higher risk group's personnel to present with moderate and severe depressive symptoms, anxiety, and burnout are 5.3 ($p < 0.05$), 1.36 ($p > 0.05$), and 3.92 ($p < 0.05$) times higher, respectively. The probability for patient-induced burnout is 2.13 ($p < 0.05$) times higher and highest among the other burn out dimensions. The depressive symptoms complained were similar between groups: loneliness, sleep disturbances, difficulty concentrating, and inability to initiate activities. Loneliness demonstrates the highest logit value among the symptoms. Health professionals with direct contact and responsibility to treat COVID-19 patients exhibit a higher risk to experience depressive symptoms and burnout. Communication with peers and staying in contact with family needs to be encouraged. Physiological well-being should be considered for high-risk health personnel. Incentive or insurance guaranteed by the government or institution is essential as a reward and compensation during this period.

Bhaumik, Moola, Tyagi, Nambiar & Kakoti (2020) explained that Corona virus disease (COVID-19), affects 213 countries or territories globally. They received a request from National Health Systems Resource Centre, a public agency in India, to conduct rapid evidence synthesis (RES) on community health workers for COVID-19 prevention and control in 3 days. They searched websites of ministries (n=3), public agencies (n=6), multilateral institutions (n=3), COVID-19 resource aggregators (n=5) and preprints (n=1) (without language restrictions) for articles on community health workers in pandemics. Two reviewers screened the records independently with a third reviewer resolving disagreements. One reviewer extracted data with another reviewer cross-checking it. A framework on community health workers performance in primary healthcare not specific to pandemic was used to guide data extraction and narrative analysis. They retrieved 211 records and finally included 36 articles. Most of the evidence was from low-and middle-income countries with well-established community health workers programs. Evidence from community health workers programs initiated during pandemics and for community health workers involvement in pandemic response in high-income countries was scant. Community health workers roles and tasks change substantially during pandemics. Clear guidance, training for changed roles and definition of what constitutes essential activities (i.e., those that must to be sustained) is required. Most common additional activities during pandemics were community awareness, engagement and sensitization (including for countering stigma) and contact tracing. Community health workers were reported to be involved in all aspects of contact tracing - this was reported to affect routine service delivery. Community health workers have often been stigmatized or been socially ostracized during pandemics. Providing PPE, housing allowance, equal training opportunities, transportation allowance, improving salaries (paid on time and for a broad range of services) and awards in high-profile public events contributed to better recruitment and retention. They also created inventories of resources with guiding notes on guidelines for health workers (n=24), self-isolation in the community (n=10) and information, education and counselling materials on COVID-19 (n=16). Community health workers play a critical role in pandemics. It is important to ensure role clarity, training, supportive supervision, as well as their work satisfaction, health and well-being. More implementation research on community health workers in pandemics is required.

Razumova, Aleshina & Maria (2020) studied the state of work-life balance during the period of changes in the quality of working life due to the pandemic of Covid-19 and the forced transition to remote work. In the theoretical part of the article the authors consider approaches to determining the main elements of the quality of working life and their indicators, identifying various aspects of the studying work life balance. Labor quality indicators usually consider the ratio of working life to non-working life, but in this article the authors give evidence how the quality of working life can influence the achievement of work-life balance. In the practical part of the study, based on the author's survey, the main factors affecting the balance and quality of working life in the context of two-time intervals have been analyzed: before and after introducing of the self-isolation regime. The study has made it possible to determine changes in the work-life balance for different groups of employees due to changes in the main parameters of the quality of working life after the self-isolation regime was introduced and the transition to remote work occurred.

Bartsch, Weber, Büttgen & Huber (2020) reported leadership effectiveness regarding employees' work performance in virtual settings brought on by the COVID-19 pandemic. Drawing on the input–process–outcome (IPO) framework, this research investigated the effectiveness of leadership on service employees' work performance mediated by work-related tension, autonomy, and group cohesiveness. Furthermore, this study explores moderating effects of the service provider's digital maturity. To test the derived model, the authors collected survey data from 206 service employees who, due to the COVID-19 pandemic, unexpectedly had to transform to a virtual work environment. The authors analyzed the data using partial least squares structural equation modeling (PLS-SEM).The results indicated that it took task- and relation-oriented leadership behavior to maintain service employees' work performance in a virtual environment during crisis situations. Further, results indicated mediating effects of service employees' individual job autonomy and team cohesiveness; surprisingly, work-related tension did not impact employees' work performance. Results offered service businesses guidance on how to effectively lead in times of crisis when service employees predominantly work in virtual environments.

