BURNOUT SYNDROME AND ANXIETY AMONG NURSES POST COVID-19 PANDEMIC AT MBAGATHI HOSPITAL, NAIROBI KENYA.

By

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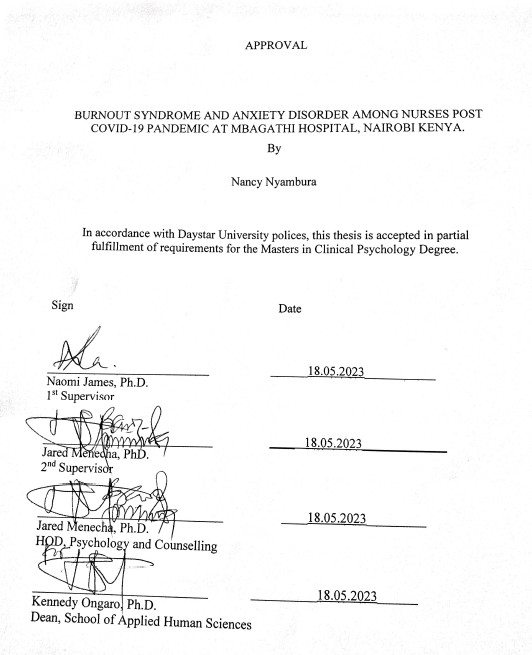
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# APPROVAL

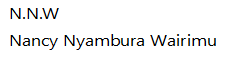


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# DECLARATION

BURNOUT SYNDROME AND ANXIETY AMONG NURSES POST COVID-19 PANDEMIC AT MBAGATHI HOSPITAL

I declare that this thesis proposal is my authentic work has not submitted to any other college or university for academic accreditation.

Signed:  Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

18/5/2023

(20-0862)

# DEDICATION

I dedicate this study to all nurses worldwide who tirelessly gave their best in response to a new phenomenon, the COVID-19 pandemic. Their efforts remain heroic in history.

I also dedicate this thesis to my husband, Moses for his immense support during my studies. My sister Lisa and my mother Esther for their persistent encouragement and accommodation during my study.

# ACKNOWLEDGEMENTS

It is not possible to achieve this kind of work alone, I have leaned on others through their work, time and skills. I did not manage to work on this assignment alone. I succeeded because of support from others.

I recognize the encouragement of my supervisors Dr. Naomi James and Dr. Jared Menecha. Their counsel has contributed immensely to my project. Every contact with them instilled hope and fresh energy to finish this project.

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Cognitive behavior therapy CBT

Maslach Burnout Inventory MBI

Health care workers HCWs

# ABSTRACT

Healthcare personnel are required to offer healthcare in pandemics, which increases their risk of burnout. Burnout remains an occupational risk for healthcare workers. The aim of this study was to investigate burnout syndrome and anxiety amongst nurses working at the Mbagathi hospital post COVID-19 pandemic. The study was authorized at all three levels after being submitted to the National Council of Science and Technology (NACOSTI), Nairobi Metropolitan Services (NMS), and the Mbagathi Hospital Research Committee. This study utilized a cross-sectional research design. For biodata, a standardized questionnaire was used. The Maslach burnout syndrome questionnaire and Beck’s anxiety inventory tools were used to assess burnout and anxiety respectively. Results revealed 60% of the respondents had significant levels of burnout syndrome, 89% had depersonalization syndrome, and 90% reported difficulties with how others perceived their personal achievements. 46% of respondents experienced high levels of anxiety, while 40% showed signs of moderate worry. Pearson's correlation and multiple linear regression were used to establish the link between anxiety and burnout syndrome. The correlation coefficient and regression beta estimate, which are in line with the probability values, pointed to a weak and insignificant relation between anxiety and burnout syndrome. The nurses experienced burnout as a result of elevated anxiety levels. There were two types of coping mechanisms utilized: physical and emotion-focused; direct and indirect techniques. Institutional support system, and peer support also featured in coping mechanisms. To respond to pandemics effectively, administration must reinforce and increase institutional care and personal preparedness.

# DEDICATION

I dedicate this thesis to all the nurses and health care workers in Kenya and worldwide. Their sacrifices to care for the sick even in the face of great threats is highly appreciated.

# CHAPTER ONE

# INTRODUCTION AND BACKGROUND OF THE STUDY

# Introduction

This first section is the foundation of the study. It will highlight in a summary the nature of burnout and anxiety. It will also give a snapshot of how these affect nurses and contextualize the COVID-19 Pandemic.

# Background to the Study

Anxieties are the most popular psychological health disorder, or the ones that occur the most often. They refer to a set of illnesses in which the major alteration in mood or emotional tone is severe or pathological anxiety, as opposed to other conditions. Normal fear is accompanied by changes in mood, thoughts, behavior, and physiological functioning. Anxiety, on the other hand, might be regarded as the pathological counterpart to normal fear (Adwas, et.al, 2019).

Burnout is characterized by a sense of depersonalization (that is lacking empathy), emotional exhaustion (emotional fatigue), and a diminished sense of personal accomplishment (proficiency and accomplishment). The Maslach Burnout Inventory (MBI), which employs these three criteria as discrete constituents of burnout, is one of several approved techniques for measuring burnout. Burnout is linked to despair, suicide ideation, and a several other psychological health concerns on a personal level (Galaiya, et.al, 2020).

A person with burnout syndrome is emotionally spent and disengaged from their work as a result of prolonged exposure to stressors associated to their job. The World Health Organization (WHO) has determined that it is a problem with psychological health, classifying it as a "state of vital weariness," both emotional and bodily, brought on by work-related pressures. Burnout syndrome affects 27 percent to 45 percent of medical professionals, and it is often linked to high rates of despair, self-harm, psychoactive drug use, marital problems, and work dysfunction (Mbanga et al., 2018).

Burnout is a common issue for healthcare workers, especially nurses (Canadas-De la Fuente et al. 2015). Burnout occurs as a consequence of prolonged exposure to occupational-related pressures. Both the physical and mental health of nurses are negatively impacted by burnout, resulting in headaches, insomnia, irritability, poor focus, and chronic tiredness (Potter et al. 2010). As a result, burnout has a negative effect on nurses observed standard patient healthcare, enhances healthcare delivery inefficiencies, diminished patient experience, which can have an adverse effect on patients' medical outcomes, and raises mortality rates (Poghosyan et al. 2010). Additionally, it is likely to lead to more nurse absences and sick days, and hence it is classified as an occupational disease in several countries (Gasparino, 2014; Schaufeli et al. 2009).

Nurses are confronted with a variety of circumstances that are linked to burnout and, as a result, cause anxiety. Long work hours, time restrictions, meeting patients' demands, inconsistent scheduling, and a lack of professional support are just a few of the work-related stressors that nurses face on a regular basis. The constant stress that comes with such demanding professions is potentially detrimental to mental health as well as the quality of life of healthcare professionals. Poor mental health in healthcare workers can hinder their professional performance and significantly affect the kind of care they provide to patients (Maharaj, Lees & Lal, 2019).

In a study, (Baduge, et.al, 2018) carried out a post pandemic review on the preparedness of emergency nurses. In the twenty papers reviewed, seventeen different readiness techniques were found through research and case studies, and emergency departments implemented useful containment treatments. These included the need for monitoring and reporting, handling Ebola cases, managing supplies and logistics, managing labs, and communicating and educating. Personal emotional preparedness, desire to treat Ebola-at-risk patients, and ability to offer psychological support all had an impact on emergency nurses' level of readiness. The 2014 Ebola outbreak in West Africa was regarded as the worst in recorded history, with 11,313 reported fatalities. The risk of disease spreading to neighbouring nations was enhanced by air travel and international disaster relief for the afflicted communities. There were isolated cases and fatalities recorded throughout the world, including in Italy, Mali, Senegal, Spain, the United Kingdom, and the United States of America. There was also a tiny outbreak in Nigeria that was quickly contained.

The Coronavirus has significantly strained all healthcare systems. Anxiety and burnout among healthcare workers (HCWs) have been recognized as serious occupational hazards even before COVID-19 pandemic (Chirico, Sacco, Nucera & Magnavita, 2021). Due to tiredness, nurses who care for COVID-19 patients experience unpleasant feelings including worry and anxiety, discomfort, and hopelessness linked to their high-intensity work, according to Sun et al. (2020).

Throughout the COVID-19 epidemic, nursing staff in the USA reported poor sleep, exhaustion, and other psychological difficulties, according to Sagherian, Steege, Cobb, and Cho (2020). There were worse self-reported outcomes amongst COVID-19 response employees who did not take breaks and whose weekly hours were over forty. Conti et al. (2021) found that 65.2% of nurses on the frontlines of COVID-19 management had anxiety, 55% had post-traumatic symptoms, and 65.2 percent had burnout (25.61%). In Brazil, on the other hand, Silva-Gomes and Silva-Gomes (2021) have underlined that with the emergence of COVID-19, anxiety, tension, and insomnia, as well as burnout syndrome, have posed a severe threat to health systems and professionals.

HCWs in Ghana indicated a poor level of perceived readiness to react to COVID-19, which was linked to anxiety and burnout. Fear of infection is mediating only a portion of the impact of insufficient preparation on anxiety and burnout (Afulani et al., 2021). According to Kwaghe et al. (2021) in Nigeria, anxiety was associated as an outcome of the COVID-19 pandemic in mental and emotional trauma among frontline health employees in the first stages of the pandemic. Furthermore, a study of nurses working in hospitals in central Uganda's management of COVID-19 patients found high rates of burnout, which was linked to PPE and workload (Kabunga & Okalo, 2021).

The premier incidence of COVID-19 in Kenya was verified on March 13, 2020. This led to enacting of national standards to prevent the spread of the disease. Many African countries, including Kenya, have implemented rigorous steps advised by the WHO to proactively prevent spreading of COVID-19 in order to avoid worst-case scenarios. Curfews and lockdowns, as well as severe and abrupt stay-at-home regulations, disrupted the social and economic lives of many towns (Lagat et al., 2020).

COVID-19 stretched Kenya's health-care system, which is already underfunded and ill-equipped. According to Barasa, Ouma, and Okiro (2020), Kenya's hospital capacity to handle extremely high infectious cases owing to COVID-19 had substantial inadequacies. On July 14, 2020, it was revealed that 429 Kenyan healthcare workers had contracted COVID-19, representing 4.1 percent of all cases. Kenya lost several health professionals to COVID-19 as early as mid-July 2020. Qiute the reverse, Onchonga et al. (2021) found most healthcare personnel in Kenya had mild anxiety consequently from COVID-19 virus. It is against the aforementioned background, that this research investigates burnout syndrome and anxiety among nurses post-COVID-19 Pandemic at Mbagathi Hospital.

Guixia and Hui (2020) found that during the COVID-19 period in China, the frequency of nursing burnout is significant, which is linked to anxiety. Nurses are more stressed and have shorter working years, therefore likely to experience burnout. Naldi et al. (2021) discovered that a third of Italian nurses experience significant anguish and anxiety, significant depersonalization and emotional tiredness, and lowered sense of accomplishment at a personal level. The worst psychological effect is associated to a rise in workload, changes in employment, and regular contact with COVID-19.

COVID-19 affected every African country. Healthcare workers (HCWs) across the continent continue to be exposed to varying levels of institutional support which increases the exposure to emotional and burnout, as well as depression. The main causes of burnout among healthcare professionals responding in the COVID-19 epidemic were safety concerns related to stigma as HCWs, fears based on danger of illness brought on by a shortage of resources, hazard of owing to infection to the public transmission, monetary unpredictability, and social shame (Debes et al., 2021).

Nursing is a crucial constituent of the work force in Kenya and are front liners on providing healthcare. COVID-19 has impacted negatively on HCWs in Kenya including the nurses in terms of burnout levels and depression (Ali, Shah & Talib, 2021). Studies have been done in Kenya to find the link between burnout syndrome and anxiety within the healthcare system during COVID-19 pandemic. Kwobah et al. (2021) based on an online survey, probed about mental problems among medical care providers in Kenya in the initial phase of the COVID-19 pandemic. The study had a total of 255 participants drawn from, Nairobi and the findings indicated that 36% of the participants had generalized anxiety. Shah et al. (2021) conducted a cross-sectional survey targeting three biggest hospitals in Kenya**.** The goal of that inquiry was to assess the association between COVID-19 pandemic and the mental well-being of the nurses . The study reported anxiety cases among 44.6% of the nurses.

# Statement of the Problem

Studies done in Kenya have indicated that burnout syndrome and anxiety are related when it comes to the HCWs during COVID-19 pandemic. However, there are various gaps that have been created by the studies that have prompted this study. The studies that have been captured are general to the HCWs in Kenya and none has targeted nurses specifically post COVID-19 pandemic. Secondly, the studies have been done across the country and not targeting a specific place or location. The current study is targeting nurses at Mbagathi hospital which is among health facilities handling COVID-19 cases. Thus, the current study investigates burnout syndrome and anxiety amongst nurses post-COVID-19 Pandemic at Mbagathi hospital.

# Purpose of the Study

The study investigated burnout syndrome and anxiety amongst nurses post-COVID-19 Pandemic at Mbagathi hospital.

# Objectives of the Study

The following objectives informed the study.

1. To assess the prevalence of burnout syndrome and anxiety amongst nurses post-COVID-19 Pandemic at Mbagathi hospital
2. To establish the relationship between burnout syndrome and anxiety among nurses post-COVID-19 at Mbagathi hospital.
3. To examine the coping strategies applied by the nurses post-COVID-19 at Mbagathi hospital.

# Research Questions

1. What is the prevalence of burnout syndrome and anxiety amongst nurses post-COVID-19 Pandemic at Mbagathi hospital?
2. What is the relationship between burnout syndrome and anxiety amongst nurses post-COVID-19 at Mbagathi hospital?
3. What are the coping strategies applied by the nurses post-COVID-19 at Mbagathi hospital?

# Justification of the Study

COVID-19 overwhelmed Kenya's health-care system, which is already underfunded and ill-equipped. Kenya's hospital capacity to handle a potential rise in caseload owing to COVID-19 has significant limitations. Some of the potential gaps are based on the shortage of HCWs (Barasa, Ouma & Okiro, 2020). Nurses are crucial part of Kenya’s healthcare and the level of burnouts and anxiety that they face might hinder their performance which can be able to affect the already overwhelmed healthcare system. Thus, this study shall find out the links that are there between burnout syndrome and anxiety and come up with effective recommendations. These recommendations might be used by other hospitals and the policy makers to take a preventative approach and have contingency measures in mitigating mental health disorder amongst nurses. These recommendations may be useful in every day duty of care, and not just for pandemics. Since this is the first global pandemic of such a large-scale for Kenyan medical fraternity to manage, this study is relevant as it will aid in identifying gaps in caring for nurses in Mbagathi in a pandemic.

Mbagathi hospital was amongst the hospitals in the country to set up an isolation centre in response to COVID-19 Pandemic. from March 2020 to March 2022, the isolation centre provided care and therefore it was crucial to how health workers experienced the pandemic and how its impact is being experienced today.

# Significance of the study

This research may assist in future management of nurses’ mental well-being in epidemics and pandemics. They remain a crucial part of frontline health workers. It will highlight the specific occupational hazards nurses are confronted with that contribute to burnout syndrome and anxiety while responding to a pandemic.

It also provides an opportunity to inform duty of care policy on the mental health of the nurses following pandemic for management teams in hospitals. A robust duty of care policy is one that is need informed and attends to the vulnerabilities associated with occupational hazards in a proactive manner. This may inform preventative approaches to burnout syndrome and reducing the cost of burnout. Since a pandemic is a crisis, a mental health policy will require to have a contingency plan for a crisis as the one the country recently experienced in the COVID-19 pandemic.

Finally, scholars and researchers can study and query deeply into this topic, with their findings contributing significantly in overall duty of care and prevention of burnout syndrome amongst nurses.

# Assumption of the study

The assumption of the study was that COVID-19 pandemic was the biggest pandemic, if not the first for Kenyan healthcare system to manage. The study also supposed that nurses at Mbagathi hospital were confronted with managing patients while exposed to a highly contagious disease, the COVID-19. The study also assumed that nurses may have had symptoms of anxiety and burnout. And finally, this study assumed that the research participants would answer in an honest manner and would be cooperative.

