COVID-19 Related Anxiety Considerations Among Providers During the Pandemic: Dysfunctional Anxiety Self-Evaluation

A DOCTOR OF NURSING PRACTICE PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF NURSING PRACTICE

August 4, 2021

By

Tandrea L. Jackson

Committee:

Dr. Patricia M. Burrell, PhD, APRN, BC, CNE

Keywords: Anxiety, Pandemic, Depression, COVID-19, Mental Health, Healthcare Providers

Abstract

Since the COVID-19 virus global outbreak, the necessity of acquiring psychological support has grown exponentially affecting not only the general population or patients, but also healthcare workers caring for those infected with the virus (Xiong et al., 2020). The purpose of this pilot study was to evaluate the effectiveness of using relaxation techniques in decreasing the level of anxiety among healthcare providers. The study used the COVID Anxiety Scale (CAS) and the Penn State Worry Questionnaire (PSWQ) and assessed the main concepts of anxiety and anxiety management techniques. The learned relaxation techniques initiated during pre-and post-implementation existed to accentuate the relaxation techniques relevance and determine if anxiety levels would decrease among healthcare providers during the COVID pandemic. Participants learned specific relaxation techniques, collected information over a four-week period and documented their habit and frequency of two techniques used consistently. There were 14 of 20 prospective participants accepted into the pilot study. Of the 14, only nine completed the post follow-up CAS and PSWQ and seven completed the feedback survey. The hypothesis testing resulted in a statistically significant p value less than 0.05 with the CAS pre- and post-intervention period ($z=1.73$, $p = 0.085$). The PSWQ pre- and post-intervention period resulted ($z = 1.02$, $p = 0.309$). These results indicated no significant difference in scores. There were seven participants who completed the feedback survey reporting that they strongly agreed that the study was beneficial (3, 33.3%) in the management of anxiety and stress and that they would continue to use the techniques learned (4, 44.4%). The commonly used techniques were mediation, deep breathing, and progressive relaxation (5, 71%). Furthermore, the research outcome suggests that longitudinal studies are necessary to further validate the effects of untreated stress in healthcare providers resulting in anxiety with a comorbidity of depression.

CHAPTER I

Introduction of Project

Problem Identification

Anxiety is one of several factors to consider as possible influences of mental health issues besides depression, post-traumatic stress disorder, psychological distress, and stress (Xiong et al., 2020). Stress has a holistic effect on an individual's physical health which requires mental resilience while coping with the current COVID pandemic (Barzilay et al., 2020). This untreated stress further leads to depression and anxiety within an individual. With the many vicissitudes of daily living in concurrence with the current Corona virus illness 2019 (COVID-19) which arose from the novel Coronavirus strain, known as the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2); it is not surprising that an increase of anxiety has occurred not only among the general population but among many healthcare providers (Banerjee, 2020).

The problem with the COVID-19 pandemic is that it has negatively impacted an unprecedented number of the general population as well as healthcare providers (Barzilay et al., 2020). The research study by Fitzpatrick et al., (2020) reports that 25% of the general US adult population of 10,368 participants reported moderate to severe anxiety. There is a rise in self-reported anxiety among healthcare providers during the COVID-19 pandemic. Current practice is that providers continue to care for COVID patients in both inpatient and outpatient settings as the number of cases continues to fluctuate. Research and reports have indicated that in order to cope with the physical and mental effects of this pandemic, the individual requires mental resilience (Barzilay et al., 2020). Deleterious mental health consequences have risen especially with frontline healthcare providers since the onset of the pandemic which is a sequela of generalized anxiety and depression (Barzilay et al., 2020). In the research of Barzilay et al., (2020) it was reported of 3,042 participants that higher resilience scores were associated with a 65% reduction rate of anxiety and a 69% reduction rate of depression reflecting a lower rate of COVID-19 related worries. Therefore, the significance of this topic is that healthcare providers face hardships that impact not only their work environment but also their personal lives. It is expected that these providers continue to take measures to treat infected COVID patients while attempting to decrease the spread of the infection as they incessantly treat non-COVID patients while considering their own family's safety and well-being (Shreffler et al., 2020). Healthcare providers reported more worry about family members contracting COVID and unknowingly infecting others contributed significantly to worry (Barzilay et al., 2020). This unremitting selfless service in many cases progresses towards psychological stress, burnout, and in some situations, suicide as reported by Brenner and Bhugra (2020). The economic burdens, self-isolation, survivors' guilt, lock-down, and grief compounded with fear of contracting COVID leads to anomie (Brenner & Bhugra, 2020). Therefore, it is pertinent that measures be taken to decrease and manage the level of anxiety among providers during the COVID-19 pandemic to effectively implement coping skills to manage the stress of work and personal life.

Significance of the Problem

The significance of the problem is that healthcare providers are at greatest risk for psychological distress especially those who care directly for COVID-19 patients (Nicola et al., 2020). Mental health instability of these health care workers (HCWs) due to untreated anxiety and stress can negatively impact patient care outcomes. When untreated anxiety persists, it can manifest into unclear thinking or mental fog resulting in avoidable medical errors. These negative consequences are the resultants of increased levels of provider anxiety. The few available research studies about mental affects and intervention options to assist healthcare providers during a pandemic demonstrates evidence that further study of these effects is a necessity among healthcare providers. The presence of anxiety is also known as a comorbidity with depression (Xiong et al., 2020; Choi et al., 2020) leading to further emotional exhaustion. This exhaustion decreases the providers psychological resilience, ability to adapt to adversity, results in low productivity, and high turn-over rates within organizations. Unfortunately, patients may experience negative outcomes due to caregiver burnout because of compassion fatigue (CF) which is the sequela of the stress resulting from repeated exposure to the traumatized patients (Cocker & Joss, 2016). Cocker and Joss (2016) report that healthcare professionals who are exposed regularly to traumatic experiences of the people they service tend to develop CF.

As reported by the World Health Organization (2020), prior to the start of this pilot study, over 6.3 million people have been affected by the COVID-19 worldwide as of June 2020 (Teo et al., 2020). This fast-growing global virus has involved over 200 countries with a growing death toll since the initial outbreak of the Coronavirus of over 350,000 individuals affected (Teo et al., 2020). The number of deaths is now well over 2 million because of COVID-19 (Wang et al., 2021). As of August 2021, much of the reported statistical data has significantly changed. The COVID pandemic has placed a tremendous strain on healthcare providers contributing to psychological issues. Despite the recent roll-out of COVID-19 vaccines during the pandemic there continues to be a spread of more transmissible variants of the virus (Borchening et al., 2021). In February 2021, there was a report that greater than 100 million people were affected with the coronavirus based upon the molecular assays test, but it is expected that this number is much greater than reported (Wang et al., 2021). Furthermore, as of August 7, 2021, the Associated Press (AP) reports that the US is averaging 100,00 new COVID-19 infections a day representing previous surges of this virus (Spencer, 2021). Unfortunately, this increase in hospitalizations and deaths would contribute to the ongoing mental stressors leading to anxiety and depression among healthcare providers caring for individuals affected with COVID-19.

Shreffler et al., (2020) state, “Given the relative novelty of this crisis, no published studies have collected data on interventions to improve psychological health and overall wellness for HCWs who face COVID-19 specific challenges” (p. 19). This current crisis is a global reminder of the need for further mental health services to attend to both patients and healthcare professionals who are facing this public health crisis (Soklaridis et al., 2020). Therefore, the magnitude of the COVID-19 pandemic will potentiate the need for urgent mental health interventions to minimize psychological sequelae (Soklaridis et al., 2020).