Kelly, Lefton, & Fischer (2019) reported burnout, secondary trauma, and compassion satisfaction in acute care nurse leaders through large mixed research methods. The Professional Quality of Life scale was given to nurse leaders at 29 hospitals in 1 health system. Sixteen leaders from 2 hospitals participated in qualitative

interviews. Six hundred seventy-two nurse leaders from 29 hospitals reported similar levels of burnout across frontline, midlevel, and director-level leadership. Directors demonstrated higher levels of compassion satisfaction and lower levels of work-life balance. Four themes emerged representing areas of professional life that potentiate and alleviate compassion fatigue. They concluded that all levels of nurse leaders must address the risk of burnout and can do so through individual and organizational resiliency strategies.

Ivicic **& Motta (2017)** investigated variables associated with secondary traumatization in mental health professionals. Participants included 88 psychologists, social workers, mental health counselors, and creative arts therapists. These participants completed the modified Stroop procedure, which is an objective measure of secondary trauma. They also completed the Secondary Trauma Scale, the Life Events Checklist, the Job Satisfaction Survey, and a demographics questionnaire. Results revealed that between 23 and 27% of respondents were positive for secondary traumatization. Whereas personal trauma history was associated with the modified Stroop and females reported more secondary trauma than males, no relationship was found between level of trauma exposure, quality of supervision, and job satisfaction to secondary traumatization. Overall results indicated a relatively high level of secondary trauma among mental health workers and also show the modified Stroop to be a valid method for studying secondary trauma.

Manning-Jones & Stephens (2016) explored the relationship between coping strategies and psychological outcomes of vicarious traumatic exposure, as well as investigating inter-specialty differences between five distinct groups of health professionals. Results suggested that self-care and social support from friends and family negatively predicted secondary traumatic stress, while humor, self-care and peer support positively predicted vicarious posttraumatic growth (VPTG). Social workers experienced the highest levels of STS and VPTG, while psychologists experienced the lowest levels of both variables. Regarding coping, generally psychologists and counselors reported the highest utilization of coping strategies, while doctors and nurses reported the lowest utilization. However, the opposite pattern was found for peer social support; nurses reported significantly higher levels of peer support than psychologists. The present findings suggested that social workers are most likely to experience both STS and VPTG, while psychologists were the least likely to develop either psychological outcome of vicarious traumatic exposure. Regarding coping, generally psychologists and counselors reported the greatest utilization of coping strategies, social workers displayed a moderate amount, and nurses and doctors displayed the least. However, the opposite pattern was true for peer support; nurses obtained significantly higher scores than psychologists.

Peltzer, Matseke, & Louw (2014) evaluated secondary trauma and job burnout and associated factors in a sample of 71 HIV lay counselors in South Africa. Results indicated that 49.5% were not satisfied with their work environment and 51.4% were potentially secondary traumatic stress cases. In univariate analysis, seeing more HIV counseling and testing clients, being HIV positive and a higher number of lifetime traumas was associated with secondary trauma, while in multivariable analysis only the higher number of lifetime traumas were associated with secondary trauma. In both univariate and multivariable analysis, seeing more HIV counseling and testing clients and a higher number of lifetime traumas were associated with job burnout.

Kessler, McLaughlin, Koenen, Petukhova, Hill & WHO World Mental Health Survey Consortium (2012) analyzed the extent to which people exposed to natural disasters throughout the world also experienced secondary stressors and the extent to which the mental disorders associated with disasters were more proximally due to these secondary stressors than to the disasters themselves. Lifetime exposure to natural disasters was found to be high across countries (4.4–7.5%). 10.7–11.4% of those exposed to natural disasters reported the occurrence of other related stressors (e.g. death of a loved one and destruction of property). A monotonic relationship was found between the number of additional stressors and the subsequent onset of mental disorders. These results document the importance of secondary stressors in accounting for the effects of natural disasters on mental disorders. Implications for intervention planning are discussed.

