

**MENTAL HEALTH AND WELL-BEING: AN OCCUPATIONAL HAZARD  
IN ORAL HEALTH CARE**

An Undergraduate Research Scholars Thesis

by

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We, Eyra Salazar, Andrea Rader, and Candace Earp, certify that all research compliance requirements related to this Undergraduate Research Scholars thesis have been addressed with my Research Faculty Advisors prior to the collection of any data used in this final thesis submission.

This project did not require approval from the Texas A&M University Research Compliance & Biosafety office.

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## **ABSTRACT**

Mental Health and Well-being: An Occupational Hazard in Oral Health Care

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The purpose of this research is to bring awareness to risk factors leading to the increased prevalence and magnitude of mental health and well-being in oral healthcare. Mental health is an essential component to overall health and is dependent upon the complex interplay of emotional, physical, and psychological stress. Health care workers experience high levels of occupational stressors, which has been shown to negatively impact mental health. Unfortunately, to make matters worse, the COVID-19 pandemic has exacerbated these conditions into potential hazardous working environments for oral healthcare professionals. The CDC recommends that N95 respirators and eyewear be worn during procedures. As a result, many healthcare

professionals are experiencing severe headaches and ear lobe pain from wearing an N95 respirator as well as protective eyewear. Headaches are another added stressor to health care professionals that may cause a decline in mental health and the quality of care provided. It is important to understand how stressors can affect one's emotional, physical, and psychological well-being, so when stress related ailments begin to surface, practical self-care strategies can be implemented to cope with the stress. Research has demonstrated that stress management techniques such as meditation, journaling, exercise, and therapy are very effective ways to cope with stress. By having these practical self-care strategies in place beforehand, one will be better equipped to cope with those stressors. Above all, it is important to not remain silent when dealing with mental illness. It takes great courage and bravery to recognize one's limitations and ask for help.

## **DEDICATION**

*We would like to dedicate our research paper to our peers who are front line workers.*

*Many of us are facing mental health and well-being challenges in these unprecedented times. We want to thank our friends, families, instructors, and peers who supported us throughout the research process.*

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### **Contributors**

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## INTRODUCTION

Healthcare and dental professionals take on the everyday stress of work and their surroundings which can leave them stressed and fatigued. These high intensity working conditions often position healthcare and dental professionals to be vulnerable in neglecting their own mental wellness. In order to be effective healthcare providers, it is essential that the signs and symptoms of emotional, physical, and psychological stresses are recognized. It is imperative that dental professionals remain empathetic to the needs of their patients and aid patients by improving their overall health and quality of life. Due to the overwhelming added stress of COVID-19, the impact has further exacerbated the extent and intensity of burnout in dental professionals. Unfortunately, that can lead to neglecting one's own mental health and decrease career satisfaction and longevity. The goal of this research is to bring awareness to factors leading to the prevalence and magnitude of decreased mental health and well-being in dentistry. By introducing the significant impact on mental health and well-being, the potential effects of COVID-19, and self-care strategies to help health care and dental professionals overcome and manage the effects that stress plays in everyday life.



# **1. SIGNIFICANCE AND IMPACT OF MENTAL HEALTH AND WELL-BEING IN THE HEALTHCARE FIELD**

Mental health is an essential component to overall health and is dependent upon the complex interplay of emotional, physical, and psychological stress.<sup>1</sup> A factor that contributes to mental health is one's emotions, which is a natural state of mind that indicates one's attitude. Empathy is driven by emotions, which can be negatively impacted in stressful workplaces. As recognized by the World Health Organization (WHO), emotional stress is one of the most common health problems and can affect one's physical and mental health.<sup>2</sup> This is a significant occupational hazard as health care professionals are experiencing high levels of emotional stress, which contributes to the decline in personal and professional performance. Evidence suggests that dental professionals are associated with occupational stress and could be the results of several contributing factors.<sup>1,3</sup> Given that there is limited research on mental health and well-being among dental industry workers, Bernard et al. in 2020 conducted a mental health-related survey of dental hygienists in Oregon to identify major occupational stressors (n=83). The results suggested that 42% (n=35) of dental hygienists report physical pain as their triggered stress, 43% (n=36) attribute it to demanding patients, and with over half, approximately 65% (n=54), indicate not having enough time in the work schedule, contributed major work stress. Moreover, business owners of healthcare facilities suffer from added stress generated by staff members not performing to their best of their abilities.<sup>1</sup> Furthermore, another aggravated stressor for professionals is the possibility of being sued. This could be a contribution to the litigious society one lives in with the number of dental professionals being sued on the rise.<sup>4</sup>