Purpose and Aims

The purpose of this project is to assess the provider’s initial and future levels of anxiety levels following post-intervention implementation while rendering services to patients during this COVID-19 pandemic. The focus is with evaluating initial and post anxiety levels with the utilization of appropriate anxiety assessment tools and interventions to assist the provider with managing their anxiety. It is pertinent to provide or integrate appropriate care that is sufficient in optimizing a sense of hope when coping with anxiety (Banerjee, 2020). The four objectives for this project include identifying the initial level of anxiety, teaching relaxation techniques, implementing the relaxation techniques, and following-up to determine the effectiveness of the learned techniques and its effectiveness with lowering anxiety levels in healthcare providers. The aim is to reduce levels of anxiety experienced by these providers. Early intervention is necessary with empowering the individual in making social connections that can help reduce anxiety through self-care anxiety techniques (Banerjee, 2020). Although responding to mental health challenges during a medical pandemic can be daunting, mental health services are desperately needed to sustain an optimal level of one’s quality of life (Soklaridis et al., 2020).

Operational Definitions

Anxiety: a normal emotional response of “fight or flight” for survival; core symptoms of fear and worry (Stahl, 2013).

Comfort: the state of being physically relaxed and free from pain; the state of having a pleasant life, with everything that you need (“Comfort”, 2021). Kolcaba’s Comfort Theory (CT) defines comfort in three forms consisting of relief, ease, and transcendence comfort (Petiprin, 2020). Kolcaba’s technical definition is, “The immediate experience of being strengthened when needs for relief, ease, and transcendence are addressed in four contexts of experience” (Middle-Range Theories, 2015, p. 390).

Coronavirus: Coronavirus disease 2019 (COVID-19) is defined as any of a group of RNA viruses that cause a variety of respiratory, gastrointestinal, and neurological diseases in humans and other animals. Can cause pneumonia and other diseases (“Coronavirus”, 2021).

Coronavirus Anxiety Scale (CAS): a 5-point anchored scale from “0” as not at all to “4” nearly every day over the last 2 weeks. This brief scale quickly evaluates and identifies self-dysfunctional anxiety levels in the areas of social attitudes, psychological effects, maladaptive coping, and functional impairment (Lee, 2020).

Depression: a medical condition in which a person feels very sad and anxious and often has physical symptoms such as being unable to sleep, etc. (“Depression”, 2021). Common features of depression as defined by the DSM-5 are collective signs and symptoms of depressive disorders to include sadness, empty, irritable mood, somatic, and cognitive changes (Fawcett, 2013). The American Psychiatric Association defines depression as feelings of sadness and/or the loss of interest in the things that an individual once enjoyed (Torres, 2020).

Pandemic: an outbreak that is prevalent over a whole country or the world (“Pandemic”, 2021).

Provider: a healthcare provider is an individual or an organization that supplies somebody with something they need or want (“Provider”, 2021).

Penn State Worry Questionnaire (PSWQ): a 5-point scale from 1” not at all typical of me” to 5” very typical of me”, which identifies an individual’s worry over their anxiety and depression level (Meyer et al., 1990).

Background

Anxiety disorder presents with core features of fear coupled with worry (Stahl, 2013). As described by the DSM-5 anxiety disorders exhibit excessive fear and anxiety because of a perceived or imminent threat (Phillips, 2020). Research suggests that when fear and worry become excessive this presents as maladaptive anxiety which constitutes as a psychiatric disorder (Stahl, 2013). Maladaptive anxiety requires mental resilience which is conceptualized as healthy and adaptive functioning (Barzilay et al., 2020). When anxiety is left untreated it can progress to depression due to the overlapping symptoms to include fatigue, disturbed sleep, lack of concentration, and psychomotor/arousal symptoms (Stahl, 2013). The world's largest public health problem is depression which affects approximately 5% of the world population at any given time (Ferrari et al., 2013). According to the NIMH (n.d.), major depression is one of the most common mental disorders in the United States accounting for 7.1% of all U.S. adults. In the literature review conducted by Ferrari et al. (2013), the prevalence or incidence with depression was higher among female versus the male participants. Reports state that depression is higher among women at 8.7% in comparison to men at 5.3% and that most individuals affected are those between the ages of 18-25 (13.1%) (NIMH, n.d.).

The COVID-19 illness creates a variety of behavioral and psychological effects such as insomnia, panic attacks, health-anxiety, fear of illness and an increase in substance use (Banerjee, 2020). This illness is considered a novel strain that shares 79% genetic similarity of the 2003 SARS outbreak (Xiong et al., 2020). This virus began in December of 2019 in Wuhan, China before rapidly spreading globally resulting to widespread panic and anxiety (Banerjee, 2020). At the start of the pandemic there was misinfodemics or misinformation about the spread of the illness causing panic worldwide (Banerjee, 2020). Although there is more information known about this illness individuals remain greatly affected and the havoc of this illness has negatively affected the quality of life causing anxiety (Banerjee, 2020). As stated by Banerjee (2020), the psychological ramifications of this illness also cause social dysfunction and a continuous state of high anxiety especially among individuals considered vulnerable due to preexisting mental illness. Many of these vulnerable individuals are health-care workers in hospitals and laboratories, volunteers, and social service personnel (Banerjee, 2020). During this pandemic psychiatrists' play a pivotal role in addressing generalized anxiety and apprehension in healthcare staff as well as the public (Banerjee, 2020). COVID-19 is not the first global medical pandemic and will likely not be the last, so it is important to learn, compare, and development the best treatment interventions to address the current and future public health crises. Healthcare professionals are most vulnerable mentally during times of medical crises, therefore implementing and/or improving earlier mental health treatment measures will support better mental health outcomes.

The initiation and completion of this project will occur online with the use of Survey Monkey. Through this site a consent for participation will be available prior to completing both the pre-and-post anxiety questionnaire, pre-and-post survey evaluations, and the power point presentation with embedded video of anxiety relaxation techniques. There is a necessity for this project due to the ongoing exposure to COVID-19 and its current reported second wave which occurred during November 2020. This exposure has led to the perpetual need for mental health services. Although a vaccine is currently in production and being distributed worldwide; the vaccine is not readily available to all people globally at this time. With the increased fear, depression, and anxiety negatively affecting frontline personnel it becomes imperative that every effort be made in stabilizing these individual’s mental health so they may continue to provide effective quality care for those they serve during this pandemic. The increasing levels of untreated anxiety has led to changes in many organizations staffing levels. Providers leaving employment has created a further staffing shortage and provider burnout resulting in further mental health and substance abuse issues.

Clinical Questions

The PICOT acronym is as follows:

P: Population- COVID-19 healthcare providers

I: Intervention- Relaxation breathing and guided meditation techniques

C: Comparison- Anxiety levels pre-and-post learned relaxation techniques

O: Outcomes- Reduction of anxiety levels

T: Time- Between 4-6 weeks upon implementing learned relaxation techniques

The PICOT question is as follows:

“What is the effectiveness of relaxation techniques in reducing anxiety and providing comfort in healthcare providers working with COVID patients?”

Summary

Implementing timely efficacious mental health treatment is pivotal in providing mental health stability among healthcare providers while striving to accomplish and sustain positive patient care outcomes. Understanding the underlying problem and its significance to healthcare delivery is essential in the interest of streamlining or focusing on specific parameters to implore change. In this study the purpose of evaluating initial and post anxiety levels with the utilization of appropriate anxiety measurable assessment tools and interventions allows for replication of the study for future research studies. Introducing relaxation techniques for providers to incorporate into their daily life activities emphasizes one's perception of his or her treatment being valuable without stigmatism during this global crisis. The proposed relaxation interventions coupled with the providers and researcher's vision to reduce levels of anxiety would ultimately foster a better environment for the patients when there is a decrease in provider burn-out. This change implementation would not only benefit those receiving treatment, but also support the organization's mission, vision, and values by providing quality care while simultaneously decreasing staff turn-over rates.

CHAPTER II

Conceptual Model/Framework and Review of Literature

The purpose of this chapter is to provide the most current and relevant information as it relates to the impact of anxiety of healthcare providers who care for and/or test for COVID-19 illness in patients. There were several articles reviewed which discussed the mental ramifications of prior medical global pandemics which affected healthcare providers worldwide. These articles compared the differences and similarities of provider responses to past and current pandemic crisis. The articles related to the research question supports the need for mental health interventions among healthcare providers during times of medical pandemics, partly ascribed to the lack of available research in providing evidence of efficacious mental health interventions with providing mental health stability to healthcare providers.

