Stress of COVID-19: Coping Strategies for Healthcare Workers

Editors: Lauren Robertson, BA, MPT and Judy Johnstone, BA

Contact hours: 8.0

Course price: $29

Course Summary

In early 2020, medical and social science researchers sprang into action as they saw signs of unusual stress in the healthcare professionals who were faced with overwhelming numbers of COVID patients, some of whom were not going to survive. As numbers of infections grew exponentially it was clear that mental health among healthcare workers was being challenged as never before. This course brings together the findings of eight research groups who examined coping mechanisms that are both supportive and pragmatic.

In shortened form, here are the topics that comprise this course: (1) Traumatic Stress in Healthcare Workers During COVID-19; (2) COVID-19 Stress Syndrome; (3) Coping with COVID-19; (4) Mental Health Challenges of U.S. Healthcare Professionals; (5) Psychological Support for Healthcare Workers; (6) Breaking the Silence; (7) Caring for Health Professionals. . . An Epidemic of Empathy; (8) Social Stigma during COVID-19; and (9) The Impact of COVID-19 on Allied Health Professionals.

Criteria for Successional Completion

A score of 80% or higher on the post test, a completed evaluation form, and payment where required. No partial credit will be awarded.

Course Objectives

When you have finished this course, you will be able to:

1. Explain 3 symptoms associated with psychological trauma.
2. List 5 ways in which the COVID-19 pandemic is affecting mental health.
3. State 2 elements of self-efficacy that you can rely on in coping with COVID-19.
4. Explain 3 ways in which your mental health challenges can be met and resolved.
5. State 2 ways in which psychosocial support can be demonstrated in your own clinical setting.
6. Understand the conspiracy of silence regarding mental health issues and suicide among healthcare workers.
7. Define the phrase “epidemic of empathy.”
8. Understand how social stigma affects healthcare providers during a pandemic.
9. State 3 key impacts COVID-19 is having on allied health professionals.

Instructions for Mail Order

Once you've finished studying the course material:

1. Record your test answers on the answer sheet.
2. Complete the course evaluation.
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1. Traumatic Stress in Healthcare Workers During COVID-19 Pandemic

Authors: Agata Benfante, Marialaura Di Tella, Annunziata Romeo, and Lorys Castelli

Summary

The COVID-19 pandemic is classifiable as a traumatic event of exceptional magnitude that transcends the range of normal human experience with exposure to risk of death. Meta-analyses have found a high prevalence of anxious and depressive symptoms among healthcare workers, especially among women and nurses. People exposed to trauma can experiment with positive responses, reconsidering their values and appreciating their lives more

Exploring COVID Stress

The World Health Organization (WHO) declared COVID-19 as a pandemic on March 11, 2020, when infections and deaths began to increase exponentially worldwide. Such an extraordinary event will have long-term effects on mental health according to previous studies of epidemics and quarantine. The COVID-19 pandemic is classifiable as a traumatic event of exceptional magnitude that transcends the range of normal human experience with exposure to risk of death. These aspects can trigger psychopathologies such as acute stress disorder and posttraumatic stress disorders (Benfante et al., 2020).

Healthcare workers have been faced with unprecedented demands, both professionally and personally, in efforts to manage a disease with unclear etiology and pathology, no cure, no vaccine, and a high mortality rate. They are obliged to make difficult ethical decisions and function professionally under conditions of fear for themselves and their loved ones (Benfante et al., 2020).

Meta-analyses have found a high prevalence of anxious and depressive symptoms among healthcare workers, especially among women and nurses. In addition, a series of recent reviews highlighted that risk factors, such as being female, younger, being a nurse, lack of adequate protective equipment, and exposure to infected people, have been found to be associated to trauma-related symptoms in previous epidemics. Available studies also show an important presence of COVID-19 trauma and stress-related symptoms in the general population and in patients (Benfante et al., 2020).

The multiple sources of distress that face healthcare workers are important to consider, such as concern about the spread of the virus, their own health, the health of their loved ones, and changes in the work environment. Healthcare workers are also at risk for moral injury, that is psychological distress derived from actions (or the impossibility of implementing actions) that violate their personal ethical and moral codes. All these aspects contribute to the possibility that healthcare workers develop psychopathological disorders such as PTSD, severe depression, and substance abuse (Benfante et al., 2020).

Early symptoms of psychological trauma, together with symptoms of anxiety, depression, and insomnia, must be recognized, so that appropriate interventions can consider the organizational needs of healthcare workers, risk and protective factors, and possibly include actions to promote post-traumatic growth. The literature suggests that people exposed to trauma can experiment with positive responses, reconsidering their values and appreciating their lives more as well as their work in emergency situations. These aspects can be fostered by psychological interventions (Benfante et al., 2020).

References: Traumatic Stress

For these references, please go to https://www.frontiersin.org/articles/10.3389/fpsyg.2020.569935/full.

2. COVID Stress Syndrome: 5 Ways the Pandemic Is Affecting Mental Health

Author: Gordon J. G. Asmundson

Summary

Conventional mental health approaches and diagnoses do not fully capture the nuanced mental health impacts of this pandemic. Our COVID stress scales have revealed 5 elements of COVID stress that together form a COVID stress syndrome. The need for devising interventions is just as important as the development of a vaccine.

Unprecedented Impact

In addition to its staggering impact on physical well-being and mortality, COVID-19 is also taking an unprecedented toll on our mental health. Numerous recent studies have shown global increases in the prevalence and severity of depression and anxiety as well as increases in post-traumatic stress disorder and substance abuse. These increases likely stem from the changes to daily life we have all been asked to make in attempts to mitigate viral spread.

Yet, conventional mental health approaches and diagnoses do not fully capture the nuanced mental health impacts of this pandemic. These approaches may not be sufficient to guide the development of strategies to address the pandemic's rapidly increasing mental health burden.

As clinical psychologists with expertise in fear and anxiety-related conditions, as well as assessment and treatment development, our team at the University of Regina was interested in trying to fully understand the specific mental health effects of this pandemic in order to inform the development of effective public health messaging and evidence-based interventions.

Supported by funding from the Canadian Institutes of Health Research and the University of Regina, we conducted a longitudinal population-based survey of a large sample of Canadian and American respondents, with surveys administered in late March, mid-May, and early July of 2020. Based on this data we determined that the mental health impact of COVID-19 is best understood as a multi-faceted syndrome comprising a network of interconnected symptoms.

COVID Stress Scales

Using data from approximately 7,000 respondents collected in late March, we developed, validated and published our COVID Stress Scales. These scales assess five core features of COVID-19-related stress:

- Fear of danger and contamination.
- Fear of adverse socio-economic consequences.
- Checking and reassurance seeking.
- Xenophobia (discrimination against foreigners).
- Traumatic stress symptoms (for example, pandemic-related nightmares).

Since the five scales were intercorrelated, they can also be summed to provide an overall indication of pandemic-related stress levels. The COVID Stress Scales, now translated into 12 languages, offer widespread promise as a tool for better understanding the distress associated with COVID-19 and for identifying people in need of mental health services. An online self-assessment that provides people with a severity rating and self-help recommendations is now available.

COVID Stress Syndrome

The five COVID Stress Scales are intercorrelated; that is, the symptoms measured by each of the five scales tend to occur together. This observation provided initial evidence that the various symptoms of COVID-19-related distress may be facets of a syndrome. We further evaluated and confirmed this idea in a subsequent study.

The COVID stress syndrome is anchored by COVID-19-related danger and contamination fears as its central feature, with strongest connections to fear of adverse socio-economic consequences and disease-related **xenophobia** (fear of foreigners who might be carrying infection). Fear of adverse socio-economic consequences was the second-most central feature, highlighting the importance of impacts of the pandemic on social and financial security.

Traumatic stress symptoms were the third-most central feature and most strongly associated with danger and contamination fears and checking and reassurance seeking, suggesting a vicious cycle wherein these facets of the syndrome fuel each other. For example, more exposure to COVID-19 news or social media may lead to greater frequency of nightmares about COVID-19, which, in turn, increases fear of contamination and further fuels checking the news and social media for up-to-date information.

Although less central, xenophobia affected fears of danger and contamination, socio-economic consequences and, to a lesser extent, checking and reassurance seeking, highlighting the impact of discriminatory beliefs on pandemic-related emotional responding.

COVID Stress Syndrome

- Danger and contamination fears
- Xenophobia
- Traumatic stress
- Compulsive checking and reassurance seeking
- Socioeconomic concerns

Substantial Mental Health Footprint

Our preliminary findings suggest the percentage of the population affected by COVID stress syndrome is substantial, with the mental health footprint of COVID-19 exceeding the medical footprint. Although 2% of our sample reported having had COVID-19 and 6% knew someone who had been infected, 38% and 16% respectively were classified as having moderate-to-severe or severe COVID-19-related distress.

In short, more than 50% of the population reported considerably elevated levels of distress specific to the pandemic. Higher scores were associated with things like panic buying, excessive avoidance of public places and unhelpful ways of coping (for example, overeating and overusing drugs and alcohol) during self-isolation.

In subsequent studies we have shown that elevated COVID stress is also associated with greater stigmatization of healthcare workers and that the significant proportion of the population with pre-existing anxiety disorders experience more negative effects than those with depressive disorders or no mental health conditions.

On a positive note, we have also observed that elevated COVID stress is associated with favorable attitudes towards vaccination, use of personal protective equipment, and pandemic-related altruism.

Looking Forward

Our research has identified what appears to be a network of interconnected symptoms, a COVID stress syndrome, with fear of the dangerousness of the SARS-CoV-2 virus at the core, interconnecting to socio-economic concerns, xenophobia, traumatic stress symptoms and compulsive checking and reassurance seeking. The syndrome, in turn, is primarily associated with other negative mental health and socially disruptive consequences such as panic buying, excessive avoidance, and unhelpful ways of coping during self-isolation.

We anticipate that as the COVID-19 pandemic evolves, so too will the mental health challenges and needs of the public. Further research is needed to understand the full effects of COVID-related stress and whether these change as the pandemic progresses.

Research is also needed to understand the disruptive impact of the antithesis of COVID-19 stress, that being a disregard for the seriousness of COVID-19 and its consequences.

COVID-19 has generated a complex network of mental health reactions. The concept of the COVID stress syndrome can help build the nuanced understanding of those reactions necessary to develop targeted, evidence-based campaigns and interventions to reduce its psychological footprint. These developments are as critical to reducing the mental health toll of the pandemic as is the discovery of a vaccine to facilitate immunity.

3. Coping with COVID-19: Emergency Stress, Secondary Trauma, and Self-Efficacy in Healthcare and Emergency Workers in Italy

Authors: Monia Vagni, Tiziana Maiorano, Valeria Giostra, and Daniela Pajardi

Summary

One of the earliest studies was done in Italy, where the first epidemic outside of China arose. Not surprisingly, researchers found that professionals who were provided with the necessary knowledge and equipment were more resilient during the emergency response. They separated problem-focused strategies (to modify or solve a stressful situation through active intervention) from emotional coping (denial and avoidance). They note that low perceptions of self-efficacy have been found to be a predictor of PTSD in other studies.

Abstract

Coping with the coronavirus disease (COVID-19) is a significant risk factor for the psychological distress of healthcare workers. This study explores 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.

*COVID-19 became epidemic in Italy before its appearance in the United States.

We study differences between healthcare and emergency (frontline) 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. For this purpose, we collected data from participants through the following online questionnaires: 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).

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 great 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.

Introduction

The coronavirus disease (COVID-19), or the acute respiratory disease caused by SARS-CoV-2, began spreading in China at the end of 2019 and, to date, represents an international health emergency without precedent in terms of its health, economic, and organizational effects on people's lives (WHO, 2020).

After China, Italy was the first country to be affected by this epidemic, with the first deaths on February 20, 2020 and a rapid increase in the spread of infection and mortality. COVID-19 was first detected in Northern Italy, and it then spread, although at different rates of incidence, to the other regions.

It was immediately evident that healthcare and emergency workers were at great risk of contagion and that protection and intervention protocols needed to be introduced because of the exceptional nature of the epidemic, the rate of spread of the infection, the seriousness of patients' health condition, and the mortality index.

The extreme conditions in which health workers have had to work, especially in the most affected regions in Northern Italy, are indicated by the following data from the Italian National Institute of Health (2020): more than 150 doctors died and 25,000 other health workers were infected, in a general population of 30,000 deaths and 220,000 infections within a span of 11 weeks.

It was clear that the medical staff would experience serious psychological repercussions because of the working conditions as well as the difficulty of maintaining scientific guidelines on care and intervention procedures. To this must be added the increase in workload, the extension of working hours and, for health workers, the frequent exposure to the suffering and death of their patients; healthcare and emergency workers were subjected to serious psychological and physical stress.

The aim of this study, as with a previous study (Vagni et al., 2020), is to focus on the similarities and the differences in the stress management of two professional groups—healthcare workers and emergency workers—during the acute phase of the pandemic. Both groups have had to deal with COVID patients as frontline responders and have been exposed to the related risks of infection and psychological consequences, which, to date, have not been examined in detail through a comparative analysis.

As to the stress that they experience, the literature clearly explains that both healthcare and emergency workers who intervene in emergency situations are exposed to the risk of developing dysfunctional reactions that can be identified at different levels:

- Physical and/or physiological (psychosomatic disorders, sleep/wake cycle alterations, sense of tiredness);
- Emotional (irritability, nervousness, agitation, anger, low self-esteem, guilt);
- Cognitive (distractibility, sense of ineffectiveness, negative anticipation of events); and
- Relational (increase in conflicts within emergency teams and/or with their organization/institution, and social withdrawal).
- Reactions from secondary trauma. (Bellelli & Di Schiena, 2012; Walton et al., 2020; and others)

Faced with stressful events related to lack of previous experience and specific necessary knowledge, and which cause tension owing to the need for rapid decisions and a sense of responsibility, emergency workers may come to believe that their decisions are ineffective. In fact, emergency situations are characterized by high levels of decisional and operational uncertainty with associated regret and guilt (Del Missier et al., 2008).

We should note that several studies have highlighted that insufficient instructions and a lack of personal protective equipment (PPE) are important predictors of stress for healthcare and emergency workers in large-scale emergencies (Oh et al., 2017; Du et al., 2020; El-Hage et al., 2020; Walton et al., 2020).

Oh and colleagues (2017) noted that nurses involved in managing the Middle East respiratory syndrome (MERS) experienced lower levels of stress when the levels of PPE and training were higher. Some studies have indicated that frontline healthcare workers had lower secondary traumatization scores than both non–frontline health workers and the general public, in contrast to the findings on the SARS outbreak in the same area in Singapore (Chan & Huak, 2004).

According to Barleycorn (2019) and Tan and colleagues (2020), these results may be due to the dedicated training and psychological support given to healthcare workers after the SARS outbreak and demonstrate the validity of policy strategies for prevention of stress in the mental health field.

An analysis of 14 studies published from January to March 2020 aimed at investigating the stress experience of healthcare workers facing COVID-19 shows that they experienced symptoms of depression and anxiety. Moreover, the severity of their symptoms was influenced by their age, gender, role, specialization, type of activity performed, and exposure to patients with COVID-19; however, prevention, resilience, and social support mediated their response to stress (Bohlken et al., 2020).

In a review of the literature, Spoorthy (2020) underlined that sociodemographic variables, such as age, gender, profession, and workplace, and psychological variables, such as poor social support and self-efficacy, affect the stress level experienced by health workers. In addition, COVID-19 emerged as an independent factor for stress risk. Xiao and colleagues (2020) found that social support plays a role in reducing the anxiety levels in medical staff and increasing their sense of self-efficacy.

According to Walton and colleagues (2020), the specific stressors that health workers face in the COVID-19 emergency are related to the organizational context. The challenges for medical staff include not only an increased workload but also a fear of infection, the need to work with new protocols that change frequently, and the use of PPE.

In uncontrollable situations such as a pandemic, when specific protocols are absent and limited resources are available, health workers carry heavy responsibility as they are faced with making individual decisions that may be contrary to their moral principles. For example, in the case of COVID-19, they may have to choose which patients to save because only a few places are available in intensive care.

In this regard, Cai and colleagues (2020) showed that, for a sample of 534 healthcare professionals who worked closely with COVID-19 patients in Hubei, the most stressful factors were:

- Lack of protocols for treating COVID-19
- Scarcity of PPE
- Exhausting work shifts
- Concern about the risk of infection
- Exposure to the suffering and death of their patients.

They also found that the support of superiors proved to be one of the most important motivational factors for medical staff, and the presence of clear guidelines and effective safety protocols were protective factors against the development of stress, in particular, for females.

Further, Walton and colleagues (2020) identified the organizational stressors as the:

- Changes in work shifts, the
- Prevalence of night shifts, an
- Excessive workload,
- Staff roles,
- Autonomy, the
- Lack of support from superiors, and the
- Absence of adequate information and clear instructions.

On the basis of these stressors, they estimated that 10% of the medical staff working on the front line of this pandemic are at risk of developing post-traumatic stress disorder (PTSD). In addition, limited resources, longer shifts, decreased hours of rest, and the occupational risks associated with COVID-19 exposure have increased the physical and mental fatigue, stress, anxiety, and burnout of these staff members (Sasangohar et al., 2020).

The loss of a social support network, which can be important to resilience, is another risk factor (Ozbay et al., 2007). In the COVID-19 emergency, both healthcare and emergency workers have often experienced a separation from their social supports, either because of the restrictions imposed by the lockdown or the fear of spreading the infection to family members. Also, although at first health workers received unanimous encouragement from the population, later they also experienced stigma and isolation. Some studies have shown that being able to resort to their own social support network is a significant protective factor for health workers dealing with this emergency (Cai et al., 2020).

As Favretto (2005) stated, when individuals experience situations that go beyond their coping strategies, their vulnerability to psychopathologic reactions increases. Studies conducted during previous epidemics (SARS, MERS, Ebola) converge in reporting that healthcare and emergency workers may experience extremely high levels of stress and even progress to traumatic stress or vicarious trauma. This trauma is defined as an experience of symptoms similar to those found in people with PTSD, such as in emergency nurses working with traumatized patients (Beck, 2011).

Figley (1995) defined it as a form of stress that derives from the feelings of empathy experienced when helping traumatized people. The symptoms may include:

- Intrusive recurring thoughts
- Disturbed sleep
- Fatigue
- Physical symptoms
- Hyperarousal
- Increased stress response
- Anxiety
- Depression
- Feeling emotional (Adriaenssens et al., 2012)

Wolf and colleagues (2016) described how nurses may feel “overwhelmed,” and this condition becomes a source of moral distress that triggers feelings of powerlessness, guilt, fear, anger, and frustration.

The sense of frustration and impotence felt by nurses when they are unable to treat and save a patient has been highlighted as a risk factor for secondary traumatic stress in several studies (Missouridou, 2017). Avoidance and emotional numbing can become tools for self-protection from intrusive symptoms that exceed the personal tolerance level (Coetzee & Klopper, 2010; Mealer & Jones, 2013). Their frustration obviously intensifies upon a patient’s death. The onset of PTSD in the health workers involved in treating MERS was also detected after the acute phase of the emergency was over, highlighting a risk not only in the immediate period but also in the medium-term period (Lee et al., 2018).

As to COVID-19, updated studies conducted on Chinese health workers have already highlighted the strong impact of the epidemic on the psychological health of doctors and nurses. Some studies have found that healthcare workers have high levels of anxiety, depression, insomnia, and distress (Lai et al., 2020; Li et al., 2020; Zhu et al., 2020). In particular, female professionals with more than 10 years of experience and previous psychiatric pathology present more risk factors of developing the symptoms of stress, anxiety, and depression (Lai et al., 2020; Zhu et al., 2020).

Huang and colleagues (2020) studied stress levels during the COVID-19 emergency in a sample of medical staff. They found that females showed higher levels of anxiety and PTSD than males and that the levels were higher for nurses than for doctors. Moreover, Li and colleagues (2020) found that nurses had developed higher levels of vicarious trauma than those of the general population and that nurses who did not work closely with COVID-19 patients showed a more severe symptomatology, both physical and psychological, compared with their colleagues working on the frontline emergency services.

In Italy, a study conducted on healthcare workers found that doctors and nurses developed high levels of stress and anxiety, greater than those developed by the general population, and that healthcare workers operating in the North, the area of Italy most affected by the virus, showed more severe symptomatology (Simione & Gnagnarella, 2020). This study also confirmed that females tend to have a greater perception of the risk of infection, which increases their risk for developing the symptoms of anxiety and distress.

Because of their long, intense exposure to various stressors, it is important to note the nature of the coping strategies used by these healthcare and emergency workers and their effectiveness in reducing and coping effectively with stress. Indeed, the effective management of stress levels in the acute/emergency phase could reduce the risk of developing long-term PTSD or other pathologies, such as anxiety and depression (Fullerton et al., 2004; Slottje et al., 2005; Argentero and Setti, 2011; Sakuma et al., 2015; Birinci and Erden, 2016; Li et al., 2017).