# Scope of the study

The study's focus was on the nurses at the Mbagathi hospital. Mbagathi hospital had the first isolation centre for the nation's 19 COVID cases. This propelled the hospital to the frontline of a little known about pandemic. This justified the need to investigate the experiences of nurses in that hospital while responding to COVID-19.

# Limitations and delimitations of the study

As the study is querying the mental health impact of work related or occupational hazard, the participants may shy from disclosing their experience or hesitate to share freely. The management was open to supporting and facilitating the participants to conduct the study, provided all authorization protocols had been met.

The antidote to these limitations was by assuring the research participants of confidentiality. Participants’ identity would remain concealed. Also, the collected data would be managed in a confidential manner. The hospital management was assured that there would be no witch hunting and the findings will be utilized as talking points to inform future duty of care endeavours.

# Summary

The determination of this chapter is to give an overview of the study. It introduced a global, regional, and local snapshot of the interplay of burnout syndrome and anxiety in relation to being on the frontline to respond to the COVID-19 infections. It outlined the importance of the study and how the researcher foresaw the study contributing to further studies, policy making and giving psychological care to nurses and other health care providers who would be managing a pandemic or crises.

# CHAPTER TWO:

# LITERATURE REVIEW & THEORETICAL FRAMEWORK

# Introduction

In this second section of the study, the philosophical and theoretical underpinnings are presented and discussed. The researcher has furnished pertinent literature review. Also, the empirical review has been detailed. Literature review in summary is the review of scholarly material on the given topic. Harris (2020) asserts that, without attempting to offer any new analytical insight, it recaps and summarizes what has already been written by others on the topic. It frequently tries to convey the variety of viewpoints found in the literature.

Harris (2020) further posits that although a study or survey can be important in terms of identifying stronger vs. weaker research, it is general and balanced in the sense that it normally does not demonstrate bias for one voice over another.

# Theoretical framework

# Maslach‘s Multidimensional Theory of Burnout

The study was guided by Maslach‘s Multidimensional Theory of Burnout. In the year 1976, Maslach submitted a theory naming it after themselves, The Maslach‘s Multidimensional Theory of Burnout. The fundamental aspects of the theory are proposed as three. These are emotional exhaustion, depersonalization and reduced personal accomplishment. In emotional exhaustion, Maslach supposes it is characterized by an individual feeling that their emotional resources are bankrupted and they also feel emotionally overstretched. The antecedents leading to the emotional exhaustion are mainly inter-personal hostilities and work over burden. The resultants are staff who are worn-out and who lack resources of recovery and rejuvenation, laying the foundation for depersonalization to take course. Depersonalization manifests as a response to the overburden from work. The worker becomes cynical and detached sometimes in extreme manners from their work. The detachment has accessory impact in that the individual’s sense of purpose is significantly eroded, leading to cynicism. In the initial stages, the detachment can offer a sense of relief therefore serving as a protective factor. The relief may reinforce detachment which eventually can lead to dehumanizing especially in the service careers. According to Maslach, the depersonalization aspect epitomises the interpersonal dimension of burnout.

Abraham (2000) holds an opposing opinion to Maslach regarding cynicism. Abraham supposes cynicism is a resultant of burnout and an end, therefore does not evolve to something else. He believes that once someone is cynical then he/she has burned out. According to him, cynicism can be measured by a number of different attitudes, including antagonism, rejection, carelessness, and distance. The definition of reduced personal accomplishment is presented as a decline in self-efficacy and impact of their work. Diminished self-efficacy has been attached with depression and the inability to handle job expectations, and according to Foschi (2000), it can be regressed by the absence of a social support and prospects for professional furtherance. Workers might lead to a self-imposed let-down verdict. The burnout dimension of self-evaluation is represented by this component. However, as competence is frequently defined, Sandberg (2000) questions whether this aspect of burnout reflects one's belief in one's knowledge and skills or whether it is related to or if it is associated with one's self-assessed job performance or performance expectations. Or whether it is tied to one's knowledge and skill believe.

Some previous studies have shown this theory to have evidenced some limitations. Professional efficacy has been thought of conceptually as a personality construct rather than a real burnout component. Some etiological models as well contend that burnout is a crisis of professional competence since it stems from perceptions of inefficiency. For instance, Cherniss (1980, 1993) postulates that one's deficiency of confidence in their own abilities is a crucial component in the emergence of burnout. In addition, clinical experience with burned-out patients reveals that exhaustion and cynicism often coexist, although an abscence of professional effectiveness is far less usually seen (Brenninkmeijer & Van Yperen, 2003; Roelofs, Verbraak, Keijsers, De Bruin, & Schmidt, 2005). Therefore, it appears that burnout presents itself in psychotherapy clients through both core characteristics rather than through a lack of efficacy. When considered collectively, there is empirical, theoretical, and clinical support for the specific function that professional efficacy performs as the "third dimension" of burnout.

# Cognitive Behavioural Theory

The theory was initiated by Aaron Beck and Albert Ellis and is an umbrella of interventions based on the principles that mental and emotional distress are sustained by cognitive factors Todd and Branch (2022). While Ellis built his theory of rational emotive behavior therapy on the philosophical ideologies, Beck built his on empirical foundation (Corey 2015). Since its inception, studies have been done to assess the efficacy of the CBT approach, and it has been established that it is indeed effective in treating anxiety and depression.

Beck, Emery and Greenberg (2020) likened the function of anxiety to that of pain, in the sense that experiencing it obliges one to do something about it to diminish or end it. Nevertheless, CBT perceives psychological problems as an amplification of adaptive response (Corey (2015). It holds the belief that when people are functioning well, they behave in ways that aid to solve difficulties despite encountering different emotional responses to life events.

Cognitive behavior therapy seeks to help patients develop practical skills they may use to improve their ideas, behaviors, and emotions as well as how to maintain these changes (Corey 2015). The cognitive triad, schemas, and cognitive mistakes are the three notions that the theory suggests explaining the psychological mechanisms that anxiety is said to have. (Branch & Todd ,2022).

Studies have shown that CBT can help combat burnout by helping an individual build strategies and skills that helps combat burnout. It enhances the sense of self-efficacy as an individual learns skills to prohibit as well as mitigate the burnout’s ramifications (Beck, Emery and Greenberg, 2020). CBT also equips an individual with skills to question intrusive thoughts,

# Empirical literature review

Bagude et.al, (2018) carried out a post pandemic study on Ebola outbreak in West Africa in 2014, that focused on the preparedness of emergency departments and emergency nurses to safely complete patient assessments and prevent Ebola viral disease (EVD) contamination and transmission is the main topic of this study. The researchers define preparedness as possessing the necessary information, skill sets, facilities, equipment, and policies to enable accurate risk assessment of EVD and management to stop the illness from spreading further. It also involves giving workers and patients in the healthcare industry a secure environment and work environment.

A review of the literature indicated that there is little analysis and synthesis of research and policy documents to help emergency departments and emergency nurses become personally and organizationally prepared for Ebola viral disease. The conclusion of the study points to a gap that requires further research. The findings showed that methods that increase emergency nurses' and emergency department readiness to address EVD risk have been supported by the available data. It proves that organizational readiness is evident and that there is broad international consensus over the crucial domains and accountability. There hasn't been enough research done on emergency nurses' personal readiness, thus further research is needed. There is a connection between EVD and the covid-19 pandemic in their explosive impact in the world and their need for emergency preparedness.

In a recent study, it was indicated that one in three health practitioners experience burnout at any given time (Hart, 2020). In studies done amongst health care workers in other pandemics, in the early phases of an epidemiological crisis, sensations like anxiety and dread increased, but they quickly subsided in the latter stages. Nevertheless, according to Trumello et.al, (2020), the impact of fear and anxiety experienced at the beginning of the response can linger, long after the anxiety and fear has diminished. The study determined that medical staff in the Italian regions most impacted by the COVID-19 epidemic exhibited greater heights of anxiety compared to healthcare workers working in other countries. Stress and burnout were more prevalent in the countries that had high cases of COVID-19 than those that did not have high cases of COVID-19. LoboPrabhu, et al. (2019) pointed out that burnout happens in a continuum of stress. The researchers distinguished specific factors associated with individuals who are stressed who eventually experience burnout.

Marjanovic et.al, (2007) carried out a study with the objective of investigating how nurses' coping mechanisms and distress in response to the severe acute respiratory syndrome (SARS) crisis in Canada, related to psychosocial working conditions and factors. The classic indicators of burnout and stress, as well as psychosocial variables and working conditions, all showed significant correlations. The model we developed, which incorporates higher levels of vigor, organizational support, and faith in technology/infection control, was revealed by three multiple regression analyses. The main finding of this study was that the model that the researcher developed, including vigor, emotional exhaustion, trust, contact, and quarantine as predictors, explained significant variance in the data. Correlational analysis of the data revealed several significant relationships, all of which were in the direction the researchers expected, largely correlating patterns of findings in the burnout literature. The degrees of avoidance behavior, emotional tiredness, and anger were projected to decrease with increased initiative, lower levels of interaction with SARS patients, and time spent in quarantine. Increased time spent in quarantine was associated with higher levels of avoidance behavior and state anger among the working conditions variables, whereas greater interaction with SARS patients was simply associated with greater emotional weariness. Importantly, these results showed that, contrary to the researcher's hypothesis, contact with SARS patients did not significantly predict avoidance behavior.

The study demonstrated that other significant psychological and working circumstances factors, such as vigor, organizational support, and time spent in quarantine, were key mediators of the association between contact and avoidance behavior. (Marjanovic et.al, 2006) further stated that organizational support did not predict emotional tiredness, which seems to go against the researchers’ literature's general view. Organizational support was tested with items about the availability of SARS information. As a result, although organizational support in the form of informational support was found to have value as evidenced by its strong associations with avoidance behavior and state anger, it does very little to relieve emotional exhaustion, which may be caused by an excessive workload and increased pressure at work.

# Prevalence of Burnout Syndrome among Nurses post COVID-19 Pandemic

Bruyneel et.al, (2021) conducted a study on the prevalence of burnout risk and factors associated with burnout risk among ICU nurses during the COVID-19 outbreak in French-speaking Belgium. The Maslach Burnout Inventory scale, according to the study, was utilized to assess the risk of burnout. A total of 1135 ICU nurses responded to the questionnaire. The statistics from the study showed a 68 percent global risk of burnout. ICU nurses were shown to be at risk for depersonalization, a decline in self-esteem, and emotional exhaustion in proportions of 29%, 31%, and 38%, respectively.

During the COVID-19 outbreak in China, Huo et al. (2021) did a study on burnout and its connection to depressed symptoms in medical professionals. According to the survey, 36.5 percent of the medical personnel were burned out. Burnout was independently correlated with personal and professional factors such as age (OR = 0.68, 95 percent CI: 0.52-0.89, p = 0.004), family income (OR = 0.72, 95 percent CI: 0.53-0.99, p = 0.045), physical illness (OR = 2.16, 95 percent CI: 1.42-3.28, p 0.001), daily working hours (OR = 1.35, 95 percent CI: 1.03-1.77, p = 0.03 For working hours, emotional exhaustion, cynicism, and professional efficacy, the correlation coefficients between the scores of each burnout subscale and the scores of anxiety symptoms were 0.57, 0.37, and 0.41 respectively indicating a positive and strong correlation.

Dimitriu et al. (2021) discovered that the new COVID-19 pandemic has caused public health issues all over the world and necessitated a restructuring of health systems. Physical weariness and burnout syndrome have gotten considerably worse in this situation. Due to the expanded workload, protracted exposure, and initial contact with a patient, residential doctors, especially the ones in particular specialties, appear to be significantly more susceptible.

In an analysis conducted in Izmir, Turkey, during the COVID-19 pandemic, Dinibutun (2020) looked at factors related to physician burnout. The study used 200 doctors as its sample size. The results revealed that the doctors' emotional tiredness was moderate, their degrees of depersonalization and personal accomplishment were low, and their overall burnout was minimal. One important finding showed that doctors who actively participated in the fight against COVID-19 suffered less burnout than doctors who chose not to take part in the medical response to the pandemic.

Nishimura, et.al, (2021) conducted a study on burnout of healthcare workers amid the COVID-19 pandemic. In the cross-sectional study, 25.4% of respondents completed the questionnaire. 33.3% were medical professionals, 63.6 % were nurses, and 36.3% had recently treated COVID-19 patients. Burnout was more prevalent among individuals working in emergency intensive care units than in general medicine (odds ratio (OR), 6.7; 95 percent confidence interval (CI), 1.1-42.1; p = 0.031). Those who treated COVID-19 patients experienced burnout at a rate of 50% compared to those who did not at a rate of 6.1% (OR 8.5, 95 percent CI; 1.3-54.1; p = 0.014). Burnout among healthcare professionals is a serious concern during the epidemic and must be addressed if healthcare delivery is to continue.

During the COVID-19 epidemic in India, Khasne, et.al, (2020) conducted a study on burnout among healthcare professionals. Over fifty percent of the respondents (1,069) exhibited pandemic-related burnout, with a prevalence of 44.6 percent (903), compared to only 26.9 percent (544) for burnout connected to the workplace. Burnout on a personal and professional level was higher among younger responders (aged 21 to 30). The prevalence of burnout, both personal and occupational, was considerably (p 0.01) greater in women. Burnout brought on by the pandemic was 1.64 times more likely to affect doctors than support personnel, who were also 5 times more likely.

# Prevalence of Anxiety among Nurses following COVID-19 Pandemic

Savitsky, et.al, (2020) carried out a study inquiring on the association between anxiety with coping mechanism, targeting nursing students. The cross-sectional study was conducted including all the 244 nursing students at the Ashkelon Academic College located in the Southern of Israel. It was carried out during the third week of the country's lockdown. Anxiety levels were assessed using the Generalized Anxiety 7-Item Scale, with a cut-off point of 10 for moderate anxiety and 15 for severe anxiety. Utilizing factor analysis, coping factors were discovered. More persons had moderate and severe anxiety, by percentages of 42.8% and 13.1%, respectively. An increased anxiety score was significantly correlated with gender, a lack of PPE, and fears of infection. Significantly lower anxiety levels were linked to greater resilience and humor use, whereas mental disengagement correlated with increased anxiety.

At the peak of the pandemic, Gupta et al. (2020) looked at the prevalence of anxiety and depression among healthcare professionals in Nepal. According to the survey, 38% of the HCWs serving in Nepal under COVID-19 were depressed or anxious. The study found out that lack of protective clothing and the resulting worry of contracting an infection was to blame for the elevated anxiety points noted amongst Nepal´s HCWs. Previous research had also connected HCW mental morbidity to inadequate PPE use and an elevated infection exposure risk.

Simonetti et al. (2021) carried out a study during the pandemic period, with a keen interest on anxiety, sleep disorder, and self-efficacy among nurses in Italy. The study which was cross-sectional focused on hospitals scattered in diverse regions. During the COVID-19 pandemic, one thousand and five nurses working in various wards sprinkled in Italy were recruited for the study. Moderate anxiety, low self-efficacy, and sleep difficulties were also prevalent to varying degrees (71.4 percent, 33.23 percent, and 50.65 percent, respectively). The study discovered negative associations between self-efficacy and anxiety (-0.217; p .0001) and sleep quality and self-efficacy (-0.134; p .0001), as well as a positive correlation between anxiety and sleep quality (0.408; p .0001). Gender was the factor that was independently linked to every variable. In comparison to men, women were more likely to experience anxiety, sleep disruptions, and lowered self-efficacy levels (p .05).

Santabárbara et al. (2021) conducted a quick systematic review (based on publications that were already published in Medline) and meta-analysis to inquiring the prevalence of anxiety among medical workers during the COVID-19 pandemic. This study, which was conducted in Zaragoza, Spain, includes 71 studies. According to the survey, anxiety was common among healthcare professionals at a rate of 25 percent among nurses, 20 percent among doctors, and 43 percent among front-line healthcare workers. According to the data, nurses and other front-line healthcare workers are particularly concerned about the COVID-19 outbreak.