Methodology

The methodology goals for this project are to address both main concepts of anxiety and anxiety management techniques which can negatively impact the provider and patient care outcomes if not managed. The focus for the critical appraisal is to accentuate the relevance of relaxation interventions with treating anxiety among healthcare providers during the COVID-19 pandemic. Therefore, the methods of review included a comprehensive computer-assisted search of 318 records identified in databases: MEDLINE; CINAHL Complete; Academic Search Complete; Health Source: Nursing/Academic Edition Science; Health Source: Consumer Edition; and the Psychology and Behavioral Science Collection. Additional records identified were manual searches from google scholar resulting in 4 articles. Of the 318 studies 115 were considered for inclusion of qualitative synthesis. A limit of within the last five years was applied. Key words and abstracts were utilized to determine content of articles for inclusion or exclusion of items. Articles written in English, peer-reviewed, and research from other countries were included in the search due to the lack of available research within the United States on this specific topic. The keywords used in the data base search were: Coronavirus, COVID-19, pandemic, healthcare providers, mental health, anxiety, and depression.

Summary of Articles

Xiong et al., (2020) note that, the research outcome suggests that due to the COVID-19 pandemic the general population has shown a high prevalence of adverse psychiatric symptoms. The study design was a level I systematic review with a sample size n=19 of study literature. The strength of this study was that it is considered one of the first systematic reviews which examined and summarized the psychological effects of COVID on the general population (Xiong et al., 2020). The limitations were that the study was cross-sectional and more qualitative and narrative. The study was also conducted online through the use of questionnaires with and over representation of the female population which is not a true representation of the population.

The article entitled *Resilience, COVID-19 Related Stress, Anxiety and Depression, During the Pandemic in a Large Population Enriched for Healthcare Providers* by Barzilay et al., (2020) was another cross-sectional study. The study was a level II study consisting of a sample size of n=3042. The outcome of the study emphasized how more healthcare providers worry more about others than themselves. Those providers with resilience have a greater reduction in worry, anxiety, and depression. The researchers in this study also suggests a longitudinal study for future research. The strength of this study was the large sample size and the timing of the data collection as the COVID-19 lockdown was mandated during the acute phase of the study. The limitations were biased sampling of educated and professional individuals who were healthcare professionals. The use of crowdsourcing and cross-sectional design did not allow for inferences within the study.

Shreffler et al., (2020) study focused on healthcare worker wellness. The outcome of this level I systematic review suggested that further study was suggested in order to gauge the long-time effects of the pandemic on healthcare workers mental well-being. The sample size consisted of n=37 literature reviews which utilized various sample sizes considered a strength in order compare and contrast trends. The limitations of the study were that updated reviews are rapidly evolving as the COVID-19 illness continues to evolve. Other limitations include specific studies were not retrieved (focus vs. unfocused) and having limited available US provider literature research results at the onset of the COVID pandemic.

The research article by Teo et al., (2020) discussed the impact of the COVID-19 illness on frontline healthcare workers during this pandemic. This was a level IV case study consisting of n=122 participants. The outcome of the study revealed that the participants experienced mild to severe fear, anxiety, and depression. Initiating prompt action to address this issue was suggested when treating vulnerable groups affected by the pandemic. The size of the sample researched was a strength. The limitations for the study were verifying self-reported questionnaires with existing medical records. Since the questionnaire could not be administered by trained professionals due to COVID social distancing this could negatively affect the responses of the participants, Lastly, the response time was considered short occurring over a span of 2 weeks in which the self-reported results were obtained and analyzed.

Theoretical Framework

The Kolcaba Theory of Comfort was developed by Katharine Kolcaba in the 1990's and is a middle-range theory utilized for health, practice, education, and research study (Petiprin, 2020). Although the theory was developed to assess, measure, and evaluate a patient's level of comfort this theory can easily be applied to healthcare providers working on the forefront of the COVID-19 pandemic who are grappling with stress, anxiety, and depression (Petiprin, 2020). This theory focuses on comfort being the vanguard of care consisting of three forms and four contexts of comfort. The three forms of comfort care consist of relief comfort, ease comfort, and transcendence comfort. The four contexts which encompass the holistic human experience are physical, psychospiritual, environmental, and sociocultural (Petiprin, 2020). In regards to this theory, research has indicated an increase in self-reported provider generalized anxiety disorder which disrupts an individual's comfort affecting one's personal and patient care outcomes. This anxiety further results in depression due to the stress of caring for COVID-19 patients and the fear of the unknown. These providers not only fear their own personal safety, but the safety of their family members, colleagues, and friends.

In this research project Kolcaba's theory of comfort proves relevant in further explaining the conceptual framework as it relates to one's comfort in care of providers suffering with increased levels of anxiety. For example, when providers have the appropriate access to adequate amounts of personal protective equipment (PPE) to conduct their duties safely, manageable and available staff to provide safe provider to patient ratios and the opportunity to receive COVID vaccine are examples of the first comfort form which is relief comfort. The second form of comfort is ease in which is accomplished when the provider knows that the supply and demand of PPE and staff availability are well maintained to meet the needs of both the organization and the patient. Another example is the provider having the necessary intervention tools in place to help him/her manage their anxiety and stress through evidence-based guided breathing and meditation techniques to provide a sense of ease and contentment. The last form of comfort is transcendence which allows one to rise above his or her challenges (Petiprin, 2020). This form of care is important in that it is the amalgamation of both relief and ease which allows the provider to rise above the challenges and daily uncertainty of the COVID-19 pandemic and the patients for which they care. These patients may often see their provider as their potential last hope and saving grace during their time of need in the absence family and friends at their bedside. When all three forms of comfort are accomplished the context of the holistic human experience can be met (Petiprin, 2020). In this example, I believe that the provider who can self-report their level of anxiety is making an intentional assessment seeking help for someone to provide guidance and a sense of direction to develop a plan of care to implement measures for them to return to a comfortable functional state of well-being. Kolcaba defines a patient’s healthcare needs as something identified by the patient and the family in a particular setting (Petiprin, 2020). This in turn is applicable to healthcare today as it relates to the provider who can identify his or her need in their stressful working environment during this pandemic.

Summary

This pilot study project may potentially provide a better insight of the prevalence of the effects of anxiety among healthcare providers and the relevance of early interventions to support these frontline workers during this pandemic. There is a necessity for longitudinal studies to further validate the effects of untreated stress in healthcare providers which leads to anxiety with depression being a comorbidity. The question to consider would be, “What is the effect of anxiety management in the relief of anxiety in healthcare providers working through the COVID pandemic?”

CHAPTER III

Project Design, Methods, and Evaluation Plan

This chapter emphasizes the importance of this research study when addressing mental health issues such as anxiety among healthcare providers during a pandemic. As stated earlier, healthcare providers are of greatest risk for psychological distress especially those who care directly for COVID-19 patients (Nicola et al., 2020). If mental stress is left untreated it could result in ineffective patient care. Therefore, the question remains, “What is the effectiveness of relaxation techniques in reducing anxiety and providing comfort in healthcare providers working with COVID patients?” The project design, interventions, and measurement tools utilized can benefit in the replication for future research on this topic. The project requires a quasi-experimental design which will attempt to establish cause-and-effect relationships for this study with the use of pretest and posttest as it relates to anxiety due to COVID. The interventions are guided breathing techniques and literature will help with supporting findings for the data analysis.

Project Design

This project will utilize the Quasi-experimental design encompassing the non-randomization of participants. The Quasi-experimental design will allow for this pilot study group to receive two types of anxiety relaxation interventions which include a video presentation of guided breathing techniques and evidence-based approved literature (brochure) on how to perform these techniques for each participant to do on their own. The participants level of anxiety and the relaxation interventions will be measured with the use of both pre-and-post evaluation questionnaires and surveys.