Coping may be defined as a series of cognitive and behavioral efforts to manage specific internal or external issues that test or exceed individual resources (Lazarus & Folkman, 1984). A distinction can be made between problem-focused and emotion-focused coping strategies. Problem-focused strategies are aimed at modifying and solving the stressful situation through active interventions. By contrast, emotion-focused coping is aimed at managing the emotions connected to the stressful event and regulating reactions to it; and managing the tension of response to stress, for example, by trying to avoid the threat (denial) or re-evaluating it (reappraisal).

The choice of coping strategies is influenced by the individual's cognitive evaluation of the event, which involves estimating the resources available and the most effective strategies to deal with the situation (Lazarus & Folkman, 1984). A key element of this assessment is the extent to which the individual can maintain control over the outcome of the situation.

The literature indicates that individuals apply dysfunctional coping when they face an uncontrollable event by responding with a coping strategy focused on the problem; conversely, when they face a controllable situation they respond with coping strategies focused on emotions (Strentz & Auerbach, 1988; Vitaliano et al., 1990).

A coping strategy may be defined as adaptive when the controllability of the stressful event corresponds with the choice of coping strategy: in this case, the subject will experience fewer symptoms related to stress (Park et al., 2001). The strategies used to cope with trauma may differ among individuals, but they can also vary according to the profession and the features of the traumatic event (Nydegger et al., 2011).

A few studies have considered the ways in which gender influences the perception of stress in emergency situations and the choice of coping strategy. These studies highlight that females tend to perceive events as more negative and uncontrollable and to resort more to coping strategies focused on emotions and avoidance, whereas males tend to resort more to applying problem-focused coping and to inhibiting emotions (Matud, 2004; Matud et al., 2015; Matud & Garcia, 2019).

The literature on the relationship between coping strategies and the stress levels of emergency workers has shown that the use of coping strategies focused on the problem usually tends to correlate with lower stress levels, both in healthcare workers (Watson et al., 2008; Howlett et al., 2015) and in other emergency workers, such as firefighters (Brown et al., 2002).

A coping strategy frequently used by emergency workers is that of avoidance and minimization, and this strategy is associated with higher levels of stress (Brown et al., 2002; Chang et al., 2003; Kerai et al., 2017; Witt et al., 2018; Theleritis et al., 2020). Loo and colleagues (2016) found in a group of emergency workers that avoidance as well as coping strategies focused on emotions were associated with the development of post-traumatic symptomatology.

Rodríguez-Rey and colleagues (2019) revealed that among health workers working in a pediatric emergency department, approximately 30% of the variance in PTSD was explained by the frequent use of coping strategies focused on emotions and the infrequent use of those focused on the problem. In addition, Kucmin and colleagues (2018), who considered a sample of 440 paramedics, highlighted that the risk of developing PTSD symptoms was predicted by the use of coping strategies focused on emotions.

However, the literature does not offer unanimous results. Chamberlin and Green (2010) found that in a group of firefighters, all coping strategies actually correlated with high levels of stress: the authors explained this finding by suggesting that it is not the individual coping strategies that are maladaptive in themselves, but that greater effort is needed to adjust in stressful situations.

By contrast, Young and colleagues (2014) indicated that firefighters use problem-focused coping strategies more often at the beginning of the operation and emotion-focused coping strategies more commonly in the phase of breakdown and fatigue. However, after the incident, they use both strategies (Young et al., 2014).

A meta-analysis by Shin and colleagues (2014) highlighted that different coping strategies have different effects on work burnout: in particular, emotional stress and depersonalization are associated with the use of emotion-focused coping strategies, whereas professional ineffectiveness is associated with the use of problem-focused strategies.

Further, a few studies have investigated the coping strategies that emergency workers can use during health emergencies similar to COVID-19. Maunder and colleagues (2006) revealed that healthcare professionals who applied dysfunctional coping strategies, based on avoidance, hostile comparison, or self-blame, tended to develop higher stress levels. Wong and colleagues (2005) highlighted that during the SARS epidemic, doctors and nurses tended to use different coping strategies. The doctors tended to turn more to action planning, but this strategy did not affect their stress level. Instead, their stress level was positively correlated with their use of coping strategies based on emotional outlets. By contrast, the nursing staff tended to resort more to behavioral disengagement and distraction strategies, which, however, correlated with higher levels of stress among them.

In this regard, during the MERS epidemic, hospital staff tended to adopt coping strategies related to the use of PPE and the adoption of all prevention measures, as well as social support, whereas the coping strategy that they adopted the least was that based on an emotional outlet (Khalid et al., 2016). A recent study on healthcare workers in Hubei, China, during the COVID-19 epidemic (Cai et al., 2020), yielded similar results: to reduce stress, the medical staff tended to rely on active coping strategies, such as using security protocols, practicing social isolation measures, and seeking support from family and friends, but they did not find it necessary to discuss their emotions with a professional.

Huang L. and colleagues (2020) found that a sample of nurses working during the COVID-19 emergency presented greater emotional reactions and turned more to problem-focused coping compared with university nursing students. Emergency workers must have sufficient self-efficacy in terms of their coping skills to be able to manage and cope with stress levels. Self-efficacy in coping appears to be an effective protective factor in relation to stress levels and maladaptive responses (Chesney et al., 2006). Self-efficacy to cope with traumatic events has been effective in reducing the risk of developing PTSD (Bosmans et al., 2015).

Methods and Materials

Objectives

The main objective of this study is to identify the coping strategies activated by healthcare and emergency workers to deal with stress factors related to the COVID-19 emergency that may be associated with the risk of developing vicarious or secondary trauma. Few studies have considered both groups simultaneously when analyzing the strategies they have adopted to manage stress during the COVID-19 emergency.

In this study we are interested in detecting the similarities and differences in the approaches they adopted to manage their stress during the acute phase of the current pandemic According to Walton and colleagues (2020), the main acute stress reactions of emergency workers to emergency medical situations are emotional, cognitive, physical, and social; therefore, these factors were included in the questionnaire for the present study. Moreover, reactions linked to stress factors for difficulties due to ineffective decision-making and dealing with stress were also considered (Chesney et al., 2006). In addition, fears regarding contracting the virus and infecting their own families because of COVID-19 were specifically considered (Du et al., 2020; Huang J. Z. et al., 2020; Ornell et al., 2020; Walton et al., 2020).

Based on results found in the literature, the specific objectives of this study are as follows:

- To examine the relationships between coping strategies, emergency stress, and secondary trauma in healthcare and emergency workers.
- To identify significant differences in stress factors, coping strategies, and secondary trauma between two groups—health workers and emergency workers.
- To analyze the predictive power of coping strategies on the various levels of stress.
- To analyze the predictive power of stress factors on the levels of arousal and intrusion of secondary trauma.
- To analyze the predictive power of coping strategies on the levels of arousal and intrusion of secondary trauma.

Methods

[For complete statistical data and analysis, refer to the original article at https://www.frontiersin.org/articles/10.3389/fpsyg.2020.566912/full.]

Participants

Participants were selected on a voluntary basis through cross-sectional sampling to look at the situation caused by the pandemic emergency. We used an internet platform to conduct the study and approached the participants using social media, dedicated mailing lists, and forums. Participants from all Italian regions completed the questionnaire online. The sample consists of 210 participants, 90 males and 120 females whose average age was 42.53 years. Further, 52.9% of the sample were married, 10.6% were separated, and the remaining 36.5% were single.

We selected professional figures who had directly worked in various sectors during the COVID-19 emergency and who could be divided into two main groups. The first, the Health Group, were healthcare workers: 57 doctors, 47 nurses, 9 psychologist, and 7 healthcare assistants. Their average age was 42.13 years, and their average years of active professional service was 14.60.

The second, the Emergency Group, consists of 89 participants: 48 emergency workers, 21 firefighters, and 20 Civil Protection staff, whose average age was 45.43 years and average years of service was 14.41. There was an age difference between the two groups), and the distribution of the gender variable differed between the two groups, with 41 males and 80 females in the Health Group and 49 males and 40 females in the Emergency Group. The study involved participants from the entire nation of Italy.

Procedures

This study used an online questionnaire and was conducted during the lockdown period owing to the COVID-19 pandemic. The questionnaire had three parts: one each to collect online informed consent and baseline sociodemographic information, and one with an online series of questionnaires, as described in the next section. Participants' anonymity was maintained in collecting the data. The institutional Ethics Committee approved all the procedures.

Materials

We administered a series of questionnaires to evaluate the psychological stress and coping style of each participant. We included the following questionnaires.

- Secondary Traumatic Stress Scale – Italian Version (STSS-I; Setti and Argentero, 2012)
- The Coping Self-Efficacy Scale – Short Form (CSES-SF; Chesney et al., 2006)
- An Original Questionnaire on Stressful Factors

We constructed an ad hoc 7-item questionnaire that included yes/no questions to detect stress factors identified by the literature, such as the availability of suitable equipment and the receipt of clear instructions during the COVID-19 coping experience. In this study, we present the results related to two of these items: "Instructions," which refers to having received the necessary instructions to intervene, and "Equipment," which refers to having PPE. Emergency Stress Questionnaire (ESQ; Vagni et al., 2020)

Focusing on the specificity of the COVID-19 epidemic, items have been constructed regarding the fears of contracting the infection and of infecting colleagues or family members (Walton et al., 2020), since COVID-19 represents a factor of independent stress (Spoorthy, 2020) that has great impact (Huang J. Z. et al., 2020). Consequently, we constructed the ESQ consisting of 33 items assessed on a 5-point Likert scale, with scores ranging from 0 (not at all) to 4 (very much), grouped into six scales. The participants were asked to indicate how often they experienced certain emotions and thoughts while performing intervention and emergency activities during the COVID-19 pandemic.

Discussion

The results of this study show that Healthcare and Emergency groups both experienced high stressors during the COVID-19 epidemic, exposing them to the risk for developing secondary trauma (Roden-Foreman et al., 2017; Lai et al., 2020; Li et al., 2020; Zhu et al., 2020; and others).

We found significant differences between the two groups' reactions and their levels of organizational, physical, and relational stress, their sense of decision-making, and their emotional and cognitive ineffectiveness.

Compared with emergency workers, healthcare workers had higher stress levels, leading them to perceive more serious tensions and difficulties in teamwork, physical fatigue, somatic illnesses, irritability, and difficulty in maintaining control over the situation, in taking decisions, and in predicting the consequences of their actions. Higher levels of stress have been reported related to the fears of contracting COVID-19 and of infecting family members.

In line with other studies, we found that the COVID-19 emergency led health workers, in particular, to perceive specific stress factors that affected the organizational area, with consequences in terms of tension in teamwork and a sense of ineffectiveness since they had to intervene without sufficient tools and resources. They also experienced deep emotional reactions of anger, powerlessness, and frustration with inevitable cognitive stress, in terms of increased arousal levels. Many of the healthcare workers also developed physical stress, due not only to the lack of sleep but also to the psycho-emotional tension they perceived (Sasangohar et al., 2020; Walton et al., 2020).

The differences recorded between the two groups in stress levels may be explained by the fact that the Emergency Group perceived their intervention to be more like their usual procedures compared with the Health Group. The former performed their usual activities on the organizational, cognitive, and procedural levels, although with greater levels of safety and self-protection and a greater frequency of interventions. Conversely, the Health Group had to reorganize aspects such as departments, teams, and shifts to cope with the emergency, which thus involved making radical changes.

In addition, the Health Group helplessly witnessed a large number of patient deaths and had to make decisions in conflict with their moral sense (e.g., who gets the only bed) and in situations where they felt insecure about the consequences of their actions (Cai et al., 2020; Walton et al., 2020). However, Health and Emergency Groups were exposed to very similar physical stressors.

In earlier studies, the impact of the gender variable was significant. Females apparently tend to perceive events as more negative and uncontrollable, and thus suffer higher levels of stress. Further, females tend to resort to coping strategies focused on emotions, which were less effective in emergency situations (Matud, 2004; Matud et al., 2015; Matud and Garcia, 2019).

In the present study, however, these gender differences did show up. In fact, females and males perceived a similar sense of efficacy/ineffectiveness in dealing with stressful situations and had similar scores on the secondary trauma scale. For the Health Group, in particular, the lack of necessary instructions on how to conduct quick interventions affected almost all stressors, leading to tensions or conflicts within the team, difficulty in making decisions, irritability, anger, and frustration.

Above all, the lack of PPE affected the sense of making the right decisions, the emotional sphere and, most important, the fear of contracting the virus or of transmitting it to their families. These results converge with those of other studies.

Conversely, the professionals who were provided with the necessary knowledge and equipment were more resilient during the emergency response (Du et al., 2020; Huang J. Z. et al., 2020; Ornell et al., 2020; Walton et al., 2020).

Moreover, the lack of equipment and instruments in emergency situations, along with the risk of infection, increase the feeling of poor control, leading to cognitive and emotional stress and a sense of ineffectiveness (Placentino & Scarcella, 2001; Walton et al., 2020).

Higher levels of stress were found in the Health Group than in the Emergency Group because of the absence of PPE, the risk of infection from the virus, and the lack of needed instructions or prompt information (Cai et al., 2020). This stress was contained and limited by the use of coping strategies.

The coping strategy that is predictive in reducing stress levels is to block the negative emotions and thoughts about developing secondary trauma. In fact, the use of the “Stop Unpleasant Emotions and Thoughts” strategy reduces the “Arousal and Intrusion” levels of the secondary trauma. The effectiveness of this strategy in reducing the arousal levels appeared to be greater in the Health Group. As Fraccaroli and Balducci (2011) suggested, in situations of high emergency stress, healthcare workers and emergency workers may fail to identify their emotional reactions, a failure that tends to be associated with maladaptive behaviors.

The lack of a complete recognition of one’s own unpleasant emotions, which tend to be denied and dismissed as a coping strategy, would explain the greater predictive impact of cognitive stress and physical stress on post-traumatic arousal compared with emotional stress.

Further, our results show that the “Stop Unpleasant Emotions and Thoughts” strategy has an inhibitory, and thus effective and highly significant, impact on the stress levels and the components of secondary trauma, unlike the problem-focused and social support strategies. Avoidant coping strategies tend to present themselves when healthcare and emergency workers experience fatigue and exhaustion, which would explain the presence of the greater acute stress responses in healthcare workers (Maunder et al., 2006; Young et al., 2014).

The results of this study show that problem-focused coping in an emergency situation did not appear to be protective. This is likely because the workers were dealing with an emergency that was not yet fully understood and the therapeutic and treatment procedures were not fully known. Moreover, the supply of PPE was limited, especially in the first few weeks of the COVID-19 emergency in Italy, which meant that the level of protection afforded by problem-focused coping may have been lower than the stress levels.

In other words, emergency workers, although task-oriented, were faced with a problem that was not fully understood, and in the absence of PPE, felt somewhat helpless in terms of their ability to organize and make effective decisions. The strategy that ensured optimal levels of self-efficacy was the one that removed negative thoughts and emotions to be removed from consciousness, which was also found to have a protective function against the risk of developing traumatic symptoms.

The government lockdown limited the use of coping strategies involving social support, family, and friends, implying a greater use of emotional and cognitive avoidance methods to deal with anguished thoughts, intrusive memories, and the constant contact with corpses or the seriously ill. In this regard, the Health Group appears to have developed greater secondary trauma than the Emergency Group. By contrast, the latter appears to have developed more aspects of secondary or vicarious trauma than the Health Group.

The healthcare and emergency workers who participated in the present study do not appear to have developed a complete secondary trauma; however, these individuals were interviewed while the emergency was still in the acute phase; therefore, a followup study would be interesting. PTSD can take several months to fully emerge, and its stabilization can depend on both internal and external factors.

Because they blocked negative emotions and unpleasant memories, the healthcare and emergency workers' arousal appears to be mainly cognitive, linked to the difficulty of focusing on and identifying the most appropriate intervention strategies; this led them to experience regret, disappointment, and both physical and relational tension.

Health workers apparently blocked emotional aspects related to pain, impotence, and guilt, which allowed them to continue their work. In an emergency phase that is still active—only a few weeks after the start of the pandemic—it is possible to detect high arousal but lower intrusiveness of stressful or traumatic events. Low perceptions of self-efficacy have been found to be a predictor of PTSD in other studies (Benight and Harper, 2002; Bosmans et al., 2015).

References

For these references, please go to https://www.frontiersin.org/articles/10.3389/fpsyg.2020.566912/full.

4. Mental Health Challenges of U.S. Healthcare Professionals During COVID-19

Authors: Ann Pearman; MacKenzie L. Hughes; Emily L. Smith; Shevaun D. Neupert

Summary

To understand the psychological impact of COVID on healthcare professionals in the United States, these early U.S. researchers looked at an array of potential symptoms related to stress in COVID healthcare workers. These included anxiety and stress, depressive symptoms, general anxiety, tiredness, control beliefs, and proactive coping. Results showed higher levels of anxiety and depressive symptoms, more tiredness and concern for their health, and more severe stress appraisals, along with lower levels of perceived control and coping compared to age-matched controls. In conclusion, the authors warned of potential ongoing mental health impairment in this cohort.

Abstract

We conducted this study to better understand the psychological impact of COVID-19 on healthcare professionals in the United States We used an online survey tool to collect demographic data and measures of well-being in adults 18 and older who were living in the United States between March 20, 2020 and May 14, 2020.

Measures included:

- Anxiety and stress related to COVID-19
- Depressive symptoms
- Current general anxiety
- Health questions
- Tiredness
- Control beliefs
- Proactive coping
- Past and future appraisals of COVID-related stress

Healthcare professionals reported higher levels of depressive symptoms, past and future appraisal of COVID-related stress, concern about their health, tiredness, current general anxiety, and constraint, in addition to lower levels of proactive coping compared to those who were not healthcare workers. Within the context of this pandemic, these groups were at increased risk for a number of negative well-being outcomes. We discuss potential targets for intervention, such as adaptive coping.

Introduction

On May 14, 2020, the United States had 1,340,098 confirmed COVID-19 cases with 80,695 deaths and was considered the epicenter of the pandemic (WHO, 2020). Although social distancing and quarantine guidelines have slowed the pandemic's spread, recent relaxing of guidelines suggests continued challenges to the healthcare systems and healthcare professionals. Indeed, there are calls for COVID-19 to be considered as a new occupational hazard for healthcare workers around the globe (Godderis et al., 2020).

Not only are many healthcare workers more likely to contract COVID-19 themselves, but providing care during a pandemic can place tremendous pressure on those caring for very sick and dying patients, helping the families of the sick, and dealing with the frustrations of U.S. healthcare systems, all while trying to take care of their own families and loved ones (Maunder et al., 2003; Bai et al., 2004).

Studies out of China have examined the experiences of healthcare professionals during the height of their COVID-19 outbreak. In a sample of 1,563 Chinese staff working during the pandemic, 73.4% reported stress-related symptoms, 50.7% reported symptoms of depression, 44.7% reported anxiety, and 36.1% reported experiencing insomnia (Liu et al., 2020).

Lai and colleagues (2020) found evidence for higher rates of anxiety, depression, and distress among healthcare professionals in Wuhan compared to those in other regions in China. Other studies examined the need for, and impact of services offered to healthcare workers, such as adjusting shifts to allow time for rest (Chen et al., 2020; Kang et al., 2020).

While there have been several commentaries regarding the well-being of healthcare workers in the United States during this pandemic (Godderis et al., 2020; Gold, 2020; Greenberg et al., 2020), we are aware of only one descriptive study New York City (Shechter et al., 2020) that did not include a control group. There have been several meta-analyses and reviews of the impact of this pandemic on healthcare professionals internationally (Chew et al., 2020; Pappa et al., 2020; Rajkumar, 2020), but no studies from the United States were available to be included here.

Pre-COVID studies have shown that the mental health challenges to healthcare workers during pandemics often impact their ability to continue as part of the frontlines working to help treat and care for patients and their own families (Maunder et al., 2006; Shechter et al., 2020). Further, enduring psychological effects could negatively impact their ability to provide patient care in the future as well as impacting their own quality of life (Goulia et al., 2010).

A crucial mission for researchers during this time is enhancing our understanding of the experiences of healthcare professionals in order to plan for interventions and care, both in the short-term (now) and in the long-term (over the next couple of years).

The current study is designed to examine several critical outcomes, such as depressive symptoms, anxiety (current general anxiety as well as anxiety about developing COVID-19), COVID-related stress, and health of themselves during the early months of the pandemic across the United States. In addition, we also examine potentially beneficial indicators of resilience such as control beliefs and proactive coping.

Psychiatric morbidity in the forms of depression and/or anxiety not only is troubling in its own right, but also highly correlates with burnout, higher rates of chronic diseases, reduced quality of life, and suicide (Kumar, 2016). During the SARS pandemic in Greece, researchers found that the pressure of the work environment combined with fears about the disease itself created negative outcomes in the form of anxiety and depression that had profound impacts on the well-being of healthcare workers during that time (Goulia et al., 2010).

Followup studies revealed that the emotional distress from the pandemic was often long-lasting (Maunder et al., 2006). For instance, 1 to 2 years after the SARS outbreak, Maunder and colleagues (2006) found that SARS healthcare workers reported higher levels of burnout and distress, had increased smoking and alcohol consumption, were more likely to have reduced patient contact, and worked fewer hours compared to healthcare workers who did not treat SARS.

The SARS outbreak was much more contained than the current worldwide pandemic, which has even greater potential to have both ongoing and lasting consequences on society as a whole, and healthcare professionals in particular.