Bride & Kintzle (2011) argued that secondary traumatic stress may adversely affect the retention of counselors and other helping professionals. However, there has been little research regarding the relationship between Secondary Traumatic Stress and occupational commitment. The purpose of the study was to examine the relationship between Secondary Traumatic Stress and job satisfaction and turnover intention in a sample of 216 substance abuse counselors. Results found Secondary Traumatic Stress to significantly predict both job

satisfaction and occupational commitment, although job satisfaction fully mediated the influence of Secondary Traumatic Stress on occupational commitment. Suggestions for reducing Secondary Traumatic Stress and increasing job satisfaction are discussed.

Dominguez-Gomez & Rutledge (2009) investigated the prevalence of Secondary Traumatic Stress in emergency nurses. Exploratory comparative design was conducted, on 67 emergency nurses from three general community hospitals in California. Survey instruments included a demographic tool and the Secondary Traumatic Stress Survey. Nurses were most likely to have Arousal symptoms (irritability reported by 54% of nurses), followed by Avoidance symptoms (avoidance of patients 52%), and Intrusion symptoms (intrusive thoughts about patients 46%). The majority of nurses (85%) reported at least one symptom in the past week. Utilizing Bride's algorithm to identify STS, 15% of nurses met no criteria, while 33% met all. Nurse participation in stress management activities was associated with less prevalence of Secondary Traumatic Stress symptoms. High prevalence of secondary traumatic stress in our sample indicates that potentially large numbers of emergency nurses may be experiencing the negative effects of secondary traumatic stress. Symptoms may contribute to emotional exhaustion and job separation of emergency nurses.

Devilly, Wright & Varker (2009) performed an assessment for secondary traumatic stress, vicarious trauma and workplace burnout for Australian mental health professionals involved in clinical practice. Recruited directly by mail, randomly selected participants were invited to submit a questionnaire by post or online. Of the 480 participants contacted, 152 mental health professionals completed the questionnaire, which contained measures of STS, VT and burnout. Results showed that exposure to patients' traumatic material did not affect STS, VT or burnout, contradicting the theory of the originators of STS and VT. Rather, it was found that work-related stressors best predicted therapist distress. The findings have significant implications for the direction of research and theory development in traumatic stress studies, calling into question the existence of secondary trauma-related phenomena and enterprises aimed at treating the consultants.

Ives, Greenfield, Parry, Draper, Gratus, Petts,... & Wilson (2009) reported the results of a qualitative study that explored UK HCWs' views (n = 64) about working during an influenza pandemic, in order to identify factors that might influence their willingness and ability to work and to identify potential sources of any perceived duty on HCWs to work. A qualitative study, using focus groups (n = 9) and interviews (n = 5). HCWs across a range of roles and grades tended to feel motivated by a sense of obligation to work through an influenza pandemic. A number of significant barriers that may prevent them from doing so were also identified. Perceived barriers to the ability to work included being ill one, transport difficulties, and childcare responsibilities. Perceived barriers to the willingness to work included: prioritizing the wellbeing of family members; a lack of trust in, and goodwill towards, the NHS; a lack of information about the risks and what is expected of them during the crisis; fear of litigation; and the feeling that employers do not take the needs of staff seriously. Barriers to ability and barriers to willingness, however, are difficult to separate out. Although our participants tended to feel a general obligation to work during an influenza pandemic, there are barriers to working, which, if generalisable, may significantly reduce the NHS workforce during a pandemic. The barriers identified are both barriers to willingness and to ability. This suggests that pandemic planning needs to take into account the possibility that staff may be absent for reasons beyond those currently anticipated in UK planning documents. In particular, staff that is physically able to attend work may nonetheless be unwilling to do so. Although there are some barriers that cannot be mitigated by employers (such as illness, transport infrastructure etc.), there are a number of remedial steps that can be taken to lessen the impact of others (providing accommodation, building reciprocity, provision of information and guidance etc). They suggested that barriers to working lie along an ability/willingness continuum, and that absenteeism may be reduced by taking steps to prevent barriers to willingness becoming perceived barriers to ability.