The initial evaluations will consist of the Penn State Worry Questionnaire (PSWQ) and the COVID Anxiety Scale (CAS). Following the pre-evaluations to obtain the baseline anxiety scale the participants will receive a brief presentation defining anxiety, discussing the signs and symptoms of anxiety, and identifying many of the root causes of anxiety. During this second phase the participants will receive how to perform guided breathing and relaxation techniques through an online video and receive evidence-based literature (brochure) as a reminder about how to implement these learned techniques into their daily lives. Once these has occurred the participants are expected to implement what he or she has learned in an effort to lower levels of anxiety. To better gauge the use of the learned techniques each participant would be ask to keep a log of the frequency and duration the techniques were used and if they felt that the techniques were affective at that point in time. Once implementation is complete after the 4-6 weeks; the participants will receive a post evaluation of their level of anxiety utilizing the PSWQ, CAS, and a survey about the effectiveness of the relaxation intervention techniques.

Sample and Setting

Since this is a pilot study the sample size is considerably small with an approximate participant participation of 10-20 who are healthcare providers treating COVID-19 patients in various settings. The inclusion criteria for the participants are 18 years of age or older and who currently treat patients with positive or suspected COVID-19 infection. The exclusion criteria of the participants are those who do not provide direct care or services to patients with COVID or those not working in a high risk COVID work environment. The site of the study will occur online with the services of Survey

Monkey which will include the consents for participation, pre-and-post anxiety evaluations, and relaxation presentation.

Data Collection Instruments

The plan for this project is to contact local professional organizations for support, peers who are healthcare providers that network with other providers and crowdsourcing through the internet to possibly collect a large enough population to participate in this project. This project is based upon healthcare providers self-reported anxiety during the COVID pandemic. For this project I plan to utilize the interval variable level analysis to compare pre-and-post interventions for provider anxiety during the COVID-19 pandemic. I will obtain consents to participate in this project because I would like to implement the use of the Penn State Worry Questionnaire and COVID Anxiety Scale as part of my pre-evaluation. Then, follow-up with a PowerPoint presentation about anxiety, anxiety interventions (YouTube video), and a brochure/pamphlet. Lastly, after 4-6 weeks I will conduct a follow-up assessment survey of the effectiveness of the anxiety interventions along with a post-COVID Anxiety Scale survey to compare pre-and-post data as it relates to the providers job satisfaction/performance. I plan to make the surveys available online as well as the presentation.

The Coronavirus Anxiety Scale (CAS), which was developed by Sherman A. Lee, PhD, uses a 5-point anchored scale in which the participant would rate “0” as not at all to “4” nearly every day over the last 2 weeks as to their level of reported anxiety due to the COVID-19 pandemic (Lee, 2020). This brief scale will quickly evaluate and identify self-dysfunction anxiety levels in the area of social attitudes, psychological effects, maladaptive coping, and functional impairment (Lee, 2020). A score of 7 to 20 would result in a positive screening diagnosis for anxiety associated with the COVID-19 crisis (Lee, 2020). This scale has an internal consistency of (alpha=0.91); validity (r=0.49, P>0.01) and reliability (alpha = 0.92). Details of the CAS questions are presented in Table A.

The Penn State Worry Questionnaire (PSWQ), is also rated on a five-point scale from 1“not at all typical of me” to 5 “very typical of me”, which identifies an individual’s worry over their anxiety and depression level (Meyer et al., 1990). This questionnaire consists of 16-items on a Likert-type scale designed to measure worry with possible range scores that range from 16-80 (Meyer et al., 1990). Low worry scores are between 16-39 followed by 40-59 being moderately worried, and 60-80 meaning high worry (Meyer et al., 1990). The validity is 0.92 with a reliability of 0.62 (van Rijsoort et al.,1999). Details of the PSWQ questions are presented in Table B.

Table A

CAS

How often have you experienced the following activities over the last 2 weeks?		Not at all	Rare, less than a day or two	Several days	More than 7 days	Nearly every day over the last 2 weeks
1.	**I felt dizzy, lightheaded, or faint, when I read or listened to news about the coronavirus.**	0	1	2	3	4
2.	**I had trouble falling or staying asleep because I was thinking about the coronavirus.**	0	1	2	3	4
3.	**I felt paralyzed or frozen when I thought about or was exposed to information about the coronavirus.**	0	1	2	3	4
4.	**I lost interest in eating when I thought about or was exposed to information about the coronavirus.**	0	1	2	3	4
5.	**I felt nauseous or had stomach problems when I thought about or was exposed to information about the coronavirus.**	0	1	2	3	4
	Column totals	____ +	____ +	____ +	____ +	____ +
					Total score _______	

Note. The CAS was created by Sherman A. Lee, PhD., and originally published in the journal Death Studies. https://doi.org/10.1080/07481187.2020.1748481

Table B

NovoPsych

Penn State Worry Questionnaire (PSWQ)

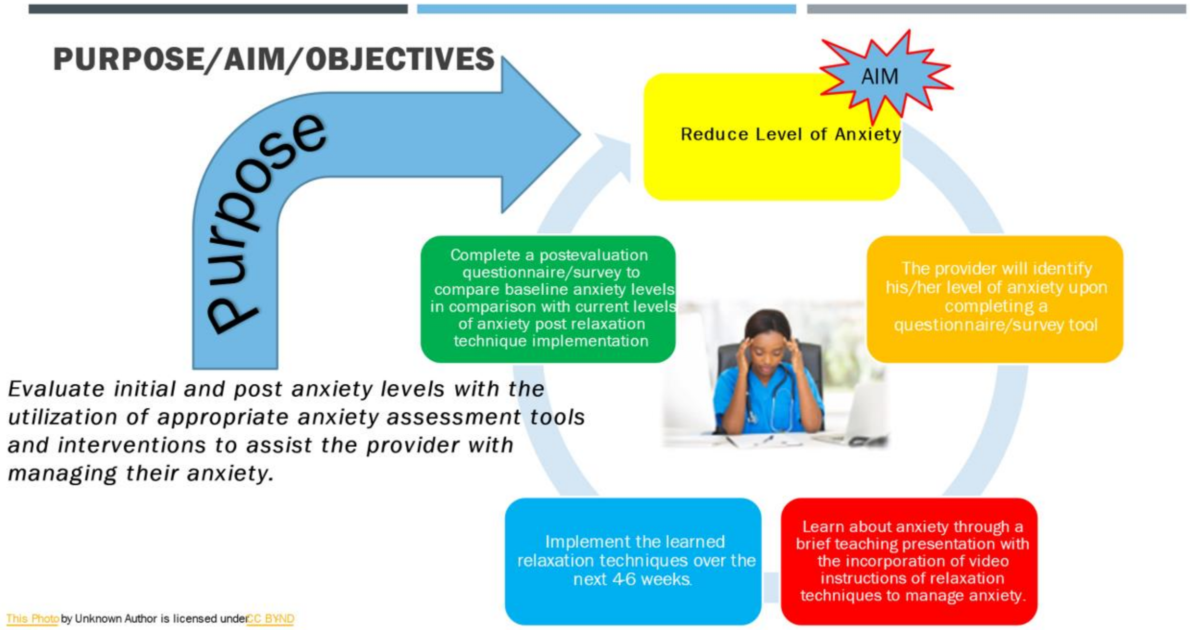
Instructions:

Choose the response that best describes how typical or characteristic each item is of you.