Identifying opportunities for resilience will be especially critical to combat negative consequences. Control beliefs represent the subjective perceptions that we can influence what happens in our life and include beliefs or expectations about the extent to which our actions can bring about desired outcomes (Agrigoroaei & Lachman, 2010). Lachman and Firth (2004) distinguished two main sources of control: (1) one's own efficacy (internal control, competence, or personal mastery); and (2) the responsiveness of the environment or other people (external control, contingency, or perceived constraints) (Bandura, 1977).

The two control beliefs included in the present study are mastery and constraint. Mastery is often described in terms of our judgments about our ability to achieve a goal, while perceived constraints refers to the extent to which we believe factors exist that interfere with goal attainment (Lachman & Weaver, 1998b).

Pearlin and Schooler (1978) suggested that personal mastery is an important psychological resource that mitigates the effects of stress and strain, and it is also associated with reduced reactivity to work-related stressors (Neupert et al., 2007). When faced with stressful situations, a strong sense of control has also been linked to low levels of self-reported stress (Cameron et al., 1991) and lower risk of depression (Yates et al., 1999).

Aspinwall and Taylor (1997) characterized proactive coping as a series of steps we take to preemptively modify or avoid stressful events. In their cohort, those who had higher levels of proactive coping showed more meaning in life (Miao et al., 2017), fewer symptoms of PTSD (Vernon et al., 2009), and higher levels of quality of life (Cruz et al., 2018).

Proactive coping is also associated with lower levels of depression, fewer declines in functional disability in aging, and larger systems of social support (Greenglass et al., 2006; Bokszczanin, 2012). When stressors do occur, those with higher levels of proactive coping are better able to maintain their emotional functioning (Polk et al., 2020).

Within the context of the COVID-19 pandemic, individuals who are at high risk of exposure to the virus could particularly benefit from engaging in proactive coping strategies to prevent exposure to future stressors. Indeed, we know from past work that older adults, who are vulnerable to the effects of the virus, had lower levels of stress when they were high in proactive coping (Pearman et al., 2020).

This study is designed to examine the experiences of U.S. healthcare professionals during this pandemic. Data collection took place between March 20 and May 14, 2020, a timeframe when the United States was experiencing a spike in new coronavirus cases, which limited the availability of important medical resources (including appropriate PPE) and put tremendous strain on the nation's frontline professionals. The sample is derived from a larger online study focused on individuals' psychological and behavioral responses to COVID-19 (Pearman et al., 2020).

In the current study we specifically examine the following variables in a sample of healthcare professionals and age-matched controls:

- Stress related to COVID-19
- Anxiety about developing COVID-19, depressive symptoms, current general anxiety
- Past and future appraisals of stress related to COVID-19
- Perceived health and health-related concern
- Tiredness
- Control beliefs (mastery and constraint)
- Proactive coping

We hypothesized that healthcare professionals would show significantly more challenges on our measures of stress, mental and physical health issues, control, and coping.

Methods and Materials

Participants

Potential participants responded to this description: "The purpose of this study is to examine how people living across the United States are reacting to the current COVID-19 pandemic." Participant requirements for the current study were as follows: 18 years of age or older, living in the United States, native English-speakers, and free from a dementia diagnosis.

Once recruited and consented, the participants completed the survey through the Qualtrics platform, which is an online survey tool. The sample for the larger study consisted of 1,000 participants. Participants answered yes or no to the question, "Are you a healthcare professional?" Participants for the current study included all participants who answered yes to this question as well as age-matched controls drawn from the same dataset.

The final sample included 90 healthcare professionals and 90 age-matched controls from 35 states across the United States.

Demographics

Participants indicated their year of birth, gender, their education from a checklist (e.g., GED, Associates), and their race. Healthcare providers were also asked to report the specific profession within the healthcare field from a checklist.

COVID-19 Anxiety

Participants indicated their level of anxiety related to contracting coronavirus by answering the question, "How anxious are you about developing COVID-19?" on a scale of 1 (not at all anxious) to 5 (very anxious).

COVID-19 Stress

On a 1 (not at all) to 5 (extremely) scale, participants indicated their level of stress by answering the question, “How stressed are you about the COVID-19 outbreak?”

Depressive Symptoms

Participants completed the 15-item Geriatric Depression Scale Short Form (GDS) (Yesavage, 1988). The GDS is a self-report screening tool that examines depressive symptoms. Reflecting over the past week, participants respond yes or no to each item. An example item: “Do you feel that your situation is helpless?” The scale has been shown to have good diagnostic sensitivity and specificity for adults across the adult lifespan (Guerin et al., 2018). The scale was not used for diagnostic purposes in this study, but higher scores indicate greater depressive symptoms.

Current Anxiety

Ten state anxiety items from the State-Trait Anxiety Inventory (Spielberger et al., 1983) were rated on a four-point scale ranging from 1 (not at all) to 4 (very much so). Participants indicated how they were feeling in the moment. Example items include “I am tense” and “I feel frightened.” Five items were reverse coded.* A mean was calculated across the 10 items with higher scores indicating more anxiety.

*__Reverse coding__. An example of reverse coding would be “I really hate parties” and “I like being alone.” Both are used to measure the same underlying construct or hidden cause. Health.

Health

Participants self-rated their health on a five-point scale ranging from 1 (poor) to 5 (excellent) by answering the question, “How would you rate your overall health?” In addition, participants rated their health concern on a 1 (no concern) to 5 (very serious concern) scale, responding to the question, “How much concern/distress do you feel about your health at this time?” Both items were included in analyses because one focuses on current health status while the other focuses more specifically on how concerned individuals are generally about their health.

Tiredness

On a five-point scale ranging from 1 (not at all tired) to 5 (very tired), participants were asked “In general, how tired are you right now?”

Control Beliefs

Control beliefs were measured using the mastery and constraint scales from the Sense of Control Scales from the Midlife Development Inventory (Lachman and Weaver, 1998a). On a 1 (strongly disagree) to 7 (strongly agree) scale, participants rated their agreement with statements such as “What happens in my life is often beyond my control” (constraint) and “I can do just about anything I really set my mind to” (mastery).

Proactive Coping

The Proactive Coping Scale (Aspinwall et al., 2005) includes six items rated on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). An example item includes, “I prepare for adverse events.” One item was reverse coded.* Higher scores indicate more proactive coping.

Stress Appraisals

On a 4-point scale ranging from 1 (not at all) to 4 (a lot), participants rated the extent to which COVID-19 affected different areas of their lives in the past 24 hours, as well as the extent to which they expected COVID-19 to affect their lives in the next 24 hours. Example items include “Your physical health or safety” and “Your plans for the future” (Lazarus, 2006). Items were scored so that higher scores indicate COVID-19 having a greater impact on one’s life.

Results

A statistical analysis was performed with the following results. There were no significant differences on gender between healthcare professionals and the control group. As expected, there were significant differences on education in that healthcare professionals had more education than non-healthcare professionals. Results controlling for education show that healthcare professionals reported significantly higher levels of depressive symptoms, current anxiety, concern about their health, tiredness, constraint, and past and future appraisal of COVID-related stress; however, they showed lower levels of proactive coping compared to non-healthcare professionals. Of note, there were no significant group differences on COVID-related stress or on the specific anxiety of developing COVID-19.

Discussion

This study is a timely look into the experiences of healthcare professionals across the United States during the COVID-19 pandemic. Comparing an age-matched group, the healthcare professionals were significantly more depressed and generally anxious than the non-healthcare professionals during the first months of the pandemic. In line with Shechter and colleagues (2020), who documented high rates of lack of control and sleep disturbances within healthcare professionals in New York City, our results show that healthcare professionals across the United States had significantly higher rates of lack of control and tiredness compared to controls.

On average, the healthcare group fell into the clinically depressed range (Guerin et al., 2018). While some of the other findings (e.g., fatigue) may represent differences sometimes seen between healthcare professionals and other professions in non-pandemic times (Dyrbye et al., 2014), meeting the criteria for depressive disorder should not. We believe that the heightened level of depressive symptoms in healthcare professionals may be due not only to occupational differences but also to occupational differences during a pandemic.

Clearly, this is of concern not just for understanding and (perhaps) helping the current situation but also to look ahead to the potential lasting influence of this experience (see Maunder et al., 2006; Lee et al., 2007). It is well understood that the long-term consequences of depression and anxiety can create enduring negative impacts (Sareen et al., 2005; Musliner et al., 2016).

Finding ways to intervene and support healthcare professionals, such as cognitive behavioral therapy or support groups, will be an important goal to healthcare systems and workplaces now and in the future.

In addition to increased general anxiety and depressive symptoms, healthcare professionals were more tired and more concerned about their health than the age-matched controls. There are many possible reasons for their health concerns during this pandemic (CDC, 2020). To start, healthcare professionals are more likely to be exposed to COVID-19, which increases their health risk. Other health risks include long work hours and mental and physical exhaustion (Shanafelt et al., 2020; The Lancet, 2020). It is not surprising, therefore, that the healthcare professionals also have higher perceived constraints and are more tired.

The real experiences in healthcare settings during the pandemic may present workers with what seem like insurmountable pressures when it comes to maintaining their own health and well-being. Helping healthcare professionals find ways to differentiate between immovable constraints, such as lack of PPE, and possible malleable constraints, such as feeling there is no opportunity to engage in self-care, may be a possible avenue for buoying the well-being of healthcare workers (De Raedt & Hooley, 2016).

Along these same lines, the healthcare professionals showed lower proactive coping and fewer resources to dedicate to adaptive coping behaviors. We know from past work that proactive coping (Polk et al., 2020) and control beliefs (Neupert et al., 2007) are key ingredients for resilient stress responses, and represent potential targets for intervention. For instance, Stauder and colleagues (2017, 2018) found that coping skills training with employees from work environments that were stressful but unchanging helped reduce stress and improve well-being.

Although statistically equivalent on COVID-19–related stress and anxiety, the healthcare professionals in the current study scored significantly higher on both current and future stress appraisal when compared to controls. In their real-time study of work stress in nurses, Johnston and colleagues (2016) showed that appraisals of stress were more predictive of psychological and physiologic reactivity than the actual tasks being performed.

In addition, the perceived reward for the work actually helped reduce stress. Given the high levels of stress appraisal both current and future in our sample, it may be beneficial during this time of crisis to help healthcare workers recognize and focus on the rewards of their work as a means of managing negative stress appraisals.

We acknowledge several limitations in this study. Our observational design limits our ability to find causes. Future studies should examine the long-term impact of this pandemic on the mental health of healthcare professionals.

We also do not know the extent to which the healthcare professionals in the sample are serving on the frontlines of the pandemic; however, given that they showed significant differences on most of our measures, it is likely that our effects actually underestimate the experiences of frontline workers.

We encourage future work that seeks to explore potential differences between professions, but note that our results suggest that all healthcare professionals are at risk for decreased well-being, perceived control, and coping resources during the COVID-19 pandemic.

Finally, our sample was restricted to those living in the United States—the current epicenter of the pandemic. Healthcare professionals' experiences during the COVID-19 pandemic could differ for those living and working in countries outside of the United States.

Conclusion

In conclusion, our results suggest that COVID-19 may function as an occupational hazard for healthcare professionals (Godderis et al., 2020) because we found evidence of higher levels of anxiety and depressive symptoms, more tiredness and concern for their health, and more severe stress appraisals of COVID-19, along with lower levels of perceived control and coping compared to age-matched controls.

Across a wide array of indicators, healthcare professionals appear to be at increased risk for mental health challenges. In addition, given that previous studies during other pandemics have shown lasting impacts of service during this time, including reduced workforce participation and increased traumatic symptomatology, this is a critical issue. We encourage efforts to intervene that can provide relief now and in the future.

References

For these references, please go to
https://www.frontiersin.org/articles/10.3389/fpsyg.2020.02065/full.

5. Psychosocial Support for Healthcare Workers During the COVID-19 Pandemic

Authors: Jack Tomlin, Bryan Dalgleish-Warburton, and Gary Lamph

Summary

This paper is a guide to managing the mental health burden of the clinical workforce in an attempt to support their mental wellbeing and organizational responses. It introduces the phased model of mental health: preparation, pre, initial and core, and longer-term. This model presents a framework for clinical responses to the pandemic burden and can be a helpful guide for healthcare professionals operating at different stages of the COVID-19 pandemic.

Abstract

The novel corona virus disease COVID-19 was first diagnosed in humans in Wuhan, China in December 2019. Since then it had become a global pandemic. Such a pandemic leads to both short- and long-term mental health burdens for healthcare workers. Recent surveys suggest that rates of psychological stress, depression, anxiety, and insomnia will be high for this group. Numerous organizations have released guidance on ways that both healthcare workers and the general public can manage the mental health burden.

These recommendations, however, focus on specific healthcare workers (e.g., nurses, psychologists), are often not evidence-based, and typically do not address the fact that countries are at different stages of the COVID-19 pandemic.

We propose a phased model of mental health burdens and responses. Building on work by the Intensive Care Society (2020) and the Royal College of Psychiatrists in the United Kingdom (Williams et al., 2020), we present a model that demonstrates how both staff and organizations might respond to the likely stressors that occur at preparation-, pre-, initial and core-, and longer-term-phases of the pandemic. Staff within countries at different stages of the COVID-19 pandemic will be able to use this model.

We suggest practical tips for both healthcare workers and organizations and embed this within up-to-date scientific literature. The phased model of mental health burden and responses can be a helpful guide for both staff and organizations operating at different stages of the pandemic.

Background

This paper collates some of the current guidance on maintaining mental health during the COVID-19 pandemic, with a particular focus on frontline staff and managers working in healthcare settings. It situates these recommendations within the phased model of mental health burden and responses noted above. Our recommendations are based in relevant psychological literature and derived from the clinical experiences of two of the authors.

First, we describe sources of mental health burden for staff. Then we briefly highlight experiences of Chinese staff and interventions implemented there, before moving on to list a range of possible psychosocial interventions and underscore some key principles that can be derived from these. Finally, we present the phased model of mental health burden and responses.

COVID-19 is found in individuals infected by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). This coronavirus can be transmitted between people via droplets—typically in coughs and sneezes. This occurs directly between people, or indirectly by touching mouth, nose, or eyes. SARS-CoV-2 has spread rapidly across the globe and in March 2020 the World Health organization (WHO) classified the outbreak a pandemic (WHO, 2020b).

Emerging literature suggests that psychological distress is a real outcome for staff providing healthcare amidst the COVID-19 pandemic. A study published March 23, 2020 surveyed 1257 healthcare workers in 34 hospitals in China (Lai et al., 2020). It found that rates of psychological stress were high: 50.4% had symptoms of depression, 44.6% for anxiety, 34% for insomnia, and 71.5% for general psychological distress. Nurses, female staff, staff in Wuhan, and staff working directly with patients were more likely to have “severe” scores on these outcomes.

These findings are not unique to COVID-19. Studies into the SARS outbreak in 2003 reported psychological symptoms in 89% of workers in high-risk situations (Lai et al., 2020). This is all the more understandable given 1 in 5 SARS infection cases were healthcare workers (Chan-Yeung, 2004). Long-term psychological distress can result from what is experienced during such a pandemic (Lai et al., 2020). It is likely that the impact of stress associated with managing and providing care in uncertain and ever-changing circumstances may negatively impact the immune system, weakening staff members’ ability to fight off the virus.

Sources of Mental Health Burden for Staff

Currently the world is responding to an unprecedented pandemic and medical crisis that has not been seen for 100 years. Those working on the frontline are exposed to a variety of sources of **mental health burden**, which we outline next:

Risk of contamination of the virus: compliance with biosecurity measures including constant vigilance; use of equipment; isolation practices; tensions between patients and staff; and stigmatizing of healthcare workers who come into contact with patients who have COVID-19 (Int’l Red Cross, 2020).

Abnormal mourning for the death of a loved one, home quarantine and social isolation, disruptions to work routines, sensitivity to and obsession with cleanliness and hygiene, the closure of public and private institutions, rumors about the disease, and the loss of social capital (Javadi et al., 2020).

Uncertainty. This leads to stress and anxiety (Shanafelt et al., 2020). Stress is higher where staff have high work demands (heavy workload, time pressure, periods of intense concentration) but low work control (low levels of autonomy and decision-making input). Motivation and performance are lower when stressors are perceived as hindrances.

Examples of **hindrances** include:

Unclear objectives, conflicting requests, red tape, organizational politics, and various other work-related hassles (Bolino, 2020).

Weakened immune system due to high levels of stress (Segerstrom & Miller, 2004).

Staff inquiries, physical exhaustion, sleep disruption, and fear and emotional disturbances (Li et al., 2020).

Staff not knowing they can go home if they are ill or can work from home where appropriate (Beckman et al., 2020).

Feeling vulnerable, loss of control, concerns about health of self and others, changes in working patterns/routine, feelings of personal danger, being isolated, lacking necessary supplies to conduct their work (Lai et al., 2020).

Redeployment of the clinical workforce is challenging. Clinicians are expected to work within unfamiliar territory, often with new teams, new processes, new clinical procedures and equipment. In addition, clinicians are being released from their pre-registration studies early to contribute and work within frontline services (Royal College of Nursing, 2020).

Implicit and explicit racism toward staff of Chinese origin (The Guardian, 2020).

Abuse from detained patients including verbal insults intended to hurt staff members in order to share the pain of isolation from families (personal communication with an ANP, United Kingdom).

Pre-existing mental health vulnerability including previous trauma and mental ill health (Mental Health Foundation, 2020).

Having identified some of the sources of mental health burden in staff, this document describes principles that should underpin the way hospitals and healthcare organizations can implement psychosocial interventions and organizational practices to mitigate these burdens.

Experiences from China

Some of the hospitals in China that were most affected by COVID-19 implemented a three-pronged approach to care for the mental health needs of staff:

1. Psychological intervention medical team to develop online courses to manage common psychological problems.
2. Psychological assistance hotline team to offer guidance and supervision to callers to help solve psychological problems.
3. Individual and group psychological interventions, including activities to release stress. (Chen et al., 2020)

However, staff were hesitant to engage in these. Interviews with staff suggested that this reticence was due to a lack of immediate concern about being infected and feeling they did not need psychological support. They stated they needed more rest and personal protective supplies (PPE), and that they wanted mental health training or mental health staff to assist them when interacting with difficult or aggressive patients.

The Chinese revised their interventions. Hospitals provided space for staff to rest and isolate themselves from families; staff were provided food and daily living supplies. New staff were trained in ways to interact with difficult or aggressive patients; security teams were engaged if necessary. They wrote detailed rules on appropriate use of PPE. Hospitals also established leisure activities; gave training to staff on how to relax; and embedded counselors into the workplace to listen to staff and provide necessary help (Chen et al., 2020).

Responding to Phases of the Pandemic

The Intensive Care Society (United Kingdom) offers several helpful ways of thinking about maintaining staff mental health before, during, and after the COVID-19 pandemic (Intensive Care Society, 2020). Hospitals should think about where their organization is in relation to phases of the pandemic, be cognizant of the issues and impacts these will likely have for them, and take note of the recommended approaches to these phases.

We have expanded on this guidance by incorporating practical tips for organizations and for individual staff. Some changes have been made to the phases outlined by the intensive care society: we have added a preparation phase and combined the initial and core phases and the end and long-term phases. Although these phases are linear, the overall process is cyclical and not rigid or fixed. We have added a preparation phase to address organizations and countries that are encountering this for the first time; however, many international healthcare providers may well have passed this point now.

Our aim is to offer practical mental health support to a range of frontline staff and to organizations internationally who are working on the front line of this global pandemic. We know that services may face a second wave or even a future pandemic.

Preparation Phase

Individual Responses and Building Resilience

We have identified the need for self-reflection in the preparation phase—knowing your own needs and strengths and sharing them with someone you can trust. We need to have a personal understanding of our triggers for stress as well as personal coping strategies for managing distress. As the team develops and membership evolves, time should be taken routinely to discuss wellbeing and self-care in the short-term alongside supervision in the long-term. Be prepared to share:

- See it?
- Hear it?
- Are you feeling it?
- Report it and let someone know.
- Embrace your needs and be a model for others to share.

Organizational Response

Organizationally, leaders are required to understand the needs of their workforce and establish whether any members of the team may be more vulnerable than others to mental health difficulties, including:

- Those with existing needs or current mental health difficulties.
- Those who have caring responsibilities in their home lives.
- Those who may have recently survived a stress or trauma experience.

Identification in the preparation phase will not identify everyone who might experience challenges to their mental well-being during the pandemic. However, it will enable teams to identify those most vulnerable so that plans can be put in place to support them. Consider buddy systems where peer support can be provided, as well as a sharing common mantra that "It's OK not to be OK" to combat the stigma often associated with mental health difficulties (Highfield et al., 2020; Stuart, 2016).

Encourage resilience and well-being plans for staff. These need to recognize the stressors that present day to day in healthcare but particularly how these are magnified in a pandemic. These plans, written by team leaders, should describe triggers for stress, how one presently copes, early signs of distress (change to baseline), and how team members can help. Well-being plans could include a parachute analogy, where leaders develop a plan like a parachute, there to soften burdens and protect people in crisis instead of waiting until it is too late; you adopt a proactive rather than reactive approach. Support staff to make new mental health disclosures as the outbreak brings these to the fore (Mental Health Foundation, 2020).