Rationale

The main objective of this study is to identify and measure the level of secondary traumatic stress, vicarious trauma and satisfaction of work of essential health workers during COVID-19 pandemic. Individuals who provide care or treatment for trauma-related incidents are at a significantly higher risk for the development of secondary traumatic stress and Vicarious Trauma, since the symptoms of these disorders present themselves after "exposure to traumatic experiences described by their clients". Vicarious Trauma and Secondary

Traumatic Stress pose many mental, physical, and emotional problems for health care professionals, including burnout, decreased self-worth and low morale. This can lead to higher staff turnover, as well as decreased productivity amongst health care professionals. Nevertheless, recent research suggests that in a small number of cases, health care providers affected by vicarious trauma and Secondary Traumatic Stress. As Health professionals play a central and critical role in improving access and quality health care for the population. They provide essential services that promote health, prevent diseases and deliver health care services to individuals, families and communities based on the primary health care approach, their subjective and psychological well being plays a crucial role in society. Moreover, reactions linked to difficulties due to ineffective decision-making and dealing with stress can also be considered and their satisfaction towards their job may also vary. Finally, healthcare workers' fears of contracting the virus and of infecting their own families were specifically considered. So, considering all these reasons I wanted to conduct an in-depth study for a better insight of the essential services given by our health professionals and impact of these highly responsible duties on them and their well-being.

Problem

The present study was done to:

- assess significance difference between health professionals and mental health professionals on the measures of secondary traumatic stress, vicarious trauma and satisfaction of work
- assess significance difference between male and female health and mental health professionals on the measures of secondary traumatic stress, vicarious trauma and satisfaction of work

Objectives

The specific objectives of this study are:

- To measure the level of secondary traumatic stress in health and mental health professionals during COVID-19 pandemic.
- To measure the level of vicarious trauma in health and mental health professionals during COVID-19 pandemic.
- To measure the level of satisfaction of work in health and mental health professionals during COVID-19 pandemic.
- To measure the statistically significant difference on male health and mental health professionals and female health and mental health professionals on the measure of secondary traumatic stress during COVID-19 pandemic.
- To measure the statistically significant difference between male health and mental health professionals and female health and mental health professionals on the measure of vicarious trauma during COVID-19 pandemic.
- To measure the statistically significant difference between male health and mental health professionals and female health and mental health professionals on the measure of satisfaction of work during COVID-19 pandemic.

Hypotheses

$H_{(a)}$: There will be a significant difference between the level of secondary traumatic stress in health and mental health professionals during COVID-19 pandemic.

$H_{(a)}$: There will be a significant difference between the level of vicarious trauma in health and mental health professionals during COVID-19 pandemic.

$H_{(a)}$: There will be a significant difference between dissatisfaction of work in health and mental health professionals during COVID-19 pandemic.

$H_{(a)}$: There will be a significant difference between male health and mental health professionals and female health and mental health professionals on the measure of secondary traumatic stress during COVID-19 pandemic.

$H_{(a)}$: There will be a significant difference between male health and mental health professionals and female health and mental health professionals on the measure of vicarious trauma during COVID-19 pandemic.

$H_{(a)}$: There will be a significant difference between male health and mental health professionals and female health and mental health professionals on the measure of satisfaction of work during COVID-19 pandemic.

Variables

Independent variables: health professionals and mental health professionals

Dependent variables: secondary traumatic stress, vicarious trauma and satisfaction of work

Inclusive criteria

- Individuals working as health professionals or mental health professionals during the COVID-19 pandemic.
- Participants belonging to the professional categories defined for the study.
- Male and female participants.
- Individuals willing to participate and provide informed consent.

Exclusive Criteria

Only include exclusions that were actually applied during recruitment. Your current statement that participants were not selected based on age range does not constitute a complete exclusion criterion.

RESEARCH METHOD

Research Design

The present study employed a quantitative, cross-sectional comparative research design to examine secondary traumatic stress, vicarious trauma, and satisfaction with work among health professionals and mental health professionals during the COVID-19 pandemic.