		Not at all typical	Rarely typical of me	Somewhat typical of me	Often typical of me	Very typical of me
1	If I don't have enough time to do everything, I don't worry about it.	5	4	3	2	1
2	My worries overwhelm me.	1	2	3	4	5
3	I do not tend to worry about things.	5	4	3	2	1
4	Many situations make me worry.	1	2	3	4	5
5	I know I shouldn't worry about things, but I just cannot help it.	1	2	3	4	5
6	When I am under pressure I worry a lot.	1	2	3	4	5
7	I am always worrying about something.	1	2	3	4	5
8	I find it easy to dismiss worrisome thoughts.	5	4	3	2	1
9	As soon as I finish one task, I start to worry about everything else I have to do.	1	2	3	4	5
10	I never worry about anything.	5	4	3	2	1
11	When there is nothing more I can do about a concern, I don't worry about it anymore.	5	4	3	2	1
12	I've been a worrier all my life.	1	2	3	4	5
13	I notice that I have been worrying about things.	1	2	3	4	5
14	Once I start worrying, I can't stop.	1	2	3	4	5
15	I worry all the time.	1	2	3	4	5
16	I worry about projects until they are done.	1	2	3	4	5

Procedures

The procedural flow for this project was to contact the California Association of Nurse Practitioners (CANP), peers who are healthcare providers, and crowdsourcing through the internet and Face Book (FB) to obtain the interest of a larger population of potential participants. This study will be conducted through Survey Monkey and consist of using the COVID Anxiety Scale (CAS) (Lee, 2020), Penn State Worry Questionnaire (PSWQ) (Meyer et al.,1990), relaxation techniques, and literature as appropriate anxiety assessment tools and interventions to assist the provider with managing their anxiety during the COVID pandemic. The project will focus on reducing anxiety levels of healthcare providers as it correlates to Kolcaba's theory of comfort (Kolcaba, 2015), which consists of completing a brief pre-and-post anxiety survey as it relates to treating patients with COVID or working in a high risk COVID environment. Every participant will be provided several relaxation techniques (videos) to use and implement over a 4–6-week timeframe and provided a log to indicate which techniques were utilized.



Data Analysis

The data for this research project will entail ordinal and nominal variables for descriptive statistics of participants demographics of age, gender, race/ethnicity, occupation (specialty), years as a provider, marital status, children, and highest level of education. This descriptive information will provide the measure of central tendency (mct) or the mean among the participants, measures variation (mv), and test of relationships (tr). In an attempt to identify possible contributing factors when comparing participate anxiety levels obtaining voluntary information of previously diagnosed anxiety and depression would prove beneficial as this may contribute in deviations with the level and occurrence of anxiety and depression. Therefore, knowing the history of anxiety and depression proves essential in that participation in either an individual or group therapy with the management of anxiety and depression would influence the data relevance.

This project will utilize the inferential statistics of non-parametric tests such as the Wilcoxon test. This test best supports this pilot study data collection of the pre-and-post anxiety evaluation trends. This test compares two related samples which are the analysis of the level of anxiety pre-evaluation and intervention compared to post-evaluation with intervention that establishes whether the intervention offered any statistical significance. The data processing will utilize either the Stata SE version 15 (StataCorp, College Station, TX) and/or the IBM SPSS Statistics software found at ibm.com/analytics/SPSS-statistics-software.

Project Timeline, Resources and Budget Considerations

Project Plan	Start Date	End Date
Participant Recruitment	January 1, 2021	January 31, 2021
Provide Consent Form (DocuSign)	February 1, 2021	February 20, 2021
Provide Pretest Survey, CAS, and PSWQ	February 1, 2021	February 20, 2021
Provide Educational Material with Relaxation Videos	February 1, 2021	April 30, 2021
Project Implementation	February 1, 2021	May 1, 2021
Participants Return Relaxation Log and Provide Posttest Survey, CAS, PSWQ, Likert Survey	March 1, 2021	April 1, 2021
Data Gathering and Analysis	May 1, 2021	June 1, 2021

The resources accessibility is readily available online. Although requiring an activation and annual account fee the use of DocuSign and Survey Monkey are essential tools given the current pandemic crisis mandating social distancing. The assessment surveys are free of charge and only require that the originators be recognized for their contributions. The budgetary issues were hiring of a statistician and purchase of the IBM SPSS statistics to analyze the pilot study data. The hiring of a statistician was $2,500 and the cost of purchasing the basic IBM SPSS package at the student rate was $50 with student status verification.

Summary

In conclusion the quasi-experimental design is most appropriate for this pilot study due to the lack of other available studies as it relates to healthcare providers and the COVID-19 pandemic. Early intervention in managing anxiety and depression is pivotal during this pandemic in caring about the well-being of our providers who are entrusted to care for others. Gathering pertinent information and using the appropriate tools are essential for data analysis when utilized to compare future replicated studies.

CHAPTER IV

Results

The purpose of this chapter is to provide a description of the sample participants and project findings. This research study was carried out to investigate the following research question: “What is the effectiveness of relaxation techniques on healthcare providers working with COVID patients?” This chapter will further discuss the quantitative an□qualitative data gathered from this pilot study. The pilot study aimed to assess whether the implementation of the relaxation techniques was associated with a change in the level of reported anxiety. The probability factor would further exam assumptions of no effect or no difference on the null hypothesis.

There were 20 prospective participants in which 14 committed to participate in the project. Of the 14 participants only nine completed the post follow-up surveys. The aggregate demographics were of both male and female healthcare providers with various medical experiences and work environments. Descriptive information was gathered such as participant’s age, gender, race, ethnicity, occupation (specialty), years as a provider, marital status, number of children, and highest level of education earned. Mental health history was provided to determine possible factors such as prior anxiety and depression diagnosis and therapy which could shew the data analysis results. Participants were asked about personal history of anxiety, depression, participation in individual or group therapy, and stress management programs.

Recruitment for participation was found through mutual friends, peer networking, crowdsourcing, and with the assistance of the California Association for Nurse Practitioners (CANP). Of the original 20 prospective participants there were two who never responded back with a completed consent form, two that did not meet the qualifications of treating COVID patients, one that never confirmed commitment to participate, and one who delayed in returning the consent form and fell out of the required timeframe to have all data collected. Although 14 participants completed the survey through implementation there were only nine participants that completed all required steps from pre-to-post survey study requirements. Therefore, the initial response rate to the pretest survey and questionnaire was 100 percent unlike 64 percent that completed both the pre and post surveys and questionnaire requirements.

Data Management

Overall, there were 14 survey respondents. Five participants did not complete the post-intervention survey and were excluded. Therefore, nine respondents were included in the analysis.

Recoding of Likert Items and Variable Management

To enable quantitative analysis of the data, Likert items were scored following guidelines provided for the Coronavirus Anxiety Scale (CAS) and the Penn State Worry Questionnaire (PSWQ). The scores were calculated separately for the pre- and post-intervention periods and analyzed as continuous variables. Participants' characteristics were analyzed as nominal variables.

Statistical Analysis

Descriptive Statistics

Frequencies and percentages were reported for nominal variables while medians and ranges were reported for continuous variables. Continuous variables were compared between pre- and post-intervention periods using the Wilcoxon signed-rank test.

Assumptions and Tools

Hypothesis testing was considered statistically significant at $p < 0.05$. All statistical analysis was performed in Stata SE version 15 (StataCorp, College Station, TX). Tables were designed in Microsoft Excel.

Results

Demographic Characteristics

Overall, nine respondents completed both pre- and post-intervention questionnaires and were included in the analysis. Most participants (4/9, 44.4%) were in the 35-44 years age category. The majority of respondents were female (8/9, 88.9%), had completed graduate school (8/9, 88.9%), and had 5-10 (3/9, 33.3%) or >10 (2/9, 22.2%) years of experience. Four (44.4%) of the participants reported a personal history of anxiety, three (33.3%) had a personal history of depression, and 2 (22.2%) had a family history of either anxiety or depression. Details of participants' characteristics are presented in Table 1.

Coronavirus Anxiety Score Before vs. After the Intervention

To determine whether or not the intervention had an impact on coronavirus anxiety as measured on the CAS, participants' scores were compared using the Wilcoxon signed-rank test (Table 2). The median score pre-intervention was 0.0 (range 0-4) and the median score post-intervention was 0.0 (range 0-2). There was no significant difference in scores when comparing the pre- and post-intervention periods ($z = 1.73$, $p = 0.085$).