Pre-Phase

Individual Responses and Building Resilience

People need to recognize that fears and anxieties are **justified** and it is **natural** for them to be present in the face of threat because these fears enable us to identify risk and keep safe (WHO, 2020b). *Sometimes the anticipation of stressful events can be worse than when the actual event occurs.* During the actual event we might neglect our emotional needs by focusing solely on our current tasks. During the pre-phase we have lots of time to think about what may occur, how it may feel, worst case scenarios, and what the job will be like in the initial and core phase.

We suggest that, while organizational preparations are made, individuals tackle one task at a time, avoiding preoccupation with future threats. Contemplating the whole picture can be overwhelming (Williams et al., 2020). Instead, we advise the focus should be on making sure you are **managing your own** mental well-being. This is as important as your physical health is for tackling challenges that may present. A worldwide pandemic is an unprecedented scenario; identify and use strategies and positive coping techniques that have previously worked for you. Avoid negative coping such as smoking or drinking alcohol.

Organizational Response

At this pre-stage, team **grounding** is important. Grounding involves noting the emotional and cognitive information being shared in a group, acknowledging it, and using it to structure an agenda for discussion. This is important because thoughts and emotions can become amplified within a group setting and fear and anxiety can migrate across team members (Smith and Mackie, 2015; Weisbuch and Ambady, 2008). Therefore, in the same way that we ask a client to ground themselves to the present when their distress exceeds their window of tolerance, the team leader may need to offer a greater sense of present-moment awareness. A number of techniques are applicable with groups. For instance, ask the group to clap their hands at the same time or stamp their feet. Hold regular team meetings (making use of virtual tools where necessary) (Red Cross, 2020).

One might also offer realistic reassurance—encouraging team openness, for instance, via adoption of the mantra "It's OK not to be OK." Consider how communication will look each team as you remain aware of the team's current needs. Be sure you think about protected characteristics of staff i.e., do measures affect all staff equally?) (Mental Health Foundation, 2020).

Offer flexible working routines for staff personally affected by the virus e.g., illness or death in the family, childcare duties (WHO, 2020b). Ensure that managers are considerate of their own individual needs as they are not themselves immune to the impact such stressful events they will also be enduring. Part of this is sharing stories with other managers and team leaders (Mental Health Foundation, 2020). Unlike the individual response, the organizational response will require longer term planning in order to respond effectively to worst case scenarios (i.e., access to beds, equipment including PPE, and resources redistribution).

Initial and Core Phases

Individual Responses and Building Resilience

This phase has been identified as having the highest psychological risk (Highfield et al., 2020). Practical ideas are going to be of paramount importance.

Enhance Self-Compassion. In times of high stress and emotional extremes we can become critical of ourselves or our performance. Be compassionate. How would you speak to a friend if they were feeling this way? What advice would you give? How would you hold yourself or hold them? Now, speak to yourself in the same way, say the same things. Use a mantra: "it is fine to feel like this" (Irons & Beaumont, 2017). Identify activities that help you to self-sooth that you can still engage within the comfort of home: the tasks you never got around to completing, the film you've been wanting to watch, and so on.

Mindfulness. Mindfulness is being in the present moment, on purpose. Taking such a non-judgmental stance is underpinned by meditation (Kabat-Zinn, 2013). Mindfulness practices to manage stress and emotion are becoming increasingly popular. A variety of Apps including Headspace can be purchased for mobile devices, and providers such as YouTube include narrative examples of mindfulness.

Grounding. Grounding techniques can be used to aid stability in the face of trauma, stress, and dissociation (Foureur et al., 2013). Take stock of what is going on around you and ground yourself in that moment. Some useful techniques include placing both feet on the floor and stomping; clapping your hands; or, looking around the environment to name and describe three objects you can, see or three sounds you can hear, hence using the senses to assist in grounding.

STOP, GROUND, BREATH is another strategy in which we encourage you to use your breath to as a grounding technique such as, breath in through the nose and out of the mouth … breath in, hold, and breath out completely (take three breaths).

Balance home and work. Try to distinguish the two by reducing time spent watching the news, focusing on things away from COVID-19. Taking a break at home is important because work will be dominated by the pandemic.

Social Media. Use credible sources, keep in touch with friends and family, but choose what to read and engage in. “Sandra” on Facebook probably knows much less than you, so do not let her posts further impact on your emotions.

Social Connection. Connect with friends, family, peers. Recent surveys of the UK general public found this to be one of the most helpful coping mechanisms (Holmes et al., 2020). Use video like Zoom to see faces. Engage in virtual games nights and board games. Social connectedness with people experiencing the same difficulties is important. Use buddy systems, check in on each other, but balance this with family and no-work downtime (Williams et al., 2020).

Adopt healthy living strategies. These will reduce your emotional vulnerability and make you better able to manage you own stress and emotions: (1) Take care of physical health and treat physical illness; (2) balance eating; low mood often results in reduced appetite or comfort eating that may make you feel worse; (3) avoid mood altering drugs (including alcohol); (4) sleep well; we all require rest, especially in times of stress and high anxiety; (5) engage in exercise; physical fitness and a release of pressures are essential; and (6) build mastery by finding activities that provide you with a sense of accomplishment (Linehan, 2014).

Routine. Maintain a routine as much as possible. Write a list of the things you would like to do around the house that can now be achieved in your out of work time but balance this with relaxation time.

Act opposite. Don’t watch too much media related to the pandemic or sad themes; act opposite and watch comedic, upbeat, or enlightening programs and films. Don’t listen to music that makes you sad or upset; listen to upbeat songs. Don’t withdraw and isolate from those you love; use this as a chance to reconnect and learn new things about people (Linehan, 2014).

Organizational Response

During this stage, communication is going to be essential. Provide timely, accurate, and evidence-based information on the virus and the hospital’s response, including worse case scenarios (Red Cross, 2020; Mental Health Foundation, 2020; WHO, 2020b). Ensure that present, visible, and easily recognized leadership is present. Be a role model for how you would expect staff to behave (personal health and wellbeing, appropriate use of PPE) (WHO, 2020b).

Ensure regular communications are provided, with the opportunity for regular check-in and discussions. Frame/describe the hospital's response to COVID-19 as a challenge from which staff can all grow and develop; do not describe it as a hindrance (Bolino, 2020). Give staff autonomy and input into decision-making where possible (Bolino, 2020). Remove bureaucratic hindrances to flexible working, such as blocks on virtual meetings or remote working (Bolino, 2020).

Psychological debriefing is not advised during traumatic events because it can make things worse (NIH & Care Excellence, 2018). Engage the workforce in peer support and buddying practices and, within this, consider partnering experienced people with those who may be less experienced or new (Red Cross, 2020; WHO, 2020b). Adopt a mantra and compassionate response to staff in that "Its OK not to be OK" and allow opportunity for people to discuss their own needs, concerns, and feelings.

Post resources like psychological first aiders and drop-in sessions for staff support; you might even assign a single member of staff to do this (Red Cross, 2020; Mental Health Foundation, 2020). Ensure, positively monitor, and encourage work breaks (WHO, 2020b). Mindfulness practices within the workplace have been shown to produce positive results (Irving et al., 2009).

End and Longer-Term Phase

Individual Response and Building Resilience

Once the COVID-19 pandemic has passed, things are unlikely to return to normal. You will no doubt be reflecting on what has occurred and your responses to it. Make sure you stay connected with colleagues and that you share your experiences. Feeling distressed after your experience is normal and understandable. This is all the more likely if you have been moved into a new role or redeployed into a new working environment where routines, rules and colleagues are unfamiliar.

The Adaptive Information Processing model (AIP) proposes that new information taken into the brain through our senses is assimilated into existing memory networks. This allows us to make sense of this information when we recall it in the future. It is important to give yourself time to process experiences into your existing cognitive structures (memory networks).

The latest guidance for the assessment and treatment of trauma proposes "watchful waiting" rather than psychological debriefing (NIH, 2018). This is because many individuals exposed to trauma do not develop post-traumatic stress disorder (PTSD). Most people recover from the early experience of traumatic stress symptoms without formal intervention (Grey, 2009). However, a minority can develop symptoms and it important to recognize symptoms.

The Diagnostic and Statistical Manual of Mental Disorders version 5 (DSM-V) refers to pre-, peri-, and post-factors that influence the risk of PTSD (including prior trauma, prior health needs, inappropriate coping strategies, and negative appraisal), and is a good source to consult (APA, 2013). Continue to use the strategies you have found that work for you. Observe and notice changes in sleep, feeling unreal, feeling disconnected, or re-experiencing things that have happened. Be aware if there are things you are avoiding in case they trigger negative emotions. Report any of these, as you may need further support, to your supervisors or supportive friends and family.

Organizational Response

Afford time for all in the team to process their experiences and reset. The crisis might be over in terms of immediate threat but the psychological after-effects on staff may leave them with little confidence that they are ready if a second wave were to occur. In the face of this, you still need to ensure that the organization is ready should such happen. Look to thank, acknowledge, and reward the workforce.

Reflect on the lessons learned using a known model of reflection, such as Description, Feelings, Evaluation, Analysis, Conclusion, Action plan (Gibbs, 1988). Take a watchful, waiting approach and check in for any emerging symptoms of PTSD in staff, making sure appropriate referrals are made. Adopt the stance that "It may be over but it is not forgotten." Continue regular communications with staff following shifts, to see if anyone requires further support. The UK National Institute for Health and Care Excellence (2018) guidelines on the treatment and management of PTSD suggest looking out for the following signs:

- Hyper arousal;
- Sleep disturbance;
- Flashbacks or re-experiencing;
- Avoidance of triggers.

If staff present with any of these offer them direction to support services or simply propose a talk in protected time.

Conclusion

There is plenty that hospitals and healthcare providers can do to help healthcare staff manage mental health burden. Early experiences from China and more recently in Europe suggest that healthcare staff will likely experience negative mental health outcomes due to the pandemic and their employment. This paper is a guide to managing the mental health burden of the clinical workforce in an attempt to support their mental wellbeing and organizational responses. The phased model of mental health burden and responses can be a helpful guide for both staff and organizations operating at different stages of the COVID-19 pandemic. Organizations and individuals implementing this model in whole or in part should also consider undertaking a suitably powered evaluation of both staff and organizational outcomes. This would help to develop a body of evidence that supports embedding the model in routine practice or making signposting alterations.

References

For these references, please go to https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7431467/.

6. Breaking the Silence: When Stress Overwhelms

Authors: Judy E. Davidson, Janet Mendis, Amy R. Stuck, Gianni DeMichele, and Sidney Zisook

Summary

The research team for “Breaking the Silence” wanted to raise awareness of and begin to build an open dialogue regarding nurse suicide. Recent personal exposure to nurse suicide (two cases are cited) had raised their awareness and concern, but it was alarming to find no, local, state, or national mechanisms in place to track and report the number or context of nurse suicides in the United States. In the climate of COVID-19, we must break the taboo, and begin caring about, clinician suicides.

Abstract

The authors had become concerned about the dearth of information on nurse suicide even though all had heard one or more stories in their professional lives. They set about to collect everything that existed. It became clear that the first step in addressing the issue is to break the silence and then to come up with strategies for moving forward to break the cycle and develop prevention strategies.

The purpose of this paper is to raise awareness of and begin to build an open dialogue regarding nurse suicide. Recent exposure to nurse suicide raised our awareness and concern, but it was disarming to find no organization-specific, local, state, or national mechanisms in place to track and report the number or context of nurse suicides in the United States.

This paper describes our initial exploration as we attempted to uncover what is known about the prevalence of nurse suicide in the United States. Our goal is to break through the culture of silence regarding suicide among nurses so that realistic and accurate appraisals of risk can be established, and preventive measures can be developed.

> Change only happens when ordinary people get involved, and they get engaged, and they come together to demand it.
>
> Former President Barack Obama

The available U.S. data on nurse suicide are outdated [2-8] yet provide clues that suicide may be a risk of the nursing profession. The purpose of this paper is to begin breaking through the silence surrounding nurse suicide by commenting on the authors’ collective experiences following exposure to nurse suicide.

We describe our quest to understand the frequency and underlying causes of nurse suicide and suggest strategies on how to move forward. While nurses face a number of mental health and psychological challenges—including anxiety, compassion fatigue, depression, ethical issues, and second-victim syndrome—the focus of this paper is on the most silent, irreversible, and devastating mental health scourge: suicide. Three examples from nurses regarding actual experiences with nurse suicide and suicidal ideation are explored. Cases are blinded for privacy and occurred at more than one organization.

Absence of Procedures

The loss of a nurse colleague to suicide is more common than generally acknowledged [9-11] and is often shrouded in silence, at least in part due to stigma related to mental health and its treatment [12,13]. After a suicide, nurses grieve in different ways as they continue to deliver patient care. A standard operating procedure for how to handle the suicide of a nurse colleague does not exist, compared with what is available for physicians [14,15]. Without a predefined process, each unit manager is left independent to develop a grief recovery plan that supports the staff in processing resultant emotions. In our collective experience, no one, at any level, was comfortable talking about suicide when it occurred. One nurse leader speaks of her experience following a suicide.

Case: Hearing Whispers

I found out through a whisper in the wind. Not a memo. Not an announcement. Just chatter. Then later, another whisper; another event. Again, there was no formal announcement. I thought more about the memos we received about key events with the physicians and how that seemed to be handled so differently. Each of their losses is sent out as a mass email so that anyone touched by that person could know, reach out to the family or friends, and grieve together. In this situation, each manager prepared their own action plan to process their staff through the grief, fielding the event independently. I was not a member of those departments, yet the news moved me in a profound way. I wanted to process it. I didn't even know the nurses personally, yet I wanted to know more. I felt unsettled and needed closure.

Maybe it was because I am a scientist and saw the pattern emerge. I was fixated on determining one of two things: Was there anything we could do to prevent this in the future, or on the contrary, should I resolve myself to the fact that suicide happens? I knew that everyone was doing the best they could do to deal with the situation, but also questioned whether there were best practices somewhere else to learn from. I wondered about whether or not having more than one event in an organization was unusual. I attempted to seek out best practices, went to the internet and then to the literature. The results were sobering.

Searching for Answers

Networking with Colleagues

After direct experience with nurse suicide, the authors networked with local and national professional colleagues, collecting anecdotes confirming that others had experienced nurse suicides, either personally or through work responsibilities. We even found one case example while conducting research on the impact of blame in the workplace [16]. From this, we learned that the incidents were not isolated to our organizations.

Others had experienced similarly tragic losses of colleagues, but no one offered suggestions of best practices in suicide prevention or nurse suicide grief recovery. We attempted to find information about the incidence of nurse suicide through inquiries to human resources and risk management departments, boards of registered nursing, the American Nurses Association, and the California Board of Registered Nursing.

To our surprise, none of these organizations collected or reported information about nurse suicide. Other than the testimonies of single events recalled from memory and the one published case study, we found no examples of processes to prevent, cope with, or deal with nurse suicide. Therefore, despite knowledge that nurse suicide exists, we concluded, as others had before us, that the occurrence of nurse suicide was shrouded in silence, avoidance, and denial [13].

A General Internet Search

A general internet search produced no public data identifying a national nurse suicide rate, yet data on suicide rates were readily available for physicians, teachers, police officers, firefighters, and military personnel (Table 1, below).

This rudimentary review further confirmed that nurse suicide in the United States appeared, indeed, invisible. There was no dialogue about incidence of nurse suicide, not even on the expansive reach of the internet.

From discussion with the San Diego County medical examiner [17], we found that transparency in this area is complicated by a lack of standardized reporting of death by suicide. The reporting characteristics vary from county to county; some do not include occupation.

Further, in states that do report occupation, the occupation code is usually entered in free text, resulting in difficulty constructing a methodology for accurate data analysis. The Center for Disease Control and Prevention (CDC) maintains a restricted National Violent Death Reporting System (NVDRS), which is the most comprehensive death registry by suicide coded by occupation. It has been growing yearly, and at the time of this writing, data are available for 40 states, the District of Columbia, and Puerto Rico [18]. The NVDRS dataset is available only by application.

We confirmed that no one has queried this dataset to search for nurse suicide statistics. Despite the challenge of occupation coding in CDC mortality data and restricted access to the incomplete NVDRS dataset, it is curious that the incidence rates for other professions were reported on the internet, yet nurses have not addressed this issue to date.

U.S. Nurse Suicide Literature Review

From the global review of lay postings on the internet, we moved to a search of the professional literature. With the support of a medical librarian, a search strategy was developed and executed in PubMed, CINAHL, and PsycINFO for English-language papers, with no limitations on time period or publication type.

We created a National Center for Biotechnology Information alert using this search strategy ((suicide) and nurse) not “assisted suicide” not “euthanasia”)) to generate weekly updates. Many anecdotal reflections were located. These were published by nurses whose colleagues had completed suicide [19-26].

The literature search yielded only five dated descriptive studies regarding incidence of nurse suicide in the United States. Two additional studies were obtained by tracing older references from review papers. All references from relevant papers were combed in an attempt to identify additional studies.

Studies reporting data regarding nurse suicide in the United States are summarized in Table 2, below. Because of the dearth of current literature on this subject, older references are included, further highlighting the need for current attention to the topic of US nurse suicide.

A 1999 review [11] of nurse suicide data—including Doebbert [5], Katz [3], Milhelm [4], and Powell [2] from the United States—concluded "There is a remarkable paucity of empirically based information from which to identify clear causal factors and, equally important, preventive factors."

Nearly 20 years later, that statement holds true.

Table 1. Suicide Rates for Occupations Providing Services to the Public

Occupation	U.S. rate (year)
Physician [a]	300–400 per year (2015–2016)
Educator [b]	63 per year (2011)
Police officer [c]	108 per year (2016)
Firefighter [d]	89 per year (2016)
Military officer: [e] Combat: Infantry (closed to women) Combat: Infantry, engineer, never deployed (closed to women) Combat service support: Medical	 37.2/100,000 (2004–2009) 41.2/100,000 (2004–2009) 18.5/100,000 (2004–2009)
Nurses	????

Notes: [a] American Foundation for Suicide Prevention, 2013, Physician and medical student depression and suicide prevention, https://afsp.org/our-work/education/physician-medical-student-depression-suicide-prevention (accessed June 3, 2017);
[b] Teacher Mental Health, 2011, Teacher suicide rates, http://www.teachermentalhealth.org.uk/teachersuicide.html (accessed May 20, 2017);
[c] The Badge of Life, 2016, A study of police suicide 2008–2016, http://www.policesuicidestudy.com (accessed May 1, 2017);
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[e] Kessler, R., M. Stein, P. Bliese, et al., 2015, Occupational differences in U.S. Army suicide rates, Psychological Medicine 45(15):3293–3304.

Source: Davidson et al., "Nurse Suicide: Breaking the Silence," National Academy of Medicine.

Occupational Risks

Safety Measures

In the United States, there are 3.4 million practicing nurses representing the largest group of health care professionals [27]. Workers' compensation data are universally reported, including injuries by type, days of work lost to injury, and cost. Organizations may also track leave of absence due to stress. We have found no evidence that hospitals measure employee loss due to suicide.

Further, more than one of the nurse suicides in the anecdotes we uncovered occurred shortly following separation from the job. If a suicide metric existed, these cases would have likely been lost to capture because the nurses were no longer employees.

Occupational Pressures

Internationally, outdated studies point to factors that appear relevant today to nursing in the US: ethical conflicts, organizational deficits, role ambiguity, shift work, social disruption of families due to work hours, team conflict, and workload [28,29]. In two US studies performed using a secondary analysis of the longitudinal Nurses' Health Study data, a combination of work and home stress, smoking, stress, and Valium use were identified as suicide risk factors [7,8].

A critical review [30] on risk factors of nurse suicide identified nine studies published globally since the previous review [11], of which there were two US papers [6,7]. This review found that collective risks factors leading to nurse suicide included access to means, depression, knowledge of how to use lethal doses of medications and toxic substances, personal and work-related stress, smoking, substance abuse, and under-treatment of depression [30].

Table 2. U.S. Literature Associated with Nurse Suicide

First author	Title and location of study population	Year	Findings and limitations
Katz [a]	Causes of death among Registered Nurses, Wisconsin	1983	1963–77 data extraction: Wisconsin Bureau of Health Statistics Nurses and two control groups (all female workers, female professional workers) identified and compared 41 registered nurse (RN) suicides, average 2.9 per year. No risk factors identified. Proportionate mortality ratio significantly higher (value not reported) than working females and professional females; expected 27.2, observed 41
Doebbert [b]	Occupational mortality of	1988	California study (1979–81) evaluating the mortality of working women.