A cross-sectional survey was undertaken by Liu et al. (2020) to determine the prevalence of anxiety and its contributing factors among medical professionals treating COVID-19 patients in China. Twelve percent of workers reported having anxiety, with 53 reporting light anxiety levels (10.35 percent), seven reporting moderate anxiety levels (1.36 percent), and four reporting severe anxiety (0.78 percent). Medical staff in direct contact with COVID-19 positive patients reported elevated anxiety levels compared to the ones who did not (value = 2.33, confidence interval (CI) 0.65-4.00; P = 0.0068), even when sociodemographic factors (gender, age, education, and marital status) were considered. In a comparative attempt between medical staff in Hubei with others identified in other Chinese regions, a similar pattern was seen (value = 3.67, CI 1.44-5.89; P = 0.0013). Suspect cases were the most crucial factor The biggest significant difference between suspect patients and non-suspect cases was their anxiety levels (value = 4.44, CI 1.55-7.33; P = 0.0028).

In a cross-sectional study, Alzaid et al. (2020) investigated the prevalence of COVID-19-related anxiety among healthcare professionals. Anxiety was identified in one-third of HCW. Anxietys were strongly influenced by age group in years, gender, country and living with family in univariate analysis. However, when compared to anxiety, the multivariate regression model still showed statistical significance for gender, living with family, family history of COVID-19, and suspected or confirmed COVID-19 infection

In another study, Dagne et al. (2021) health workers in Ethiopia who were working in the initial phase of the COVID-19 pandemic were assessed for anxiety and related factors. The online survey was completed by 388 healthcare professionals, the majority of whom (71.1%) were men. A sizable percentage of respondents (78.9%) claimed that the workplace lacked proper personal protective equipment (PPE). Anxiety was present in 26.8 percent of people. Female gender 95 percent, those attending 30-150 patients per day were 95 percent, those working for a private healthcare facility 95 percent, those in denial that COVID-19 is preventable 95 percent, and those not having personal protective equipment (PPE) 95 percent were more prone to feeling anxious.

Kibret, et.al, (2020) did a study on the frequency of fear of COVID-19 and its contributing elements among medical staff in an Ethiopian hospital. Sixty-three percent of COVID-19 participants reported having anxiousness. In multivariate logistic regression, age between thirty and thirty-nine (AOR, 3.05; 95 percent CI, 1.70 to 5.47) and age over forty (AOR, 11.32; 95 percent CI, 3.37 to 37.98) were significant risk factors. Additionally, being married, having a chronic illness, having suspected COVID-19 family members, being married, and not having access to PPEs were also significant risk factors.

In a comprehensive study and meta-analysis, Adibi et al. (2021) examined the prevalence of generalized anxiety amidst healthcare professionals during the COVID-19 pandemic in Iran. A bulk of 553 papers in the study were initially found, and 19 studies were ultimately included in the meta-analysis. The Scale utilized in measuring was the GAD-7 and GAD-2 instruments, the findings revealed that the prevalence of GAD among healthcare professionals was the GAD-7 and GAD-2 instruments, the findings revealed that the prevalence of GAD among healthcare professionals was 32.04 percent and 22.62 percent. GAD was shown to be present in 30.5 percent of health workers.

# Relationship between Burnout Syndrome and Anxiety among Nurses following COVID-19

Chirico et al. (2021) did a study on a quick overview of systematic evaluations on the incidence of mental health issues like as anxiety, depression, burnout syndrome, and anxiety among healthcare workforces in Italy after the COVID-19 pandemic. Fourteen studies in total were selected because they all matched the criteria for inclusion. One rapid systematic review with meta-analysis, three systematic reviews, eight systematic reviews with meta-analyses, and one umbrella review of meta-analyses were included. Among HCWs, mental health disorder was very common. Ten reviews contained information on anxiety, depression, or depressive symptoms. Sleep disorder, PTSD, acute, distress, psycho-traumatic disorder, and dread were also included.

Four weeks after the COVID-19 epidemic was declared in Indonesia, Sunjaya, Herawati, and Siregar (2021) conducted a study on depression, anxiety, and burnout symptoms in healthcare workers. A total of 544 research participants drawn from 21 provinces in Indonesia were included in this study. The higher risk group, which consisted of female HCWs, had higher rates of depressive symptoms (22.8%), anxiety (28.1%), and burnout (26.8%) among HCP. Moderate and severe depression symptoms, anxiety, and burnout are more likely to occur in the higher risk group's HCP at rates of 5.28, 1.36 and 3.92 respectively. The likelihood of patient-induced burnout is 2.13 times greater and the greatest among the other burn out characteristics. The common depressed symptoms reported by both groups were feelings of isolation, disturbed sleep, difficulties focusing, and a lack of initiative. Among the symptoms, loneliness has the greatest logit value.

Following the COVID-19 Pandemic in Turkey, Tuna and Zdin (2021) conducted a study on the prevalence and forecasters of anxiety, depression, and burnout syndrome in medics. The average age of the 406 doctors was 42.9 10.1 years. 53.4% of them were male (n: 217). In the epidemic, 66.7 percent of workers cut back on their hours. Emotional burnout was found to be predicted by factors such as lack of COVID-related training, difficulties getting personal protective equipment (PPE), working in a COVID unit, and existing psychiatric illness. Desensitization was anticipated due to the female gender, lack of COVID training, difficulties getting PPE, working in a COVID facility, and present psychiatric illness. It is crucial to support ongoing, all-encompassing support systems designed to safeguard doctors' mental health both during and after epidemics.

A study on the effects of anxiety, stress, and burnout symptoms among Brazilian medical workers during the COVID-19 pandemic was conducted by Salvador et al. in 2021. Health workers who were on the front lines in the fight against COVID-19 displayed higher levels of anxiety and burnout syndrome when compared to health professionals who did not directly deal with COVID-19 and professionals who are not in the field of health.

In a follow-up study for the COVID-19 patient care, Puga, et al, (2021) examined how burnout, depersonalization, and anxiety affect post-traumatic stress in frontline healthcare professionals. Acute stress was more likely to occur in women than in men who reported having previously experienced anxiety, and younger age was linked to both previous common psychiatric symptoms and lower resilience. Largely, the ratings showed that the sleep quality was poor. The evaluations revealed that the majority of people generally had poor sleep quality, which grew worse during the epidemic crisis. Insistent burnout also had an impact on anxiety, acute stress, and depersonalization/derealization symptoms. In addition to being adversely correlated with resilience, PTSD symptoms were also linked to previous existing anxiety, despair, and dissociative symptoms.

A cross-sectional investigation of medical staff in Spain during the COVID-19 pandemic was conducted where 643 eligible participants responded, 408 (63.5%) of them were doctors, 172 (26.8%%) were nurses, and 63 (9.8%) worked in other technical jobs. The majority of participants (472) were females (73.4%) between the ages of 31 and 40, 163 (25.3%) and worked in tertiary institutions (>600 beds). Burnout syndrome was more prevalent among COVID-19 responders than among non-COVID-19 response workers (34.6 percent, p0.001), with a prevalence of 43.4 percent (95 percent CI 39.5 percent to 47.2 percent). Women experienced higher levels of burnout (60.8 percent, p=0.016), self-infection (61.9 percent, p=0.021), performance also patient care quality (74.8 percent, p=0.015) than men. Those with over 15 years of expertise (53.7 percent, p=0.035) and those between the ages of 20 and 30 (65.2 percent, p=0.026) had higher levels of burnout. High incidences of burnout syndrome were identified in this survey of medical workers.

Healthcare workers who worked in Spanish hospitals and primarily in the standard wards during the COVID-19 pandemic, particularly those based in Madrid, the hardest-hit region of the nation, reported significant rates of burn-out syndrome, according to Torrente et al. (2021). The study also showed that healthcare personnel' psychological reactions to an outbreak of infectious diseases and their risk of burnout are multifaceted. Distress can be caused by a variety of things, such as a sense of helplessness or powerlessness, worries about one's own health, the spread of a virus and its high morbidity, the health of one's family and others, loneliness, and a lack of personal protective equipment.

# Coping Strategies Used by Nurses to Reduce Burnout Syndrome

When pandemics and unprecedented emergencies occur, to maintain a positive and normal self-image requires adjustments on the part of the emergency responders such as the health care workers of which nurses are a part. Nurses, therefore, adjust their lives to maintain emotional equilibrium. Several studies have reported different adjustments taken by health care workers during unprecedented emergencies.

Sarwan et.al., (2021) carried out a study amongst eighteen Israel nurses. The unexpected development of the life-threatening illness put the nursing staff under extreme stress and weakened their resistance to it. Like many studies have indicated regarding other HCWs', the 18 Israel nurses’ wellbeing was impacted by the COVID19 outbreak, and many reported symptoms of anxiety and despair. The qualitative analysis of the study revealed three main themes: juggling the demands of work and personal and family life; nurses' coping mechanisms and resilience factors; and nurses' use of metaphorical language. The conflict that arose as the nurses struggled to fulfil their multiple duties as professionals who are accountable for patients at trying times and at the personal level, responsible at home, was shown through an analysis of the narratives.

Sarwan et.al., (2021) most survey participants spoke of their burdens at the start of the epidemic, including their feelings of surprise, dread of the unknown, perplexity, and lack of medical equipment. They added that the management made the choice to place them in the COVID department, it was not voluntary. Although there was initially a lot of confusion and worry, it was our responsibility to act ethically. Comments like the above brought to light the worries that predominated at the beginning of the pandemic. According to another participant, they expressed having concerns at the beginning that a COVID positive patient might arrive and they were not adequately protected because there were not enough masks or disinfectants at the time. They further state that until we received all the instructions, there was confusion and turmoil in the early days. There was fear of the unknown. Division of working hours permitted the nurses to have family time. Most nurses appeared to say that because of the shifts in work hours and the additional free time that resulted in comparison to before the epidemic, they invested more time in their families and themselves, which led to positive thoughts and emotions. The family and social support significantly contributed to coping and resilience of these nurses. Despite their intense exposure to COVID patients, the nurses demonstrated factors that helped them manage effectively with the new reality, despite the anxiety, uncertainty, and apprehension they encountered as a result of the epidemic. They talked about their own and the group's resilience factors and mentioned that they decided to handle the issue on their own rather than accept the hospital's management's offer to seek counselling to help them cope. The human environment, social and familial support, respect and appreciation from those around them, the pursuit of knowledge and information, routine maintenance through time organization, quick decision-making, good protection, and optimism were all given importance in addition to the strengthening foci that they had noted. These things frequently made the participants cope with stress.

Velando-Soriano et al. (2020) carried out a study on the role of social support in avoiding nurse burnout syndrome. All the publications that were reviewed contained some level of burnout reporting, and it was discovered that social support that nurses received from co-workers and superiors at work was crucial in preventing the syndrome. However, there is little agreement regarding the level of social support received, and the bibliography on this subject is still limited. Velando-Soriano et al. (2020) concluded that social support-focused burnout prevention programs should be developed in order to enhance nurses' quality of life and the care they provide deliver; burnout prevention programs should be created with a focus on social support.

Wei et al. (2020) carried out a qualitative descriptive investigation with a phenomenological undercurrent. The research was carried out at a children's hospital in the United States, in a 20-bed pediatric intensive care unit and an 8-bed intermediate care unit. Each participant had a one-time face-to-face interview to collect data. The data was analyzed using a qualitative descriptive technique. Finding purpose in work, connecting with an energy source, fostering interpersonal connections, establishing a positive attitude, performing emotional hygiene, and appreciating one's uniqueness and accomplishments at work were recognized as six main self-care practices. The study revealed that developing good self-care practices promotes physical and psychological well-being and reduces burnout in health care professionals. It is critical for health care providers to take care of themselves in order to best care for others.

Maglalang et al. (2021) examined the relationship between burnout among healthcare workers and career and family pressures. American city of Boston was the subject of the study. The study's findings show that active, highly stressed, employees who reported that their workplace had little flexibility had increased likelihood of developing burnout. Additionally, flexibility in the workplace is linked to a lessened risk of burnout. The association between burnout and childless married healthcare workers was reduced by workplace flexibility. The study demonstrated that workplace flexibility is essential for perhaps lowering the likelihood of burnout in the population of healthcare workers. The study also found that to enhance employee well-being and the standard of patient care, it is crucial to evaluate how workers perceive and can use workplace flexibility, especially given the present effects on workers' health during a pandemic.

During the COVID-19 outbreak, Janeway (2020) looked at the function of psychiatry in managing nurse burnout. The study found that Between 35 and 45 percent of registered nurses in the US experienced burnout. According to the study, nurses experienced sadness at a rate that was twice as high as that of other medical specialists. Furthermore, the study found out that burnout posed a danger to the stability of the front-line staff as a result of the COVID-19 epidemic. To help lower the risk of burnout, the study alluded to consultation-liaison (C/L) psychiatry which could offer support through liaison gatherings, stress management courses, and curb side consultations. Additional Janeway (2020) pointed that methods for reducing stress include stress reduction founded on mindfulness approach, meditation apps, and narrative medicine programs.

Doolittle (2021) researched how internal medicine doctors' emotional coping mechanisms, interpersonal relationships, and institutional support correlated with burnout. Compassion satisfaction was higher and lower burnout categories were connected with grit, acceptance, active coping, positive reframing, and strategy planning. Participants in the study included attending internal medicine doctors who belonged to the Connecticut Chapter of the American College of Physicians and the Hudson Valley Region of the American College of Physicians in upstate New York. Denial, disengagement, self-blame, substance misuse, and venting are a few emotional coping mechanisms that have been linked to higher burnout and worse compassion fulfilment. Lower burnout (r =.35, p .001), secondary stress (r =.14, p .05), and compassion satisfaction (r =.28, p .0001) were all linked to more institutional support. Greater compassion satisfaction and lower burnout were both linked to friendship (r =.28, p.0001) as well as reduced burnout (r =.25, p.0001). This study reveals that in order to reduce burnout, both institutional support and intrinsic strategies that promote physician coping abilities must be used.

Hutto (2022) noted that before the post COVID-19 pandemic era, nurses were battling depression, burnout, and anxiety. However, the study further notes that the pandemic amplified this, and the impact will linger on long after the last COVID-19 patient is discharged from the hospital. Additionally, Hutto (2022) found out that one of the impact due to anxiety and burnout is nurses are leaving in masses. The history of pandemics suggests that nurses and midwives are experiencing an upsurge in mental health issues like stress and worry. Thus, they experience more psychological traumas than any other profession group.

Morris (2022) in his study noted that the future of nursing which is a crucial aspect of healthcare, is questionable due to an increase in burnout caused by nurses having a stressful time because of the COVID-19 pandemic. This also poses a concern for aspiring nurses as they may face similar mental health issues. The pandemic revealed the need for pre-pandemic duty of care towards the nursing profession, which can contribute towards mitigating burnout and anxiety prevalence while giving bedside care to patients in a pandemic. Morris (2022) further points out that at the beginning of the pandemic, nurses who fitted the risk category due to age or pre-existing conditions were removed from attending COVID-19 patients, which only increased the workload and exposure to burnout, for the fit- to- work nurses. This study also highlighted that at the beginning of the pandemic, hospitals cancelled non- essential consultations, which decreased hospital revenues that led to lesser hiring of locum nurses. This led to an increased workload on the regular nurses, exposing them to burnout (Morris, 2022).

A study conducted on how experienced nurses were coping with pandemic burnout revealed that establishing healthy boundaries between one's personal and professional lives, getting adequate sleep, taking care of one's physical and mental health, and going to regular treatment are all important in mitigating burnout (Kaple, 2022). After consultations in America with sport coaches and military leaders, a hospital program was created called ‘Circle Up’and included morning huddles. The team communicated together and utilized an interprofessional approach. The hospital extended childcare, free and convenient COVID testing, and reported a higher staff retention and personal satisfaction. They also suggested allowing nurses to work flexible hours (Goldenberg, 2022).