Considering emotional stress can affect an individual's mental health and well-being, it is important to recognize several emotional symptoms early with one's physician.<sup>2</sup> Since emotional stressor symptoms are vague, it is imperative to be aware of one's own stress limitation levels and try to distinguish when one is becoming easily agitated, frustrated, irritable, moody, or feeling bad about one's self, overwhelmed, or having difficulty relaxing and calming the mind.<sup>2</sup>

Musculoskeletal disorders (MSDs) are defined as injuries in the soft and hard tissues on the body generated by a single event or repetitive trauma.<sup>5</sup> Even though MSDs are prevalent in many professions, many studies suggest that dentists and dental hygienists are at an increased risk of developing MSDs as the profession entails limited working space, still posture, and fine repetitive movements.<sup>1,5,6</sup> Results indicate MSDs to be more prominent on neck, shoulder, wrist/hand, and lower back.<sup>5</sup> MSDs produces physical stress another factor that has the potential to impact an individual's mental health and well-being as it affects productivity. The correlation between physical stress leading to a decrease in mental health can be indicated by the uncomfortable working posture while treating a patient for long hours, ultimately leading to physical pain.<sup>3</sup> Previous research indicated that physical pain was the top third most common trigger for stress and the second most common reason for dental hygienist to leave work.<sup>1</sup> Several studies indicate MSDs is a major concern in the dental profession as practitioners reported reducing the number of hours worked per week, the need of taking time off work, or even considering changing careers as a result of pain and diminished job satisfaction.<sup>5,6</sup> In addition, more physical symptoms of stress to be aware of are: low energy, headache, upset stomach, insomnia, colds, infections, nervousness and shaking.<sup>2</sup> Physiological stress is another factor associated with mental health.<sup>4</sup> This can be noted by signs of mental stress, low self-esteem, hopelessness, self-doubt, depression, and a lack of clarity in one's professional role, and

cynicism.<sup>4</sup> Literature suggests professionals experiencing high work-related stressors contribute to low job satisfaction and burnout.<sup>1</sup> Burnout is defined as emotional stress, physical exhaustion, lack of work interest, and feeling a loss of personal accomplishments.<sup>1</sup> Burnout is experienced universally among healthcare providers, but due to the nature of dentistry, dental professionals are also at risk of experiencing burnout.<sup>1</sup> Burnout and job satisfaction play a significant role in the overall quality of care provided to patients. When experiencing burnout, professional performance is impaired, and studies suggest patient's safety is at risk when dental professionals are not able to provide good quality care.<sup>1,3,4</sup> When dental professionals experience burnout, reduced job satisfaction, and emotional distress it can lead to depression. In dental professionals, depression could lead to isolation, sense of loneliness, loss of worth or purpose, and general life dissatisfaction.<sup>4</sup> Ultimately, evidence suggests that unmanaged mental health issues can lead to work dissatisfaction or even worse lead to illness family problems, abuse of drugs or alcohol, and even suicide.<sup>4</sup>

## **2. EXAMINE THE POTENTIAL LONG-TERM MENTAL HEALTH EFFECTS RELATED TO COVID-19**

Civilization is facing unparalleled times due to the impact of COVID-19. The COVID-19 pandemic has further exacerbated mental health issues globally among both dental professionals and the public. The United States leads in the number of prevalent cases of COVID-19, continuing to further the destabilization of this nation.<sup>7</sup> The dilemma concerning COVID-19 is not knowing the path of this virus.<sup>7</sup> Unfortunately, the originality and transmission of COVID-19 requires unremarkable support from researchers, dental professionals, and the general public.<sup>7</sup> During these unpredictable times, many dental professionals struggle due to the lack of knowledge of this virus. Many dental professionals are suffering with elevated stress levels due to lengthened workdays, scarce social distancing, donning and doffing of advanced personal protective equipment (PPE), and the physiological effects introduced by extended hours of wearing N95 respirators. New risk factors are still being identified to allow regulatory national health agencies, like the Center for Disease Control and Prevention (CDC) and Occupational Safety and Health Administration (OSHA) to plan strategies to better control this pandemic in the United States.<sup>7</sup>