	California women, 1979-1981 California		Licensed vocational nurse (LVN) and health aides included; no mention of RN. 504 deaths over 3 years; average 168 per year; no breakdown of LVN, nurse aide. Females were at the greatest risk of suicide. General female risk factors: • Poor equipment • Extreme temperatures • Work violence • Toxic chemicals • Microbial agents • Shift hours Lifestyle behaviors: • Smoking, drinking patterns
Stack [c]	Occupation and suicide 21 states	2001	21 states contributed data to the U.S. Public Health Service regarding 32 occupation groups and suicide. Did not include nurse occupational stressors. Risk of suicide 1.58 times more likely in nurses than similar working-age population.
Feskanich [d]	Stress and suicide in the Nurses' Health Study 11 states	2002	14-year prospective study beginning 1976; nurses completed self-perception questionnaire. Examined association among self-perceived stress, diazepam (Valium) use, and suicide for nurses. 73 RN suicides over 14 years; 5.21 per year When work stress combined with high home stress, risk increased fivefold No details about type of work stress Suicide rate: 6.8% per 100,000 person-years; same as U.S. rate for white females, 40–64 years Female nurses at higher risk of suicide (RR=1.58) than general population

Notes: [a] Katz, R. M., 1983, Causes of death among registered nurses, Journal of Occupational Medicine 25(10):760-762; [b] Doebbert, G., K. R. Riedmiller, and K. W. Kizer, 1988, Occupational mortality of California women, 1979-1981, Western Journal of Medicine 149(6):734; [c] Stack, S., 2001, Occupation and suicide, Social Science Quarterly 82(2):384-396; [d] Feskanich, D., J. L. Hastrup, J. R. Marshall, et al., Stress and Suicide in the Nurses' Health Study, Journal of Epidemiology and Community Health 56(2):95–98.

Source: Davidson et al., "Nurse suicide: Breaking the silence," National Academy of Medicine.

The high-pressure nursing environment and its associated demands have been clearly addressed within the literature [31-34]. Burnout among nurses is common [35-38]. Caring and compassion come at a price [39,40]. The American Association of Critical-Care Nurses, American Nurses Association, and Association of Nurse Executives all recognize the stress in the profession and have called for action to optimize a healthy work environment [41-45].

The profession of nursing entails demanding and stressful work, with frequent exposure to human suffering and death. Many nurses point to daily ethical issues and ethics-related stress, perceive limited respect in their work, and are increasingly dissatisfied with their work situations [46].

Cumulative stress may be related to administration of potentially inappropriate treatment, blame, inadequate equipment, insufficient labor resources, lateral violence, medication or medical errors, and moral distress (the result of being prevented from doing what you feel is right) [47-51]. Review of medical errors, near misses, and omissions of care traditionally focus on the clinical situation.

The key question in a case review is, “What can we do to prevent this from happening again?” However, the emotional toll of being involved in a case with adverse outcomes is often neglected. The question “How did being involved in this make you feel?” is rarely addressed.

In today’s complex health care environment, nurses have more responsibility and accountability. The care nurses deliver is highly regulated. Nurses are under constant pressure to perform the required care within strict time limits. Spending less time with patients is linked to patient readmissions due to complications [52]. Thus, while burnout is common and painful in its own right, it also leads to suboptimal performance and patient safety issues, and is intimately associated with depression [38,53], a known precursor to suicide [54,55].

It is not known why some people experience despair and hopelessness as a result of negative workplace situations and others can use those environments for stress-induced growth [56]. Depression is a common mental disorder, with a prevalence of 14.6 percent among adults in high-income countries and 11.1 percent in developing countries [57,58].

While there are no reliable published data on the true prevalence of major depressive disorder among nurses, in the United States, one study showed that the prevalence of depressive symptoms among nurses was 41 percent, while another reported it to be 18 percent [59,60].

Nurses as Whole People

It has been suggested that, although work stressors alone are important, when they are combined with stress from home, suicide risk may increase in nurses [7]. The balance of personal and professional values often is neglected in clinical practice. Nurses may “wall off” personal issues to remain in a professional mode with their patients.

In a study on workplace wellness, it was reported that nurses feel cared for when leaders recognize them as whole people, acknowledging the troubles they might be having at home as well as at work [61]. A small 1996 study of 30 nurses and 60 nursing students documented that nurses who had less emotional expression were at an increased risk of depression, which may lead to suicidal ideation [62].

Nurses are also a community within their particular units and, perhaps, need to begin to speak more directly to one another on issues that matter personally as well as professionally. Nurses need to take time to ask themselves and their colleagues, “Are you okay today?” The nursing profession also needs to move beyond the stigma of mental illness and psychological concerns.

Nurses may too often hold themselves to a higher standard, and they might feel shameful or disinclined to confront their own issues with mental health because they are trained to help others, not themselves. In the following quote, we hear a hint that nursing culture might further drive suicide risk by discouraging nurses from seeking help.

Case: Hearing About Penny

I remember when I was hired in the intensive care unit [ICU] on the night shift after having moved to a new town where my husband had taken a new job. I had about 7 years of ICU experience by that time and chose to work nights to maximize family time and reduce daycare for my toddlers.

The culture was quite different from my previous hospital. The night nurses were noticeably less collaborative, with more of a ‘get your own work done so you can sit and read’ attitude. I was much more used to a culture of ‘no one sits down until everyone can sit down.’ The day shift culture and nurses seemed different, but maybe that was because of the day-shift supervisor.

Penny [not her real name] was a bright ray of light. I remember Penny very well. She looked like a perfect West Coast girl, tan, beautiful white teeth sparkling in her warm smile; energetic and always warm and friendly with a hint of mischief. A consummate professional, Penny was a fierce patient advocate and was loved by the staff, physicians, and families. I really looked up to her and knew that as I matured as a nurse I wanted to be like Penny. Her leadership on the day shift was reflected in the culture I observed at change of shift and missed in my night shift colleagues.

I’d been at my new job for about 6 months when I received a call from a day shift nurse in the late afternoon asking if I could come in early to start my night shift. There had been a tragedy amongst the staff and there were day shift nurses who were unable emotionally to finish their shifts. When I asked what had happened, the charge nurse told me Penny had died. They were looking for relief to allow the grieving nurses to go home. Without a second thought, I said I’d be there as soon as I could.

When I arrived, it was clear something terrible had happened. Everyone in the ICU was red-eyed from crying and looking shell-shocked. When I asked, what happened to Penny, I was told she was found dead at her home by her husband, from whom she had recently separated. I also was shocked and saddened by the news but, since I only knew Penny from our brief encounters at staff meetings and change of shift, I was able to contain my own emotions enough to relieve one of her closest colleagues so she could go home.

Many weeks later, after the funeral and many mournful days, we were told Penny’s death was due to an intentional injection of a neuromuscular blocking agent. She had removed the drugs from the unit’s secure drug storage locker the day before, at the end of her shift just before leaving. Only those very close to her knew of her marital problems. No one at work would ever suspect Penny was suffering so much in her personal life. She never let her pain show. Interactions with Penny were always upbeat and positive. She really did find time to laugh and have fun while expertly running a busy unit.

We all missed Penny terribly in those months after her suicide. We asked ourselves how we could have missed, or misjudged, her degree of despair over her failing marriage. We all hugged our families a little longer and treated each other more gently after we lost Penny.

Unfortunately, the culture on nights in ICU did not improve and I requested a transfer to the surgical trauma unit on the opposite side of the hospital. The ICU just wasn't the same without Penny and the staff was still struggling emotionally. I'll never forget Penny—her wonderful personality and her gifts as a nurse and leader.

I still struggle with the idea that someone with so many caring colleagues and access to support could have seen no hope in her situation. I can't even begin to imagine how her family must have felt (and still feel). I've since learned that suicide is a complex and dynamic emotional condition.

There are stigmas that need to be overcome so nurses (and all people) suffering from depression, hopelessness, and despair know they can seek help without judgment. Maybe Penny thought that because she was a nurse, she should be able to handle her life situation and depression on her own.

Prevention Strategies

Although minimal attention has been paid to preventing suicide among nurses compared with what has been done regarding physicians [15,63], it is clear that there are similar considerations with burnout, depression, and suicide risk [36,38,64-68]. Suicide prevention is a complex undertaking that involves both institutional and individual efforts. In this section, we highlight one institutional and one individual approach.

Institutional Strategies

As health care professional burnout and suicide risk become more recognized and discussed, institutions and hospitals are beginning to respond and provide programs aimed at enhancing physician and nurse wellness [41,43,69,70]. One academic center, University of California San Diego, School of Medicine, developed a mental health program, the Healer Education Assessment and Referral (HEAR) Program, initially for physicians, residents, and medical students [15,71,72].

Following a physician suicide in 2009, a committee led by two psychiatry faculty working in collaboration with the American Foundation for Suicide Prevention (AFSP) developed a two-pronged program for the prevention of depression and suicide. One element of the program provides a voluntary, anonymous, web-based screening and referral program using a validated assessment tool developed by the AFSP. The second element includes system-wide grand rounds education, including topics such as physician burnout, depression, and suicide [15].

During the initial year of the program, 27 percent (101) of the individuals screened met criteria for significant risk for depression or suicide, and nearly half of those identified (48) accepted referrals for mental health evaluation and treatment. From the beginning, the program was supported by senior leadership from the medical school, who stated that no stigma should be attached to mental illness and encouraged everyone to participate in the program because physician wellbeing was and is a high priority [15].

The following year, the University of California, Skagg's School of Pharmacy was added to the program's agenda. Since its inception, this program for physicians has been adopted by over 60 medical campuses. Finally, in its seventh year, after experiencing nurse suicides, the HEAR Program was extended to the nursing community.

The HEAR Program is now being piloted as a quality improvement project at the University of California, San Diego Health, to test whether the program will identify high-risk nurses and successfully move them into treatment. In the first 10 months since the expansion of the program to nurses, HEAR has assessed 184 nurses, of which 16 (9 percent) dialogued with the counselor online through the encrypted website, 15 (8 percent) engaged with counseling in person or by phone, and 20 (11 percent) received and accepted personalized referrals to psychologists and psychiatrists.

Per the results of the AFSP Interactive Screening Program [73]—which includes the Patient Health Questionnaire-9 depression screening tool [74,75] and validated questions on suicide risk—an astounding 97 percent of the 184 nurses who answered the survey were found to be at moderate or high risk. The results demonstrate an obviously biased sample of at-risk nurses. However, more important, the bias demonstrates that proactive anonymous screening will identify nurses who are at risk.

As was found previously with physicians [15], nurses commented that without this proactive screening, they would not otherwise have initiated mental health care. The HEAR Program, including this proactive depression-and suicide-risk screening for physicians, has been endorsed by the American Medical Association as a best practice in suicide prevention [76].

As a society, we need to better understand the factors that influence depression. Through analysis of the data received through the HEAR interactive screening, we can begin to understand the specifics behind risk factors of stress. In the HEAR program extension pilot [77], we found the following workplace stressors in nurses at high risk for suicide: feelings of inadequacy, lack of preparation for the role, lateral violence, and transferring to a new work environment.

Individual Strategies

It is not enough for institutions to take on the burden of reducing nurse suicide. There is much individuals can do for themselves to develop healthy coping and resilience, modify self-perpetuated stigma, and provide better self-care, including mental health care [13].

For our last personal account with suicide, we present this vignette written by a nurse who was experiencing depression and thought about taking her life. Her experience with depression was shared to encourage an open dialogue among nurses and to encourage nurses to take action and seek professional help when depressed.

Case: Nurse / Mother Experiencing Depression

I am a creature of habit and so I begin each day in the same manner as I have done for the past 21 years: I stumble to the kitchen in my pajamas to turn on the coffee maker; empty the dishwasher while I wait for the coffee to brew, then proceed to the master bath—coffee in hand, to take my antidepressants. As my sister, brother, mother, aunts, uncles, great aunts, and grandmother before me, I have been diagnosed with major depression. Too many of these tortured souls lost their battles with depression; forever traumatizing the loved ones who found them.

Besides being a creature of habit, I am a wife, mother, grandmother, and an R.N. with a long and successful career. In my 30's, my genetic disposition to depression began to creep into my life. Once delighted by my children's antics, I now simply observed. I smiled and clapped at their words and accomplishments because I knew that was what a loving mother should do, yet inside, I felt nothing. After putting each child to bed at night with a kiss on their foreheads, I could immerse myself in self-loathing: How could anyone stand to be around me? I was fat, ugly, empty, and ignorant. But mostly, I was fearful that someone would someday see me for the fraud that I was. I tossed and turned—so tired, yet unable to sleep. The next day I would get up and resume the act; and the same the next day and the next.

At work, I was the person in charge, the person to go to with questions, the person who could turn chaos into order, and the person who could make even the most complex physiology make sense. Leaving the unit at the end of the shift, I often stood on the top deck of the parking garage staring at the road below thinking 'It wouldn't be so bad. Just one quick painful thud and then peace. If I jumped right, I'd hit head first, and wouldn't feel anything at all. No one I loved would have to be traumatized by the blood and the displaced bones and organs.' And then I'd realize that I couldn't leave that legacy to my children, couldn't abandon them, couldn't leave them without a mother; couldn't teach them that suicide was the way to take care of pain, and I'd turn and go home.

After nearly a year, I finally realized that I was no longer who I once was. I was not the mother that I wanted to be, and was not feeling all the complex emotions of life. I called my doctor, asked for help, and started on the road back to myself. A few months after beginning medication, I heard an unfamiliar sound—laughter. It took me a minute to realize—it was coming from me! I was experiencing joy!

Although I still need the occasional medication adjustment, I am grateful that science has created effective antidepressants. If today's treatments were available in past decades, I am certain that my family's history would have been different. I feel lucky that I and my children are genetically predisposed to a condition that is easily treatable. I have not dwelt on it, but have been open with them about depression, so that they may recognize the signs of depression if those signs ever emerge in themselves or others, and will know how to get help. I've also been open in the workplace about being treated for depression.

A co-worker once pulled me aside and thanked me for my openness. She told me that she had come to work on a particular evening intent upon taking an overdose of sleeping pills and narcotics upon her return home. While at work, however, she heard me tell the story of my decision to ask for help for my depression. 'So, I went home,' she said, 'threw away the meds, and called my doctor.' "I've been told that the piano and I each have 88 keys. It takes both the low and the high notes and chords to compose a concerto; so I experience the lows, but I know that the highs are waiting for me in the next line. It's wonderful to hear and live it all.

Conclusion

Nurse suicide has been a hidden phenomenon in the profession and has not been adequately measured or studied within the United States. The time for a culture change is now. Research is needed to assess the magnitude of nurse suicide and associated work stressors. We have applied for and received the NVDRS dataset and have begun an investigation to define the incidence of nurse suicide. The study will include psychological autopsies, including circumstances leading to suicide, the emotional state of the nurse prior to the event, pre-existing psychiatric conditions and treatment, trauma, violence, and home and work stressors. Open, transparent communication is needed to address pertinent issues related to nurse suicide. Strategies to identify, prevent, and mitigate nurse burnout and depression and prevent suicide need to be tested. Once available, research results, coupled with institutional and individual grit, can help transform the culture of the nursing profession from silence and isolation to one of shared dedication to nurse health and wellness, ultimately contributing to optimal patient care. Until such data are available, silence and the preventable loss of life will prevail.

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7. Caring for Health Professionals in the COVID-19 Pandemic: Toward an Epidemic of Empathy in Healthcare

Authors: Serena Barello and Guendalina Graffigna

Summary

These researchers introduce the phrase “epidemic of empathy” and strongly support the open acknowledgement of workplace emotions. They found that an empathetic style of communication is most effective when attempting to avoid both short- and long-term negative outcomes. An empathetic response, and related efforts to respond sensitively to others, has been associated with potentially better sequelae during a pandemic.

An Epidemic of Empathy

Psychological research into healthcare opened the door to understanding people's emotional reactions when they experience events seen as life-threatening. The current outbreak of COVID-19 has recently been declared a Public Health Emergency of International Concern (PHEIC) by the World Health Organization (WHO). Response to an influenza pandemic has been shown to generate remarkable stress and emotional turmoil in healthcare providers who work during the outbreak. Experience with disasters, pandemics, and major traumatic events indicates that enhanced support to healthcare professionals enables them to become aware of their own emotions; and, effectively sharing this with patients can help them to remain efficient and focused during stressful events.

This COVID-19 outbreak marks a vital moment wherein healthcare systems can endorse an epidemic of empathy aimed at bringing science and humanism together to benefit patients and consolidate trust in healthcare providers during healthcare crises. Perhaps the greatest opportunity for managing people’s fears during health emergencies like COVID-19 lies in restoring our connections with each other. Today, we are all called to rebuild a sense of community and the ties that bind us together as human beings.

When coping with a large-scale emergency like this, people report a wide range of psychological needs, including out-of-control emotional reactions, as demonstrated by recent studies on the impact of COVID-19 on populations across countries (Leon, 2004; Graffigna et al., 2020; Li et al., 2020; Lima et al., 2020). This “emotional surge” has the potential to overwhelm the medical system for as long as the public health crisis lasts. People's emotions, however, are only half of the story in a healthcare crisis.

In crisis, health professionals become increasingly crucial points of reference regarding information on how to cope with the health crisis. This may make them feel so responsible for managing the situation that it impedes their ability to recognize their own human feelings, worries, and concerns (Khalid et al., 2016).

The expression of emotions by healthcare providers has been traditionally considered unprofessional and inconvenient, basically a sort of taboo (Meier et al., 2001). Research has addressed the fact that healthcare providers often have to deal with unexpected emotions arising from both the patient and themselves, and need to find strategies to manage the stresses and anxieties of confronting illness and suffering (Meier et al., 2001; Delfrate et al., 2018).

Although medical education does not explicitly promote healthcare workers' alexithymia* and emotional neglect, still it frequently occurs in caring for patients, the so-called hidden curriculum (Cherry et al., 2014), seems to encourage clinicians to detach themselves from emotions (Shapiro, 2011b). Accordingly, clinician's socialization and implicit professional norms often foster health providers' emotional detachment (Halpern, 2001) as a strategy to cope with emotional challenges in interactions with patients (Rosenfield & Jones, 2004).

*__Alexithymia__ refers to problems expressing emotions. From the Greek, literally "no words for problems."

At the same time, research has established that emotional regulation and disclosure among healthcare professionals may vary by cultural context (Rakovski & Price-Glynn, 2010; Mastracci & Hsieh, 2016). Moreover, studies on professionals' emotions highlight the importance of clinicians' awareness of their emotional states during the clinical relationship with their patients (Kushnir et al., 2011), although some differences across clinical settings have been supported by various practices in this regard (Halpern, 2014).

We know that emotions play a significant role in human interactions, even those occurring in healthcare encounters; as a matter of fact, they are a "vehicle" that is able not only to communicate intentions and shape behaviors but that is also functional to build (or not) mutual trust, affect information processing, and even to determine people's health choices (Chapman & Coups, 2006).

Studies showed that unrecognized emotions in the healthcare providers' experience may prevent the adoption of a patient-centered style of care and may be associated with harmful behaviors, such as neglecting patients' psychological issues or avoiding bonding with patients to elude the burden of highly emotional contents (Ely et al., 1995; Smith et al., 2005). Failing to recognize emotions (of both patients and providers) can affect the quality of medical care and the healthcare provider's own sense of well-being, and may also lead to physician distress, disengagement, and burnout (Ekman & Halpern, 2015; Silva & Carvalho, 2016).

Prior experience with disasters, pandemics, and major traumatic events indicates that enhanced support to healthcare professionals enabling them to become aware of their own emotions and effectively share their lived experience with patients can help them to remain efficient and focused during stressful events (Silva and Carvalho, 2016). That's because healthcare is not simply a scientific discipline, it is a matter of empathy, and communication skills are necessary to convey that empathy (Reynolds & Quinn Crouse, 2008).

During a healthcare crisis, an empathetic style of communication is most effective when attempting to push the population to take preventive actions or to avoid harmful behaviors. An empathetic response, and related efforts to respond sensitively to others, has been associated with more frequent adoption of recommended health precautions during a pandemic (Novack et al., 1997; King et al., 2016).

In fact, empathy that involves commitment to understanding what others are feeling—by adopting their perspective and responding in supportive ways—has been associated with benefits not only for laypeople but also for health providers. Commonly sharing emotions, concerns, and worries could make all those involved in a healthcare crisis feel more responsible and more aware of how much each person contributes to coping with the stressful consequences of the pandemic (King et al., 2016). Empathy has also been demonstrated to be a core element of an effective therapeutic relationship and to be a protective factor for health professionals' emotional exhaustion (Wilkinson et al., 2017).

On the other hand, studies have shown that, despite empathy's being important in effective care, empathy also generates vulnerability for stress-related symptoms such as compassion fatigue and emotional exhaustion/burnout (Hensley, 2008). The cognitive and emotional effort involved in empathic responses might strain the already overwhelmed psychological resource clinicians have in periods of high stress, contributing to burnout and even causing emotional pain (Gleichgerrcht & Decety, 2013).

These contradictory effects of empathy can be explained by considering that empathy is by nature multidimensional, interpersonal, and shaped by context and settings (Lamothe et al., 2014). According to Davis (2018), a core component of empathy in the context of patient care is perspective. Empathy consists of adopting the point of view of another person and seeing things from their perspective.

Perspective taking has been demonstrated to increase patient satisfaction (Blatt et al., 2010), as well as physician's well-being (Shanafelt et al., 2005). Empathetic concern, on the other hand, which is conceptually closer to sympathy, is the emotional reaction of an individual who is attentive to others' experience and spontaneously engages in helping behaviors (Lebowitz & Dovidio, 2015). It is important to distinguish the two concepts because they may lead to different outcomes.