The study aimed to investigate differences between health professionals and mental health professionals across the three psychological variables. Additionally, gender-based differences in secondary traumatic stress, vicarious trauma, and satisfaction with work were examined.

Data were collected using standardized self-report psychological assessment tools. The quantitative data were analysed using descriptive statistics and independent-samples t-tests to examine differences between the respective groups.

The comparative research design was considered appropriate because the primary objective was to identify differences in the measured psychological variables across professional and gender groups.

Participants

The study initially aimed to include 150 participants comprising health professionals and mental health professionals working during the COVID-19 pandemic. Participants were selected using a purposive sampling technique based on their professional background and gender.

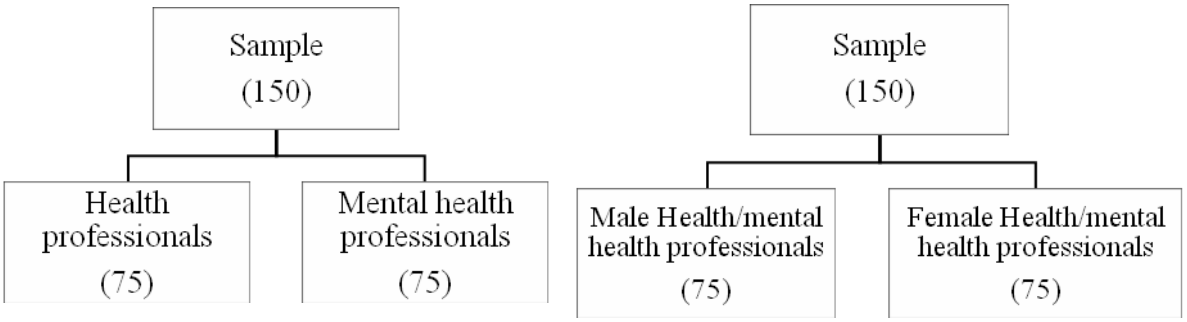
The proposed sample consisted of 75 health professionals and 75 mental health professionals. Gender representation was planned to include 75 male and 75 female participants.

The health professional group included individuals involved in providing medical and healthcare services, such as physicians, surgeons, physician assistants, medical assistants, nurses, and other hospital-based healthcare personnel.

The mental health professional group included psychologists and psychiatrists involved in providing psychological and psychiatric services.

Purposive sampling was adopted to recruit participants belonging to the professional categories relevant to the objectives of the study.

The study examined differences in secondary traumatic stress, vicarious trauma, and satisfaction with work across professional and gender groups.



Measures

Socio-demographic data were self-reported by participants and included gender, age, and specific work during COVID-19 pandemic at their workplace.

Secondary Traumatic Stress Scale (STSS): It is developed by Bride, Robinson, Yegidis & Figley, with good psychometric properties. The STSS is a 17-item questionnaire designed for measure the negative impact of indirect exposure to traumatic events in health care workers caring for suffering or traumatized clients. The traumatic stressors for health care workers are identified as exposure to patients. Respondents are ask to indicate how frequently the item was true for them in the past some months on a 5-point Likert scale ranging from 1 (never) to 5 (very often). Scores of each of the 17 items were summed with a minimum possible score of 17 and a maximum score of 85. Reliability - The internal consistency of the STSS and its subscales. DeVellis (1991) stated that alpha values between .80 and .90 should be considered very well. Means, standard deviations, and alpha levels for the STSS and its subscales were as follows: Full STSS (M = 29.49, SD = 10.76, α = .93), Intrusion (M = 8.11, SD = 3.03, α = .80), Avoidance (M = 12.49, SD = 5.00, α = .87), and Arousal (M = 8.89, SD = 3.57, α = .83). Validity -claims for the convergent and discriminant validity also factorial validity of the STSS and its subscales appear to be supported.

Vicarious trauma scale: It is developed by Vrklevski & Franklin (2008). Vrklevski and Franklin developed the VTS “to assess subjective levels of distress associated with working with traumatized clients (2008). It is an 8 item self-report questionnaire. The measure is scored on a 7 point Likert scale with 1=Strongly disagree, 2=Disagree, 3=Slightly disagree, 4=Neither agree nor disagree, 5=Slightly agree, 6=Agree, 7=Strongly agree.