Penn State Worry Score Before vs. After the Intervention

To determine whether or not the intervention had an impact on participants' level of worry as measured on the PSWQ, participants' scores were compared using the Wilcoxon signed-rank test (Table 3). The median score pre-intervention was 48.0 (range

42-79) and the median score post-intervention was 49.0 (range 35-80). There was no significant difference in scores when comparing the pre- and post-intervention periods ($z = 1.02$, $p = 0.309$).

Feedback Survey

To determine participants' perceptions about the study, a survey was conducted after the intervention (Table 4). Most participants agreed (2, 22.2%) or strongly agreed (4, 44.4%) that they were knowledgeable about anxiety-reducing techniques before the study. The self-reported baseline knowledge notwithstanding, the majority of participants agreed (2, 22.2%) or strongly agreed (4, 44.4%) that they gained better understanding of the signs and symptoms of anxiety through the study. Similarly, most respondents agreed (3, 33.3%) or strongly agreed (3, 33.3%) that the pilot study has helped to change their views about how to deal with stress and anxiety on the job. The majority of participants agreed (2, 22.2%) or strongly agreed (4, 44.4%) that they would continue using the anxiety-reduction techniques they learned through the study while most also agreed (5, 55.6%) or strongly agreed (2, 22.2%) that they would be willing to seek additional professional help if needed after the pilot study.

Personal Relaxation Log

To determine the most utilized relaxation techniques, the participants provided a personal log at the completion of the study. Of the nine participants only seven returned their completed relaxation logs while two reported that they did not keep their logs. Most participants used mediation, deep breathing, and/or progressive relaxation (5, 71%). The least utilized technique was guided imagery (4, 57%). The requirement was for each participant to use two relaxation techniques in this study. Of the participants those who used one technique (1, 14.2%); two techniques (2, 29%); and three or more techniques (4, 57.1%). There was one participant who also used exercise, jazz music, and reading.

Summary

The pilot study examined the anxiety levels of providers during the COVID pandemic both pre-and-post intervention. The pandemic has undoubtedly had an effect on the mental health of many individuals, but in this case the assumptions of statistical tests did not indicate significance in reported anxiety levels with the pre-and-post interventions. The study however helped to change how providers deal with their stress and anxiety on their jobs per feedback survey. This feedback indicates that the interventions prove beneficial in the management of anxiety despite the insignificant reported anxiety levels.

Tables and Graphs

Table 1.

Participant Characteristics

Characteristic	**Frequency (%)**
Age (Years)	
18-24	1 (11.1)
25-34	2 (22.2)
35-44	4 (44.4)
45-54	2 (22.2)
Gender	
Male	1 (11.1)
Female	8 (88.9)
Education	
Completed College	1 (11.1)
Completed Graduate School	8 (88.9)
Experience (Years)	
≤1	2 (22.2)
1-5	2 (22.2)
5-10	3 (33.3)
≥10	2 (22.2)

Relationship	
Married	5 (55.6)
Separated	1 (11.1)
Single but Cohabiting	1 (11.1)
Single Never Married	2 (22.2)
Children	
No	5 (55.6)
Yes	4 (44.4)
Anxiety (Personal History)	
No	5 (55.6)
Yes	4 (44.4)
Depression (Personal History)	
No	6 (66.7)
Yes	3 (33.3)
Anxiety/Depression (Family History)	
No	7 (77.8)
Yes	2 (22.2)
Therapy (Personal History)	
No	5 (55.6)
Yes	4 (44.4)
Household Income ($)	
0-24,999	1 (11.1)
75,000-99,999	1 (11.1)
100,000-124,999	3 (33.3)
125,000-149,999	2 (22.2)
150,000-174,999	1 (11.1)
200,000 or higher	1 (11.1)

Table 2.

Coronavirus Anxiety Scores Pre- vs. Post-Intervention (Wilcoxon Signed-Rank Test)

Pre-Intervention	**Post-Intervention**	**P-value**
Median 0.0 (Range 0-4)	Median 0.0 (Range 0-2)	0.085

Table 3.

Penn State Worry Questionnaire Pre- vs. Post-Intervention (Wilcoxon Signed-Rank Test)

Pre-Intervention	**Post-Intervention**	**P-value**
Median 48.0 (Range 42-79)	Median 49.0 (Range 35-80)	0.309

Table 4.

Feedback Survey

Item	Agree	Strongly Agree	Disagree	No Response /Undecided
[1]Knowledgeable Prior	2 (22.2)	4 (44.4)	0	3 (33.3)
[2]Better Understanding	2 (22.2)	4 (44.4)	0	3 (33.3)
[3]Changed Views	3 (33.3)	3 (33.3)	1 (11.1)	2 (22.2)
[4]Will Continue Using	2 (22.2)	4 (44.4)	1 (11.1)	2 (22.2)
[5]Willing to Seek Help	5 (55.6)	2 (22.2)	0	2 (22.2)

Notes: 1. Prior to this pilot study, were you knowledgeable about the various techniques available to reduce anxiety? 2. Do you feel as if you gained a better understanding of the signs and symptoms of anxiety? 3. Has your participation in this project changed your views on how you deal with stress and anxiety on the job as you care for patients during this COVID pandemic? 4. Are you likely to continue using the relaxation interventions after your participation in this study? 5. If you felt that you needed more help than what was presented to you during this study, are you willing to seek further professional mental health counseling?

Chapter V

Discussion and Conclusion

The purpose of this chapter is to provide further explanations of the study findings. Proper interpretation of the study findings will provide clarity and understanding supporting the reasoning or rationale of the data analysis to answer the research question, "What is the effectiveness of relaxation techniques in reducing anxiety and providing comfort in healthcare providers working with COVID patients?" The findings for this pilot study supported management of anxiety however the pre-and post-survey and questionnaire interventions which resulted had insignificant scores.

A common problem that was encountered occurred with the start time for each participant. The requirement to begin the actual study was to complete and return the consent form before the pre-surveys were released followed by the educational material. The participants were then instructed to send an email indicating when they had reviewed the educational material to implement their chosen technique into practice as the official start date for the study. Although there were several participants who received the consent information on the same date, the consent forms were returned at various times which pushed back the start date for several participants. Every participant was allotted the four weeks to utilize their relaxation techniques of their choice, although there were several different start-and-stop dates. In order to track each participant's progress a spread sheet was developed and provided to everyone to annotate their progress and to return the completed sheet at the end of their four-week relaxation technique implementation.

Findings

There were no changes made from the original analysis plan as stated earlier which includes using the Wilcoxon test and descriptive stats to represent demographic information gathered. The data analysis was conducted based on information obtained during all phases of the study. All participants were expected to complete a pre-and-post CAS survey, pre-and-post PSWQ questionnaire, a demographics sheet, and a Likert survey upon completion of the study. A log sheet was provided to each participant to track the relaxation techniques used to decrease their anxiety. They were expected to keep a log of their chosen relaxation techniques, date/time, and frequency of the relaxation techniques utilized. The Wilcoxon sign test allowed for a comparison to be made between the pre and post surveys and questionnaires to help determine the effectiveness of the educational material intervention prior to implementation. The demographic information and Likert survey focused resulted in ordinal data collected from each participant.

Recommendations for Implementation

The recommendation for implementing change would be to discuss the importance of Kolcaba's Comfort Theory amongst the leadership of various organizations which routinely diagnose and/or treat COVID-19 patients. The goal of leadership would include creating measures of holistic comfort (Kolcaba, 2015). Implementing this proposed recommendation is a necessity and can be supported using an evidence-based practice (EBP) framework. Kolcaba (2015), states that comfort interventions should address an individual holistically encompassing basic human needs to include homeostasis and therapeutic communication. Leadership needs to be aware that healthcare providers are at greatest risk for psychological distress especially those who care directly for COVID-19 patients (Nicola et al., 2020). Mitchell (2013) states that for change agents to increase the likelihood of success they must understand change theories. Although, not a change theory, the amalgamation of Kolcaba's Comfort Theory as it relates to provider anxiety during the COVID pandemic proves beneficial towards change implementation on how provider's mental health needs are addressed within an organization and individually.