While perspective taking has been viewed to be always beneficial in-patient care, a too-elevated level of empathic concern could interfere with objectivity in diagnosis and treatment (Gleichgerrcht & Decety, 2013). Therefore, some effective detachment between clinicians and their patients has been considered desirable to maintain both clinical neutrality and emotional balance (Hojat et al., 2003). Moreover, other dimensions, such as personal authenticity and hope, do interact with empathy-related processes and outcomes and should be considered for training in medical education programs (Shapiro, 2011a; Ünal, 2014; Yagil & Shnapper-Cohen, 2016).

Only when health professionals and patients opt for a relationship where emotional disclosures about events may occur, could their interaction become a true partnership with shared decision-making authority and mutual responsibility for outcomes (thus reducing stress and frustration from both sides).

To gain this objective, health systems must recognize that healthcare professionals are humans too by legitimizing their empathetic response; however, we need a practical plan to strengthen the healthcare providers' psychological resilience and work engagement during pandemic emergencies to prevent them from becoming "second victims" in this scenario (Scott et al., 2009) and to experience the "side effects" related to empathy.

In other words, during health emergencies like the one we are currently experiencing with COVID-19, health professionals need to be emotionally supported and safeguarded from the risk of forgetting their human side. If not, the consequences of the pandemic have to also take into account the psychological costs related to the increasing burnout rates among the health workforce.

This outbreak marks a vital moment where healthcare systems could begin to endorse an “epidemic of empathy” aimed at bringing science and humanism together to benefit patients and consolidate citizens' trust in healthcare providers during a healthcare crisis. Perhaps the greatest opportunity for managing people's fears during health emergencies—like COVID-19—lies, in the short term, in restoring our connections with each other.

Today, we are all called to rebuild a sense of community and the ties that bind us together as human beings.

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8. Social Stigma during COVID-19 and Its Impact on Healthcare Workers' Outcomes

Authors: Tiziana Ramaci, Massimiliano Barattucci, Caterina Ledda, and Venerando Rapisarda

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Summary

The outbreak of COVID-19 in Italy is a unique historical event that will need to be investigated more extensively and with more refined methodologies. Our findings suggest that stigma has a high impact on workers' outcomes. Stigma may influence worker compliance and can guide management strategies relating to pandemic risk for healthcare workers.

Stigma has a variety of negative consequences that inhibit recovery, such as shame, embarrassment, and the "why try" phenomenon. Stigma is such a pressing issue for the national health system, that it has been identified as a health crisis that clinicians must combat.

In the specific case of healthcare workers, coming into contact with patients is an emotional stressor that can pose a threat to well-being and have an impact on quality of professional life. Human resourced management can positively support efforts to reduce the job stress that is generated by increased workload and assignment to unfamiliar tasks.gh

Abstract

The COVID-19 emergency has significantly transformed the working environment and job demands. Providing care was emotionally difficult for healthcare workers. Uncertainty, stigmatization, and potentially exposing their families to infection were prominent themes for healthcare workers during the crisis, which first broke out in China at the end of 2019, and then in Italy in early 2020.

This study examined the effects of stigma, job demands, and self-esteem, and the consequences of working as a "frontline care provider" with patients infected with the coronavirus. A correlational design study involved 260 healthcare workers working in a large hospital in southern Italy. The following questionnaires were administered: (1) the Job Content Questionnaire, for assessing psychological and physical demands; (2) the Professional Quality of Life Scale to measure the quality individuals feel in relation to their work as "frontline care providers", through three dimensions: compassion fatigue, burnout, and compassion satisfaction; (3) the Rosenberg Self-Esteem Scale, for evaluating individual self-esteem; (4) a self-administered multiple-choice questionnaire developed by See et al. about attitudes of discrimination, acceptance, and fear towards healthcare workers exposed to COVID-19.

The findings suggest that stigma has a high impact on workers' outcomes. Stigma may influence worker compliance and can guide management communication strategies relating to pandemic risk for healthcare workers.

Introduction

The COVID-19 pandemic first struck Italy in January 2020, when two Chinese tourists tested positive for SARS-CoV-2 in Rome. An outbreak of infections was subsequently detected, beginning with 16 confirmed cases in Lombardy on 21 February, rising to 60 cases the following day, with the first deaths were reported. At the time of writing, there are over one million 300 thousand people infected with the coronavirus worldwide and the number of deaths stands at almost 75 thousand, almost 85% of which have been registered in Italy, Spain, France, and the United Kingdom.

The pandemic crisis has significantly transformed the working environment and job demands (e.g., high-pressure work, an unfavorable physical environment, and emotionally demanding interactions). Providing care was emotionally difficult for healthcare workers, with stress, uncertainty, and stigmatization being dominant themes for healthcare workers. They often had complex and conflicting thoughts and feelings about balancing their roles as healthcare providers and parents, feeling professional responsibility but also fear of this new disease, associated coronavirus patients, and guilt about potentially exposing their families to infection by working during the COVID-19 emergency [2,3,4,5].

Working with potentially highly infectious patients led to considerable stigmatization [6,7]. Contagion brings out a whole range of attitudes, beliefs, prejudices, stereotypes, and stigmas. Under these conditions, emotions play a key role by distorting planned choices or those based on facts. There is a contradiction between the duty owed by doctors, nurses, and healthcare workers to their patients and the underlying attitudes caused by the contagion. In some cases, this can lead to prejudice against those who are seen as modern day “plague spreaders”. The overriding fear is that of becoming infected, making the management of contact with infected individuals or those waiting for diagnostic test results difficult [8].

One of the most typical reactions in these cases is to experience fear, a primary emotion, which is crucial to our self-defense and survival. It is this fear that can lead healthcare workers to provide treatment that is less precise or careful than that which they would provide under normal circumstances [9].

The implications of working with potentially highly infectious patients should be recognized and acknowledged.

In this context, it is therefore essential to understand the effects of stigma, related to the intensity and frequency of exposure to the ongoing pandemic, job demands, and self-esteem, and its impact on healthcare workers outcomes. In particular, it is essential to investigate whether these variables are potentially capable of producing changes to the quality of professional life, including compassion satisfaction, burnout, and compassion fatigue for healthcare workers; in addition, it is also possible to hypothesize on the contribution of contextual variables, such as organizational type, position, years of experience, and role.

Stigma and discrimination tend to persist in the long term, even after quarantine has ended and the epidemic has been contained. Human Resourced Management can positively support efforts to reduce stigma among healthcare workers and the related stress generated by increased workloads and being assigned to unfamiliar tasks. Both systematic training and specific network meetings, as well as the possibility to access counselling seem to be very important tools to fight burnout and social stigmas [10].

Social Stigma with Coronavirus Patients

Stigma can be defined as a mark of disgrace that sets a person apart from others [11]. Social stigma (e.g., discrimination and devaluation by others) has a variety of negative consequences that inhibit recovery, such as shame, embarrassment, and the “why try” phenomenon [12,13].

Social stigma, in the context of health, is the negative association related to people or a group who have a specific disease in common. In an epidemic, this may mean that people are labelled, stereotyped, and discriminated against because of a perceived link to the epidemic. This is even more true when dealing with a highly contagious disease. This can have a negative effect on those affected by the virus and on the work of healthcare workers [14,15].

Firstly, stigmatization can substantially increase the suffering of people with the disease. Secondly, people with the disease or those at risk of catching it may avoid seeking health care, making it much harder for public health authorities to control the disease. Thirdly, professionals and volunteers working in the field may also become stigmatized, leading to higher rates of stress and burnout [16,17,18,19,20].

Familiarity (e.g., knowing a friend or family member who has tested positive) is well-established as a factor that positively impacts stigma [21]. Specifically, familiarity has been associated with lower levels of perceived dangerousness and fear [22] and less desire for social distance [23,24], as well as increased sympathy and prosocial attitudes [25].

Discrimination towards patients is the behavioral response of prejudice [26,27] and can be understood in terms of social processes of power and domination with some groups, which serve to devalue the stigmatized [28].

Evidence clearly shows that stigma and fear of infectious diseases hinder healthcare workers of different roles and responsibilities from responding correctly. They are facing an unprecedented emergency and insidious invisible danger, which has pushed the national health service to its limits, increasing workloads and physical and mental stress. At the individual level, stigma has been associated with insufficient levels of knowledge [29] and fear of casual transmission in the workplace [30,31].

Further examination of the factors relating to stigma has resulted in associations between stress and satisfaction [32,33]. For all these reasons, the acute stress of working with potentially highly infectious patients should be recognized and acknowledged.

A number of models have been put forward by the literature for the study of workplace health that investigate the relationship between stress perceived by the worker [34] and available resources. The starting point for these studies is the perceived level of stress, seen as a result of an imbalance between the demands imposed by the situation and the individual personal resources available [35].

Individual resources are also very important in protecting healthcare workers against the negative effects of infection [36]. In fact, O’Keefe [37] found that strong self-esteem was the strongest predictor of hopefulness among healthcare workers with patients affected by virus [38]. Additionally, [39,40,41] suggested that after an individual experienced adversity, a higher sense of self-esteem was identified as one of the personal characteristics contributing to resilient psychosocial outcomes. On the contrary, low self-esteem may be a risk factor contributing to negative psychological outcomes [42,43].

Less attention has been paid by researchers to the pandemic situation and life satisfaction, and how these may impact on attitudes toward healthcare workers. Stigma-related stress is not a diagnosable concern, but it can lead to more serious direct consequences for workers' outcomes and their performance [44]. It could be that when workers experience increased stigma-related stress, they feel more inclined to assist with patients' health concerns.

The opposite may be true for those experiencing high levels of stigma-related stress, where stigma may inhibit an individual from providing treatment. Similarly, satisfaction with life may be inversely related—with treatment provided and good performance outcomes when the individual feels satisfied with their current professional life circumstances, and perhaps more likely to provide support when satisfaction levels are higher. In a study with counselling professionals [45,46], help counsellors who reported higher self-stigma also had less help behaviors. This lack of behaviors then contributed to higher levels of stress and burnout and lower satisfaction.

In general, people who had higher levels of stigma were less satisfied. This finding suggests that when a person feels stressed, levels of satisfaction decrease [45,47,48,49]. Another study found that doctors who carried out abortions faced significant workplace stigma, resulting in reluctance due to workplace strain [50].

In such a context, an increase in job demands (e.g., psychological overload) exposes the individual to a tangible risk of burnout with cognitive, behavioral, emotional, and physical consequences, such as tiredness, pervasive detachment from others, anxiety, irritability, insomnia, poor concentration and indecision, degradation of performance levels, and reluctance to carry out one's work [51,52,53].

Literature on psychological consequences of exposure to the COVID-19 emergency reported emotional strain, burnout, and physical symptoms, such as shortness of breath and headaches, which were attributed to continually wearing protective masks, while fear and anxiety associated with the risk of contracting COVID-19 was prominent in their minds [54,55,56,57]. Authors found that although healthcare workers carried out their duties, the dual role of healthcare worker and family member caused conflict. Respondents were particularly concerned about infecting family and friends who they considered vulnerable.

Other studies on the emergency found that healthcare workers were worried about expected overtime hours if other staff were quarantined, as well as the stigma of the illness and the health of their families and themselves [58], indicating general emotional distress [59,60,61]. Several studies have investigated the attitudes, knowledge, and practices of healthcare workers towards patients with the virus and underlined that healthcare workers still fear the disease and behave prejudicially toward infected patients [62,63,64].

Factors that influence these attitudes include fear of contagion associated with the uncertainty of care and the awareness of feeling useless in providing care for patients with a potentially fatal disease [65]. The focus of institutions and the scientific community on occupational health and safety is progressively increasing, leading to a continuous regulatory evolution and the development of good practices in safety and prevention. Easily accessible practical advice on coping strategies and stress management at work may be a most challenging task and useful to significantly improve and guarantee their quality of life and work, and to avoid burnout.

Study Aim and Results

Therefore, after considering these research findings, the specific objective of the present preliminary analysis was to identify direct and indirect relationships between stigma, job demand, and quality of professional life, including compassion satisfaction, burnout, and compassion fatigue, in a group of healthcare workers working in a large hospital in the south of Italy with a COVID-19 ward.

In this hypothesis-generating study supported by a convenience sample drawn in close temporal proximity to the period of lockdown, imposed on the entire country by the government in an attempt to flatten the curve the pandemic (range time from 17 March to 2 April), we examined whether the relationships between these constructs existed for workers and to what extent. The data are still being constantly updated to provide additional support for the model presented in this paper.

In summary, according to the literature, stigma clearly influences work outcomes [45]. Moreover, some working environment variables (perceived job demands) [35,51] and personal variables (self-efficacy) [38,42] could have a role in possibly mediating/moderating stigma and outcomes. Self-efficacy could influence the perception of stigma, increasing discrimination and fear of COVID-19. However, this study was only intended to verify the first step of the theoretical framework. Stigma, job demands, and self-efficacy have the role of antecedents in relation to the outcomes of healthcare workers, overall making a joint contribution to the experience of work.

Based on this simple rationale, and with a view to further exploratory research, this paper intended to verify the following hypotheses:

1. Hypothesis 1: Social stigma (discrimination, acceptation, and fear) predicts outcomes: stigma discrimination, and fear negatively predict compassion fatigue and burnout, and positively predict compassion satisfaction. On the contrary, stigma acceptance positively predicts fatigue and burnout, and negatively predicts satisfaction.
2. Hypothesis 2: Job demands (mental and physical overload) predict outcomes, such as professional quality of life. More specifically, job demands positively predict compassion fatigue and burnout, and negatively predict compassion satisfaction.
3. Hypothesis 3: Self-esteem negatively predicts negative outcomes (fatigue and burnout) and positively predicts satisfaction levels.

Other contextual variables such as gender, age, role, length of service, and working hours were considered as control variables.

Gender differences emerged for fatigue and burnout: women reported higher scores of compassion fatigue and burnout than men. Age was significantly positively related only to burnout levels and satisfaction, as was length of service.

No profile differences (doctors vs. nurses) were found for any of the measured variables, nor for shift presence/absence. Furthermore, weekly working hours were not significantly related to any of the variables. Nevertheless, differences between temporary and long-term workers emerged for job demands, fatigue, and burnout—unexpectedly, permanent workers showed higher levels of perceived psychological job demands, fatigue, and burnout, compared with temporary workers.

Discussion

Measuring the effect of pandemic factor stigma on workers' performance is of extreme importance [55,56,73]. To this end, the research sought to provide preliminary indications on the relationship between stigma and work outcomes, and on the role of job demands and self-efficacy. The results undoubtedly show that stigma positively impacts fatigue and burnout, and negatively impacts satisfaction. The role of job demands, although having an effect on negative outcomes, appears to be reduced compared to the interaction with stigma perceptions. Self-efficacy also appears to relate more to the processes of discrimination and satisfaction than to those of emotional reaction (fear) and negative outcomes.

Stigma is such a pressing issue for the national health system, it has been identified as a health crisis that clinicians must take action against [74]. Healthcare worker stigmatization is associated with psychological and physical health. Healthcare workers who expected to experience higher levels of stigmatization reported increased psychological distress, and this predicted increased somatic symptoms [75].

There are some major pathways for studying stigma in healthcare facilities, namely stigma related to discrimination and fear of contracting the virus and its outcomes [76,77,78]. Where healthcare workers are not aware of potentially stigmatizing attitudes and behaviors, the impact of stigma is serious. The practical reason for exploring stigmatized attitudes and behaviors, and reducing related stigma, is the negative effect stigma has on a person's self-concept [79,80], life satisfaction [81,82], and professional quality of life, stress, burnout, and self-engagement [81,83].

It is no surprise then, that stigma toward healthcare workers has been a topic of focus in the literature [26,84,85,86,87].

There are several potential mechanisms by which stigma could affect healthcare workers outcomes [88,89]. Many research studies have been conducted to study the ways in which stigma impacts help behaviors [90,91,92]. The importance of stigma to quality of life is well-recognized in HIV research and care: Stigma is included as a domain in the World Health Organization's HIV-specific measure of quality of life [93].

Caring for people living with a virus requires ongoing health care services, as they are potentially at increased risk of developing disorders, including cardiovascular and liver disease, accelerated bone loss, metabolic disorders, etc. [94,95]. Taking care of infected patients requires healthcare workers to have good knowledge of their unique issues. Cultural differences in healthcare workers, combined with professional ethics and personal beliefs, could also result in conflicting attitudes, which may lead to difficulties related to care [65,96]. Although most workers rationalized this as a lack of understanding about the illness or the risks involved, all described feeling angry and hurt, acutely aware of others' reactions.

Overall, on one hand, the results of this research seem to provide indications in line with cited literature and with the proposed theoretical model (Figure 1), but on the other, the range of relationships and the sample size do not allow for causal inferences or hasty conclusions to be drawn.

Indeed, the limited size of the sample can only provide preliminary indications and does not allow results to be generalized for all healthcare workers. Moreover, the very low response rate of the nurses was certainly caused by the lower temporal availability compared to doctors, and it can certainly represent an important source of bias and a loss of important information.

The outbreak of COVID-19 in Italy is a unique historical event that will need to be investigated more extensively and with more refined methodologies [54,55,56]. What is certain is that it is essential to study workers' stigma in the face of pandemics and the training and information provided for healthcare workers to ensure adequate levels of satisfaction can be maintained and prevent phenomena such as fatigue and burnout.

Research relating to the set of different antecedents of workers' outcomes in pandemics seems crucial since stigma risk may influence the general compliance of workers and results can provide useful information for management communication strategies.

Conclusions

There is now a greater focus than ever on studying stigma in relation to healthcare workers. Where healthcare workers are not aware of potentially stigmatizing attitudes and behaviors, the impact of stigma is serious. Healthcare workers who expected to experience higher levels of stigma reported increased psychological distress, stressors which may be important in predicting impact on healthcare workers' outcomes [75,76,77]. Working with potentially highly infectious patients generates considerable stigmatization [6,7].

Our findings underline that stigma is an important predictor of compassion satisfaction, burnout, and compassion fatigue among healthcare workers. Therefore, strengthening human resources for frontline care providers requires measures to reduce stigma.

This appears particularly relevant for healthcare workers in this specific situation, whose contact with patients during the COVID-19 emergency is emotionally difficult and where stigma can jeopardize outcomes and affect work performance. [2,3,4,5,54,55]. In line with the broader literature, our findings also suggest that studying the stigmatization of COVID-19 may provide us with insight into the stigma associated with emerging infectious diseases and the potential consequences of such stigmatization.

In the specific case of healthcare workers, coming into contact with patients is an emotional stressor that can pose a threat to well-being outcomes and have an impact on quality of professional life.

Human Resourced Management can positively support efforts to reduce the job stress that is generated by increased workload and assignment to unfamiliar tasks. Systematic training and specific network meetings, as well as the possibility to access counselling, are very important tools to fight burnout and social stigma [10] in order to prevent them or avoid their harmful effects.

Despite the contribution made by this study to the understanding of the topic, there are limits which provide direction for future research. Firstly, the methods used to examine "causal" hypotheses and data collected were cross-sectional and, therefore, cannot offer evidence of actual causation. In future research, using a structural equation longitudinal method would be useful. Secondly, self-reported measures were used to assess the dimensions of this study.

Future studies should at least consider different methods to reduce the influence of self-report bias. In this hypothesis-generating study carried out in close temporal proximity to the lockdown period, imposed by the government to attempt to flatten the curve of the pandemic, we used a convenient sample. The data are still being constantly updated to provide additional support for the model presented in this paper.

References

For these references, please go to

https://www.mdpi.com/2071-1050/12/9/3834/htm.

9. The Impact of COVID-19 on Allied Health Professions

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Summary

Our study is among the first to examine how COVID-19 is impacting work environments and provider stress. Allied health professionals in a variety of work settings revealed 86% felt unusual stress due to COVID. Responses further showed that a better understanding is needed in terms of how employment status, access to PPE, and mental health supports are interrelated in their effects on allied healthcare workers. Early identification of mental health symptoms will support provider well-being, decrease burnout, and prevent long-term psychopathology.

Abstract

The purpose of the current study was to examine the impact of COVID-19 on allied health professionals work environment, access to personal protective equipment (PPE) and COVID-19 testing, and mental health. A 34-question survey was developed and distributed electronically to allied health professionals through listservs of professional organizations and social media groups. A total of 921 responses from allied health professionals in a variety of work settings were analyzed.

The majority of allied health professionals had access to medical-grade PPE and agreed with their clinics decisions to stay open or closed. Private practices appeared to be the most negatively impacted with regards to employment in the form of pay reductions, furloughs, lay-offs, or the requirement of using paid time off.

Importantly, 86% of all respondents, irrespective of employment status, reported feeling stressed with regards to changes in their work environment and transmission of the virus. However, levels of stress were dependent upon access to PPE and mental health resources. Specifically, those with access to mental health support reported lower stress levels than those without such access. These results highlight the need for continuous monitoring of mental health for allied health professionals in order to inform clinic and hospital policies for PPE and the development of brief interventions to mitigate adverse long-term mental health outcomes.