CDC and OSHA have taken the same stance in regard to PPE needed during aerosol producing procedures.<sup>7</sup> The shared concern includes the lack of available PPE, which can lead to transmission of COVID-19 between dental professionals and the patients. The CDC stated that there is a PPE shortage, including respirators, and it is unknown when the adequate supply will be available again to dental professionals.<sup>8</sup> Respirators are worn to cover the mouth and nose to decrease dental professionals probability of inhaling airborne particles, such as dust, infectious

agents, gases, and vapors created in the dental office.<sup>8</sup> Dental professionals are now having to weigh the risk of transmission of the virus on account of the shortage of PPE adding to work occupation stress.<sup>8</sup> If there is a shortage of respirators, a level 3 surgical facemask is the next step down which are not verified to protect dental professionals against splashes and splatters created by aerosol producing instruments that contain, water, blood, saliva and microorganisms.<sup>7,8</sup> This situating dental professionals at higher risk of contracting the virus, leading to stress and a further decline in mental health.<sup>9</sup>

CDC recommends that N95 respirators and eyewear to be worn during aerosol-producing procedures.<sup>8</sup> A N95 respirator protects dental professionals from 95% of particles larger than 0.3 microns in size.<sup>10</sup> In result of wearing a N95 respirator, many dental professionals are experiencing severe headaches and ear lobe pain.<sup>10</sup> In 2020, Ong JJ et al. studied respirators and their contribution to headaches, sleep deprivation, dehydration, irregularity in meal times, physical stress, and emotional stress among dental professionals.<sup>10</sup> Many dental professionals have dealt with these symptoms even before the N95 respirators.<sup>10</sup> Now that the N95 has become a part of the dental professionals everyday life, these symptoms are exacerbated.<sup>10</sup> As these symptoms become severe and more frequent, due to the added ongoing stressor of the COVID-19 outbreak, dental professionals are experiencing decreased work performance, which has a major impact on occupational health and productivity.<sup>10</sup>

The pandemic has also created a negative impact on the mental health of many dental professionals.<sup>11</sup> COVID-19 has produced anxiety and a feeling of hopelessness among frontline dental professionals.<sup>11</sup> In 2020, Stuijtzand et al. studied mental health outcomes of dental professionals that can arise with added COVID-19 stressors and these include insomnia, alcohol and/or drug abuse, post-traumatic stress disorder, depression, anxiety, anger, perceived stress.<sup>11</sup>

Dental professionals are now trying to grow accustomed to the new normal as well as coping with added COVID-19 stressors. The pandemic is forcing dental professionals to continually modify practices according to interim guidelines presented by the CDC.<sup>8</sup> With continuing research, the interim guidelines are always updating, therefore the dental professionals are having to do the same.<sup>8</sup>

A relevant stressor that many dental professionals are struggling with is that patients may be going against safety guidelines. Unfortunately, misinformation posted on various media outlets has contributed towards lack of public compliance on social distancing and use of face coverings. Dental professionals are unknowingly becoming exposed to the virus is taking a serious psychological toll on them.<sup>9</sup> Constant close contact with individuals every workday situates dental professionals on the frontlines of this fight.<sup>8</sup>

### **3. COPING MECHANISMS TO IMPROVE MENTAL HEALTH, WELL-BEING, AND CAREER SATISFACTION**

To ensure that dental professionals do not experience job burnout, it is important to supply personal protective equipment, minimize psychological stress, and allocate training to cope with additional stress from the pandemic.<sup>8,9</sup> Not only is the safety of the patient's health important during these unprecedented times, the dental professional's health is just as important, to ensure that patients are getting the best quality of care possible. This requires dental professionals to be in tune with one's emotional, physical, and psychological well-being, and be able to recognize when one or more of these aspects are not in balance.<sup>1</sup>

When work-related stress is intense and consistent without relief, it can lead to illness, substance abuse, family conflict, and in some instances suicide.<sup>4</sup> Manifestations of stress will affect everyone differently and in different areas of their lives in various forms such as their mental, physical, and emotional states.<sup>4</sup> Some common expressions of stress are negative thoughts, depressive mood, irritated behavior, social withdrawal, fatigue, musculoskeletal pain, and doubts in one's capabilities as a dental professional.<sup>12</sup> It also manifests as physical, emotional, and psychological strain.<sup>4</sup> This strain impairs the quality of life caused by cumulative allostatic load, which is an accumulation of multiple incidences of high stress situations over time. All these factors contribute to burnout, job dissatisfaction, and most of all, lead to an unhealthy lifestyle and work-life balance.

Being able to identify stress related ailments that are affecting one's mental health and work-life balance, is key in learning how to overcome them. Research states that stress management techniques such as meditation, journaling, exercise, or therapy are essential to

enhance overall health and prevent stress related diseases caused from chronic stress.<sup>14</sup> It is important to understand how stress can affect a dental professional's emotional, physical and psychological well-being, so when stress related ailments begin to surface, practical self-care strategies can be implemented as a means to cope with the stress.