Parks et al., (2017) used Kolcaba's Comfort theory in a pilot study to emphasize the importance of non-pharmacological interventions to accomplish physiological and emotional balance in a mental health facility providing a few patients with warm blankets on admissions while comparing the responses of those who did not receive a warm blanket. The pilot study participant's level of contentment was assessed using Kolcaba's verbal rating scale (VRS) (Park et al., 2017). Kolcaba defines the idea of comfort as, "The immediate experience of being strengthened when needs for relief, ease, and transcendence are addressed in four contexts of experience" (Kolcaba, 2015, p. 390). The application of this theory in practice follows three comfort interventions which is *technical*, *coaching*, and *comfort food for the soul* (Kolcaba, 2015). Technical interventions are nursing protocols necessary to follow in documenting treatment and procedures (Kolcaba, 2015) Coaching is the form of active listening, referrals, and advocacy (Kolcaba, 2015). Last, comfort food for the soul takes on a holistic approach as demonstrated in this DNP pilot study which incorporated several types of anxiety relaxation techniques (Kolcaba, 2015). Kolcaba's idea of putting her work into practice includes the incorporation of her verbal rating scale to assess the whole person (Park et al., 2017). She supports adapting her theoretical framework at the institutional-wide level to include implementing nursing intervention actions with the use of the verbal rating scale to assess comfort levels (Kolcaba, 2018). Kolcaba (2018) emphasized that regular inquiries about a patient's level of comfort was valuable. The rating ranged from zero to 10, with 10 signifying the best comfort level (Kolcaba, 2018).

Replication of this project proves essential as Chisholm et al., (2016) reports that depression and anxiety are costly disabling disorders, therefore effective early interventions are necessary. Identifying and limiting these barriers learned from this pilot study could help propel future research opportunities. Chisholm et al. (2016), emphasized that treatment coverage for mental health will continue to rise between 2016-2030 with a projection of a 5% modest improvement of workforce productivity. Work productivity is crucial because it contributes to positive health, economic, social, and patient care outcomes. The study suggests that,"…the successful treatment of depression and anxiety disorders leads to improved opportunities for individuals and households to pursue their interests, participate in more social and community activities, and carry out household production roles." (Chisholm et al., 2016, p. 417).

Recommendations for Future Practice, Education, Policy, and Research

The recommendation for future research is conducting a study with a larger participant sample size, expanding on healthcare professional diversity, implementing an additional survey at the half-way point in the study, and initiating a longitudinal study of at least six months or longer. Shreffler et al., (2020) states, "Given the relative novelty of this crisis, no published studies have collected data on interventions to improve psychological health and overall wellness for HCWs who face COVID-19 specific challenges" (p. 19). Many of other vulnerable individuals are health-care workers in hospitals and laboratories, volunteers, and social service personnel (Banerjee, 2020). Research and reports have indicated that to cope with the physical and mental effects of this pandemic, the individual requires mental resilience (Barzilay et al., 2020). Barzilay et al., (2020) note that, deleterious mental health consequences have arisen especially with frontline healthcare providers since the start of the pandemic which is a sequela of generalized anxiety and depression. Therefore, the significance of this topic is that healthcare providers face hardships that impact not only their work environment but also their personal lives.

Practice recommendations are necessary in treating anxiety and depression among healthcare providers. Consideration should include changing the behavior and attitude on how mental health issues are viewed. Therefore, raising awareness within the organization is essential. Individuals need to feel safe from bias views and stigmatism when seeking professional assistance in treating mental health issues. It is important to emphasize establishing resources and programs within the organizations to offer employees the opportunity to obtain professional services. Teach providers how to manage anxiety and depression using mindfulness, relaxation, imagery, and breathing techniques as part of the organizations continuing education credit. Finally, promote exercise, dietary changes, individual therapy, and appropriate support group management services to encourage positive provider experiences. The goal is to optimize holistic well-being and self-esteem in dealing with the stressors of the COVID-19 pandemic.

Summary

In summary mental health issues are a growing concern amongst healthcare providers. This chapter discussed the relevance of this pilot study as it relates to healthcare providers and the findings of other similar studies. The findings of this research study were not clearly defined with the utilization of both the CAS and PSWQ tool which resulted with no significant differences in the pre-and post-intervention scores. The feedback survey revealed that the interventions were relevant per participant report. Although many participants had prior knowledge of anxiety-reducing techniques, family history, or personal history of anxiety or depression there remains a necessity to implement these techniques routinely. Many participants reported gaining a better understanding of the signs and symptoms of anxiety and would seek additional professional help to reduce their anxiety. Lastly, change becomes inculcated within the organization when those affected by the change see others involved embrace the change and understand the significance of the change (Johnson & Cook, 2014).

References

Banerjee, D. (2020). The COVID-19 outbreak: Crucial role the psychiatrists can play. *Asian journal of psychiatry*, *50*, 102014.

Barzilay, R., Moore, T. M., Greenberg, D. M., DiDomenico, G. E., Brown, L. A., White, L. K., ... & Gur, R. E. (2020). Resilience, COVID-19-related stress, anxiety and depression during the pandemic in a large population enriched for healthcare providers. *Translational psychiatry*, *10*(1), 1-8.

Borchering, R. K., Viboud, C., Howerton, E., Smith, C. P., Truelove, S., Runge, M. C., ... & Lessler, J. (2021). Modeling of future COVID-19 cases, hospitalizations, and deaths, by vaccination rates and nonpharmaceutical intervention scenarios—United States, April–September 2021. Morbidity and Mortality Weekly Report, 70(19), 719.

Brenner, M. H., & Bhugra, D. (2020). Acceleration of anxiety, depression, and suicide: secondary effects of economic disruption related to COVID-19. Frontiers in psychiatry, 11, 1422.

Brody, D. J. (2018). Prevalence of Depression Among Adults Aged 20 and Over: United States, 2013–2016, (303), 8.

Brownell, T., Schrank, B., Jakaite, Z., Larkin, C., & Slade, M. (2015). Mental Health Service User Experience of Positive Psychotherapy. Journal of Clinical Psychology, 71(1), 85-92. https://doi-org.hpu.idm.oclc.org/10.1002/jclp.22118

Cherry, K. (2013). *Leadership theories. The 8 major leadership theories.* http://psychology.about.com/od/leadership/p/leadtheories.htm

Chisholm, D., Sweeny, K., Sheehan, P., Rasmussen, B., Smit, F., Cuijpers, P., & Saxena, S. (2016). Scaling-up treatment of depression and anxiety: a global return on investment analysis. *The Lancet Psychiatry*, *3*(5), 415-424.

Choi, K. W., Kim, Y. K., & Jeon, H. J. (2020). Comorbid anxiety and depression: clinical and conceptual consideration and transdiagnostic treatment. Anxiety Disorders, 219-235.

Cocker, F., & Joss, N. (2016). Compassion Fatigue among Healthcare, Emergency and Community Service Workers: A Systematic Review. International journal of environmental research and public health, 13(6), 618. https://doi.org/10.3390/ijerph13060618

Comfort. (2021). In *Oxford Online Dictionary*. Retrieved from https://www.oxfordlearnersdictionaries.com/us/definition/english/comfort_1?q=comfort

“Coronavirus Anxiety Scale (CAS).” MDCalc. July 20, 2020. Retrieved from https://www.mdcalc.com/coronavirus-anxiety-scale-cas. Assessed December14, 2020.

Coronavirus. (2021). In *Oxford Online Dictionary*. Retrieved from https://www.oxfordlearnersdictionaries.com/us/definition/english/coronavirus?q=coronavirus

Depression. (2021). In *Oxford Online Dictionary*. Retrieved from https://www.oxfordlearnersdictionaries.com/us/definition/english/depression?q=depression

Fawcett, J. A. (2013). Depressive Disorders. In Diagnostic and statistical Manual of mental disorders (DSM-5) (5th ed., pp. 155–188). essay, American Psychiatric Association.