Introduction

The World Health Organization (WHO) designated COVID-19 as a global pandemic on March 11, 2020 [1]. The Centers for Disease Control and Prevention (CDC) reported that as of May 16, 2020 there were 1,435,098 total cases and 87,315 deaths as a result of COVID-19 in the United States [2]. For comparison, the CDC estimated 34,200 deaths due to influenza during the 2018–2019 season [3], suggesting that COVID-19 has a higher mortality rate than the seasonal flu in the previous year. Due to the rapid spread and contagious nature of this virus, the government mandated formal social distancing procedures, including school and business closures.

In April 2020, the Centers for Medicare and Medicaid Services (CMS) recommended limiting all elective, non-essential medical services to help reduce the spread of COVID-19 and to preserve personal protective equipment (PPE) for healthcare providers who were working directly with COVID-19 positive patients [4]. As a result, current unemployment rates have significantly increased in the healthcare industry [5].

Barnett, Mehrotra, and Landon [6] reported that due to COVID-19, hospitals have laid off employees and reduced salaries, ambulatory practices have considered closing down, and there is a possibility of more closures and bankruptcies. Similarly, orthopedic practices have been forced to limit staff hours, close offices, and reduce salaries during the COVID-19 pandemic greatly affecting allied health professionals within these practices [7].

In fact, 35% to 45% of respondents participating in survey studies have indicated that their medical practices were temporarily closed during COVID-19 [8, 9]. Those practices who remained open, were forced to reduce expenses by decreasing staff hours, furloughing or laying off employees, or implementing executive-level salary reductions [9]. Although the Storm et al. studies [8, 9] identified an important impact of COVID-19 on healthcare workers, they primarily surveyed private practice providers and only surveyed hearing care professionals (e.g., audiologists and hearing instrument specialists). To date, no study has compared the impact of COVID-19 across allied health professionals, as well as examined the impact of employment status on levels of stress. A better understanding is needed in terms of how employment status, access to PPE, and mental health supports are interrelated.

Evidence suggests that availability of PPE is associated with healthcare workers' willingness to work during an influenza public health emergency [10]. Despite the CDC and WHO guidelines regarding recommended PPE for healthcare workers, the rapid progression of COVID-19 resulted in a shortage and lack of PPE for healthcare workers [11]. This led to inappropriate reuse of disposable PPE and the use of non-medical-grade or homemade PPE [11, 12], which prior research has demonstrated is not adequate protection compared to medical-grade PPE [13, 14].

For many institutions, the decision to remain open for elective procedures or non-essential outpatient visits was coupled with the need to save PPE, including facemasks, goggles or face shields, and gloves [15]. One study surveying hearing health providers found that the most common safety measures that hearing practices were using to help reduce disease transmission during the COVID-19 pandemic included wiping down surfaces, using masks and gloves, and limiting the number of patients seen daily [8, 9]. However, these surveys did not inquire about the availability of PPE, nor examined the potential differences among allied health professionals or practice settings.

The literature on the impact of COVID-19 is steadily increasing with recent studies highlighting the need to respond to the psychological challenges during COVID-19 and calls for appropriate psychosocial support for healthcare workers. Healthcare workers are inherently subjected to increased stress due to their occupational environment [16], with a higher risk for emotional disturbances during infectious outbreaks [17, 18]. Previous research conducted during the Middle East Respiratory Syndrome coronavirus (MERS-CoV) outbreak found that 54.5% of healthcare workers surveyed had post-traumatic stress disorder (PTSD) symptoms, with 40% meeting criteria for diagnosis [19].

Additionally, during the Severe Acute Respiratory Syndrome (SARS) outbreak, healthcare workers on the frontlines reported fear and emotional distress [20, 21]. More importantly, these emotional symptoms persist for some individuals even after the outbreak has ended [19], with one study demonstrating that 18–57% of healthcare workers experienced emotional distress both during and after the outbreak [22]. These elevated symptoms are most commonly associated with a fear of contagion, concern for family health, and job stress [18, 20, 21, 23].

Thus, it is imperative that we begin screening healthcare works for increased levels of stress to identify those who would most likely benefit from intervention. This would help prevent the occurrence of long-term psychopathology, including depression and PTSD. This is supported by previous research that recommends increased screening and surveillance of psychological symptoms in healthcare workers given the repeated exposures to traumatic experiences during a global health crisis [24].

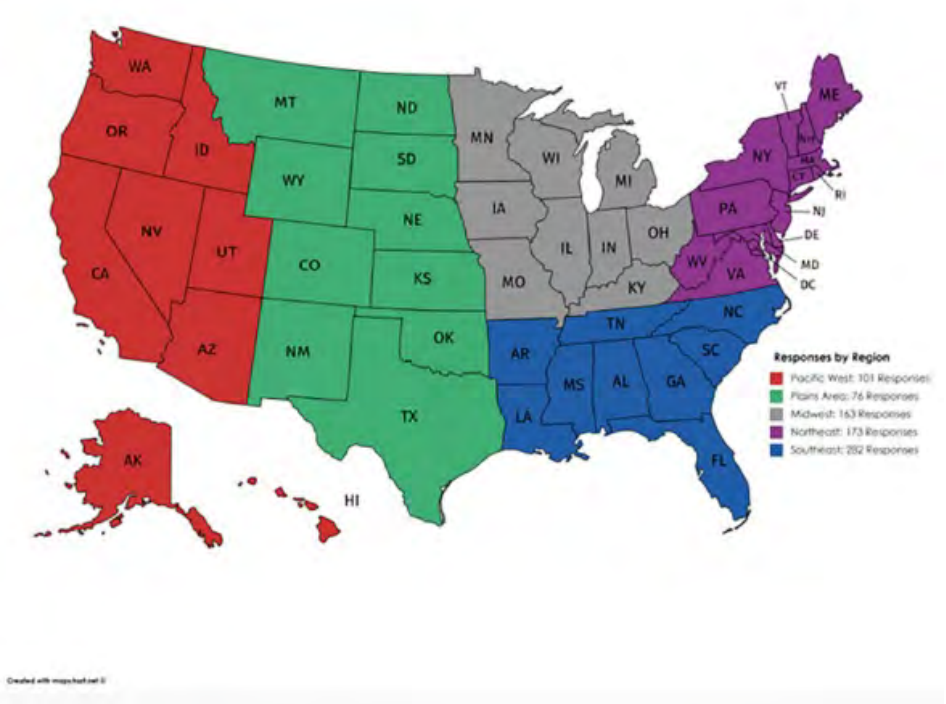
The purpose of the current study is to expand on prior literature related to the impact of COVID-19 on healthcare workers, particularly with a focus on allied health professionals. This is the first study to examine the impact of COVID-19 on allied health professionals work environment, access to PPE, and levels of stress. Examining the interrelationships among these factors is crucial as we begin to transition to new models of service delivery, including telehealth or hybrid models of in-person and virtual clinics. By identifying the impact of the COVID-19 pandemic on allied healthcare professionals, we can inform policy and develop interventions to mitigate adverse long-term mental health outcomes.

Participants

Data was obtained via an online survey distributed electronically to allied health professionals. The following exclusion criteria was used: 1) Individuals who do not read English, 2) Individuals working internationally, and 3) Individuals identifying as a non-allied health professional or identifying as an emergency medical technician (EMT). EMTs were excluded despite being considered allied health professionals due to the higher risk of infection and stress they encounter daily [25, 26]. EMTs typically function in a less controlled environment than other allied health professionals even outside of a pandemic [27]. Therefore, their responses would likely differ from other allied health professionals.

A total of 1,171 responses were received over a one-week period and two-hundred and fifty responses were excluded due to not meeting inclusion criteria or partial survey completion. Participants were primarily female (88.3%) and 25–34 years of age (46.4%). Responses were obtained from allied health professionals working in 48 states (at least one response was obtained from every state except for Hawaii and Wyoming) and the District of Columbia (Figure 1).

Figure 1. Response by Region



This figure illustrates the number of respondents by region. Reprinted from https://mapchart.net/ under a CC BY license, with permission from mapchart.net original copyright (2013).

Source: NIH

Allied health professionals participating in this study included: Audiologists and Audiologist assistants (27.5%), Social Support Services (e.g., psychologists, mental health counselors, social workers; 27%), Other (e.g., nutritionists, dieticians, dental hygienists; 12.6%), Speech-Language Pathologists (SLPs) and SLP assistants (12.5%), Physical Therapists and Physical Therapist assistants (11.0%), and Occupational Therapists and Occupational Therapist assistants (9.4%).

More than 50% of these professionals had worked in their current position for 0–5 years (56.6%) and the majority of respondents worked in a private practice (23.5%), university-hospital setting (20.3%), or hospital (19.5%). See Table 1 for further descriptive information.

Table 1. Respondent Demographics

Characteristic	**N (%)**
Sex:	
Female	812 (88.3%)
Male	104 (11.3%)
Other or Prefer not to answer	4 (0.4%)
Age:	
18–24 years	23 (2.5%)
25–34 years	426 (46.4%)
35–44 years	223 (24.3%)
45–54 years	135 (14.7%)
65 years or older	32 (3.5%)

Household Size (Including Respondent):

One or two	514 (56%)
Three or Four	339 (36.9%)
Five or Six	62 (6.8%)
Seven or more	3 (0.3%)
Profession:	
Audiology	253 (27.5%)
Social Support Services	249 (27%)
Speech Therapy	115 (12.5%)
Physical Therapy	87 (9.4%)
Occupational Therapy	87 (9.4%)
Other	116 (12.6%)
Position:	
Staff	550 (63.4%)
Faculty	184 (21.2%)
Graduate Student or Student	91 (10.5%)
Post-Doctoral Fellow	43 (5.0%)
Time working in current position:	
0–5 years	521 (56.6%)
6–10 years	142 (15.4%)
11–15 years	95 (10.3%)
16–20 years	64 (6.9%)
21 years or more	99 (10.7%)
Primary clinical setting:	
Private Practice	216 (23.5%)
University- Hospital	187 (20.3%)
University- Non-Hospital	57 (6.2%)
Hospital	180 (19.6%)
School/Educational Setting	56 (6.1%)
Rehabilitation Center	49 (5.3%)
Nursing Home	40 (4.3%)
VA Hospital	19 (2.1%)
Retail Setting	7 (0.8%)
Manufacturer	5 (0.5%)
Other	104 (11.3%)

Procedures

This study was approved by the Institutional Review Board at the University of Miami. The survey was distributed via social media and electronic mail by the study co-investigators to relevant professional organizations who then distributed the survey to their members via listserv. The email sent contained a Qualtrics link where there was an informational letter explaining the study on the first page. The survey was open for seven days (4/16/2020 through 4/23/2020). If participants consented and chose to participate, they chose “next” and were given access to the survey sections. Participants were allowed to skip any question that they did not wish to answer. The consent specified that only allied health professionals should complete the survey.

The research team was comprised of audiologists, researchers, and psychologists experienced in social/behavioral research and instrument development. The survey was developed based on literature published to date [6–9, 17, 18], themes observed on social media groups for allied health professionals, and clinical experience. Additionally, the survey adhered to The Checklist for Reporting Results of Internet E-Surveys [CHERRIES; 27], including the use of adaptive questioning and handling of incomplete questionnaires.

A 34-question survey was developed that focused on the impact of COVID-19 on three areas: work environment, access to personal protective equipment (PPE) and COVID-19 testing, and mental health. We created this pilot study survey de novo as there are currently no established or validated measures of the impact of COVID-19 on allied health professionals.

In the work environment section of the survey, we asked participants questions related to their profession, years worked in their current position, and clinical setting. Additionally, questions related to the current status of their setting (e.g., if they are open, open in a limited capacity, closed) and changes in work responsibilities (e.g., practicing as usual, reassigned to perform tasks outside of normal clinical duties) were asked. Furthermore, questions related to the type of screening procedures and/or restrictions implemented by clinics were included.

In the access to PPE and COVID-19 testing section, we asked whether participants had access to differing types of PPE in their clinical settings. We also inquired whether participants had been tested for COVID-19 and corresponding results. The mental health section queried whether participants had access to mental health support, which supports they had utilized, and the perceived importance of access to mental health support during the current pandemic. Additionally, concerns regarding acquisition and transmission of COVID-19 were also assessed.

Data Analysis

Analyses were conducted using the Statistical Package for Social Sciences, version 25 (SPSS, 2017). All complete responses were analyzed (n = 921). Descriptive analyses were conducted for demographic variables and all survey items. Regression analyses between age, concern for transmission or acquisition of COVID-19, stress due to change in work environment, and use and access of mental health support, respectively, were conducted. Additionally, given the focus on the various allied health professions, we conducted multiple one-way ANOVA's to examine differences between professions on stress, importance of access to mental health support, and perception of being an essential worker.

Results

Work Environment and Access to PPE

The majority of respondents (67.2%) reported that they are currently employed, while 11.8% of respondents reported they are employed with a reduction in pay; 10.5% of participants responded that they have been furloughed and 4.2% of participants responded that they have been laid-off. A small percentage of respondents reported that they were required to take paid time off (PTO) with unpaid leave (3.9%) or allowed to use unaccrued PTO (2.4%). Audiologists (119 respondents) and physical therapists (49 respondents) reported being most affected in terms of their employment status, as well as professionals working in private practice.

At the time of the survey, 45.9% of respondents reported that their office or facility was open in a limited capacity (e.g., emergencies only) and 35.2% of respondents reported that their clinic was open. Of the survey participants who reported that their office is open or open in a limited capacity, 53.2% reported that they are seeing patients via telehealth, 42.9% reported that they are working from home, 37.8% reported that they are seeing patients on-site daily, and 31.2% reported that they are seeing emergent cases only.

Of the respondents who reported that their office or facility is closed, 15.1% of respondents reported that their clinic is closed with plans to re-open and 3.8% reported that their clinic is closed with no plans to re-open. The majority of these respondents (75.3%) reported their office being closed for four or more weeks. Overall, providers reported agreeing with their clinics decision to remain open (90.1%) or closed (98.3%).

Interestingly, providers working from home reported a range of work responsibilities, including administrative activities (86.9%), updating clinical protocols (51.4%), research (41.3%), and publications (31.6%). Routine check-in with a supervisor was the most common measurement of productivity reported (62.2%), followed by time tracking (35%), and project management trackers (17.5%).

Ninety percent of allied health professionals continued to see patients under their scope of practice, while 10% were reassigned to perform other duties. Tasks that respondents were reassigned to included screening patients (2.1%), taking temperatures (2.1%), scheduling (1.6%), or triaging patients (1.1%). Respondents also indicated "other" responses, such as, attending trainings, academic work, and working in the COVID-19 call center to screen employees.

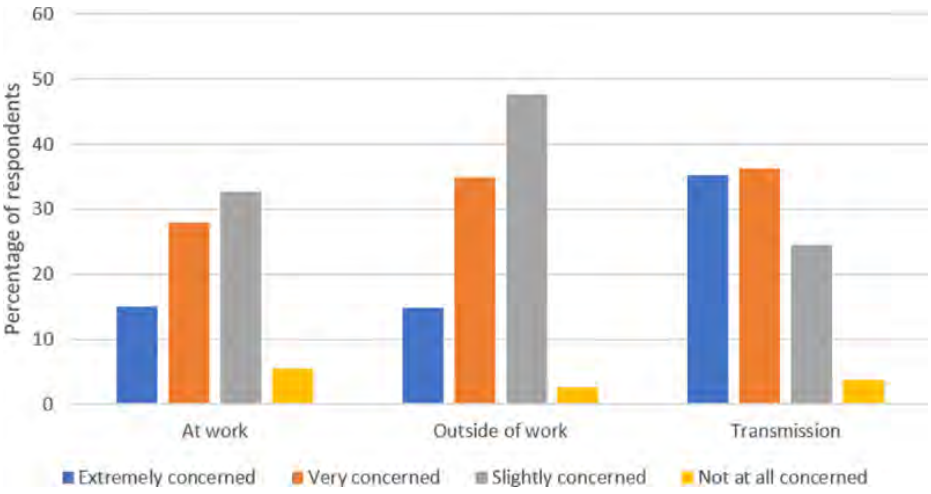
Our data also supported that essentially all clinics and hospitals were conducting some form of screening for COVID-19. The most common responses included implementing verbal screenings (e.g., asking patients “Do you have a cough?”) and physical screenings (e.g., taking temperatures) with response rates of 74.9% and 57.6%, respectively. Physical distancing (e.g., drop-box for devices; 38.5%), and limiting patients to one companion (30.8%) or no companions (30.7%) were also frequently endorsed. Other common responses included mandatory masks for staff and visitors and limiting the amount of time spent engaging with patients.

The majority of respondents reported having access to PPE at work with 12.8% of healthcare professionals reporting no access to PPE at work. Those with access reported availability of surgical masks (60.5%), N-95 masks (27.6%), homemade facemasks (25.7%), and surgical masks with face shields (19.8%). Mental health specialists (27 respondents) and audiologists (17 respondents) were the most common respondents reporting no access to PPE at work. Nearly half (49.2%) of respondents reported no access to COVID-19 testing at work, while 33% reported availability of testing, and 17% were unsure. At the time of the survey, over 95% of respondents had not been tested for COVID-19 or COVID-19 antibodies; however, of those who were tested, 23.3% tested positive and (14.4%) were waiting on results.

Mental Health

Allied health professionals were also queried regarding their stress related to changes in their clinical practice during the pandemic. The majority of respondents reported that they either agreed (48.7%) or strongly agreed (37.5%) with the statement that they felt stressed due to the changes in clinical activity. Participants were also asked to rank their level of concern about acquiring COVID-19 at work and outside of work (e.g., grocery stores, pharmacies, outdoor exercise) as well as their concern regarding transmitting the virus to their family members or other individuals. Although providers were concerned about acquiring COVID-19 at work (75.6%) a larger percentage of our respondents reported being concerned about acquiring COVID-19 outside of work (97.4%). Additionally, the majority of respondents (96.2%) reported concern regarding transmission of COVID-19 to others (Fig 2).

Figure 2. Acquisition and Transmission of COVID-19

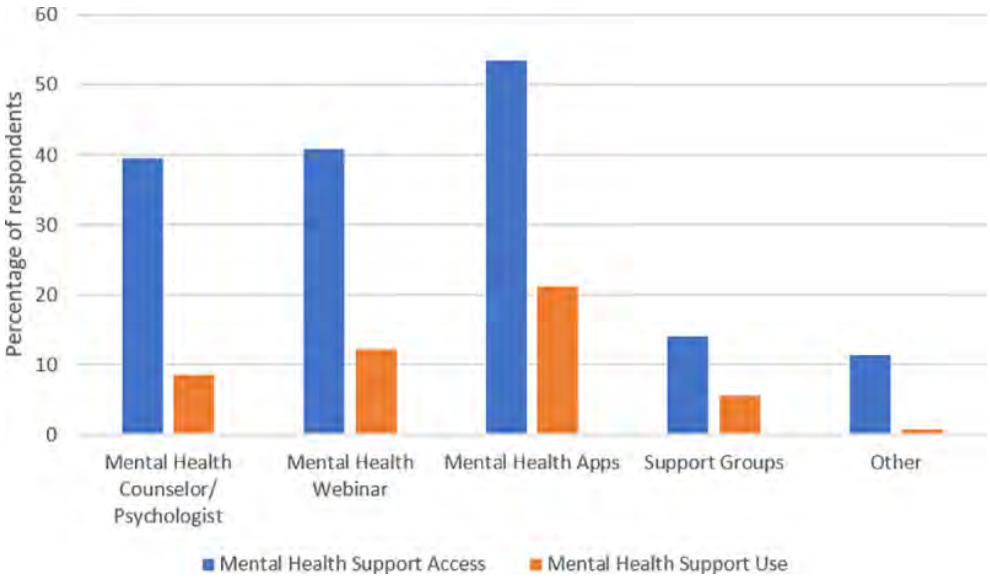


This figure illustrates allied health professionals’ level of concern of acquiring COVID-19 at work or outside of work, as well as transmission to others. A larger percentage of respondents reported high levels of concern regarding transmission of COVID-19 to others.

Age was a significant factor in respondents concern about transmitting COVID-19 to family or others, with older individuals reporting more concern about transmitting COVID-19 to their family or others. No significant associations were found between age and concern about acquiring COVID-19 at work, or in other places, respectively.

Interestingly, despite allied health professionals reporting significant levels of stress during the pandemic, few providers were utilizing any form of mental health support. The majority of allied health professionals (93%) reported access to mental health services was very important or important during this time, with approximately 75% having access to a method of mental health support. The most common mental health supports included mental health phone applications (53.5%), followed by mental health webinars (40.8%), and mental health counselor/psychologists (39.5%). Despite the importance placed on access to mental health support, few respondents reported utilizing any method of mental health support (Figure 3).

Figure 3. Access and Use of Mental Health Support



This figure represents the discrepancy in access and use of mental health supports. Phone applications were the most accessible and utilized method of mental health support.

In terms of stress regarding the change in clinical practice due to COVID-19, there was a significant association between stress and access to mental health support, with those who had more access feeling less stressed. However, there was no significant association between level of stress and use of mental health services, indicating that regardless of use of mental health services, an individuals' reported level of stress remained the same. Additionally, access to PPE was significantly associated with level of stress, with those reporting no access to PPE having higher levels of stress.