Muriithi, Kariuki and Wango (2020) carried out a study with a sample size of 96 nurses looking at the affiliation amid coping strategies and burnout among nurses. The association between nurses' coping mechanisms and burnout at Pumwani Maternity Hospital was one of the objectives of this study. The bulk of the responders (88.6%) had burnout, according to the findings. Burnout and coping mechanisms showed a moderate connection (R=0.239), which also showed that most nurses use problem-solving techniques. Avoidance coping strategy, whereby an individual avoids any reminder or triggers of the stressor, was discovered to be a major predictor of burnout levels. However, no remarkable variance in burnout levels between three coping strategies was identified. While avoidance coping was favourably correlated with burnout, problem solving, and social support were adversely correlated with burnout levels. The majority of the nurses at Pumwani Maternity Hospital suffer from burnout. Their avoidance coping increased their degrees of burnout, whereas problem solving, and social support coping decreased it. To diminish the likelihood of burnout among nurses working in maternal health care facilities, effective coping mechanisms must be put in place, (Muriithi et.al, 2020).

A study carried out on nurses during the Ebola epidemic in Liberia and Sierra Leone gives similar insight to similar experience with COVID-19 pandemic. korotuz, (2016) the prospect of catching the illness by interacting with patients and co-workers and spreading it to family members made the nurses and midwives express feeling terrified and worried. The death of a patient or a co-worker with whom the nurse had previously had close physical contact, whether a suspected or proven case, worried the nurse because they worried that they might have caught the virus by unintentional touch with the infected person's bodily fluids. At the start of the outbreak, knowledge about the virus and infection prevention and control measures was lacking. Initially, there was a lack of equipment, which increased the risk to healthcare professionals and the patients they were in contact with. The nurses were unfamiliar with how to use and take off personal protective equipment when the outbreak first started (PPE). Because the PPE produces and traps heat, some individuals experienced heat exhaustion from wearing it. In order to care for the patients, nurses were committed to stay safe. The nurses left the job when the PPE was not provided. Sometimes, once a patient or a colleague contracted the disease or passed away from it, the nurses began to exhibit some of the symptoms out of dread. They also grew depressed and worried about their own survival.

(Jaja, 2020) gives a first-hand experience as a nurse working in Sierra Leone during the Ebola pandemic. He cites being drawn by the duty to care for patient to work in a highly risky context and handle highly contagious patients. Despite being donned in protective gears, (Jaja, 2020) recalls experiencing dread and panic when the first patient he was tending to died. He recalls it elicited helplessness and had him doubt his effectiveness. He cites working in protective gears hampered empathy and capacity to express compassion to patients. He pointed out that it was only years after the pandemic that he gained realization of the impact his work as a nurse in Ebola treatment centre had on his mental health. He confessed that he was not aware of the emotional turmoil, uncertainty, rage, and despair he would go through during my state-mandated solitude, persuaded that while deciding to respond, he did not thing or consider duty to self-care. In his recommendation on institutional support, he advises that nurses shouldn't work under resource-constrained, risky, and morally upsetting conditions. There could be serious negative effects on the short- and long-term mental health of nurses. It is crucial to create a supportive environment in the front lines. As part of ongoing assistance from healthcare institutions, specific measures to improve psychological well-being should be put into place.

Coping Mechanisms

Coping mechanisms are described as strategies employed when existing resources are exceeded by the demands of stressful situations (Maresca et al., 2022). Coping mechanisms include cognitive and behavioural strategies aimed at aiding an individual to tolerate excessively demanding situations such as the COVID19 pandemic and associated effects (Windarwati et al., 2021). There are generally categories of coping mechanisms that direct and action-oriented mechanism and secondly indirect or emotionally or cognitively responsive mechanisms(Kwobah et al., 2021) .Direct mechanisms include facing and solving the problem or difficult situation while indirect mechanisms include avoidance behaviour through distracting activities and social support seeking strategies (Ndori Jaika et al., 2022.).

# Conceptual framework

Conceptual frameworks can be created by putting concepts together into one setting (McGregor, 2019). The study is based on the conceptual framework that has been presented in figure 2.1. The conceptual framework indicates that relationship that is there between the independent variables and the dependent variable. The independent variable of the study is burnout syndrome while anxiety is the dependent variable. The independent variable is further capturing prevalence and measures to reduce burnout syndrome while the indicator for anxiety is its prevalence. Needs review

**Independent variables**

**Burnout syndrome prevalence**

* Depersonalization
* Emotional exhaustion
* Personal accomplishment

**Dependent variables**

**Anxiety**

* Being afraid
* Being nervous
* Being stressed
* Constant worry

**Intervening variables**

**Burnout management measures**

* Social support
* Institutional support
* Interpersonal connections
* Stress management strategies
* Work experience

Figure 2.1: *Conceptual Framework*

# Discussion

Studies have indicated that burnout has more to do with the work environment than it with an individual. Nurses are confronted with a huge workload in ordinary circumstances, which only means the workload increases when there are emergencies such as a pandemic. This only means that work life balance is an uphill task for nurses, (LoboPrabhu, et al., 2019). The independent variable here is the occupational hazard as a nurse, workload and organizational factors. They interplay between independent variables (burnout syndrome prevalence and coping strategies) and dependent variable (anxiety) impacts the outcome of each other. The intervening variables will be the work experience, social support at home for the participants, support established at the workplace and the participants risk factors. They will determine if the participant will be at risk of developing burnout and or anxiety.

# Summary

This chapter has tackled the literature relevant to the study. The theoretical framework of this study has detailed the variables that will inform the study. The independent, dependent and intervening variables have been detailed and will guide the data collection and analysis in chapter three and four respectively. The chapter also looked at burnout and endeavoured to differentiate burnout and anxiety. They were confronted with fear, uncertainty, yet had to show great courage in continuing giving care to a dreadful disease.

# CHAPTER THREE

# RESEARCH METHODOLOGY

# Introduction

The purpose of this chapter is to discuss the systems that were used for data collection and analysis as well as the study design. The target population, sample, sampling technique, data collection equipment, their validity, pre-testing, and reliability, data collection processes, data processing procedures, and ethical considerations are all covered in the discussions.

# Research design

A study design is a strategy that outlines in a logical and specific manner, the steps, arrangements and settings for data collection and analysis. It helps establish to what degree a theoretical hypothesis is correct. According to Dawson, (2009) research design is the guiding philosophy or the general principle for the research. It is the approach to the topic, and it encompasses considerations like the limitations, dilemmas, and ethical considerations that are involved in the research process. This research study is qualitative and thus utilized a cross sectional research design. Billups (2021) posited that in its most fundamental form, qualitative research investigates lives, behaviours, emotions, and perceptions. Dawson (2009) posited that qualitative research explores attitudes, behaviour, and experiences. This study explored the experience of nurses at Mbagathi hospital while attending to a pandemic. In choosing data collection tools, this study utilized two standard tools and one researcher generated questionnaire. Dawson, (2009) advises that a questionnaire can be either closed-ended, open-ended, or a hybrid of the two. This study utilized a close ended questionnaire with a Likert scale to assess the coping mechanisms.

# Target population

This study was conducted at the Mbagathi hospital in Nairobi. The hospital was built in the 1950s to manage infectious diseases which necessitated isolation such as Tuberculosis, Measles, Meningitis and Leprosy. It became autonomous in 1995 and now is a full-fledged hospital. The target population involved nurses in the hospital, and in-depth interviews were conducted with nurses who responded to the COVID-19 patients in the isolation centre. The study targeted 153 of these nurses.

# Inclusion and Exclusion Criteria

The eligible nurses were those who had been working at Mbagathi after the COVID-19 outbreak in Kenya, which is March 2020 to March 2022 when the president of the republic of Kenya, his excellency Uhuru Kenyatta declared the pandemic was over. Special attention was given to nurses who worked at the isolation centre or any nurse who interacted with COVID-19 patients. Nurses who worked with COVID-19 patients elsewhere also fit the inclusion criteria. Nurses who worked at Mbagathi hospital during the COVID-19 pandemic but moved elsewhere also fit the criteria. Nurses who were on leave, unwilling to engage in the study, and not working during the specified study duration window, were excluded from participating in the study.

# Sample size

The nurses that constituted the target population were drawn from several wards in the hospital. These nurses worked closely with COVID-19 patients during the targeted period.

The sample size was calculated using Fisher’s formula. The Statistical formula (Cochran’s formulae) has been used to calculate the size of the sample with 95% confidence interval.

Where n is the sample size, z is the 95% CI zscore, p is 0.5, q is p-q, N is the population, e is confidence interval error.

With the attrition rate of 10%, which is 20 nurses, the rate comes to a total of 153 nurses.

# Sampling procedure

Simple random sampling was utilized in that the study carefully selected nurses at the Mbagathi hospital who worked there during the COVID-19 pandemic. Burnout was assessed between the period when the pandemic was at its peak, and this was based on the nurses who handled the COVID-19 related cases at the time. In simple random sampling, participants are selected randomly to participate in the study (Billups, 2021).

# Data Collection instruments and methods

A self- administered questionnaire is a tool that can be utilized in descriptive study Billups (2021). Primary data was collected using self-administered questionnaires (Appendix 1). For the Burnout syndrome the study adapted the use of the Maslach Burnout Inventory-Human Services Survey (MBI-HSS) which is a standard tool for measuring burnout and a researcher formulated questionnaire guide. The tool was established by Christina Maslach and Susan E. Jackson and published in 1981 to measure for burnout (Maslach, Jackson & Leiter, 1997). It measured the three components of burnout, which are emotional exhaustion, depersonalization, and personal accomplishments. The study utilized the MBI-HSS scale as captured in table 3.1 for scoring.

*Table 3.1: MBI-HSS Scoring*

|  |  |  |  |
| --- | --- | --- | --- |
| Burnout level | Emotional exhaustion | Depersonalisation | Personal accomplishment |
| **High** | ≥27 | ≥10 | 0-33 |
| **Moderate** | 19-26 | 6-9 | 34-39 |
| **Low** | 0-18 | 0-5 | ≥40 |

Source: Maslach, Jackson and Leiter (1997).

MBI-HSS has a total of 22 items. The three components of burnout syndrome were captured by segmenting the items into nine on emotional weariness, five on depersonalization, and eight on personal successes. The tool has modified a Likert scale to offer replies with the alternatives of never (0), occasionally (less than a few times per year), once a month or less (2), occasionally (more than a few times per month (3)), occasionally (a few times per week (5)), and every day (6). On the other hand, the management strategies will be measured based on a self-developed question by the researcher, while anxiety, the researcher will utilize Beck’s anxiety inventory (BAI).

# Validity and Reliability

Validity is the certainty that a given finding shows what it purports to show, meaning it is close to reality (Sahaya 2017). For the questionnaire, the researcher checked by the two supervisors in order to critique it and have a valid questionnaire in the end. For Maslach burnout inventory, the validity had been researched far and wide. According to Koutsimani's meta-analysis from 2019, when the MBI instrument was used to measure burnout, the affiliation between burnout and anxiety was less pronounced than when other methods were employed. Their study concluded that using other tools was likely to exaggerate the finding.

The Cronbach's alpha coefficient of internal consistency was used to ensure the reliability of this study because it offers a distinct quantitative estimate of the scale's internal consistency, (Zikmund, 2009). Cooper and Schindler (2007) state that the coefficient must be more than 0.7 for the instrument to be considered dependable. A small sample of 20 nurses from Kikuyu hospital not involved in the actual study were used for the pre-test of the research instrument. The pre-test gave the researcher the chance to evaluate the face and content validity of the study instrument.

# Data analysis

Once the data was sorted out, it was recorded employing the statistical package for social sciences (SPSS) (25.0) for the analysis. To effectively receive the desired results, the analyses were done in accordance with the objectives of the study. The first objective, which was to determine the frequency of burnout syndrome and anxiety amidst nurses post COVID-19 Pandemic at Mbagathi hospital was analysed using descriptive statistics, and the measures of central tendencies (like means) and dispersion (like standard deviation). In a similar vein, the second goal, which was to establish out the relationship between burnout syndrome and anxiety among nurses following COVID-19 at Mbagathi hospital a Pearson’s correlation coefficient was calculated to understand the relationship. The third objective which was to examine the coping strategies applied by the nurses following COVID-19 at Mbagathi hospital, descriptive statistics were adopted.

# Ethical Considerations

The American Psychological Association (APA, 2017) guidelines on conducting research in an ethical manner highlights pertinent consideration. It posits institutional approval as the first step in ethical considerations while conducting research. First, the thesis proposal was submitted to the Daystar university ethical review board (ERB) and thereafter to the National Council of Science and Technology (NACOSTI), a division under the Ministry of Higher Education, Science and Technology mandated to issuance of licenses to all persons intending to undertake research in Kenya. Thirdly, plagiarism was avoided in this study by citing used work properly following the APA referencing guidelines. Fourth, all the eligible research participants were briefed on the essence of the study, which was to find the prevalence of burnout disorders and anxiety syndrome focusing on the March 2020 to March 2022 COVID-19 response period. The researcher allowed participants to ask questions for clarity, thereafter, those who volunteered to continue participating in the study were given informed consent forms, as guided by research ethical considerations of (APA, 2017) to sign. All the signed consent forms are accessible to the researcher, and their identities were coded to protect the identity of the participants and stored under lock and key in the custody of the researcher. Participants were informed on the determination of the study, the risks, duration and procedures involved, the merits of the study as well as the right to discontinue from the study without any penalties in case they decided to do so. Additionally, the participants were informed that their responses were treated in strict confidentiality and were not shared with anyone else. The findings were submitted to Daystar university, Mbagathi hospital and NACOSTI.

# Summary

This section of the study has at length detailed the roadmap of the study. The study utilized a cross-sectional study design. The sample size was calculated using Cochran’s formulae. The data was collected by use of self-administered closed ended questionnaires. The questionnaires were made up of Beck’s anxiety inventory (BAI), Maslach burnout inventory and researcher generated questionnaire to capture the coping mechanisms the nurses utilized during the pandemic period.

# CHAPTER FOUR

# DATA ANALYSIS, PRESENTATION AND ANALYSIS

# Introduction

This chapter comprises of the results of data analysis of the collected data. The results are in two major sections: the descriptive statistics and inferential statistics. The descriptive statistics comprise of frequencies and percentages for proportions and means and standard deviations for continuous variables. The descriptive statistics start with description of the social demographics of the respondents which include gender, education level, age groups, marital status, sick leave entitlement in conjunction with ours worked per week, parenthood, choice to be a medic or married to a medic etc. The second part illustrates the prevalence of burnout syndrome and anxiety among the respondents and finally their prevalence and distribution across different social demographic factors. The inferential statistics follow exploring the relationship between burnout syndrome and anxiety among the respondents. The chi-square tests of significance are employed to determine the association between social demographic factors and levels of anxiety and burnout syndrome. Correlation and regression analysis was finally utilized to establish the relationship between burnout syndrome and anxiety among respondents in the provided datasets.

# Response rate/Return rate

Response rates refer to ratio, proportion or percentage of responses returned obtained by dividing the useable questionnaires returned from respondents divided by the sample size or sometimes by the total number of questionnaires sent out to potential respondents (Fincham, 2008). Mugenda and Mugenda (2003) reports a response rate of 50% as adequate, 60% as good and above 70% as excellent. Since the response rate for this study was 58%, which is above the adequate level, the data collected is adequate to provide consistent and reliable results.

*Table 4.1*

*Response Rate/ Return rate*

|  |  |  |
| --- | --- | --- |
| Questionnaire | Number | Percentage |
| Sent Questionnaire | 173 | 100% |
| Returned Questionnaire | 103 | 60% |
| Unusable Questionnaire | 4 | 2% |
| Useable Questionnaires | 99 | 58% |

*The table shows the response rate or return rate which stood at 58%. According to Mugenda et.al, (2002), a response rate above 50% is capable of providing reliable data for the study.*

# The Social Demographic Characteristics of The Respondents

The first part of the analyses involved the description of the social demographic characteristics of the respondents. The results were illustrated in a table as below.