Research demonstrates that exercise is the leading stress reducing activity, it is shown to help manage symptoms of work related stress and burn out.<sup>1</sup> The following activities have all demonstrated to contribute in lowering stress levels: exercise, hobbies, quiet time, time with family and friends, and self-care activities such as journaling, meditation, and yoga.<sup>1</sup> Other methods researched on how to lower stress were classes on stress management.<sup>1</sup> As a dental professional, it is important to make time to ensure that a healthy work-life balance is being implemented by setting aside time each day to care for one's emotional, physical and psychological well-being. It is easy to focus on work and family life and neglect to delegate time to care for one's mental physical and psychological state. However, by not making time for self-care and implementing stress management activities, the risk of chronic stress, burnout, and job dissatisfaction will impact one's overall health, which will inevitably affect the care patients receive.

According to research on exercising, it improves one's overall health, well-being, and contributes to directly lowering stress.<sup>1,12,13</sup> Aerobic exercises have been shown to reduce stress by producing endorphins, which are hormones secreted in the brain, that when released, cause an analgesic effect during various exercises.<sup>13,14</sup> Research also suggests that exercise, such as yoga, hiking, and running, have shown to improve one's mood, self-confidence, posture, musculoskeletal pain, decrease symptoms related to depression, and anxiety as well as, improve sleep disruptions cause by stress.<sup>1,12,13,14</sup>



When dealing with work-related stressors, anxiety, and feelings of depression it is important to have an outlet. Although exercise and self-care related activities have shown to improve overall health and job satisfaction, it is important to recognize when the effects of stress, depression, and anxiety are not improving. According to the National Alliance on Mental Health 1 in 5 U.S adults suffer with mental illness each year.<sup>15</sup> Many healthcare professionals, including dental hygienists, are at a greater risk of symptoms of depression, anxiety, and PTSD, more so now due to COVID-19.<sup>15</sup> There are a variety of avenues available that can improve the experience on the path to wellness, including stress management education, social support, counseling, therapy, and medication.<sup>15</sup> These methods can be used individually or in conjunction with one another, depending on what is best suited for each individual's needs. Everyone's mental wellness journey is different. What works for one person may not work for another, each person is unique, even when it comes to mental wellness. It is important to not remain silent and push through the challenging time alone. Asking for help does not mean that one is weak, it takes great courage and bravery to recognize one's limitations and ask for help. It is important to understand that many dental professionals will suffer with mental illness at some point in their career.<sup>15</sup> Recognizing the signs and symptoms early and knowing they are not alone and reaching out to available help are key in successfully managing stress.<sup>15</sup>

Organizations and employers can also help address workplace stressors by implementing open communication, assessment tools for coping, office policies, and resources in stress management.<sup>14</sup> Having resources available is another way that dental professionals can come together and dismantle the stigma of mental health within the healthcare field. This can be achieved through educational courses on stress management, team building outings, and additional resources such as therapy and psychiatric help.<sup>1</sup> The more people openly discuss and

learn about mental health, one will see the warning signs and symptoms and be proactive in seeking out help. Ensuring greater job satisfaction and job longevity for each dental professional. By recognizing the signs and symptoms of emotional, physical, and psychological stressors, and incorporating stress management strategies, dental professionals will be able to better manage work-related stressors. This will allow dental professionals to have a better work-life balance, resulting in them providing their patients higher quality dental services and maintaining a healthy work environment.<sup>1,12,14</sup>

## CONCLUSION

Mental health and well-being are affected by multiple factors including emotional, physical, psychological, and external stressors, such as COVID-19. This can affect an individual's career satisfaction, longevity, and overall quality of life. Courses pertaining to stress management and ergonomics should be implemented during school education to help manage work stressors.<sup>1</sup> Early education could help decrease mental stigmatization and encourage healthcare professionals to reach out for help, especially when facing difficult times. It is important to adopt psychological support and interventions to improve and maintain the mental health of frontline dental professionals.<sup>11</sup> Today, dental professionals are lacking care and support needed to maintain mental health.<sup>10</sup> Therefore, dental professionals need emotional support from the public.<sup>11</sup> Introducing the significant impact on mental health and well-being, the potential effects of COVID-19, and self-care strategies to help health care and dental professionals overcome and manage the effects that stress plays in everyday life. Further research is needed on the benefits of providing stress management courses that will prepare dental professionals when dealing with stressors leading to burn-out by providing skills in conflict resolution and communication. Moving forward, educational services in stress management need to be implemented in all healthcare and dental educational facilities.

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