Scores of each of the 8 items were summed for an overall score ranging from 8 to 56. Scores of 8-28 indicate low Vicarious Trauma, 29-42 indicate moderate or average Vicarious Trauma levels, and 43-56 indicate high levels of Vicarious Trauma. 107 respondents completed the measure. Reliability- the VTS has good internal consistency reliability (cronbach’s alpha = 0.77). Validity- Claims the construct validity.

Satisfaction with work scale: It is developed by Vrklevski & Franklin (2008). The Satisfaction with work Scale was developed to assess satisfaction with the respondent's work life as a whole. The scale does not assess satisfaction with life domains such as health or finances but allows subjects to integrate and weight these domains in whatever way they choose. Normative data are presented for the scale, which shows good convergent validity with other scales and with other types of assessments of subjective well-being.

Work satisfaction as assessed by the satisfaction with work scale shows a degree of temporal stability (e.g., .54 for 4 years), yet the satisfaction with work scale has shown sufficient sensitivity to be potentially valuable to detect change in life satisfaction during the course of clinical intervention.

Further, the scale shows discriminant validity from emotional well-being measures. A 5-item scale designed to measure global cognitive judgments of one's work life satisfaction (not a measure of either positive or negative affect). Participants indicate how much they agree or disagree with each of the 5 items using a 7-point likert scale that ranges from 7 strongly agree to 1 strongly disagrees. The scale's reliability showed good internal consistency ($\alpha = 0.74$).

The exploratory factor analysis confirmed the existence of a unique factor structure that explained 54% of the variance. Show good internal consistency and construct validity of the satisfaction with work scale. SWLS has satisfactory construct validity. More specifically, SWLS has good divergent validity, since it showed low to moderate negative correlation to experiencing of negative emotions (r= -.26), stress (r= -.27), depression (r= -.42) and anxiety (r= -.24).

Moreover, the SWLS showed moderate positive correlation to subjective happiness (r= .61), psychological resilience (r= .46), hope (r= .60), experiencing of positive emotions (r= .41) and presence of meaning in life (r= .47), which are indicative of good convergent validity. Finally, the SWLS showed adequate concurrent validity, since the correlation index with LSI was r= .77.

Statistical analysis

In order to assess statistically significant difference between health professionals and mental health professionals and gender differences on the measure of secondary traumatic stress, vicarious trauma and satisfaction of work during COVID-19 pandemic by 't' test.

RESULT TABLES

Table 1- secondary traumatic stress measured among health professionals and mental health professionals using't' test.

SCALE	Health professionals			Mental health professionals			't'
STSS	N	MEAN	S.D.	N	MEAN	S.D.	value
	76	33.92	6.78	75	31.46	7.11	2.18*

**P<0.01 *P<0.05

Table 2- vicarious trauma measured among health professionals and mental health professionals using't' test.

SCALE	Health professionals			Mental health professionals			't'
Vicarious Trauma	N	MEAN	S.D.	N	MEAN	S.D.	value
	76	25.8	7.02	75	23.33	5.99	2.31*

**P<0.01 *P<0.05

Table 3- satisfaction of work measured among health professionals and mental health professionals using't' test.

SCALE	Health professionals			Mental health professionals			't'
Satisfaction of work	N	MEAN	S.D.	N	MEAN	S.D.	value
	76	26.57	4.35	75	27.26	2.87	1.15*

**P<0.01 *P<0.05

Table 4- secondary traumatic stress measured among male and female health/mental health professionals using‘t’ test.

SCALE	Male Health/mental health professionals			Female Health/mental health professionals			‘t’
STSS	N	MEAN	S.D.	N	MEAN	S.D.	value
	75	33.21	6.73	75	32.29	7.32	0.81

**P<0.01 *P<0.05

Table 5- vicarious trauma measured among male and female health/mental health professionals using‘t’ test.

SCALE	Male Health/mental health professionals			Female Health/mental health professionals			‘t’ value
Vicarious trauma	N	MEAN	S.D.	N	MEAN	S.D.	
	75	25.88	7.09	75	23.38	5.96	2.34**

**P<0.01 *P<0.05

Table 6- satisfaction of work measured among male and female health/mental health professionals using‘t’ test.