*Table 4.2*

*Social Demographics*

| Gender | Frequency (%) |
| --- | --- |
| Female | 55 (56%) |
| Male | 23 (23%) |
| Prefer not to say | 21 (21%) |

*Social Demographics*

| Characteristic | Frequency (%) |
| --- | --- |
| Age Groups |  |
| 20-30yrs | 34 (34%) |
| 30-40yrs | 29 (29%) |
| 40-50yrs | 29 (29%) |
| 50 and above | 7 (7.1%) |
| Marital status |  |
| Divorced | 10 (10%) |
| Engaged | 8 (8.1%) |
| Married | 50 (51%) |
| Prefers not to say | 2 (2.0%) |
| Single | 18 (18%) |
| Widowed | 11 (11%) |
| Married to a medic | 24 (24%) |
| Have children | 63 (64%) |
| Highest level of education |  |
| Certificate | 9 (9.1%) |
| Degree | 41 (41%) |
| Diploma | 42 (42%) |
| Postgraduate | 7 (7.1%) |
| Chose to be a nurse | 76 (77%) |
| Average working hours |  |
| 40 Hours per week | 99 (100%) |
| Did working hours increase/ decrease |  |
| Decreased | 38 (38%) |
| Increased | 61 (62%) |
| Trained in infectious disease management | 81 (82%) |
| Worked in COVID isolation centre | 60 (61%) |
| Managed a COVID-19 patient | 80 (81%) |
| Contracted COVID-19 | 70 (71%) |
| Entitled to 5 working Days sick Leave | 99 (100%) |

The majority of the respondents were female, 55 in number and making up 56% of the entire respondent sample size. There were 23 male respondents making up 23% of the respondents while 21 of the respondents that represented 21% of the sample size preferred not to indicate their gender. Therefore, the female nurses were more willing to respond in the study and thus represented in higher proportions.

Respondents between 20 and 30 years old highly represented the sampled respondents with 34% followed by those below 40 years but above 30 years with 29% which tied with respondents between 40 and 50 years. There were only seven individuals who were above 50 years old making up only 7.1% of the entire sample size.

More than half of the respondents were married 50 (51%) while 18% of them were single or unmarried. Eight respondents were engaged to marry making up 8.1% proportion. Eleven of the respondents were widowed (24%) while 10 were divorced or separated. A few of the respondents (2%) preferred not to state their marital status.

Among the 51% married respondents, only 24% of the married respondents had been married to medics. The rest (66%) were married to individuals outside their profession. Regarding bearing children, 64% of the respondents reported to have born children of their own.

The largest proportion of the respondents had diploma (42%) as their highest education level followed by those with degrees (41%). The least represented were those with certificates only (9.1%) and those with postgraduate education training (7.1%). More than three quarters of the respondents (76%) chose to be nurses while only 32% of the respondents found themselves is nursing without willingly taking up the profession. Majority of the respondents (81%) were trained on infectious diseases and their management.

The average working hours for all nurses were 40 hours a week. However, during the COVID-19 pandemic, the working hours increased according to 62% of the respondents. Thirty two percent of the respondents reported that their working hours decreased during the height of COVID-19 pandemic.

During the COVID19 pandemic, the working hours increased significantly, 61% of the nurses worked in COVID-19 isolation centers, 81% managed COVID-19 patients and 71% of the responding nurses contracted COVID19 in the process. In addition, these nurses were only allowed 5 working days as the official sick leave days.

Prevalence of Burnout Syndrome and Anxiety amongst nurses post-COVID-19 Pandemic

#### The prevalence of Burn out Syndrome.

The burnout can be illustrated in two ways; one is in the form of means and standard deviation for all respondents and second is in the form of levels of burn out. On average, all respondents had a mean burn out of 30 with a standard deviation of 11, depersonalization form of burn out had a mean of 25 with a standard deviation of 10 while personal achievement perception had a mean of 23 with a standard deviation of 8. Since the average burn out score for emotional exhaustion is above 27, it is considered a high level of emotional exhaustion or burn out. Depersonalization being 25 and thus greater than 10 indicates a high level of depersonalization burn out or exhaustion. The personal achievement score falls between 0 and 33 which implies a high level of personal achievement perception burn out. The cut off points are as illustrated in chapter 3 of this document.

Table 1:

Burn out Syndrome cut offs.

| **Burnout Scores** | N | Mean and Standard deviation of Scores | |
| --- | --- | --- | --- |
| Emotional Burn out | 99 | 30 ± 11 | |
| Depersonalization | 99 | 25 ± 10 | |
| Personal achievement | 99 | 23 ± 8 | |
| Burn Out Syndrome | | | Frequency (%) |
| Burnout Levels | | |  |
| High Level Burnout (> 30) | | | 59 (60%) |
| Moderate Level Burnout (18 - 21) | | | 22 (22%) |
| Low Level Burnout (< 17) | | | 18 (18%) |
| Depersonalization Levels | | |  |
| High Level Burnout (> 11) | | | 88 (89%) |
| Moderate Level Burnout (6 - 11) | | | 6 (6.1%) |
| Low Level Burnout (< 5) | | | 5 (5.1%) |
| Personal Achievement Levels | | |  |
| High Level Burnout (> 40) | | | 89 (90%) |
| Moderate Level Burnout (34 - 39) | | | 9 (9.1%) |
| Low Level Burnout (< 33) | | | 1 (1.0%) |

*This table illustrates the means and standard deviations of the total scores for category of burn out.*

The Table above, shows that 60% of the respondents experienced high levels of burn out during and post COVID-19 period. Among the respondents, 22% experienced moderate levels of burnout while 18% experienced very low levels of burn out. Therefore, those who experienced high levels of burn out were more.

The burn out syndrome scale contains the scale for depersonalization. The depersonalization levels of burn out indicated that 89% of the respondents experienced and exhibited high levels of depersonalization, 6.1% experienced moderate levels of depersonalization while only 5.1% experienced very low levels of depersonalization. On the same burn out scale is the personal achievement perception levels. The lower the score, the higher the burn out levels. The scale indicated that 90% of the respondents had experienced high burn out levels, followed by moderate levels of burn out (9.1%) while there was only one respondent whose level of personal achievement was not impacted by the COVID19 pandemic.

# Prevalence of Anxiety

The overall score for the Beck’s anxiety scale was 34 with a standard deviation of 11. The mean score of 34 which lies between 27 and 63 on scale with a range between 7 and 63 implied a severe level of anxiety. Therefore, on average everybody included in this study recorded a severe level of anxiety.

*Table 4.5*

*Prevalence of Anxiety*

|  |  |
| --- | --- |
| **Anxiety** | **Anxiety Scores** |
| **Beck’s anxiety score** | 34 ± 11 |
| **Anxiety Level** | Frequency (%) |
| High Anxiety (0 - 21) | 46 (46%) |
| Moderate Anxiety (22 - 35) | 40 (40%) |
| Low Anxiety (> 35) | 13 (13%) |

The prevalence of anxiety indicated that 46% of the respondents exhibited and experienced high levels of anxiety during and after the pandemic, 40% experienced moderate levels of anxiety while only 13% experienced normal levels of anxiety. The conclusion, therefore, is that the nurses experienced heightened anxiety levels during and after the pandemic compared to the period before the pandemic hit.

# Burn Out Across Social Demographics

The existence of association between social demographic factors and burn out syndrome was sought by the use of a chi-square test of association or independence. A probability value greater than 0.05 indicated inexistence of association or independence between variables of interest. The results as indicated in the tables below showed that levels of burn out were independent from the social demographic factors; none of the social demographic factors reported a significant association with burn out levels.

*Table 4.6*

*Burnout Syndrome Accros Social Demographic characteristics*

| Social Demographics | Low Level Burnout | Moderate Level Burnout | High Level Burnout | p-value2 |
| --- | --- | --- | --- | --- |
| Gender |  |  |  | 0.7 |
| Female | 9 (50%) | 12 (55%) | 34 (58%) |  |
| Male | 3 (17%) | 6 (27%) | 14 (24%) |  |
| Prefers not to say | 6 (33%) | 4 (18%) | 11 (19%) |  |
| Age |  |  |  | 0.14 |
| 20-30yrs | 2 (11%) | 11 (50%) | 21 (36%) |  |
| 30-40yrs | 8 (44%) | 3 (14%) | 18 (31%) |  |
| 40-50yrs | 6 (33%) | 7 (32%) | 16 (27%) |  |
| 50 and above | 2 (11%) | 1 (4.5%) | 4 (6.8%) |  |
| Marital status |  |  |  | 0.4 |
| Divorced | 1 (5.6%) | 3 (14%) | 6 (10%) |  |
| Engaged | 2 (11%) | 1 (4.5%) | 5 (8.5%) |  |
| Married | 11 (61%) | 9 (41%) | 30 (51%) |  |
| Prefers not to say | 1 (5.6%) | 0 (0%) | 1 (1.7%) |  |
| Single | 0 (0%) | 6 (27%) | 12 (20%) |  |
| Widowed | 3 (17%) | 3 (14%) | 5 (8.5%) |  |
| Married to a medic | 5 (28%) | 4 (18%) | 15 (25%) | 0.8 |
| Have children | 14 (78%) | 10 (45%) | 39 (66%) | 0.088 |
| Highest level of education |  |  |  | >0.9 |
| Certificate | 2 (11%) | 2 (9.1%) | 5 (8.5%) |  |
| Degree | 8 (44%) | 8 (36%) | 25 (42%) |  |
| Diploma | 7 (39%) | 11 (50%) | 24 (41%) |  |
| Postgraduate | 1 (5.6%) | 1 (4.5%) | 5 (8.5%) |  |
| Chose to be a nurse | 15 (83%) | 19 (86%) | 42 (71%) | 0.3 |
| Did working hours increase/ decrease |  |  |  | 0.072 |
| Decreased | 11 (61%) | 6 (27%) | 21 (36%) |  |
| Increased | 7 (39%) | 16 (73%) | 38 (64%) |  |
| Trained in infectious disease management | 17 (94%) | 17 (77%) | 47 (80%) | 0.3 |
| Worked in COVID isolation centre | 10 (56%) | 14 (64%) | 36 (61%) | 0.9 |
| Managed a COVID-19 patient | 13 (72%) | 17 (77%) | 50 (85%) | 0.4 |
| Contracted COVID-19 | 12 (67%) | 15 (68%) | 43 (73%) | 0.8 |

The table above represents the proportions of burn out levels across social demographic factors. The results showed that more women (58%) than men (24%) experienced highest levels of burn out post pandemic period. Therefore, burn out was predominant among female respondent in comparison with their male counterparts. The highest levels of anxiety were observed among the 20- to 30-year-olds and 30- to 40-year-olds compared to other age groups. The outcome is as a result of a higher representation of these age groups compared to those above 40 years old. The married had the highest level of burn out compared to the unmarried and the divorced or separated individuals. The respondents married to medics had the lowest anxiety levels compared to those married by other professionals. Respondents with children had the highest burn out levels compared to the respondents without children. The degree and diploma holders had the highest levels of burn out in comparison with postgraduates and certificate holders.

# Anxiety Levels Across Social Demographics

*Table 4.7*

*Anxiety Levels across Social demographics*

| Social Demographics | High Anxiety, N = 46 | Moderate Anxiety, N = 40 | Low Anxiety, N = 13 | p-value |
| --- | --- | --- | --- | --- |
| Gender |  |  |  | 0.5 |
| Female | 24 (52%) | 24 (60%) | 7 (54%) |  |
| Male | 14 (30%) | 6 (15%) | 3 (23%) |  |
| Prefers not to say | 8 (17%) | 10 (25%) | 3 (23%) |  |
| Age |  |  |  | 0.3 |
| 20-30yrs | 16 (35%) | 14 (35%) | 4 (31%) |  |
| 30-40yrs | 17 (37%) | 11 (28%) | 1 (7.7%) |  |
| 40-50yrs | 11 (24%) | 12 (30%) | 6 (46%) |  |
| 50 and above | 2 (4.3%) | 3 (7.5%) | 2 (15%) |  |
| Marital status |  |  |  | 0.7 |
| Divorced | 4 (8.7%) | 5 (12%) | 1 (7.7%) |  |
| Engaged | 6 (13%) | 1 (2.5%) | 1 (7.7%) |  |
| Married | 24 (52%) | 20 (50%) | 6 (46%) |  |
| Prefers not to say | 0 (0%) | 1 (2.5%) | 1 (7.7%) |  |
| Single | 8 (17%) | 7 (18%) | 3 (23%) |  |
| Widowed | 4 (8.7%) | 6 (15%) | 1 (7.7%) |  |
| Married to a medic | 11 (24%) | 11 (28%) | 2 (15%) | 0.7 |
| Have children | 27 (59%) | 27 (68%) | 9 (69%) | 0.7 |
| Highest level of education |  |  |  | 0.7 |
| Certificate | 3 (6.5%) | 4 (10%) | 2 (15%) |  |
| Degree | 18 (39%) | 16 (40%) | 7 (54%) |  |
| Diploma | 20 (43%) | 18 (45%) | 4 (31%) |  |
| Postgraduate | 5 (11%) | 2 (5.0%) | 0 (0%) |  |
| Chose to be a nurse | 33 (72%) | 33 (82%) | 10 (77%) | 0.5 |
| Did working hours increase/ decrease |  |  |  | 0.5 |
| Decreased | 19 (41%) | 16 (40%) | 3 (23%) |  |
| Increased | 27 (59%) | 24 (60%) | 10 (77%) |  |
| Trained in infectious disease management | 37 (80%) | 34 (85%) | 10 (77%) | 0.8 |
| Worked in COVID isolation centre | 27 (59%) | 29 (72%) | 4 (31%) | 0.026 |
| Managed a COVID-19 patient | 33 (72%) | 37 (92%) | 10 (77%) | 0.038 |
| Contracted COVID-19 | 32 (70%) | 29 (72%) | 9 (69%) | >0.9 |

*This table illustrates the association between anxiety levels and social demographic factors. The p-value provided at the last column of the table indicates the existence of an association between variables or independence of the variables. A p-value greater than 0.05 indicates independence between variables while the vice versa indicates association or dependence between variables.*

Using a chi-square test of association, the existence of association between social demographic factors and levels of anxiety was established. A p value greater than 0.05 indicated independence while a p value less than 0.05 indicated significance of the statistical test and therefore existence of association. The p values provided in the Table above indicated that anxiety was significantly different for those respondents that worked in COVID-19 isolation centers and those who did not work in isolation centers (p = 0.026). There existed a significant association between levels of anxiety and respondents that managed COVID-19 patients compared to those who did not manage COVID-19 patients (p = 0.038). The rest of the social demographics did report statistical significance (p>0.05, ns) meaning that other anxiety levels were independent of social demographics.

As illustrated in the above table anxiety was more notable in females than males. Anxiety was also more among 30 to 40-year-olds compared to other age groups though statistically insignificant (p = 0.3, ns). The married had the highest levels of anxiety while the ones with children had reduced levels of anxiety. Diploma holders had the highest level of anxiety compared to other education levels. The respondents that interacted with COVID19 patients experienced heightened levels of anxiety compared to respondents that did not interact with COVID 19 patients in isolation centers and managing of the patients. The respondents that contracted COVID 19 as well had heightened levels of anxiety compared to those who did not contract the flu.