Ferrari, A. J., Somerville, A. J., Baxter, A. J., Norman, R., Patten, S. B., Vos, T., & Whiteford, H. A. (2013). Global variation in the prevalence and incidence of major depressive disorder: a systematic review of the epidemiological literature. *Psychological medicine*, *43*(3), 471-481.

Fitzpatrick, K. M., Harris, C., & Drawve, G. (2020). Fear of COVID-19 and the mental health consequences in America. Psychological trauma: theory, research, practice, and policy, 12(S1), S17.

Johansson, O., Lundh, L. G., & Bjärehed, J. (2015). 12-month outcome and predictors of recurrence in psychiatric treatment of depression: a retrospective study. *Psychiatric Quarterly*, *86*(3), 407-417.

Johnson, M. & Cook, L. L. (2014). Chapter 2: Change theories. Unpublished manuscript. https://hpu.blackboard.com/bbcswebdav/courses/3386.201880/ChangetheoryCHAPTER%202%20copy.pdf

Kolcaba, K. (2015). Katharine Kolcaba's comfort theory. Nursing theories and nursing practice, 381-392.

Kolcaba, K. (2018, September 17). Kolcaba's comfort Theory. Nursology. https://nursology.net/nurse-theories/kolcabas-comfort-theory/.

Lee, S. A. (2020). Coronavirus Anxiety Scale: A brief mental health screener for COVID-19 related anxiety. *Death studies*, *44*(7), 393-401.

McAuliffe, E., DeBrun, A., & Cunningham, U. (2019). Collective Leadership and Safety Cultures: Developing an alternative model of leadership for healthcare team. *International Journal of Integrated Care (IJIC),* 19(S1), 1-2. https://doi-org.hpu.idm.oclc.org/10.5334/ijic.s3055

Meyer, T. J., Miller, M. L., Metzger, R. L., & Borkovec, T. D. (1990). *Penn State Worry Questionnaire (PSWQ)*¶. Penn State Worry Questionnaire (PSWQ) - Nathan Kline Institute - Rockland Sample documentation.

http://fcon_1000.projects.nitrc.org/indi/enhanced/assessments/PSWQ.html.

Mitchell, G. (2013). Selecting the best theory to implement planned change. Nursing Management-UK, 20(1), 32-37. https://hpu.idm.oclc.org/login?url= http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=86746704&site=ehost-live&scope=site

Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., ... & Agha, R. (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *International journal of surgery (London, England)*, *78*, 185.

NIMH » Major Depression. (n.d.). https://www.nimh.nih.gov/health/statistics/major-depression.shtml

Pandemic. (2021). In *Oxford Online Dictionary*. Retrieved from https://www.oxfordlearnersdictionaries.com/us/definition/english/pandemic_1?q=pandemic

Parks, M. D., Morris, D. L., Kolcaba, K., & McDonald, P. E. (2017). An evaluation of patient comfort during acute psychiatric hospitalization. Perspectives in psychiatric care, 53(1), 29-37.

Petiprin, A. (2020). *Kolcaba's Theory of Comfort*. Nursing Theory. https://www.nursing-theory.org/theories-and-models/kolcaba-theory-of-comfort.php.

Phillips, K. (2013). Depressive Disorders. In Diagnostic and statistical Manual of mental disorders (DSM-5) (5th ed., pp. 189–233). essay, American Psychiatric Association.

Provider. (2021). In *Oxford Online Dictionary*. Retrieved from https://www.oxfordlearnersdictionaries.com/us/definition/english/provider?q=provider

Rieke, K., McGeary, C., Schmid, K. K., & Watanabe-Galloway, S. (2016). Risk factors for inpatient psychiatric readmission: are there gender differences? *Community mental health journal*, *52*(6), 675-682.

Roussel, L., Thomas, T, & Harris, J., (2020). Management and Leadership for Nurse Administrators (8th ed.). Jones & Bartlett Learning ISBN- 13: 978 1284148121

Seligman, M. E. P., Rashid, T., & Parks, A. C. (2006). Positive psychotherapy. *American Psychologist*, *61*(8), 774–788. https://doi.org/10.1037/0003-066X.61.8.774

Sfetcu, R., Musat, S., Haaramo, P., Ciutan, M., Scintee, G., Vladescu, C., ... & Katschnig, H. (2017). Overview of post-discharge predictors for psychiatric re-hospitalisations: a systematic review of the literature. *BMC psychiatry*, *17*(1), 227.

Shreffler, J., Petrey, J., & Huecker, M. (2020). The impact of covid-19 on healthcare worker wellness: a scoping review. *Western Journal of Emergency Medicine*, *21*. https://doi.org/10.5811/westjem.2020.7.48684

Soklaridis, S., Lin, E., Lalani, Y., Rodak, T., & Sockalingam, S. (2020). Mental health interventions and supports during covid- 19 and other medical pandemics: a rapid systematic review of the evidence. *General Hospital Psychiatry*, *66*, 133–146. https://doi.org/10.1016/j.genhosppsych.2020.08.007

Spencer, T. (2021, August 7). US averaging 100,000 new COVID-19 infections a day. AP NEWS. https://apnews.com/article/health-coronavirus-pandemic-b0811d7287ef240ae619ba1e385e0a63.

Stahl, S. M. (2013). Stahl's essential Psychopharmacology: Neuroscientific basis and practical applications (4th ed.). Cambridge University Press.

StarCare. 2012. Retrieved from http://www.starcarelubbock.org/about_us/

Philosophy/philosophy.htmx

Sunrise Hospital. 1999-2019. *Mission & Vision.* Retrieved from https://sunrisehospital.com/ about/ mission-vision.dot

Teo, W. Z. Y., Soo, Y. E., Yip, C., Lizhen, O., & Chun-Tsu, L. (2020). The psychological impact of covid-19 on ‘hidden’ frontline

healthcare workers. *International Journal of Social Psychiatry*, *(202008)*. https://doi.org/10.1177/0020764020950772

Torres, F. (2020, October). What is Depression? Depression. https://www.psychiatry.org/patients-families/depression/what-is-depression.

Twenge, J. M., & Joiner, T. E. (2020). US Census Bureau-assessed prevalence of anxiety and depressive symptoms in

2019 and during the 2020 COVID-19 pandemic. *Depression and anxiety*, *37*(10), 954-956.

van Rijsoort, S., Emmelkamp, P., & Vervaeke, G. (1999). The penn state worry questionnaire and the worry domains questionnaire: structure, reliability and validity. *Clinical Psychology & Psychotherapy*, *6*(4), 297–307. https://doi.org/10.1002/(SICI)1099-0879(199910)6:4<297::AID-CPP206>3.0.CO;2-E

Waller, R., Gardner, F., Dishion, T., Sitnick, S. L., Shaw, D. S., Winter, C. E., & Wilson, M. (2015). Early parental positive behavior support and childhood adjustment: Addressing enduring questions with new methods. *Social Development*, *24*(2), 304-322. https://doi.org/10.1111/sode.12103

Wang, C., Wang, Z., Wang, G., Lau, J. Y. N., Zhang, K., & Li, W. (2021). COVID-19 in early 2021: current status and looking forward. Signal Transduction and Targeted Therapy, 6(1), 1-14.

World Health Organization. (2020). Director-General’s remarks at the media briefing on 2019-nCoV on 11 February

2020. https://www.who.int/dg/speeches/detail/who-director-general-s-remarks-at-the-media-briefing-on-2019-ncov-on-11-february-2020

Xiong, J., Lipsitz, O., Nasri, F., Lui, L. M. W., Gill, H., Phan, L., … McIntyre, R. S. (2020). Impact of covid-19 pandemic on
mental health in the general population: a systematic review. *Journal of Affective Disorders*, *277*, 55–64.
https://doi.org/10.1016/j.jad.2020.08.001

Zeytinoglu S, Calkins S, Swingler M, Leerkes E. Pathways from maternal effortful control to child self-regulation: The role of maternal emotional support. *Journal of Family Psychology* [serial online]. March 2017;31(2):170-180. Available from: PsycARTICLES, Ipswich, MA. Accessed May 2, 2018.