SCALE	Male Health/mental health professionals			Female Health/mental health professionals			‘t’ value
Satisfaction of work	N	MEAN	S.D.	N	MEAN	S.D.	
	75	26.60	3.60	75	27.19	3.84	0.98

**P<0.01 *P<0.05

RESULTS

Table 1 shows indicate a statistically significant difference in secondary traumatic stress between health professionals and mental health professionals, based on the reported t-statistic (t = 2.18, approximate p = .031). Health professionals obtained a higher mean score (M = 33.92, SD = 6.78) than mental health professionals (M = 31.46, SD = 7.11). This indicates higher reported secondary traumatic stress scores among health professionals in the present sample.

Table 2 shows comparison of vicarious trauma between health professionals and mental health professionals. The comparisons shows that health professionals had statistically significantly higher level of vicarious trauma (M=25.80, SD=7.02) during COVID-19 Pandemic compared to mental health professionals (M=23.33, SD=5.99); $t_{(df)}$=2.31.

Table 3 shows comparison of work satisfaction between health professionals and mental health professionals revealed no statistically significant difference based on the reported t-statistic (t = 1.15, approximate p = .252). Mental health professionals obtained a slightly higher mean score (M = 27.26, SD = 2.87) compared to health professionals (M = 26.57, SD = 4.35). However, this observed difference was not statistically significant.

Table 4 shows comparison of secondary traumatic stress between male and female participants did not reveal a statistically significant difference based on the reported t-statistic (t = 0.81, approximate p = .419). Male participants obtained a slightly higher mean score (M = 33.21, SD = 6.73) compared to female participants (M = 32.29, SD = 7.32). However, the observed difference was not statistically significant.

Table 5 shows comparison of vicarious trauma between male and female health and mental health professionals. The comparisons shows that male health and mental health professionals had statistically

significantly higher level of vicarious trauma (M=25.88, SD=7.09) during COVID-19 Pandemic compared to female health and mental health professionals (M=23.38, SD=5.96); $t_{(df)}$=2.34.

Table 6 shows comparison of satisfaction with work between male and female participants did not reveal a statistically significant difference based on the reported t-statistic (t = 0.98, approximate p = .329). Female participants obtained a slightly higher mean score (M = 27.19, SD = 3.84) compared to male participants (M = 26.60, SD = 3.60). However, the difference was not statistically significant.

DISCUSSION

The present study aimed to examine differences in secondary traumatic stress, vicarious trauma, and satisfaction with work among health professionals and mental health professionals during the COVID-19 pandemic. Additionally, gender-based differences in these psychological variables were investigated.

The findings, based on the reported descriptive statistics and t-values, indicate a statistically significant difference in secondary traumatic stress between health professionals and mental health professionals. Health professionals obtained higher mean scores than mental health professionals. This finding may be associated with differences in professional responsibilities, workload, exposure to critically ill patients, and occupational demands during the pandemic. However, these explanations require further investigation.

Similarly, a statistically significant difference was observed in vicarious trauma between the two professional groups, with health professionals reporting higher mean scores. Repeated exposure to patients' suffering, uncertainty regarding treatment outcomes, and prolonged occupational stress may have contributed to these differences.

In contrast, the comparison of satisfaction with work did not indicate a statistically significant difference between health professionals and mental health professionals. Although mental health professionals obtained a slightly higher mean score, the observed difference was not statistically significant. Therefore, the findings do not provide sufficient evidence to conclude that professional category was associated with differences in work satisfaction.

Regarding gender differences, the findings indicated no statistically significant difference in secondary traumatic stress between male and female participants. Although male participants obtained a slightly higher mean score, the difference was not statistically significant.

A statistically significant gender difference was observed in vicarious trauma, with male participants obtaining higher mean scores than female participants. Nevertheless, gender should not be considered an independent explanation for this difference without examining other potentially relevant factors, such as professional category, work experience, occupational exposure, and working conditions.

Finally, the comparison of work satisfaction between male and female participants did not indicate a statistically significant difference. Although female participants obtained a slightly higher mean score, the observed difference was insufficient to establish a meaningful gender-based difference.