# Relationship between Burnout Syndrome and Anxiety among Nurses Post-COVID-19 at Mbagathi Hospital

*Table 4.8*

*Relationship between Burnout Syndrome and Anxiety*

| Social Demographics | High Anxiety | Low Anxiety | Moderate Anxiety | p-value2 |
| --- | --- | --- | --- | --- |
| BURNOUT\_LEVELS |  |  |  | 0.7 |
| High Level Burnout | 26 (57%) | 10 (77%) | 23 (57%) |  |
| Low Level Burnout | 9 (20%) | 1 (7.7%) | 8 (20%) |  |
| Moderate Level Burnout | 11 (24%) | 2 (15%) | 9 (22%) |  |
| DEPERSONALIZATION\_LEVELS |  |  |  | 0.9 |
| High Level Burnout | 41 (89%) | 12 (92%) | 35 (88%) |  |
| Low Level Burnout | 3 (6.5%) | 0 (0%) | 2 (5.0%) |  |
| Moderate Level Burnout | 2 (4.3%) | 1 (7.7%) | 3 (7.5%) |  |
| PERSONAL\_ACHIEVEMENT\_LEVELS |  |  |  | 0.7 |
| High Level Burnout | 42 (91%) | 12 (92%) | 35 (88%) |  |
| Low Level Burnout | 1 (2.2%) | 0 (0%) | 0 (0%) |  |
| Moderate Level Burnout | 3 (6.5%) | 1 (7.7%) | 5 (12%) |  |

# Burn out syndrome and anxiety across genders

*Table 4.9: Burn out syndrome and anxiety across genders*

| Characteristic | Female, N = 55 | Male, N = 23 | Prefers not to say, N = 21 | p-value |
| --- | --- | --- | --- | --- |
| Burnout | 31 ± 11 | 30 ± 10 | 27 ± 13 | 0.7 |
| Depersonalization | 25 ± 10 | 24 ± 10 | 25 ± 8 | >0.9 |
| Personal achievement | 23 ± 7 | 23 ± 9 | 22 ± 8 | 0.4 |
| Anxiety | 32 ± 10 | 36 ± 12 | 34 ± 13 | 0.2 |

The female respondents had higher mean scores for burn out (31 ± 11) compared to their male counterparts (30 ± 10), however the mean differences in burn out scores were not statistically significant (p = 0.7, ns, ANOVA). The depersonalization mean scores were higher in females (25 ± 10) than males (24 ± 10) but highest among those who did state their gender (25 ± 8). The differences in the means for depersonalization were statistically insignificant (p > 0.9, ns, ANOVA). The personal achievement as an indicator of burn out indicated that females and males had relatively equal mean scores (p = 0.4, ns, ANOVA). Regarding anxiety, the male respondents had higher mean score for anxiety (36 ± 12) compared to their female counterpart (32 ± 10), though the mean differences were statistically insignificant (p = 0.2, ns, ANOVA). This meant that the gender of the respondent did not have a significant influence on the level of anxiety and burn out syndrome.

# Burn out syndrome and anxiety across age groups

*Table 4.10: Burn out syndrome and anxiety across age groups*

| Characteristic | 20-30yrs, N = 341 | 30-40yrs, N = 291 | 40-50yrs, N = 291 | 50 and above, N = 71 | p-value2 |
| --- | --- | --- | --- | --- | --- |
| Burnout | 31 ± 7 | 28 ± 13 | 29 ± 12 | 31 ± 15 | >0.9 |
| Depersonalization | 25 ± 9 | 25 ± 11 | 25 ± 10 | 20 ± 12 | 0.7 |
| Personal achievement | 23 ± 8 | 22 ± 8 | 23 ± 8 | 28 ± 7 | 0.3 |
| Anxiety | 34 ± 10 | 36 ± 7 | 32 ± 13 | 27 ± 18 | 0.5 |

The 20- to 30-year-old respondents had the highest scores for burn out (31 ± 7), followed by 50 and above year-olds (31 ± 15), then 40- to 50-year-olds (29 ± 12) and finally 30- to 40-year-olds (28 ± 13); nevertheless, these differences in mean score were statistically insignificant (p > 0.9, ns, ANOVA). The depersonalization mean scores were equal across all age groups (25 ± 9) with the exception 50 and above year-olds (20 ± 12); as a consequence, the differences in mean scores were statistically insignificant (p = 0.7, ns, ANOVA). The mean score for burn out on the personal achievement scale ranged between 22 and 23 across the age groups and were thus statistically insignificant (p = 0.3, ns, ANOVA). Although the anxiety mean scores were statistically insignificant across different age groups (p = 0.5, ns, ANOVA), there existed little differences in mean scores, whereby, 30- to 40-year-olds had the highest anxiety scores (36 ± 7) followed by those below 30 years old (34 ± 10), then 40- to 50-year-olds (32 ± 13) while those above 50 years old had the lowest levels of anxiety (27 ± 18). Burn out syndrome and anxiety were not significantly influenced by the age groups that the respondents belonged.

# Burn out syndrome and anxiety across marital status

*Table 4.11: Burn out syndrome and anxiety across marital status*

| Characteristic | Divorced | Engaged | Married | Prefers not to say | Single | Widowed | p-value2 |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Burnout | 30 ± 9 | 27 ± 14 | 30 ± 12 | 24 ± 25 | 32 ± 6 | 28 ± 13 | >0.9 |
| Depersonalization | 28 ± 6 | 24 ± 15 | 26 ± 10 | 12 ± 16 | 23 ± 9 | 25 ± 7 | 0.5 |
| Personal achievement | 18 ± 8 | 26 ± 9 | 24 ± 7 | 30 ± 8 | 22 ± 9 | 22 ± 9 | 0.2 |
| Anxiety | 36 ± 9 | 41 ± 11 | 33 ± 11 | 18 ± 23 | 33 ± 11 | 33 ± 14 | 0.3 |

The mean differences for burn out, depersonalization, personal achievement and anxiety scores were statistically insignificant across different marital status of the respondents. However, the single respondents had higher mean means scores (32 ± 6) compared to the married (30 ± 12) divorced (30 ± 9) while the widowed (28 ± 13) and the engaged (27 ± 14) had the lowest mean scores. The differences between these mean scores were not statistically significant (p >0.1, ns, ANOVA). This meant that the marital status did not significantly influence the level of burn out syndrome and anxiety.

# Burn out syndrome and anxiety on whether the respondent was a parent or not

*Table 4.12: Burn out syndrome and anxiety on whether the respondent was a parent or not*

| Characteristic | No, N = 361 | Yes, N = 631 | p-value2 |
| --- | --- | --- | --- |
| Burnout | 30 ± 10 | 30 ± 12 | 0.8 |
| Depersonalization | 25 ± 9 | 25 ± 10 | 0.8 |
| Personal achievement | 23 ± 8 | 23 ± 7 | 0.5 |
| Anxiety | 37 ± 10 | 32 ± 11 | 0.053 |

The burn out mean score for parents and non-parents are equal (30 ± 10) and thus their differences are not significantly greater than zero (p >0.8, ns, t-test). The depersonalization mean scores (25 ± 9) and personal achievement mean scores (23 ± 8) were both equal for parents and non-parents and as a result their differences were not statistically significant (p >0.8, ns, t-test), (p >0.5, ns, t-test). The non-parents had higher anxiety means scores (37 ± 10) compared with the parents (32 ± 11), however the differences were not statistically significant. Therefore, being a parent or not did not significantly influence the level of burn out syndrome and anxiety.

# Burn out syndrome and anxiety across respondents’ highest education achievement.

*Table 4.13: Burn out syndrome and anxiety across respondents’ highest education achievement.*

| Burn Out | Certificate, N = 9 | Degree, N = 41 | Diploma, N = 42 | Postgraduate, N = 7 | p-value |
| --- | --- | --- | --- | --- | --- |
| Burnout | 27 ± 13 | 30 ± 10 | 30 ± 12 | 34 ± 11 | 0.6 |
| Depersonalization | 24 ± 11 | 25 ± 10 | 25 ± 11 | 27 ± 6 | >0.9 |
| Personal achievement | 20 ± 9 | 24 ± 9 | 22 ± 7 | 27 ± 7 | 0.2 |
| Anxiety | 31 ± 13 | 32 ± 12 | 35 ± 10 | 40 ± 11 | 0.2 |

The burn out syndrome and anxiety reported statistically insignificant differences across different levels of highest attained education. The p values were greater than 0.05 and thus indicated that education level did not significantly influence the levels of burn out syndrome and anxiety. The insignificant differences that existed for burn out were; the degree and the diploma holder had equal mean scores (30 ± 10); the postgraduate had the highest levels (34 ± 11) while certificate holder had the lowest mean scores for burn out (27 ± 13). The postgraduate holders had the highest level of anxiety (40 ± 11), followed by diploma holders (35 ± 10), then degree holders (32 ± 12) as the certificate holders had the lowest mean scores for anxiety (31 ± 13).

*Table 4:14*

*Burn out syndrome and anxiety across respondents’ choice to be medics*

| Burnout | No, N = 231 | Yes, N = 761 | p-value2 |
| --- | --- | --- | --- |
| Burnout | 32 ± 11 | 29 ± 11 | 0.2 |
| Depersonalization | 24 ± 9 | 25 ± 10 | 0.5 |
| Personal achievement | 23 ± 8 | 23 ± 8 | 0.8 |
| Anxiety | 33 ± 12 | 34 ± 11 | 0.8 |

The individuals that chose to be nurses had a lower mean score for burn out (29 ± 11) compared to the rest of the respondents (32 ± 11) although the differences were statistically insignificant (p =0.2, ns, t-test). Therefore, whether one chose to be a nurse or not, their levels of burn out were statistically different. Depersonalization was higher among those who chose to be nurses (25 ± 10) than those who did not (24 ± 9), nevertheless, the differences were not statistically significant (p = 0.5, ns, t-test). Anxiety was insignificantly higher for nurse enthusiasts (34 ± 11), compared to the rest (33 ± 12), (p =0.8, ns, t-test).

# Burn out syndrome and anxiety versus training on infectious diseases

*Table 4:15*

*Burn out syndrome and anxiety versus training on infectious diseases*

| Burnout | No, N = 181 | Yes, N = 811 | p-value2 |
| --- | --- | --- | --- |
| Burnout | 33 ± 8 | 29 ± 12 | 0.2 |
| Depersonalization | 26 ± 9 | 24 ± 10 | 0.5 |
| Personal achievement | 26 ± 8 | 22 ± 8 | 0.10 |
| Anxiety | 36 ± 14 | 33 ± 10 | 0.3 |

The burn out mean scores for the respondents that had been trained on infectious diseases were lower (29 ± 12) compared with their counterparts (33 ± 8) though statistically insignificant (p =0.2, ns, t-test). The trained nurses as well had lower depersonalization and personal achievement compared to their counterparts. Regarding anxiety the trained nurses on infectious diseases had lower anxiety levels (33 ± 10), compared with the untrained nurses (36 ± 14), nevertheless these differences were not statistically significant (p =0.3, ns, t-test). Therefore, it meant that whether and an individual was trained on infectious diseases or not, their levels of burn out syndrome and anxiety were not statistically significant.

# Burn out syndrome and anxiety versus working in COVID-19 isolation centres

*Table 4:16*

*Burn out syndrome and anxiety versus working in COVID19 isolation centers.*

| Burnout | No, N = 39 | Yes, N = 60 | p-value |
| --- | --- | --- | --- |
| Burnout | 30 ± 11 | 30 ± 11 | 0.9 |
| Depersonalization | 25 ± 10 | 25 ± 10 | >0.9 |
| Personal achievement | 22 ± 8 | 24 ± 8 | 0.3 |
| Anxiety | 33 ± 14 | 34 ± 9 | 0.6 |

The burn out level for nurses who worked in COVID-19 isolation centers equaled the scores of nurses who did not work in COVID19 isolation centers. Their differences were not greater than zero. The depersonalization was also equal for both groups, thus statistically insignificant (p >0.9, ns, t-test). However, the anxiety levels although not statistically significant (p =0.3, ns, t-test), were higher for those that worked in COVID-19 isolation centers (34 ± 9) compared to those that did not work in isolation centers (33 ± 14).

# Burn out syndrome and anxiety versus managing COVID-19 patients.

*Table 4:17*

*Burn out syndrome and anxiety versus working in COVID19 isolation centers.*

| Burnout | No, N = 19 | Yes, N = 80 | p-value |
| --- | --- | --- | --- |
| Burnout | 26 ± 12 | 31 ± 11 | 0.11 |
| Depersonalization | 23 ± 10 | 25 ± 10 | 0.3 |
| Personal achievement | 22 ± 6 | 23 ± 8 | 0.3 |
| Anxiety | 30 ± 15 | 37 ± 10 | 0.016 |

Burn out was higher for respondents who managed COVID-19 patients (31 ± 11) that for those who did not manage COVID-19 patients (26 ± 12); depersonalization and personal achievement burn out were as well higher for nurses that managed COVID-19 patients though statistically insignificant. However, anxiety levels were significantly higher (p =0.016, t-test) for individuals who managed COVID-19 patients (37 ± 10) than those who did not (30 ± 15).

# Burn out syndrome and anxiety versus contracting COVID-19

*Table 4:18*

*Burn out syndrome and anxiety versus contracting COVID-19*

| Characteristic | No, N = 29 | Yes, N = 70 | p-value |
| --- | --- | --- | --- |
| Burnout | 30 ± 12 | 30 ± 11 | >0.9 |
| Depersonalization | 26 ± 9 | 24 ± 10 | 0.5 |
| Personal achievement | 23 ± 8 | 23 ± 8 | >0.9 |
| Anxiety | 33 ± 10 | 34 ± 12 | 0.3 |

The burnout syndrome and anxiety levels were not statistically and significantly different between the nurses that contracted COVID-19 and those that did not contract the flu (p > 0.9, ns, t-test). The anxiety however was slightly higher for COVID-19 positive nurses (34 ± 12) than for those that did not get the flu (33 ± 10) and thus statistically insignificant (p = 0.3, ns).

# The Relationship between Burnout Syndrome and anxiety among nurses post-COVID-19 at Mbagathi hospital.

# The correlation between Burnout syndrome and anxiety

The Pearson’s binary correlation was employed in determining the strength and direction of linear relationship between burn out scales and anxiety.

*Table 4:19*

*The* ***Relationship*** *between Burnout Syndrome and anxiety among nurses post-COVID-19 at Mbagathi hospital*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | Burnout | Depersonalization | Personal achievement | Anxiety |
| Burnout | Pearson Correlation | 1 | .607\*\* | .035 | -.099 |
| Sig. (2-tailed) |  | .000 | .734 | .332 |
| N | 99 | 99 | 99 | 99 |
| Depersonalization | Pearson Correlation | .607\*\* | 1 | -.045 | -.070 |
| Sig. (2-tailed) | .000 |  | .661 | .493 |
| N | 99 | 99 | 99 | 99 |
| Personal achievement | Pearson Correlation | .035 | -.045 | 1 | -.016 |
| Sig. (2-tailed) | .734 | .661 |  | .877 |
| N | 99 | 99 | 99 | 99 |
| Anxiety | Pearson Correlation | -.099 | -.070 | -.016 | 1 |
| Sig. (2-tailed) | .332 | .493 | .877 |  |
| N | 99 | 99 | 99 | 99 |

There existed a weak negative correlation between burn out and anxiety (r = -0.099); the weak negative correlation was not statistically significant (p = 0.332, ns). Depersonalization and anxiety were negatively and weakly correlated (r = -.070) and that weak correlation was statistically insignificant (p = .493, ns). Personal achievement burnout scale scores were negatively correlated to anxiety (r = -.016) though statistically insignificant (p = 0.877, ns). The results meant that burn has a very small insignificant relationship with anxiety, depersonalization did not cause anxiety while personal achievement is affected by anxiety and burn out.

# Regression analysis between Burnout syndrome and anxiety

A multiple linear regression was employed to further explore the relationship between burnout syndrome and anxiety. The results of the multiple linear regression were as illustrated in the Table below.

*Table 4:20*

*Regression analysis between Burnout syndrome and anxiety*

| Variable | Beta | 95% CI1 | p-value |
| --- | --- | --- | --- |
| Worked in COVID isolation centre |  |  |  |
| No | — | — |  |
| Yes | 0.90 | -3.8, 5.6 | 0.7 |
| BURNOUT | -0.11 | -0.71, 0.48 | 0.7 |
| DEPERSONALIZATION | 0.00 | -0.29, 0.30 | >0.9 |
| PERSONAL ACHIEVEMENT | 0.03 | -0.34, 0.40 | 0.9 |
| BURNOUT\_LEVELS |  |  |  |
| High Level Burnout | — | — |  |
| Low Level Burnout | -1.2 | -18, 16 | 0.9 |
| Moderate Level Burnout | 2.7 | -6.1, 12 | 0.5 |
| PERSONAL\_ACHIEVEMENT\_LEVELS |  |  |  |
| High Level Burnout | — | — |  |
| Low Level Burnout | 13 | -11, 38 | 0.3 |
| Moderate Level Burnout | -5.2 | -15, 4.6 | 0.3 |

The coefficient estimates indicated that working or being in a COVID-19 isolation center increased anxiety by 90% (beta = 0.90). Burnout, depersonalization, and personal achievement did not have a significant impact on anxiety. The influence of burnout on anxiety was too little to be significant. However, a low-level burn out reduced anxiety by 120% (beta = -1.20) while moderate level of burn out increased anxiety 2.7 units (beta = 2.7). Regarding scores of personal achievement moderate levels of personal achievement reduced anxiety by 5.2 points (beta = – 5.2). The coefficients of the model were not statistically significant and thus burnout syndrome did not have a significant influence anxiety.