Differences Between Professions

Given the variability in clinical responsibilities for the allied health professionals included in this study, we examined differences in stress levels by profession. There was a statistically significant difference between groups as determined by one-way ANOVA of stress by profession. Bonferroni post-hoc tests revealed that providers working in social support services reported feeling less stressed than audiology and speech providers.

Additionally, there was a statistically significant difference between professionals on the importance of access to mental health services. Bonferroni post-hoc tests revealed that the social support services respondents were significantly different than all other professions, with social support providers endorsing higher ratings of agreement that mental health access is important during this time (physical therapists, OT, audiology, other, and speech).

Lastly, there was a statistically significant difference between professionals on whether they perceived their profession was essential. Bonferroni post-hoc tests revealed that audiologists were significantly different than all surveyed professionals, with audiologists endorsing lower ratings of agreement than all other professions. Additionally, there was a significant difference between the social support providers and “other” professions, with social support respondents endorsing higher ratings of agreement that their profession is essential.

Discussion

At the end of 2019, a novel coronavirus was identified as the cause of a cluster of pneumonia cases in Wuhan, which rapidly spread, resulting in a worldwide pandemic [1]. Healthcare workers across the country quickly responded to the public health emergency. The CDC and WHO provided guidance for frontline healthcare workers regarding personal protective equipment, primarily focusing on healthcare providers who have direct contact with COVID-19 positive patients [11, 28, 29].

Little guidance and attention were initially given to healthcare professionals working alongside frontline workers, including allied health professionals (i.e., audiologists, speech and language therapists, psychologists, physical therapists, occupational therapists, etc.) and PPE was initially being saved for those working with COVID-19 positive patients [29]. This is the first study to examine the impact of COVID-19 on allied health professionals work environment, access to PPE, and levels of stress.

Overall, the majority of allied health professionals were still employed during the pandemic with 89% of practices open in some capacity. However, 14.7% of participants had been furloughed or laid-off, likely to mitigate the financial crisis that many institutions and private practices rapidly faced. Providers also generally agreed with their clinics decision to remain open or closed and the majority reported having access to PPE, which affected professionals stress related to working.

During this pandemic, healthcare delivery models were quickly challenged and many university and private practices implemented telehealth or virtual clinics to accommodate patient needs [30], with the uncertainty of whether reimbursement would be obtained for telehealth services [31]. Emergency legislation was passed which allowed for flexibility in reimbursement for telehealth with some clinics quickly adopting this new model of service delivery. Specifically, CMS provided waivers that allowed practitioners to be reimbursed for services provided via telehealth during the pandemic [32].

Our data supports the rapid adoption of telehealth, with 43% of providers engaging in telehealth services. Despite the initial challenges experienced by many institutions and providers on implementing telehealth, including training for providers and obtaining HIPAA compliant programs, telehealth has proven to be a successful method for obtaining case histories, screening patients in which it may be unclear if they need to be seen, and providing counseling services.

Moreover, telehealth may serve as a possible solution to healthcare systems that are already stressed and looking for ways to increase clinical volume and reduce costs (e.g., overhead, supplies). As suggested by Smith and colleagues [33], continued monitoring of telehealth policies and funding will be necessary as insurances and policy makers determine whether temporary reimbursement of telehealth services will remain indefinitely following the pandemic.

Further, as hospital and institution leaders develop new models for clinical care, including hybrid models where some patients are seen in-person while others continue to be served via telehealth, it will be increasingly important to understand and assess how providers are feeling related to their new schedules and work environments. Notably, our data found that allied health professionals reported concerns about acquiring COVID-19 both at work and outside of work, with the greatest concern about transmitting the virus to others, especially in older respondents.

It may be the case that older respondents have more interactions with vulnerable populations, such as taking care of elderly parents. These results are consistent with prior studies, which demonstrated healthcare worker concerns regarding acquiring disease and disease transmission to family [19–21, 23]. Institutions and decision-makers need to be aware of these concerns and provide alternate work environments if available, including telecommuting options or hybrid models allowing for both staggered in-person and virtual clinics.

Some of the concerns about transmission may be ameliorated by access and use of PPE, as prior research has found that access to PPE is associated with willingness to work [10]. The majority of allied health professionals surveyed reported having access to PPE (87.2%), with 7% only having access to non-medical grade PPE (e.g., homemade masks). This is contradictory to previous reports of PPE shortage [34] and highlights recent government and hospital efforts to provide access to PPE for all individuals interacting with patients.

This is also consistent with the WHO's Recommendations for the Rational Use of Personal Protective Equipment, which provides guidance on appropriate PPE use according to the setting, personnel, and type of activities [29]. Interestingly, there is no direct guidance for allied health professionals. The closest appropriate guidance is the outpatient facilities triage for healthcare workers conducting preliminary screening not involving direct contact category which recommends maintaining a spatial distance of at least 1 meter and no required PPE [29].

Some may interpret these WHO guidelines as suggesting that PPE is not required for allied health professionals [29]; however, our data supports that institutions and clinical practices may be implementing stricter guidelines on the use of PPE for all providers. Note, although our findings suggest that the majority of allied health professionals had access to PPE, we did not inquire if they were using the PPE and under what circumstances.

In addition, our findings linked access to PPE with reported levels of stress, with allied health professionals reporting no access to PPE endorsing higher levels of stress. This suggests that although it may not be required for some allied health professionals to use PPE, access to PPE helps to mitigate provider stress levels and willingness to come to work. This is consistent with prior literature reporting that healthcare workers are more likely to work during a pandemic if they feel confident that the hospital can protect them [35].

Moreover, given the substantial reports of provider stress during the COVID-19 pandemic in this study, it is important that institutions implement screening for symptoms of mental health disorders as early identification of heightened levels of stress may serve to prevent future long-term psychopathology. Healthcare workers are naturally subjected to increased stress secondary to their occupational environments [16]; however, increased feelings of fear and emotional distress as well as symptoms of PTSD have been reported during previous health crises, such as the MERS-CoV and SARS outbreaks [20–22]. Our current study identified that 86.2% of allied health professionals were reporting stress related to their employment.

Understanding of provider current levels of stress is crucial in order to better prepare for the emotional sequela that takes place during and after a pandemic. Previous research has suggested that there are four waves during a pandemic which include an increase in anxiety symptoms, then depressive symptoms, followed by more long-term psychological effects, such as depressive disorders and PTSD [36]. Our findings suggest an increase in stress for all the professions surveyed, with the social support services group feeling less stressed than both the audiology and speech and language pathology groups. It is possible that those in the social support services group have better developed peer networks that include mental health specialists. In addition, given their clinical training and knowledge, these mental health providers likely have better self-awareness to identify their symptoms and when further support is needed.

Early identification and intervention for mental health symptoms is crucial, particularly during health crises in which we have the opportunity to intervene and prevent long-term psychopathology, such as depressive disorders and PTSD. Given the current findings of increased stress due to COVID-19, it is imperative to screen for these symptoms both during and after a pandemic. This is necessary in order to identify and support those with elevated symptoms as early and swiftly as possible. Screening is particularly important as access to typical resources and supports are limited during pandemics. This is supported by prior research that recommends increased screening and surveillance of psychological symptoms in healthcare workers given the repeated exposures to traumatic experiences [24]. These screenings will also support development of brief evidenced-based interventions.

As suggested by Onyeaka and colleagues [37] little is known about how to respond to the psychological challenges already being experienced during COVID-19. The authors highlight the need for appropriate psychosocial support. Our study demonstrated that the majority of respondents had access to mental health supports and those who had more access reported feeling less stress. However, there were no associations between level of stress and use of such supports. This indicates that knowing resources are available may be enough to reduce the general stress associated with the clinical changes due to COVID-19.

Institutions and organizations should continue to offer these support services to their faculty and staff so that providers can be aware of the services available. This would also assist with normalizing the need for mental health support during a highly stressful time. With most professionals reporting access and use of mental health phone applications or webinars, it is recommended that prioritization be given to the development of brief interventions that may be conducted virtually around providers schedules.

Conclusion

Although this study was the first to assess the impact of the pandemic on allied healthcare providers' work environment and stress, it also had some limitations that are important to consider. First, although we did inquire whether respondents had access to PPE, we did not inquire if they were using the PPE and under what circumstances. Future research would benefit from gathering information on PPE use as this can be helpful for inventory planning and policy making.

Despite this, the current study contributes to the literature as it identified that having access to PPE helped mitigate reported levels of stress. Second, this study was conducted during the beginning of the pandemic and therefore results may be different if the survey were administered following a prolonged period of time. However, identifying how providers are feeling at the beginning of a pandemic is important as it can inform decisions regarding need for monitoring or interventions, as well as policies for allied healthcare providers working in different settings.

In addition, our study did not include all allied health professionals. For example, EMTs were excluded due to their higher risk of exposure and stress. Future research should examine differences among all allied health professionals, including those who are at higher risk. Lastly, our sample consisted of primarily audiology and social support providers and therefore the results may not generalize to the entire population of allied health professionals. Yet, we did have a breadth in our sample in terms of geographic representation (respondents from 48 states) and work settings (e.g., private, university-based, hospital). We also received responses from professionals from various disciplines allowing us to compare responses by profession.

In conclusion, our study is among the first to examine how COVID-19 is impacting work environments and provider stress. Our data highlighted the rapid adoption of telehealth and virtual clinics by allied health professionals, illustrating that hybrid models of service delivery are feasible for the future. It was also evident that healthcare providers are willing to provide clinical care even under stressful environments.

However, access to PPE and mental health supports were related to providers' levels of stress. Thus, PPE should continue to be offered to allied health professionals providing in-person clinical care. More importantly, the identified heightened levels of stress reported by professionals warrants further attention. Based on our results, continued monitoring of stress and mental health screening is strongly recommended. Early identification of these mental health symptoms will support provider well-being, decrease burn-out, and prevent long-term psychopathology.

References

For these references, please go to https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7598457/.

Quiz

1. During a pandemic, healthcare workers are at risk for moral injury, which can contribute to the development of psychopathological disorders such as PTSD, severe depression, and substance abuse.

a. True

b. False

2. The central feature of COVID stress syndrome is:

a. Fear of eating too much as a coping mechanism.

b. COVID-19-related danger and contamination fears.

c. Fear of the future.

d. Fear of government inaction.

3. About half of the general population has exhibited elevated levels of distress to the pandemic. This is manifested by:

a. Refusing to wear a mask.

b. Driving long distances.

c. Panic buying, overeating, and overuse of drugs and alcohol.

d. Excessive exercising and binge-watching television shows.

4. After China, which country was the first to be adversely affected by the coronavirus epidemic?

a. Viet Nam

b. Italy

c. South Korea

d. Sweden

5. Both healthcare and emergency workers who intervene in emergency situations are exposed to the risk of developing dysfunctional reactions related to:

a. Physical and physiological stressors.

b. Irritability, nervousness, agitation, anger, low self-esteem, and guilt.

c. Distractibility, sense of ineffectiveness, and negative anticipation of events.

d. All of the above.

6. Nurses involved in managing the Middle East respiratory syndrome (MERS):

a. Experienced lower levels of stress when the levels of PPE and training were higher.

b. Experienced higher levels of stress than during the COVID-19 pandemic.

c. Had no more or less stress than they normally experience.

d. Received very little training or psychological support.

7. The choice of coping strategies is influenced by the individual's cognitive evaluation of the event, which involves estimating the resources available and the most effective strategies to deal with the situation.

a. True

b. False

8. Healthcare professionals who applied dysfunctional coping strategies, based on avoidance, hostile comparison, or self-blame, tended to develop higher stress levels.

a. True

b. False

9. During the outbreak of COVID-19 in Italy in early 2020, two stressors stood out among healthcare workers:

a. Lack of food, unpredictable schedules.

b. Lack of PPE, fear of infecting family members.

c. Difficulties with co-workers, lack of pay.

d. Lack of organizational support, lack of proper breaks.

10. In emergency situations, high stress can cause emergency workers to experience impotence, breathlessness, cognitive difficulties, and difficulties in decision-making and managing emotional reactions, along with feelings of anger.

a. True

b. False

11. Following the SARS outbreak in 2004, researchers found that healthcare workers involved with treating patients during the pandemic:

a. Reported higher levels of burnout and distress.

b. Had increased smoking and alcohol consumption.

c. Were more likely to have reduced patient contact.

d. All of the above.

12. A "control belief" is:

a. The perception that we can influence what happens in our life.

b. The ability to control the beliefs of those close you.

c. The understanding that you have no control over external events.

d. A lack of personal mastery.

13. Personal mastery is:

a. Our understanding that we cannot achieve every goal we have set.

b. Associated with reduced reactivity to work-related stressors.

c. Not associated with the ability to reduce work-related stressors.

d. A factor that interferes with goal attainment.

14. In a study of mental health challenges associated with the COVID-19 pandemic, healthcare professionals reported significantly higher levels of depressive symptoms, current anxiety, concern about their health, and tiredness than non-healthcare professionals.

a. True

b. False

15. In a survey comparing healthcare professionals involved with caring for COVID-19 patients during the early months of the pandemic to an age-matched group:

a. The age-matched group were significantly more depressed than the healthcare group.

b. The pandemic did not appear to create additional work stress among healthcare professionals.

c. On average, the healthcare group fell into the clinically depressed range.

d. No difference was found between the two groups related to anxiety or depression.

16. During the early months of the pandemic, healthcare workers were more tired and more concerned about their health than an age-matched control group.

a. True

b. False

17. It is likely that the impact of stress associated with managing and providing care in uncertain and ever-changing circumstances may negatively impact the immune system, weakening staff members' ability to fight off the virus.

a. True

b. False

18. Some of the burdens faced by healthcare workers during the COVID-19 pandemic are:

a. Risk of contamination.

b. Physical exhaustion, sleep disruption, and fear.

c. Implicit and explicit racism toward staff of Chinese origin.

d. All of the above.

19. In China, interventions to support the psychological and physical health of healthcare workers have included:

a. Hospitals provided space for staff to rest and isolate themselves from families.

b. Hospitals provided detailed rules on the appropriate use of PPE.

c. Hospitals also established leisure activities; gave training to staff on how to relax; and embedded counselors into the workplace.

d. All of the above.

20. In the early, "preparation phase" of a pandemic:

a. Institutions need to be reactive, focusing on equipment and PPE.

b. Encourage resilience and well-being plans for staff.

c. Staff should practice working in multiple departments, whatever their background and training.

d. Team leaders should keep their work areas as clean as possible.

21. During the initial phase of a pandemic:

a. Practice compassion toward yourself and others.

b. Don't watch too much media related to the pandemic or sad themes.

c. Provide timely, accurate, and evidence-based information on the virus and the hospital's response, including worse case scenarios.

d. All of the above.

22. Once the COVID-19 pandemic has passed, be aware of post-traumatic stress reactions such as hyper-arousal, sleep disturbances, and flashbacks.

a. True

b. False

23. Psychological challenges to nurses include all but one of the following:

a. Compassion fatigue

b. Ethical issues

c. Hypertension

d. Anxiety and depression

24. Nurses may be lost to suicide when employers fail to provide:

a. An agency-wide grief recovery plan.

b. Adequate instructions for PPE.

c. Nourishing meals and breaks for eating them.

d. Best commuting routes to and from work.

25. Although there had been no earlier attempt to consolidate the data, there were many individual attempts to address nurse suicide.

a. True

b. False

26. To get the true picture of nurse suicide, the internet search included:

a. Assisted suicide

b. Euthanasia

c. Only nurse and suicide

d. LVNs and PAs

27. Burnout among nurses is uncommon because of their dedication and professionalism.

a. True

b. False

28. Cumulative stress may be related to all but one of the following:

a. Seeing inappropriate treatment

b. Inadequate equipment

c. Under-staffing

d. Respectful management styles

29. Asking other nurses “Are you OK today?” will:

a. Unnecessarily interrupt their work

b. Show concern for the whole person

c. Reveal your lack of seriousness

d. Result in a culture of gossip

30. Suicide prevention strategies for nurses include all but:

a. Identifying nurses at risk

b. Making programs available without judgment

c. Self-evaluations once a month

d. Treating depression

31. The expression of emotions by healthcare providers:

a. Is unrelated to the empathy healthcare providers may feel for their patients.

b. Is mostly related to unexpected emotions arising from patients, not from healthcare workers themselves.

c. Has traditionally been considered unprofessional and inconvenient, basically a sort of taboo.

d. Is rarely a problem because of adequate institutional support.

32. Failing to recognize emotions of providers and patients:

a. Can affect the quality of medical care and the healthcare provider's own sense of well-being.

b. May also lead to clinician distress, disengagement, and burnout.

c. May prevent the adoption of a patient-centered style of care.

d. All of the above.

33. Prior experience with disasters, pandemics, and major traumatic events indicates that enhanced support to healthcare professionals, enabling them to become aware of their own emotions and effectively share their lived experience with patients, can help them to remain efficient and focused during stressful events.

a. True

b. False

34. During health emergencies like the one we are currently experiencing with COVID-19, health professionals need to be emotionally supported and safeguarded from the risk of forgetting their human side.

a. True

b. False

35. Social stigma during a pandemic:

a. Is a mark of disgrace that unites people with the same mark.

b. Is rarely applied to healthcare workers.

c. Causes people to be labelled, stereotyped, and discriminated against because of a perceived link to the disease.

d. Has little or no psychological impact on healthcare workers.

36. For many institutions, the decision to remain open for elective procedures or non-essential outpatient visits:

a. Was prohibited by state and federal regulations.

b. Was not an option due to mass cancellations of elective surgery.

c. Was impacted by the need to save PPE, including facemasks, face shields, and gloves.

d. Was not related to the COVID-19 pandemic.

37. Among allied health professionals who reported their office or facility has stayed open during the pandemic:

a. About half reported seeing patients via telehealth.

b. About 90% reported seeing patients in their office or facility.

c. The majority reported being assigned to tasks other than those covered under their scope of practice.

d. A small percentage reported working from home.

38. When asked to rank their level of concern about acquiring COVID-19:

a. The largest percentage of respondents reported being concerned about acquiring COVID-19 at work.

b. The largest percentage of respondents reported being unconcerned about acquiring COVID-19.

c. Respondents were not concerned with giving COVID-19 to others.

d. The largest percentage of respondents reported being concerned about acquiring COVID-19 outside of work.

39. When allied health professionals were asked about stress:

a. Few reported any significant levels of stress during the pandemic.

b. Few providers were utilizing any form of mental health support.

c. Most providers were utilizing mental health support.

d. Stress was not related to changes in clinical practice.

40. Among allied health professionals:

a. Higher levels of stress were reported for workers with no access to PPE.

b. Those who usually do not require PPE in their work setting had lower levels of stress.

c. WHO guidelines state that PPE is not required for allied health professionals.

d. Stress was not an issue because most allied health professionals were able to work from home.

41. Access to PPE and mental health supports help to providers' levels of stress.

a. True

b. False

Answer Sheet

Name (Please print) _____

Date_____

Passing score is 80%

1. _____	16. _____	31. _____
2. _____	17. _____	32. _____
3. _____	18. _____	33. _____
4. _____	19. _____	34. _____
5. _____	20. _____	35. _____
6. _____	21. _____	36. _____
7. _____	22. _____	37. _____
8. _____	23. _____	38. _____
9. _____	24. _____	39. _____
10. _____	25. _____	40. _____
11. _____	26. _____	41. _____
12. _____	27. _____	
13. _____	28. _____	
14. _____	29. _____	
15. _____	30. _____	

Course Evaluation

Please use this scale for your course evaluation. Items with asterisks * are required.

5 = Strongly agree 4 = Agree 3 = Neutral 2 = Disagree 1 = Strongly disagree

*Upon completion of the course, I was able to:

1. Explain 3 symptoms associated with psychological trauma. 5 4 3 2 1
2. List 5 ways in which the COVID-19 pandemic is affecting mental health. 5 4 3 2 1
3. State 2 elements of self-efficacy that you can rely on in coping with COVID-19. 5 4 3 2 1
4. Explain 3 ways in which your mental health challenges can be met and resolved. 5 4 3 2 1
5. State 2 ways in which psychosocial support can be demonstrated in your own clinical setting. 5 4 3 2 1
6. Understand the conspiracy of silence regarding mental health issues and suicide among healthcare workers. 5 4 3 2 1
7. Define the phrase “epidemic of empathy.” 5 4 3 2 1
8. Understand how social stigma affects healthcare providers during a pandemic. 5 4 3 2 1
9. State 3 key impacts COVID-19 is having on allied health professionals. 5 4 3 2 1

*The author(s) are knowledgeable about the subject matter. 5 4 3 2 1

*The author(s) cited evidence that supported the material presented. 5 4 3 2 1

*Did this course contain discriminatory or prejudicial language? Yes No

*Was this course free of commercial bias and product promotion? Yes No

*As a result of what you have learned, will make any changes in your practice? Yes No

If you answered Yes above, what changes do you intend to make? If you answered No, please explain why.

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_____Maybe, not sure. _____No, I only needed this one course.

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_____Yes, definitely. _____Possibly. _____No, not at this time.

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*Navigating the ATrain Education website was:

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*How long did it take you to complete this course, posttest, and course evaluation?

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_____40-49 minutes per contact hour _____30-39 minutes per contact hour

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_____A cellphone. _____A paper copy of the course.

Please enter your comments or suggestions here:

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