Overall, the findings suggest that professional category and gender may be associated with differences in certain dimensions of occupational psychological experiences during the COVID-19 pandemic. However, the findings should be interpreted cautiously, particularly considering the sampling procedure, self-reported nature of the assessment instruments, and the possibility of unmeasured confounding variables.

LIMITATIONS OF THE STUDY

The present study has certain limitations that should be considered while interpreting its findings.

1. **Sampling Technique:** The study employed purposive sampling, which may limit the representativeness of the sample and restrict the generalizability of the findings to the broader population of health and mental health professionals.

2. **Self-Reported Measures:** Data were collected through self-report psychological assessment instruments. Therefore, responses may have been influenced by social desirability, individual perceptions, recall bias, or subjective interpretation of questionnaire items.

3. **Sample Characteristics:** The study included selected professional categories and gender groups. Differences in professional experience, occupational responsibilities, institutional settings, and exposure to COVID-19 patients may have influenced the findings.

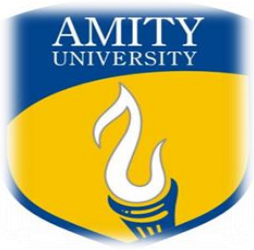
4. **Potential Confounding Variables:** Factors such as age, years of professional experience, working hours, workplace environment, direct exposure to COVID-19 patients, and organizational support were not adequately controlled in the analysis.

5. **Cross-Sectional Design:** The study employed a cross-sectional comparative approach, which limits the ability to establish causal relationships or examine changes in psychological experiences over time.

Future research should consider larger and more representative samples, probability-based sampling techniques, longitudinal research designs, and the inclusion of additional occupational and organizational variables.

CONCLUSION

The aim of the current study was to assess significance difference between health professionals and mental health professionals on the measures of secondary traumatic stress, vicarious trauma and satisfaction of work and to assess significance difference between male and female health and mental health professionals on the measures of secondary traumatic stress, vicarious trauma and satisfaction of work. The independent variable in the study is health professionals and mental health professionals and the dependent variables in the study are secondary traumatic stress, vicarious trauma and satisfaction of work. The total sample was selected is of 150 participants. Out of them 75 were health professionals and 75 of them are mental health professionals, also 75 of them were female and 75 of them were males. Tools used for the study are- Secondary Traumatic Stress Scale (2004) by Bride, Robinson, Yegidis & Figley contains 17 items. Vicarious trauma scale (2008) by Vrklevski & Franklin contains 8 items. Satisfaction with work scale by Vrklevski & Franklin (2008) contains 5 items. Results showed that during COVID-19 pandemic the comparisons shows that health professionals had statistically significantly lower level of secondary traumatic compared to mental health professionals. Health professionals had statistically significantly higher level of vicarious trauma compared to mental health professionals. Health professionals had statistically significantly higher level of satisfaction of work compared to mental health professionals. There is also comparison of male health and mental health professionals which had statistically significantly lower level of secondary traumatic stress compared to female health and mental health professionals. Male health and mental health professionals had statistically significantly higher level of vicarious trauma compared to female health and mental health professionals. Male health and mental health professionals had statistically significantly lower level of satisfaction of work compared to female health and mental health professionals. The implications of the outcome are that even in such adverse condition it is necessary to maintain working hours of a health or mental health professionals, so that it won't affect their mental health. Some steps should be taken to help these front line workers and also those mental health workers who are treating people with mental illness in this period of pandemic. It is also necessary to provide psychological support, training and supervision to healthcare professionals and support to mental health professionals working in this critical scenario, and to help them reflect on how to react emotionally and psychologically to a catastrophic event. Furthermore, healthcare organizations and authorities should provide healthcare professionals with information on how to manage stress, reduce burnout and increase resilience during a crisis of this magnitude. In addition, resilience can be acquired through mental health training, which can improve an individual′s sense of self-confidence, self-efficacy and coping mechanisms. Also, this study can be further preceded in the direction of large sample sizes and more sample should be collected of nurses and ward boys which helps more to work in depth in this study and in understanding the importance of mental health in hospital world.



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