# Coping Strategies Applied by the Nurses Post COVID-19 at Mbagathi Hospital

Thus far, it was established that respondent nurses experienced burn out, depersonalization and personal achievement related burn out and anxiety. Different individual exploit different coping strategies in fighting burnout syndrome and anxiety. The table below illustrates the coping mechanisms used by different respondents and the proportions of individuals that utilized the specific coping strategies.

*Table 4:21 Coping Strategies Applied by the Nurses Post COVID-19 at Mbagathi Hospital*

| Coping Mechanisms | Frequency (%) |
| --- | --- |
| I understood and accepted my limits in what I could do for my patients | 55 (56%) |
| I was able to recognize changes in my wellbeing | 52 (53%) |
| I found meaning in my input at the hospital | 57 (58%) |
| I engaged in self-care activities | 61 (62%) |
| I found it easy to rest | 56 (57%) |
| I was able to have healthy social relationships in my personal life | 51 (52%) |
| I have built positive interpersonal relationship at work | 78 (79%) |
| I was able to engage in hobbies | 51 (52%) |
| I had non-work-related activities | 56 (57%) |
| I was able to disconnect from work (mentally, physically and emotionally) | 62 (63%) |
| I was able to take my annual leave days | 58 (59%) |
| Stress management strategies at work | 63 (64%) |
| I had institutional support between March 2020- Marc 2022 | 61 (62%) |

Healthy interpersonal relationships were the major coping mechanism exploited by the majority of the respondents (79%), closely followed by a mechanism that included stress management strategies at the workplace (64%). Institutional support for the nurses played a critical coping mechanism whereby 62% of the respondents utilized institutional support mechanism. Selfcare activities was utilized by 62% of the respondents that included disconnect from work activities both physically and emotionally (63%). Other coping mechanisms included taking leave of absence from work, realizing the limitations of an individual and finding fulfilment in the work they did at the health institutions. Resting from work after taking leaves of absence and taking up hobbies disengaged the respondents from the strain and stress of managing COVID19 patients and isolation centers. Therefore, it seemed that most of the respondents depended upon the institutional structure of the organization as their coping mechanism; apart from the institutional structure, some of the respondents took personal time away from the job while engaging in non-work-related activities that included resting and engaging in their hobbies.

# Summary of Key Findings

The prevalence of burn out among the respondents indicated that high burn out syndrome persisted post COVID19 period. The burn out was high at 60%, the depersonalization burn out was high at 89% while personal achievement burn out was high level at 90%. The burn out was higher among female nurses compared to male nurses and still among patients who worked in COVID-19 isolations and those that managed COVID-19 patients though statistically insignificant. The prevalence of anxiety followed a similar trend although only 46% reported high anxiety levels. The levels were higher for female compared to males, higher among nurses that managed COVID-19 patients in government isolation centers. The relationship between burnout syndrome and anxiety was reported to be weak to almost non-existent. The burnout scores did not significantly influence the levels of anxiety among respondents.

# CHAPTER FIVE

# DISCUSSION OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

# Introduction

This chapter discusses the results of chapter four and their implication for the study. The discussions are outlined according to the research objectives to enable a proper flow of the study. The findings are compared and discussed in conjunction with other similar studies. The first part deals with the prevalence of burnout syndrome and anxiety while the second part deals with the relationship between burnout syndrome and anxiety.

# Prevalence of Burnout Syndrome

The prevalence of burnout syndrome was 59% for emotional burn out, 88% for depersonalization and 89% for personal achievement burnout among nurses post-covid19 period. This prevalence was very high when compared with a study done by Miranda, et.al (2020) among healthcare units working in intensive care units, where 0.41% prevalence of burnout among nurses working in Brazil was reported. A similar study done in Ghana, Accra by Dodam, et.al, (2019), reported a burn out prevalence of 20.57% among clinicians and other healthcare workers. Both studies were consistent with this study on findings regarding age of healthcare workers, whereby older healthcare workers experienced more burnout than younger healthcare workers. The study in Accra concluded a high prevalence of burnout among healthcare workers upon the onslaught of the Covid19 pandemic.

The prevalence of burnout syndrome in this study indicated that female participants had higher burnout levels compared to males. The burnout was higher among people working in areas of high stress where high productivity was required such as during the pandemic in an isolation center managing COVID-19 patients. However, the differences were not statistically significant across social demographic factors. A similar study done in China to evaluate the prevalence of burnout syndrome among endocrinologists indicated that burn out syndrome prevalence was statistically insignificant across gender, title of the participants and their education level (Wang et al., 2022). In China people are not allowed to work more than 40 hours a week but nurses are more likely to work more than 44 hours a week especially during seasons of dire need (Wang et al., 2022). The inexistence of significant differences between males and females could be attributed to the fact this study only utilized sample size from similar professions. According to Wang et al., (2022) gender differences are attributable to job and situation related life factors, a component that was missing in this study. The burnout levels were statistically insignificant across education levels, a finding that is consistent with the findings ofAlsalhe et al., (2021).

# The Prevalence of anxiety

The study found general anxiety prevalence to be at 46%. The prevalence of this study was higher compared to a study done in Kenya which showed that the national prevalence of anxiety is 36% (Kamaru, et al., 2021) among health care workers. The global prevalence of psychological issues, including anxiety, is enormous, underserved, and underfunded, particularly in developing world (Korir, 2019). This could be the reason why the national prevalence is lower than the prevalence established by this study. People who have untreated anxiety are at a high risk of developing other mental disorders because the anxiety symptoms interfere with social and occupational functioning, lowering their self-esteem (Ndetei et al., 2011).

In their study, Ali et al. (2022), reported that during COVID pandemic 51% of the respondents had anxiety while 51% of the respondents reported burn out syndrome. The study also showed that median depression was significantly different for frontline care givers from second line care givers (Osborn et al., 2022). However, the anxiety was not statistically significant. This is a case similar to this study since nurses and doctors formed part of front-line care givers during the COVID-19 pandemic. Higher incidences of anxiety, depression, interpersonal disengagement and professional unfulfillment were observed among frontline care givers (Ali et al., 2022). Therefore, nurses working in isolation centers and managing COVID-19 patients were bound to exhibit higher levels of anxiety.

# The Relationship Between Burnout syndrome and anxiety

The correlation and regression analysis reported very weak to nonexistent relationship between burnout syndrome and anxiety. The regression analysis indicated that burnout syndrome is not a significant predictor of anxiety. However, low levels of burn out syndrome were seen to reduce the level of anxiety to a significant proportion. The results are consistent with the findings of Koutsimani et al., (2019), that reported that although there appears to exist an association relationship between anxiety and burnout, the association is too weak and too small that an overlap between the two variables is established; therefore, although a relationship is in existence, the weak association is an indicator that burn out and anxiety are two different constructs. There could be questions of why some people develop, exhibit and experience burn out while other do not. The findings in this study can be used to show that higher levels of anxiety are likely to cause burnout among the people. Important to note is that burnout and anxiety are measured using two different tools, if harmonized tool for both burnout and anxiety was to be developed perhaps better relationships could be established between the two variables. Maske et al. (2016) discovered that 59% of people who were diagnosed with burnout also had anxiety, and 58% had an affective disorder.

The nature of this study was largely cross sectional, a form of study that attempts to understand the incumbent affairs as they appear. A longitudinal study would be necessary to ensure that the relationship between anxiety and burnout syndrome is established without any doubts. Therefore, burnout and anxiety belong to different constructs although they tend to occur in tandem because they share similar characteristics.

Over the last decade, there has been an increase in research on the relationship between burnout and depression, as well as burnout and anxiety. According to database search for methods for assessing the previously stated relationships, research in this field has increased in recent years, with the majority of studies undertaken within the last year (43.5 and 52.8% for the burnout—depression and burnout—anxiety relationships, respectively).

However, biological studies examining the neurobiological mechanisms underlying burnout and anxiety are an area of research that would help to clarify the relationship between these constructs. Studies on the psychosocial and neurobiological bases of these constructs, as well as their relationship to other illnesses, are required (e.g., physical problems). It is worth noting that Kaschka et al. (2011) indicate in their review that there appears to be a relationship between burnout and cardiovascular, musculoskeletal, and cutaneous diseases, in addition to type II diabetes mellitus; and as burnout increases, somatic co-morbidity appears to increase as well. Interestingly, Salvagioni et al. (2017) found that burnout is a predictor of 12 somatic diseases, including coronary heart disease, headaches, respiratory diseases, and mortality under the age of 45. As a result, we can see that burnout can have a variety of psychological and somatic consequences on individuals.

# Coping Mechanisms

This study found that the respondents employed both indirect and direct coping mechanisms (56%). Direct strategies included, recognizing that the situation was for them to manage (58%) and thus facing it while others found comfort in knowing they were doing their best in managing COVID-19 pandemic (62%). Most found solace in knowing they had their hand and influence in managing the pandemic. Some respondents took on avoidance behaviour by taking leaves absence from work to rest and engage in non-work-related activities. Some took selfcare activities to ease the burnout. The institutional support system with the hospital largely constituted the coping mechanism for the respondents and through interaction with fellow staff members.

# Recommendations

1. The findings of this study are indicating that post pandemic levels of burnout remain high. Therefore, post pandemic care is relevant to the well-being of the nurses.
2. Scheduling meet-up sessions for nurses to talk about their day-to-day life will profit in universality and peer support. It can be a great space for the nurses to learn from each other as well to be informed on resources available to manage their mental health.
3. As the study indicated, healthy interpersonal relationships were the major coping mechanism exploited by most of the respondents. Therefore, it will be profitable for the organization to promote or enhance the existing strategies in promoting healthy team dynamics. This will foster healthier interpersonal relationships at the workplace which can also help team members navigate challenging medical situations or pandemics.
4. A need for leadership to prepare for post pandemic stress related impact amongst their nurses. This can be implemented by engaging the services of a trained therapist in creating strategic plans on post pandemic psychological care of the nurses.
5. Institutional support featured highly in the coping mechanisms. As such, the institution is advised to take an inventory of their existing support mechanisms, to reinforce them. Closely connected to the institutional support, it is essential that the institution sets up psychological health services for the staff. This will allow the staff to share the impact of the work on their well-being and for the institution through the staff psychologist, to intervene timely on staff well-being.
6. In promoting healthier workplace, creating a conducive space where nurses can short break, take refreshment or a meal will contribute positively to recovery while on duty for the nurses.

# Further areas for future study

This study focused on anxiety and burnout syndrome in nurses post pandemic. Through the three objectives, to assess the prevalence of burnout syndrome and anxiety amongst nurses post COVID-19 Pandemic at Mbagathi hospital, to establish the relationship between burnout syndrome and anxiety among nurses post COVID-19 at Mbagathi hospital and to examine the coping strategies applied by the nurses post COVID-19 at Mbagathi hospital were accomplished.

The study identified peer and institutional support as having a significant influence on how nurses navigated the psychological, social and emotional impact of responding to COVID-19 pandemic. As such, the researcher recommends further studies on the existing peer support initiatives in the hospital, in order to strengthen and expand. It will also be profitable to carry out a study on the institutional support towards the mental health of the nurses in regard to work.

As seen in the data analysis, Burnout syndrome, anxiety and coping strategies varied in various social demographics. It would be profitable to research further on factors that may influence variance in findings. A longitudinal study would be necessary to ensure that the relationship between anxiety and burnout syndrome is established without any doubts.

# Chapter summary

The prevalence of burnout syndrome was high at 60% among nurses involved in this study accounting for more than two-thirds of the sample size. The anxiety is quite high as well since 46% of the respondents were reported to exhibit anxiety. The prevalence differed across social demographic factors though not into statistical significance proportions. The insignificance was due to the homogeneity of the sampled population.

The relationship between burnout syndrome and anxiety was weak and insignificant. The insignificance is explained through the synthesis that anxiety and burn out have common characteristics although they form different constructs. Burn out is likely to cause anxiety though a very low levels. The study demonstrated that majority of the nurses applied positive interpersonal relationships as a coping mechanism. It also showed the nurses utilized stress reducing strategies as well as leaned on the institutional support available.

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# APPENDICES

# Appendix A: Questionnaire

My name is Nancy N. Wairimu, a Master’s student at Daystar university. I am carrying out a study on burnout syndrome and anxiety amongst nurses during COVID-19 pandemic in Mbagathi hospital.

**Section 1: Bio Data**

1. Gender: Male( ) Female( ) Prefer not to say( )
2. Age: 20-30 years( ) 30-40years( ) 40-50 years( )
3. Marital status:

Single( ) Married( ) Divorced( ) Engaged( ) Widow/widower( )

1. Are you married to a medic? Yes( ) No( )
2. Do you have children:
3. What is your highest level of education? Certificate( ) Diploma( ) Degree( ) Masters and above( )
4. Did you choose to be a nurse or was the career decision made for you? Yes( ) No( )
5. What are you average working hours? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   1. How did your working hours change between March 2020 and March 2022? Increase\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Decrease \_\_\_\_\_\_\_\_\_\_\_\_
6. I have been trained in management of infectious diseases? Yes( ) No( )
7. Did you work in the isolation center between March 2020 and March 2022? Yes( ) No( )
8. Have you managed a patient who had COVID-19? Yes( ) No( )
9. Did you contract COVID-19 between March 2020 and March 2022? Yes( ) No( )
10. How many sick days am I entitled to?

1.\_\_\_\_\_\_\_\_, 2.\_\_\_\_\_\_\_\_ 3.\_\_\_\_\_\_\_\_, 4.\_\_\_\_\_\_\_\_, 5.\_\_\_\_\_\_\_\_

6.\_\_\_\_\_\_\_\_, 7.\_\_\_\_\_\_\_\_, 8.\_\_\_\_\_\_\_\_, 9.\_\_\_\_\_\_\_, 10.\_\_\_\_\_\_\_\_

**SECTION: B**

1. Please read each statement carefully and decide if you ever feel this way about *your job*. If you have never had this feeling, write “0” (zero) in the space before the statement. Ifyou had this feeling; indicate how often you feel it by writing the number (from 1 to 6) thatbest describes how frequently you feel that way.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **0** | **1** | **2** | **3** | **4** | **5** | **6** |
| Never | A few times a year or less | Once a month or less | A few times a month | Once a week | A few times a week | Everyday |

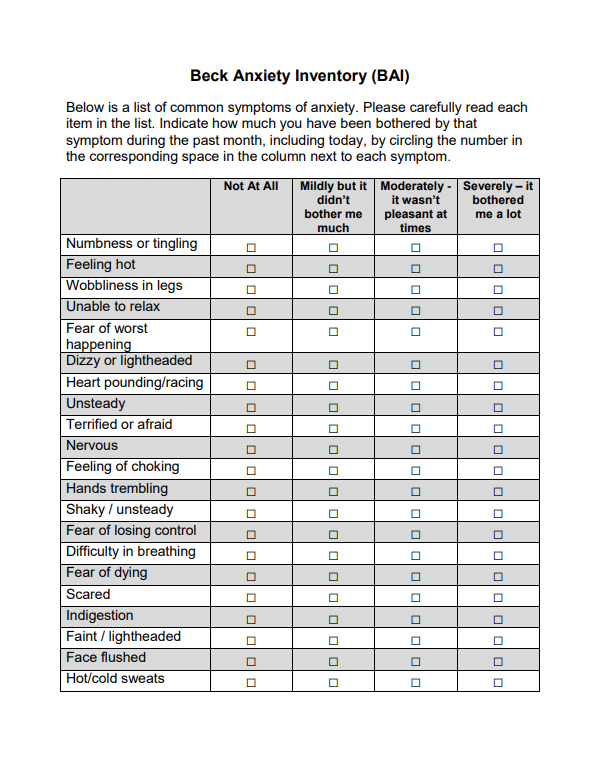
|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **QUESTIONS** | **0** | **1** | **2** | **3** | **4** | **5** | **6** |
| 1. I felt emotionally drained from my work. |  |  |  |  |  |  |  |
| 2. I felt used up at the end of the workday. |  |  |  |  |  |  |  |
| 3. I felt fatigued when I get up in the morning and have to face another day on the job. |  |  |  |  |  |  |  |
| 4. I can easily understand how many recipients feel about things. |  |  |  |  |  |  |  |
| 5. I felt I treat some recipients as if they were impersonal objects. |  |  |  |  |  |  |  |
| 6. Working with people all day is really a strain for me. |  |  |  |  |  |  |  |
| 7. I dealt very effectively with the problems of my patients. |  |  |  |  |  |  |  |
| 8. I felt burned out from my work. |  |  |  |  |  |  |  |
| 9. I feel I’m positively influencing other people’s lives through my work. |  |  |  |  |  |  |  |
| 10. I’ve become more callous towards people since I took job. |  |  |  |  |  |  |  |
| 11. I worry that this job is hardening me emotionally. |  |  |  |  |  |  |  |
| 12. I felt energetic. |  |  |  |  |  |  |  |
| 13. I felt frustrated by my job. |  |  |  |  |  |  |  |
| 14. I feel I’m working too hard on my job. |  |  |  |  |  |  |  |
| 15. I didn’t really care what happened to some patients. |  |  |  |  |  |  |  |
| 16. Working with people directly puts too much stress on me. |  |  |  |  |  |  |  |
| 17. I can easily create a relaxed atmosphere with my recipients. |  |  |  |  |  |  |  |
| 18. I felt exhilarated after working closely with my patients. |  |  |  |  |  |  |  |
| 19. I have accomplished many worthwhile things in this job. |  |  |  |  |  |  |  |
| 20. I felt like I was at the end of my rope. |  |  |  |  |  |  |  |
| 21. In my work, I deal with emotional problems very calmly. |  |  |  |  |  |  |  |
| 22. I felt patients blamed me for some of their problems. |  |  |  |  |  |  |  |
| 23. I felt worried when my colleagues were infected with COVID-19? |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

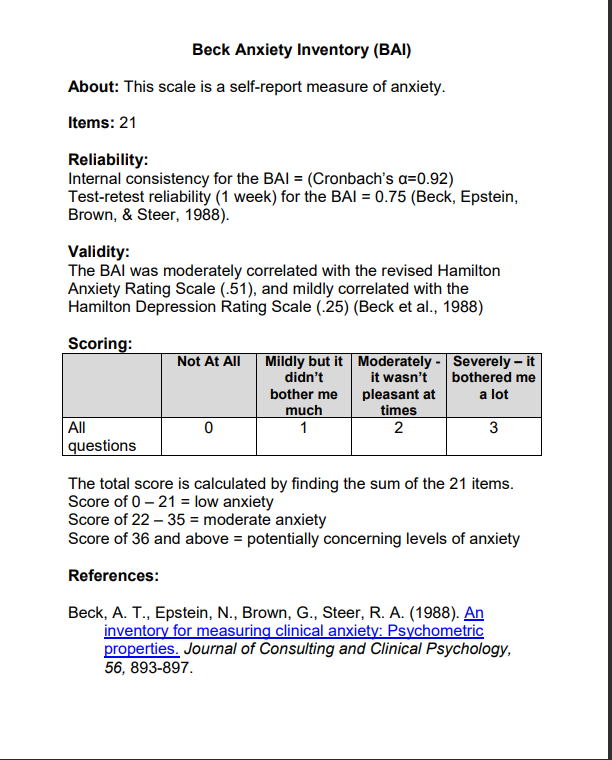
**Coping Mechanisms**

Answer the following in relation to the period of March 2020 and March 2022

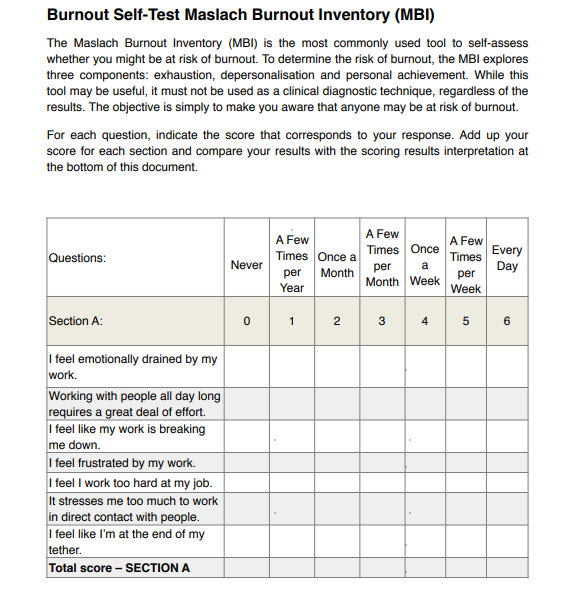
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Statements** | **1** | **2** | **3** | **4** | **5** |
| I understood and accepted my limits in what I could do for my patients |  |  |  |  |  |
| I was able to recognize changes in my wellbeing |  |  |  |  |  |
| I found meaning in my input at the hospital |  |  |  |  |  |
| I engaged in self-care activities |  |  |  |  |  |
| I found it easy to rest |  |  |  |  |  |
| I was able to have healthy social relationships in my personal life |  |  |  |  |  |
| I have built positive interpersonal relationship at work |  |  |  |  |  |
| I was able to engage in hobbies |  |  |  |  |  |
| I had non-work-related activities |  |  |  |  |  |
| I was able to disconnect from work (mentally, physically and emotionally) |  |  |  |  |  |
| I was able to take my annual leave days |  |  |  |  |  |
| Stress management strategies at work |  |  |  |  |  |
| I had institutional support between March 2020- Marc 2022 |  |  |  |  |  |

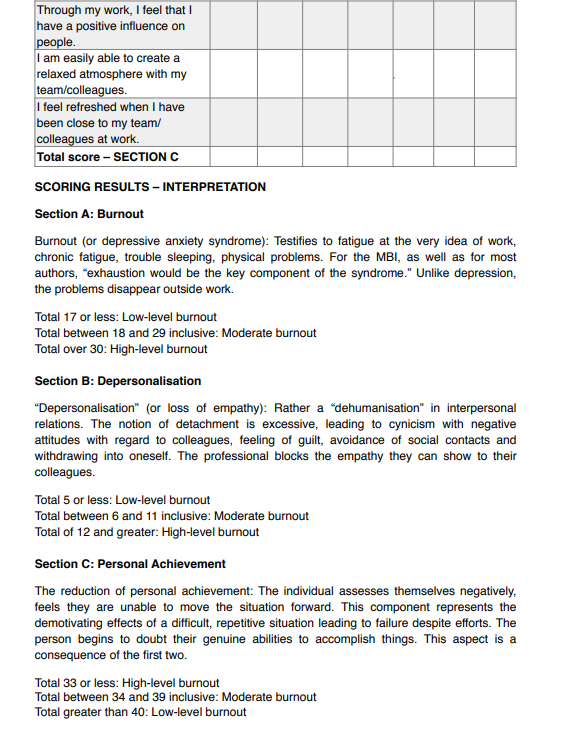
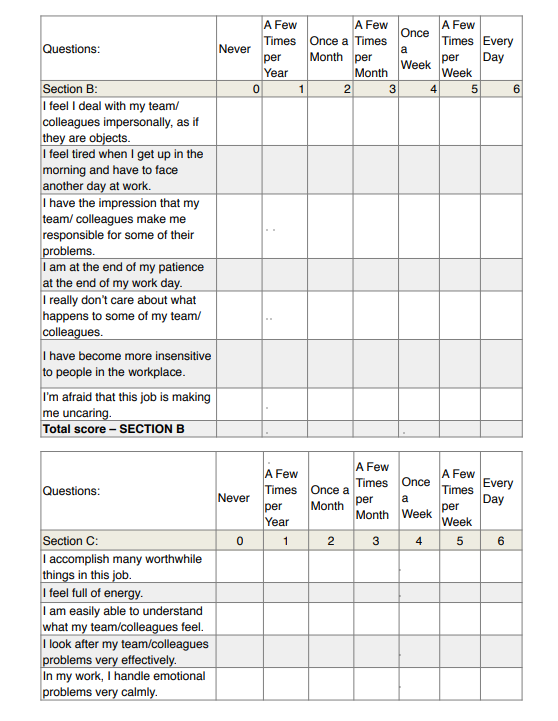
# Appendix B: Becks Anxiety Inventory





# Appendix C: Maslach burnout Inventory





# Appendix D: Data assembling agenda

|  |  |  |
| --- | --- | --- |
|  | Chore | Proposed time frame |
|  | Authorization by Mbagathi Hospital | 18/11/2022 |
|  | Meeting with the, head of nurses & nurses to explain consent (and other custodians of Mbagathi hospital) | 18/11/2022 |
|  | Obtaining consent forms | 19/11/2022 |
|  | securing of venue & meeting with the research assistant | 19/11/2022 |
|  | Pre- test activity | 19/11/2022 |
|  | Actual data gathering | 21/11/2022 |
|  | Continue data gathering | 22-24/11/2022 |
|  | Review of the data | 26/11/2022 |
|  | Data analysis | 8-14/12/2022 |
|  | Publishing the findings | 20/12/2022 |

# Appendix E: Budget

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ItemBurnout level Item | No. of days days | Costing | Sum total | Notes |
| Printing | 1 |  | 5,000 | Questionnaires |
| Internet & airtime | 7 | 500 | 3,500 | Reading, arranging meetings and communicating with the research assistant |
| Authorization | 4 | - | 22,600 | ERB, NACOSTI, NMS |
| Transportation & lunch | 5 | 1,200 | 6,000 | For both the researcher and research assistants |
| Printing and binding the final document | 5 | 2,000 | 10,000 | Total costing for all copies |
| Research assistant | 3 | 1,500 | 4,500 | Incentive |
| Stastician | 5 | - | 20,000 |  |
| Miscellaneous | 15 | 500 | 7,500 | Unexpected expenses |
| Total | | | | 79,100 |

# Appendix F: Informed consent

Researcher’s name: Nancy N Wairimu

Study title: BURNOUT SYNDROME AND ANXIETY AMONG NURSES DURING COVID-19 PANDEMIC AT MBAGATHIHOSPITAL

Researcher`s information

Nancy N. Wairimu is a student pursuing a master’s degree in clinical psychology at the Daystar University Nairobi campus. As a partial requirement for her program, she is expected to carry out a research program on ca topic of interest related with clinical psychology. The study will be investigating the prevalence of anxiety and burnout syndrome amongst nurses during COVID-19 response.

The researcher does not foresee any risks associated with participating in this research. On the other hand, there are several benefits of this study with main ones being findings will inform future research and policy making in duty of care. The researcher assures the respondents that their information and more so identity shall be put under lock and key and confidentiality shall be upheld.

Consent:

By signing this document, I pronounce that:

|  |  |
| --- | --- |
| I have read all the information and I comprehend what is required of me in this study was availed with a space to clarify elements of this study.  The decision to participate in this study is voluntary. I was not coerced in any way to participate. Should I seek to withdraw, there will be no legal implications for me  I appreciate that I can renounce from participating in this study at any moment  I appreciate that the researcher is guided by ethics in research and that my data will remain confidential, will not be shared with any third party and after six months, the researcher will destroy the data.  I understand that regardless of the type of the data I provide in the course of this study, it will remain anonymous. |          |

Respondent signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Researcher´s signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Appendix G: Safety monitoring Plan (SMP)

|  |  |  |
| --- | --- | --- |
| Protection Element | SMP Component | Examples of monitoring activities |
| Subject safety | Specific subject safety parameters | anxiety and burnout scores |
| Iindividual responsible for safety monitoring | Principal investigator |
| Subject stopping rules - under what conditions will a subject be removed from study participation and who will make the decision? | Exclusion criteria |
| Data integrity | Specific data elements to be reviewed | Subject inclusion criteria being met, transcription of data is accurate and complete, units of measure are recorded appropriately, calculations are standardized and performed accurately, etc. |
| Individual responsible for data monitoring | Principal investigator |
| Subject privacy | Under what conditions (time and place) will a subject be consented, interviewed, or telephoned? | Signing consent form. Interview to be conducted in privacy |
| Data confidentiality | What are the conditions that will protect the confidentiality of the data? | Will be handled by the principal researcher only, will be under locked file cabinets, electronic records will be coded and secured. |
| referral | Participants who may need professional support following their participation in the study | They will be debriefed and referred to Nuru counselling centre, at Daysta University. |

# Appendix H: Debriefing form

Thank you for participating in the study!

Please take note that I am still determined to follow the instructions on the permission form. This covers the techniques we'll use to protect the privacy of your data.

You could decide that you do not want your data to be used in this study. Please check the box below if you want your data permanently destroyed and removed from the research.

I do not consent to the study's use of my data.

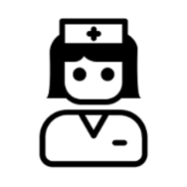
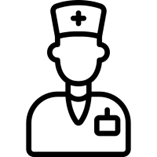
Please refrain from sharing research methods and/or assumptions with anyone who might take part in this study in the future because doing so could skew the study's findings.

Final Report: If you would like a copy of the study's final report, please contact us (or a summary of the findings).

Email: wambura.nancy@gmail.com

# Appendix I: Flier

An invitation to participate in burnout and anxiety amongst nurses post COVID-19 pandemic study

Help advance caring for nurses after responding to pandemics.

**What is this study about?**

This study seeks to find out the widespread of burnout and anxiety amongst nurses who worked with COVID-19 patients in isolation ward. It focuses on the post pandemic well-being of nurses. The findings are intended to potentially improve post pandemic staff care amongst nurses.

**Why participate?**

You will contribute to a robust post pandemic protocol for caring of nurses

You may contribute valuable information that can be utilized in creating and implementing duty of care policies for the nursing workforce.

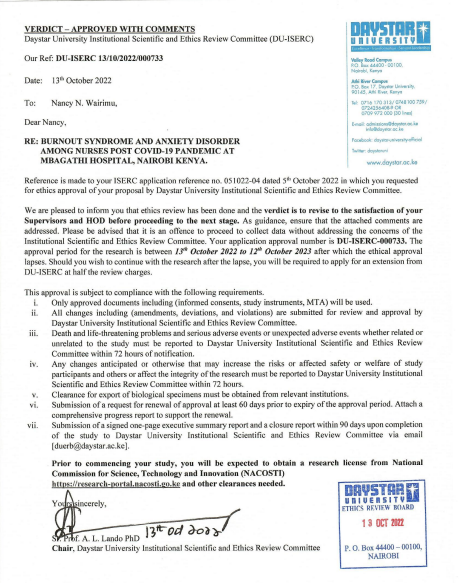
**Who can participate?**

Nurses who worked with COVID-19 patients between March 2020 and March 2022, whether in Mbagathi hospital or elsewhere.

Interested? Call the researcher, Nancy N. Wairimu on +254722440123/ +254739440123. Or write to this email: [wambura.nancy@gmail.com](mailto:wambura.nancy@gmail.com)

**This research proposal has been approved by Daystar INSTITUTIONAL ETHICS REVIEW COMMITTEE (IERC) / DAYSTAR UNIVERSITY ETHICS REVIEW BOARD (DU-ERB) –**

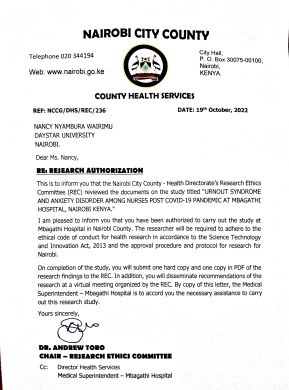
# Appendix J: ERB Authorization



# Appendix K: NACOSTI Authorization



# Appendix L: Nairobi City Council health services authorization



# Appendix M: Mbagathi Authorization

